



# WAGO Full Line Catalogs



## Volume 1, WAGO Rail-Mount Terminal Blocks and Connectors

- Rail-Mount Terminal Blocks
- Rail-Mount Terminal Blocks with Pluggable Connector (X-COM®-SYSTEM)
- Patchboard Systems
- Terminal Strips
- PUSH WIRE® Connectors for Junction Boxes
- Lighting Connectors
- Shield Connecting System



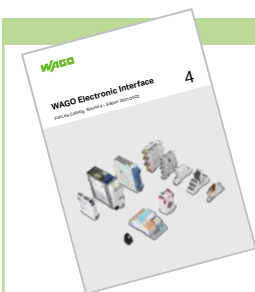
## Volume 2, WAGO PCB Terminal Blocks and Connectors

- PCB Terminal Blocks
- THR/SMD PCB Terminal Blocks
- *MULTI CONNECTION SYSTEM (MCS)*
- Pluggable PCB Terminal Blocks
- Feedthrough Terminal Blocks
- Specialty Connectors
- Empty Housings



## Volume 3, Automation Technology

- Solutions & Software
- Operating & Monitoring
- Controllers, Edge Devices
- Modular I/O-SYSTEM IP20, I/O-SYSTEM IP67
- Industrial Switches
- Radio Technology
- IP67 Sensor/Actuator Boxes, IP67 Cables and Connectors



## Volume 4, WAGO Interface Electronic

- Relay and Optocoupler Modules
- Signal Conditioners and Isolation Amplifiers
- Current and Energy Measurement Technology
- Power Supplies
- Interface Modules and System Wiring
- Overvoltage Protection
- Empty Housings



## Volume 5, WAGO Pluggable Connection System WINSTA®

- Pluggable Connectors
- Snap-In Device Connectors
- Pluggable PCB Connectors
- Distribution Connectors
- Cable Assemblies
- Flat Cable Systems
- Distribution Boxes



## Volume 6, WAGO Marking

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- Software
- Terminal Block Marking
- Cable and Conductor Marking
- Device Marking
- Marker Carriers

# Connection Technology for Lighting and Electrical Equipment

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# We Connect

## Connection Technology for LED Modules

### Why use WAGO?

- Flexible and modular applications
- Low profile and white housing minimize on-board shadowing
- Component high quality and durability

Our space-saving and modular connection systems can easily be implemented in already existing installations. Whether round, linear modules or retrofits, WAGO's connection solutions are easy to use while providing the quality you can rely on.



### Series



2059 Series



2060 Series



2061 Series



2065 Series



2070 Series



2075 Series

## Connection Technology for LED Drivers

### Why use WAGO?

- Wide product range for multiple applications
- Automated wiring solutions
- Compact solutions with custom color coding options

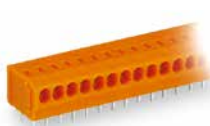
The perfect connection technology: A vast array of PCB terminal blocks for LED drivers offers you the best solution for various applications. Whether outdoor, compact or linear drivers – click here to find the ideal solution for your application.



### Series



250 Series



235 Series



805 Series



804 Series



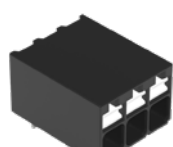
744 Series



Serie 253 Series



Serie 735 Series



2086 Series



2601 Series

# Your Light



## Lighting Connection

### Why use WAGO?

- Easy and safe wiring of lights and appliances
- Compact, easy-to-use design, transparent housing, two test slots
- Electrical installations can be plugged in easily, safely and error-free with the *WINSTA*® Pluggable Connection System
- Circuits can be created quickly, expanded flexibly and adapted to new requirements

Regardless of whether the power connection is located inside or outside of the lamps, or whether the lighting systems are used for street lighting, homes, or in a hospital – you can rely on quality from WAGO for every application.

### Series



294 Series



Linect® 294 Series



272 Series



862 Series



WINSTA®



221 Series



2773 Series



2773 Series



224 Series



267 Series



873 Series



## Lighting Management

### Why use WAGO?

- Maximize every potential for savings! With proper lighting management, you can reduce your energy consumption for lighting by up to 70%.
- Applications: office buildings, production facilities, warehouses
- Fast lighting implementations via PFC200 Controller and DALI protocol
- Easy configuration and commissioning via standard Web browser
- Easy to operate and control

WAGO I/O SYSTEM with  
DALI Master Module

PFC200

## From Pioneer to Leader



When the first screwless terminal blocks debuted at the Hannover Messe trade show in 1951, they represented a significant advance in manufacturing. At the time, manufacturing terminal blocks was impossible because the carbon steel available then did not meet the strict quality requirements.

Undeterred, WAGO was quite active in the years leading up to the 1977 debut of the first series of CAGE CLAMP®-equipped rail-mount terminal blocks from 0.08–16 mm<sup>2</sup> (28–6 AWG). With numerous developments – from the Suprafix banana plug product family, to the first range of rail-mount terminal blocks for conductors up to 16 mm<sup>2</sup> (6 AWG) – WAGO has firmly established itself as an innovator.

With this reputation and the need for “vibration-proof, fast, maintenance-free” connections, CAGE CLAMP® quickly outperformed all previous connection technologies to become a worldwide industrial standard.

Today, WAGO’s CAGE CLAMP® technology has several imitators, yet it remains unmatched. And WAGO continues to set new standards with further developments, such as CAGE CLAMP® Compact (1996) for ultra-compact applications and the WAGO POWER CAGE CLAMP (1998) for a rated cross-section up to 185 mm<sup>2</sup> (350 kcmil). Figures speak for themselves: More than 26 billion CAGE CLAMP® springs have been sold worldwide, and every day, millions of clamps are added to that number.

WAGO has grown steadily since it was founded in 1951, with a current worldwide workforce of more than 8,500 employees – approximately 4,000 of whom work in Germany at its headquarters in Minden (North Rhine-Westphalia) and Sondershausen (Thuringia). The company achieved sales of EUR 950 million in 2020.

The WAGO Group consists of nine international production facilities and primary sales locations, 22 additional sales offices, and the software specialist M&M Software. In addition, it has representatives in over 80 countries, giving the company a strong global presence. WAGO has been in the manufacturing business since 1951: initially at the company headquarters in Minden (North Rhine-Westphalia, Germany), which expanded in 1971 to Roissy (France), in 1977 to Domdidier (Switzerland), in 1979 to Milwaukee (USA), and in 1990 to Sondershausen (Thuringia, Germany), as well as Tokyo (Japan). Other production sites include Delhi (India) founded in 1995, and the 1997 expansions into Tianjin (China) and Wrocław (Poland).

Products manufactured locally for domestic and foreign markets form the starting point for localized distribution networks that cover WAGO’s complete product portfolio. This system allows all WAGO subsidiaries and sales offices to develop and deliver custom-designed products that comply with local regulations and meet local demand.

# WAGO Worldwide



WAGO Minden



WAGO Papinghausen



WAGO Sondershausen, Germany



WAGO Switzerland



WAGO France



WAGO Poland



WAGO USA



WAGO China



WAGO India



WAGO Japan

## Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

### PUSH-IN CAGE CLAMP®



Push-in CAGE CLAMP® terminates the following copper conductors:  
solid



stranded



fine-stranded,  
also with tinned  
single strands



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule  
(gastight crimped)



fine-stranded,  
with pin terminal  
(gastight crimped)

The universal connection with an additional advantage:

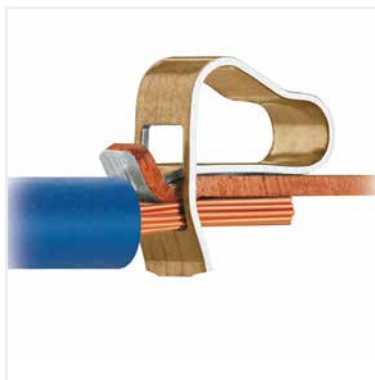
Push-in connection

Terminate solid and stranded (Class B 7 strands or less), as well as ferruled conductors, by simply pushing them in – no tools required.

Termination for all conductor types:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!

### CAGE CLAMP®



CAGE CLAMP® terminates the following copper conductors:  
solid



stranded



fine-stranded,  
also with tinned  
single strands



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule  
(gastight crimped)



fine-stranded,  
with pin terminal  
(gastight crimped)

The universal connection for solid, stranded and fine-stranded conductors

Termination:

- Open clamping unit.
- Insert the conductor.
- Release clamp – done!



## Operating WAGO Connection Technologies

Please follow the applicable product-specific termination instructions.

### POWER CAGE CLAMP®



POWER CAGE CLAMP terminates the following copper conductors:  
solid



stranded



fine-stranded,  
also with tinned  
single strands



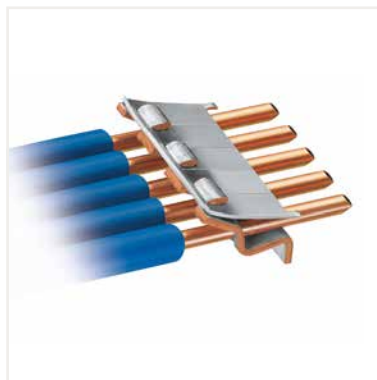
fine-stranded,  
with ferrule  
(gastight crimped)

The universal connection for conductors larger than 35 mm<sup>2</sup> (2 AWG)

Termination:

- Open clamp by turning a T-wrench counter-clockwise.
- Press the integrated latch to open clamping unit for hands-free wiring.
- Insert the conductor.
- A small counter-clockwise rotation closes the clamp, securing conductor.

### PUSH WIRE®

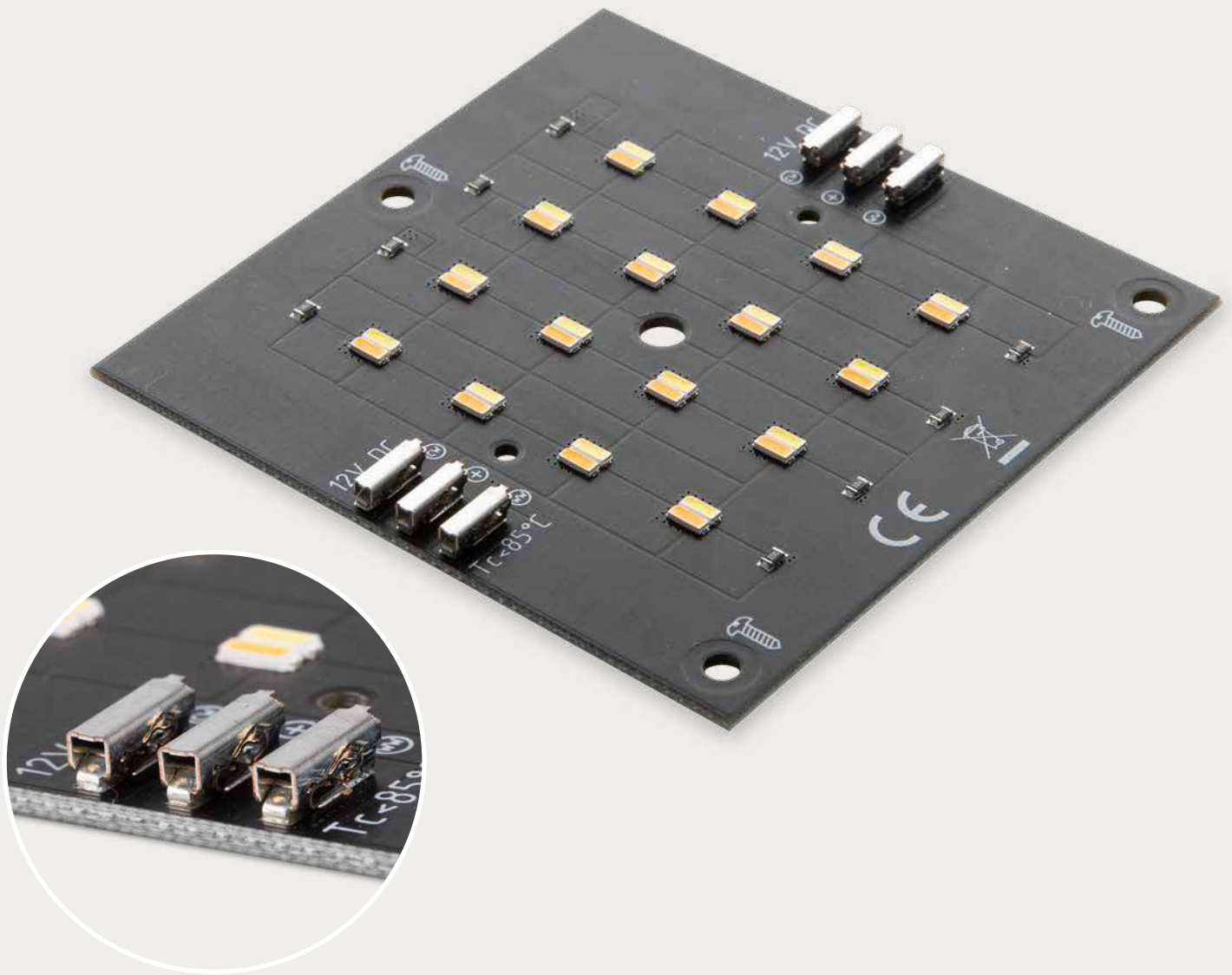


PUSH WIRE® terminates the following copper conductors:  
solid

PUSH WIRE® connection for solid and stranded conductors (depending on the model used)






Termination:

Tool-free, twist-free terminations for solid and rigid stranded conductors – simply push into the unit.



# WAGO SMD Terminal Blocks for LED Modules

## WAGO SMD Terminal Blocks for LED Modules

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**SMD PCB Terminal Block ▶ 2065 Series**

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Color: silver-colored

1



- SMD PCB Terminal Block with Push-in CAGE CLAMP® and Push-Button
- Connect solid conductors via push-in termination
- Convenient termination/removal of fine-stranded conductors via push-button and operating tool
- Just 2.7 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also available in a PUSH WIRE® variant without push-button (only for solid conductors)

Electrical Data	Push-in CAGE CLAMP®			PUSH WIRE®		
Pin spacing	6.5 mm / 0.256 inch			6 mm / 0.236 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	320 V	320 V	630 V	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Rated current	9 A	9 A	9 A	9 A	9 A	9 A
Approvals per	UL 1977			UL 1977		
Rated voltage	600 V			600 V		
Rated current	9 A			9 A		

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	7.5 ... 9.5 mm / 0.3 ... 0.37 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Connection technology	PUSH WIRE®
Strip length	7.5 ... 9.5 mm / 0.3 ... 0.37 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG

Material Data	
Limit temperature range	-60 ... +120 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin-plated

**NOTE: Terminal Block without insulation housing!**  
Protection against accidental contact must be provided at voltages higher than low voltages (e.g., SELV/PELV) for the relevant application.

The layout must meet the requirements of the insulation coordination standard EN/IEC 60664-1 and applicable end product standards.

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

# SMD PCB Terminal Block ▶ 2065 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Color: silver-colored

With push-button; Push-in CAGE CLAMP® connection; Reel diameter: 330 mm; Pin spacing: 6.5 mm

Without push-button; PUSH WIRE® connection; Reel diameter 330 mm; Pin spacing: 6 mm

Operating tool for 2065-100

1

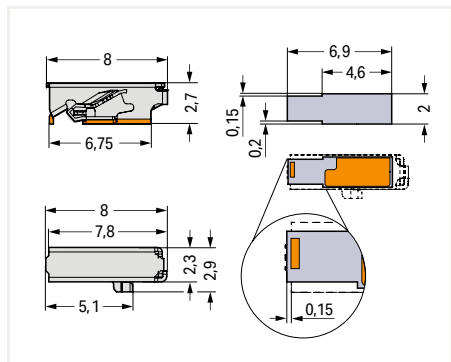


Pole No.	Item No.	Pack. Unit
1	2065-100/998-403	31800 (2650)

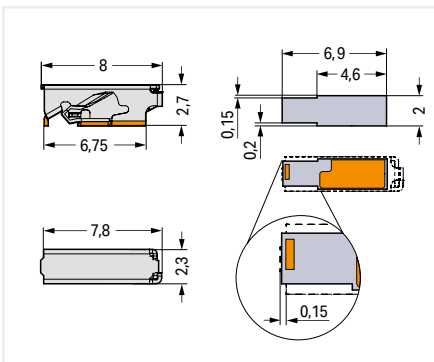
Pole No.	Item No.	Pack. Unit
1	2065-101/998-403	31800 (2650)

Item No.	Pack. Unit
2065-189	600 (50)

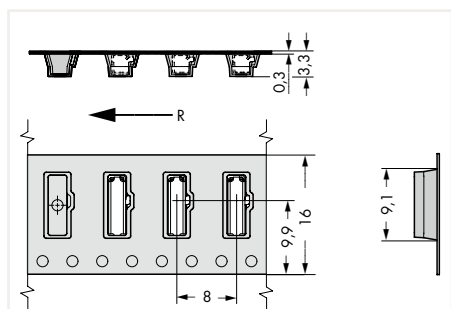
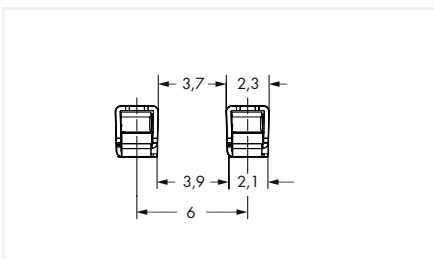
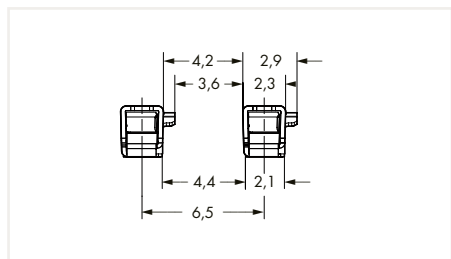
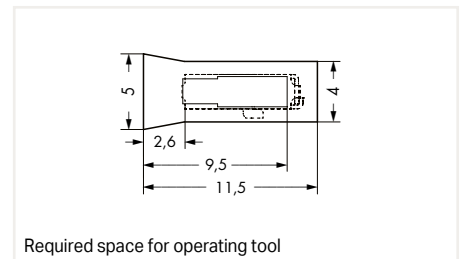
Dimensions (in mm):



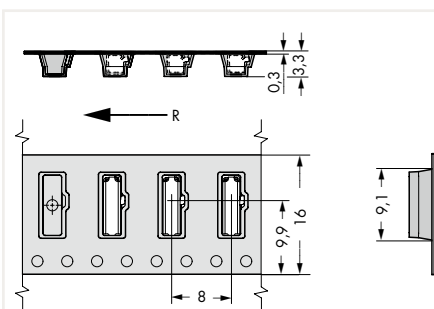
Dimensions (in mm):



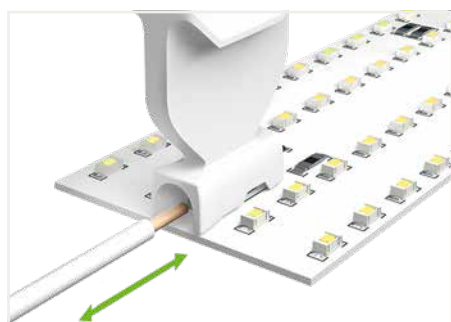
Dimensions (in mm):



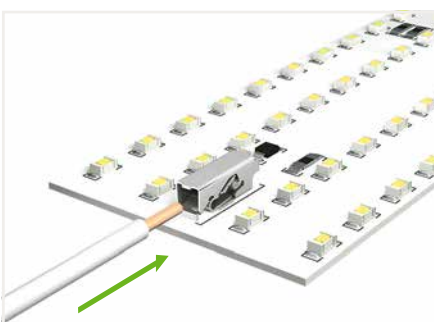
R = Feed direction



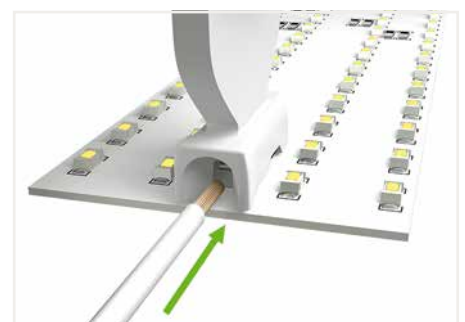
R = Feed direction



Push-in CAGE CLAMP® variant: Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.



PUSH WIRE® variant without push-button: Save even more space when only using solid conductors. Remove conductors by twisting and pulling (max. 10x, no reconnection of smaller conductors possible).

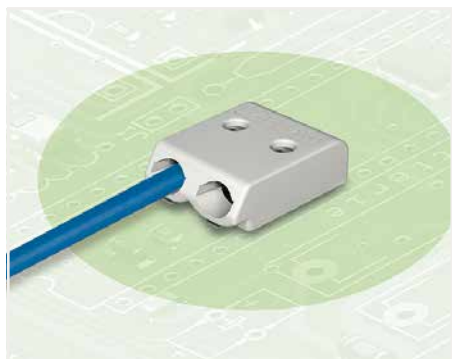


The 2065-189 Operating Tool's funneled conductor entry securely guides all conductor types into the Push-in CAGE CLAMP®.

## SMD PCB Terminal Block ▶ 2059 Series

PUSH WIRE® ▶ Pin spacing: 3 mm / 0.118 inch ▶ Actuation type: Operating tool ▶ 0.34 mm<sup>2</sup>

1



- SMD PCB Terminal Blocks with PUSH WIRE® connection technology
- Push-in termination of solid conductors\*
- Easy conductor removal via operating tool
- Just 2.7 mm tall
- Assemble Terminal Blocks without pole loss
- Available in tape-and-reel packaging for automated assembly

Electrical Data	1-pole			2-/3-pole		
Pin spacing	3 mm / 0.118 inch			3 mm / 0.118 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	63 V	160 V	320 V	63 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
Rated current	3 A	3 A	3 A	3 A	3 A	3 A
Approvals per	UL 1977			UL 1977		
Rated voltage	600 V			250 V		
Rated current	3 A			3 A		
Approvals per	UL 1059			UL 1059		
Use Group	B	C	D	B	C	D
Rated voltage	600 V	600 V	600 V	150 V	-	-
Rated current	5 A	5 A	5 A	5 A	-	-

### Connection Data

Connection technology	PUSH WIRE®
Strip length	4 ... 5.5 mm / 0.16 ... 0.22 inch
Conductor entry angle to the PCB	0°
Solid conductor	0.14 ... 0.34 mm <sup>2</sup> / 26 ... 22 AWG
Note (conductor cross-section)	For conductors that are not rigid enough, the clamping unit must be opened using an operating tool. No reconnection of smaller conductor cross-sections (0.5 mm <sup>2</sup> / 20 AWG)
Strip length (2)	6 ... 7.5 mm / 0.24 ... 0.3 inch
Solid conductor (2)	0.5 mm <sup>2</sup> / 20 AWG
Note (conductor cross-section) (2)	No reconnection of smaller conductor cross-sections (0.5 mm <sup>2</sup> / 20 AWG)

### Material Data

Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

#### Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

#### Note (conductor cross-sections):

- No reconnection of smaller conductor cross-sections (0.5 mm<sup>2</sup>/20 AWG)
- For conductors that are not rigid enough, the clamping unit must be opened using an operating tool.

#### Recommendation for SMD stencil:

150 µm material thickness; pattern layout identical to solder pad layout

# SMD PCB Terminal Block ▶ 2059 Series

**PUSH WIRE®**

PUSH WIRE® ▶ Pin spacing: 3 mm / 0.118 inch ▶ Actuation type: Operating tool ▶ 0.34 mm<sup>2</sup>

white\*; Reel diameter: 330 mm

Black; Reel diameter: 330 mm



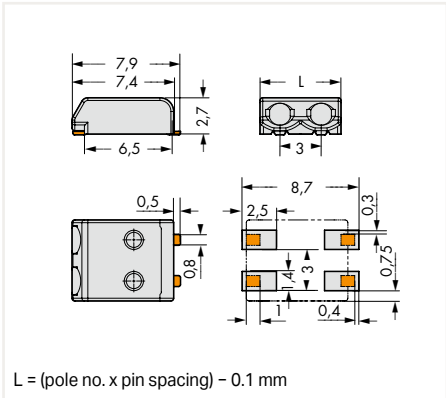
Push-in termination of solid conductors

Pole No.	Item No.	Pack. Unit
1	2059-301/998-403	31800 (2650)
2	2059-302/998-403	21000 (1750)
3	2059-303/998-403	21000 (1750)

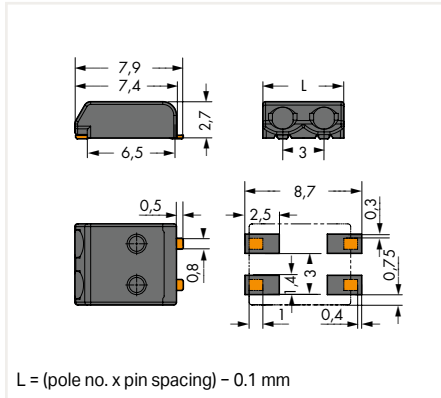
Pole No.	Item No.	Pack. Unit
1	2059-321/998-403	31800 (2650)
2	2059-322/998-403	21000 (1750)
3	2059-323/998-403	21000 (1750)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

Dimensions (in mm):

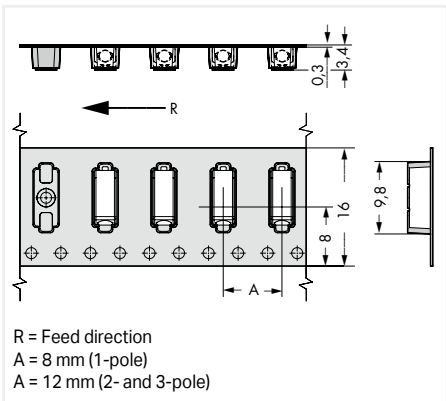


Dimensions (in mm):

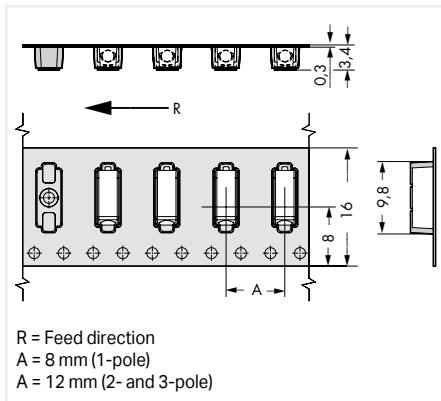


Easy conductor removal (e.g., via 206-859 Operating Tool)

Dimensions (in mm):



Dimensions (in mm):



Available in tape-and-reel packaging for automated assembly

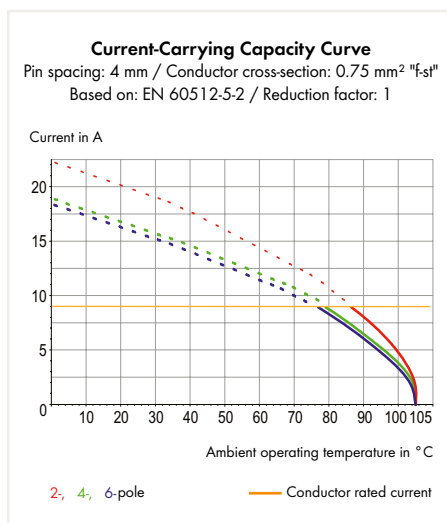
## SMD PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 4 mm / 0.157 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup>

1



- SMD PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly



Electrical Data	1-pole			2-/3-pole		
Pin spacing	4 mm / 0.157 inch			4 mm / 0.157 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overtoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	63 V	160 V	320 V	63 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
Rated current	9 A	9 A	9 A	9 A	9 A	9 A
Approvals per	UL 1977			UL 1977		
Rated voltage	600 V			320 V		
Rated current	9 A			9 A		

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 9 mm / 0.28 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 0.34 mm <sup>2</sup>

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

### Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

### Recommendation for SMD stencil:

150 µm material thickness; pattern layout identical to solder pad layout

\*(III / 2) ≙ Overtoltage category III / Pollution degree 2



# SMD PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 4 mm / 0.157 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup>

white\*; Reel diameter: 330 mm

Black; Reel diameter: 330 mm



Push-in termination of solid conductors

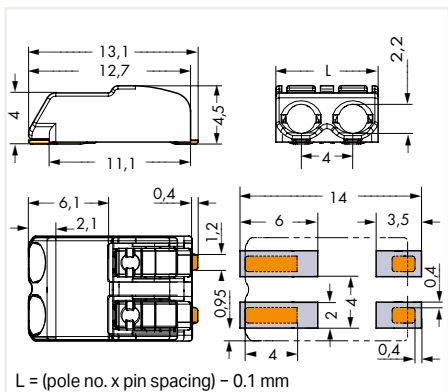
1

Pole No.	Item No.	Pack. Unit
1	2060-451/998-404	13500 (1500)
2	2060-452/998-404	9000 (1000)
3	2060-453/998-404	6750 (750)

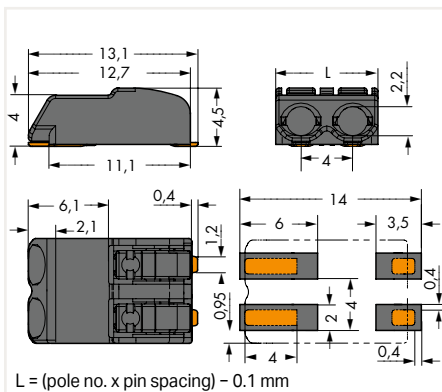
Pole No.	Item No.	Pack. Unit
1	2060-471/998-404	13500 (1500)
2	2060-472/998-404	9000 (1000)
3	2060-473/998-404	6750 (750)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

Dimensions (in mm):

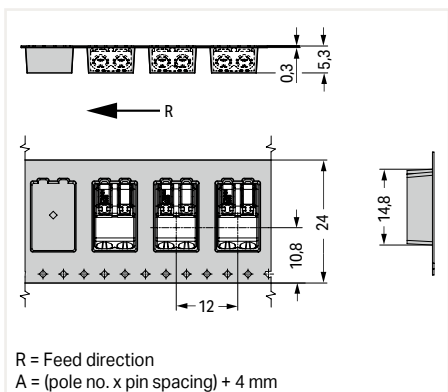


Dimensions (in mm):

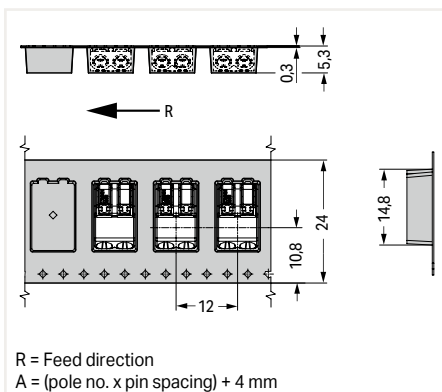


Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g. via 206-860 Operating Tool).

Dimensions (in mm):



Dimensions (in mm):



Terminal Blocks can be arranged side-by-side without loss of poles.



Available in tape-and-reel packaging for automated assembly

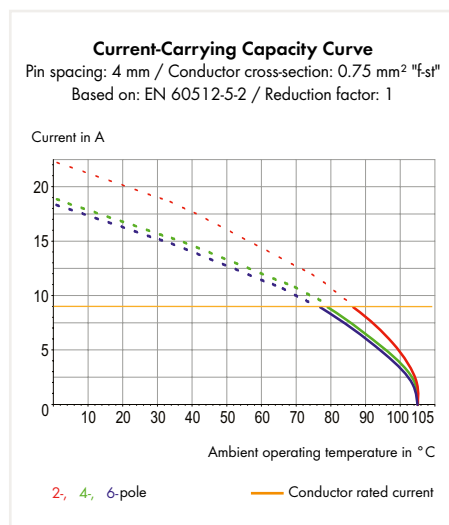
## SMD PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 8 mm / 0.314 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup>

1



- SMD PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- 8 mm pin spacing version for higher-rated voltages
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Height of just 4.5 mm minimizes on-board LED shadowing
- Available in tape-and-reel packaging for automated assembly



### Electrical Data

Pin spacing	8 mm / 0.314 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	630 V	1000 V
Rated surge voltage	6 kV	6 kV	6 kV
Rated current	9 A	9 A	9 A
Approvals per	UL 1977		
Rated voltage	600 V		
Rated current	9 A		

### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 9 mm / 0.28 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 0.34 mm <sup>2</sup>

### Material Data

Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

#### Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

#### Recommendation for SMD stencil:

150 µm material thickness; pattern layout identical to solder pad layout

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

### SMD PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 8 mm / 0.314 inch ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup>

white\*, Reel diameter: 330 mm



Black; Reel diameter: 330 mm



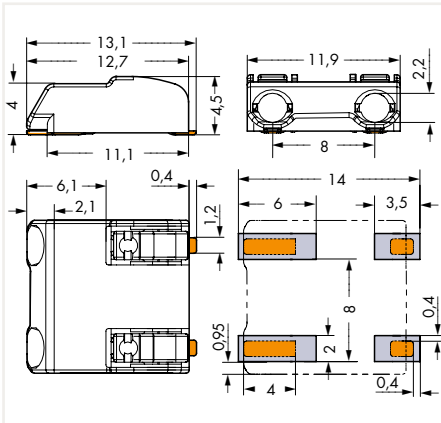
Inserting solid conductors via push-in termination (picture shows 2060 Series).

Pole No.	Item No.	Pack. Unit
2	2060-852/998-404	6750 (750)

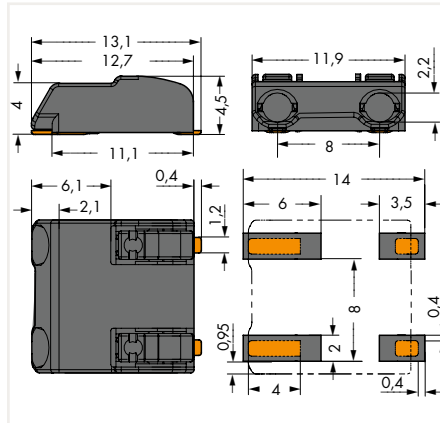
Pole No.	Item No.	Pack. Unit
2	2060-872/998-404	6750 (750)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

Dimensions (in mm):

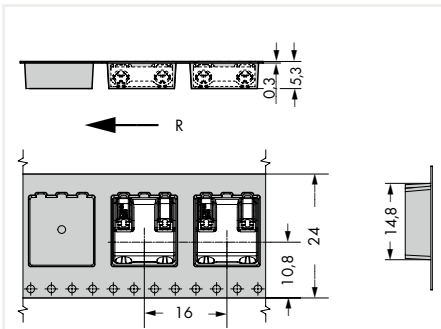


Dimensions (in mm):



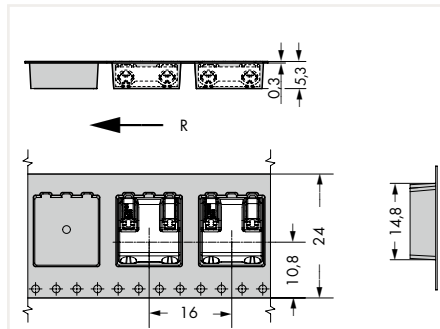
Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g. via 206-860 Operating Tool).

Dimensions (in mm):



R = Feed direction

Dimensions (in mm):



R = Feed direction



Available in tape-and-reel packaging for automated assembly

1

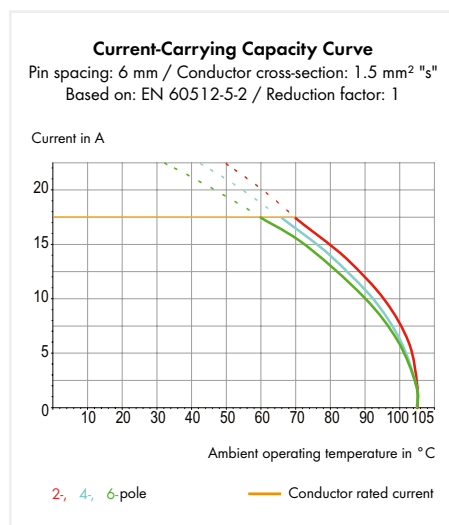
## SMD PCB Terminal Block ▶ 2061 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6 mm / 0.24 inch ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup>

1



- SMD PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Just 5.6 mm tall
- Push-in termination of solid and ferruled conductors
- Push-button for easy connection and disconnection of all conductor types
- Available in tape-and-reel packaging for automated assembly



Electrical Data	1-pole			2-/3-pole		
Pin spacing	6 mm / 0.157 inch			6 mm / 0.157 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	250 V	320 V	630 V	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	600 V	600 V	600 V	300 V	-	300 V
Rated current	10 A	10 A	10 A	10 A	-	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 10 mm / 0.28 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Fine-stranded conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.5 ... 0.75 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 0.75 mm <sup>2</sup>

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

### Application notes:

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

### Recommendation for SMD stencil:

150 µm material thickness; pattern layout identical to solder pad layout

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

# SMD PCB Terminal Block ▶ 2061 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6 mm / 0.24 inch ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup>

white\*, Reel diameter: 330 mm

Black; Reel diameter: 330 mm



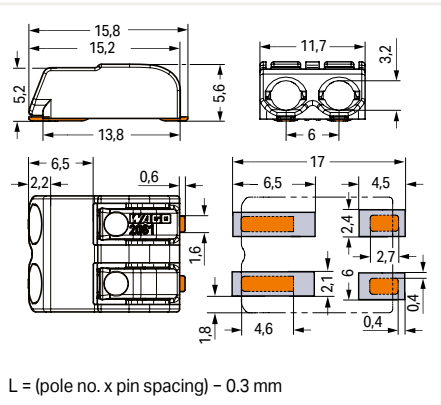
Push-in termination of solid conductors

Pole No.	Item No.	Pack. Unit
1	2061-601/998-404	8100 (900)
2	2061-602/998-404	6300 (700)
3	2061-603/998-404	4050 (450)

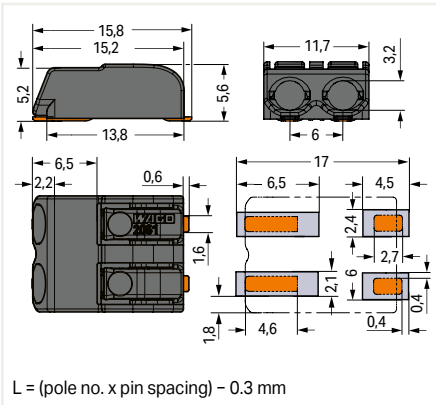
Pole No.	Item No.	Pack. Unit
1	2061-621/998-404	8100 (900)
2	2061-622/998-404	6300 (700)
3	2061-623/998-404	4050 (450)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

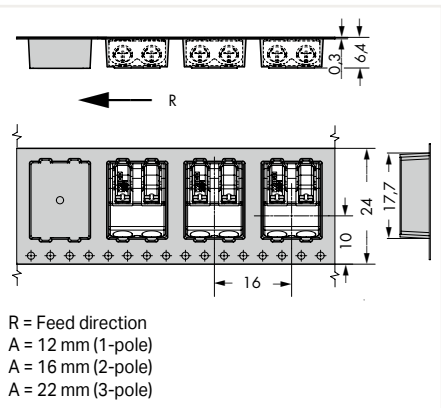
Dimensions (in mm):



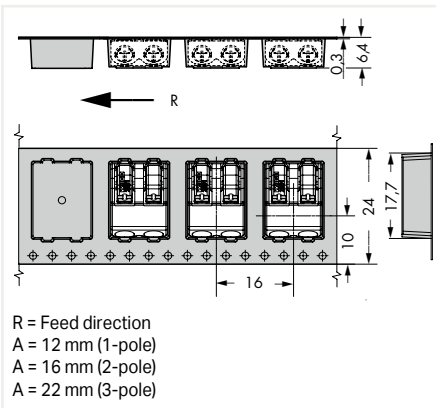
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g., via 206-866 Operating Tool).



Available in tape-and-reel packaging for automated assembly

1

## Board-to-Board Link for SMD PCB Terminal Blocks ▶ 0.5 mm<sup>2</sup> Pin Spacing: 3 mm ▶ 2059 Series

1



- Board-to-board links simplify LED module assembly
- Easy push-in connection and disconnection

### Electrical Data

Pin spacing	3 mm / 0.118 inch					
Ratings per	IEC / EN 60664-1					
Overvoltage category	III	III	II			
Pollution degree	3	2	2			
Rated voltage	63 V	160 V	320 V			
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV			
Rated current	3 A	3 A	3 A			
Approvals per	UL 1977			UL 1977		
Rated surge voltage	250 V			250 V		
Rated current	3 A			3 A		
Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	600 V	600 V	600 V	300 V	-	-
Rated current	5 A	5 A	5 A	5 A	-	-

### Material Data

Material group	I
Insulating material	Polyamide (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Silver-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

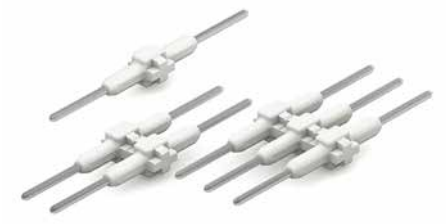
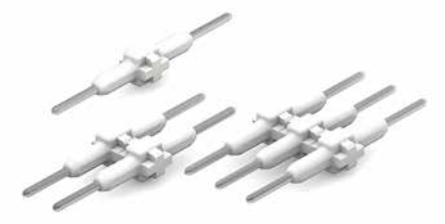
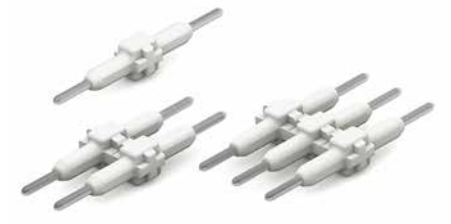
# Board-to-Board Link for SMD PCB Terminal Blocks ▶ 0.5 mm<sup>2</sup> Pin Spacing: 3 mm ▶ 2059 Series

Pin length: 15.3 mm

Pin length: 17.5 mm

Pin length: 20.5 mm

1

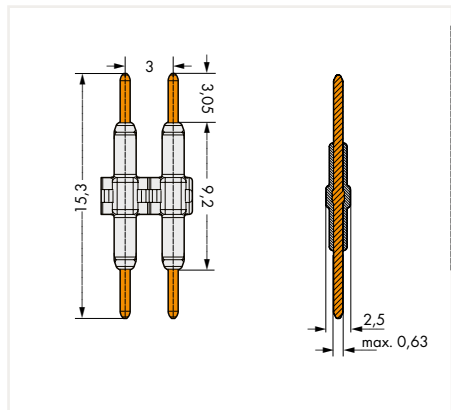


Pole No.	Item No.	Pack. Unit
1	2059-901	1500
2	2059-902	500
3	2059-903	375
4	2059-904	250

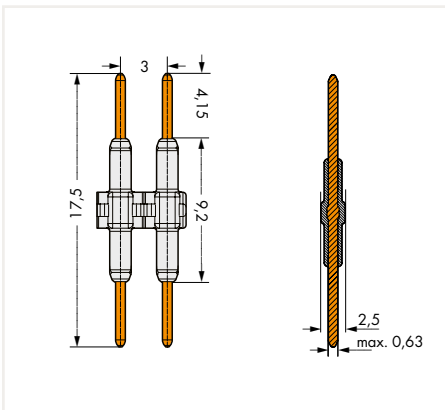
Pole No.	Item No.	Pack. Unit
1	2059-901/018-000	1500
2	2059-902/018-000	500
3	2059-903/018-000	375
4	2059-904/018-000	250

Pole No.	Item No.	Pack. Unit
1	2059-901/021-000	1500
2	2059-902/021-000	500
3	2059-903/021-000	375
4	2059-904/021-000	250

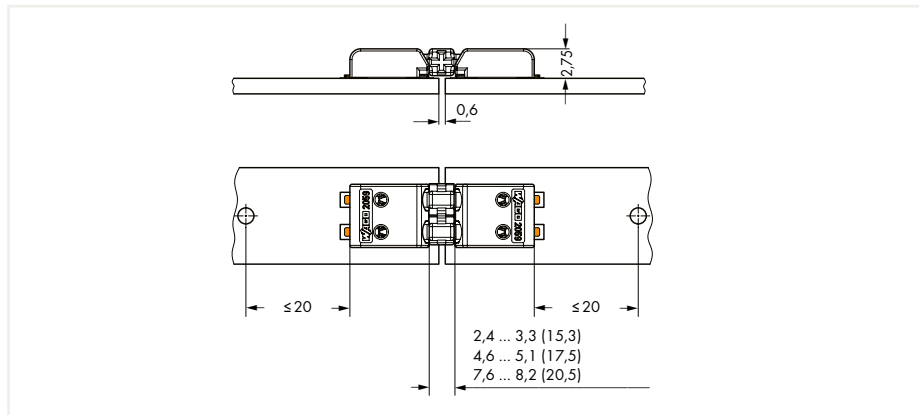
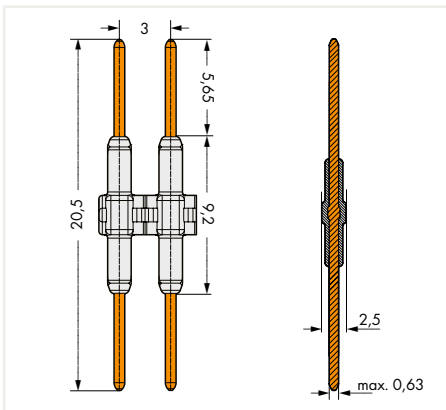
Dimensions (in mm):



Dimensions (in mm):



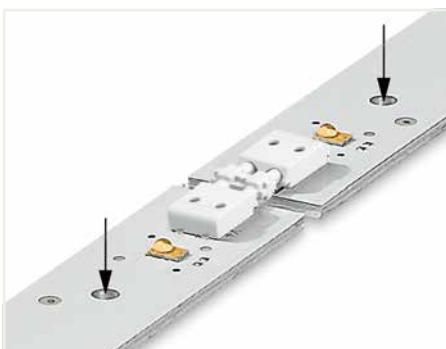
Dimensions (in mm):



Inserting a board-to-board link into the Terminal Block.



Assembly: Place PCBs on a flat surface and connect Terminal Blocks on adjoining PCBs via board-to-board link. Disassembly: Pull PCBs apart (max. 10 mating cycles).



The PCBs must be secured.

## Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons ▶ 0.75 mm 2060 Series

1



- Board-to-board links simplify in-line assembly of LED modules
- Easy push-in connection and disconnection without push-button actuation

Electrical Data							
Pin spacing	4 mm / 0.157 inch			8 mm / 0.314 inch			
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			
Overvoltage category	III	III	II	III	III	II	
Pollution degree	3	2	2	3	2	2	
Rated voltage	63 V	160 V	320 V	400 V	630 V	1000 V	
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	6 kV	6 kV	6 kV	
Rated current	9 A	9 A	9 A	9 A	9 A	9 A	
Approvals per	UL 1977			UL 1977			
Rated voltage	320 V			320 V			
Rated current	9 A			9 A			

Material Data	
Material group	I
Insulating material	Polyamide (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Silver-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2



# Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons ▶ 0.75 mm 2060 Series

Pin spacing: 4 mm/0.157 inch; Pin length: 28 mm; white

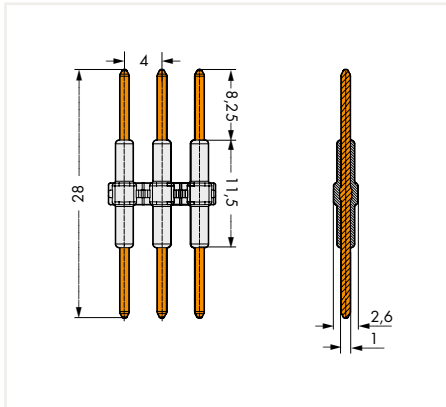
Pin spacing: 8 mm/0.314 inch; Pin length: 28 mm; white



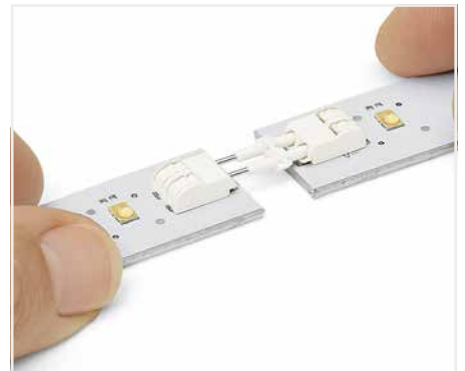
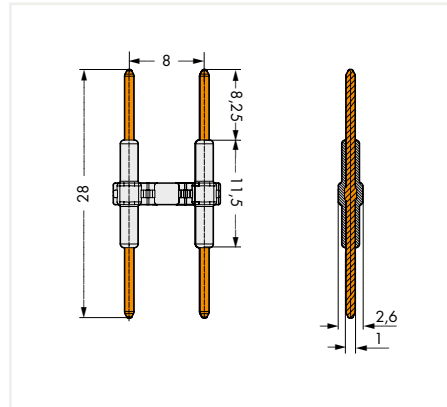
Inserting a board-to-board link into the Terminal Block.

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
1	2060-951/028-000	1500	2	2060-962/028-000	375
2	2060-952/028-000	500			
3	2060-953/028-000	375			
4	2060-954/028-000	250			

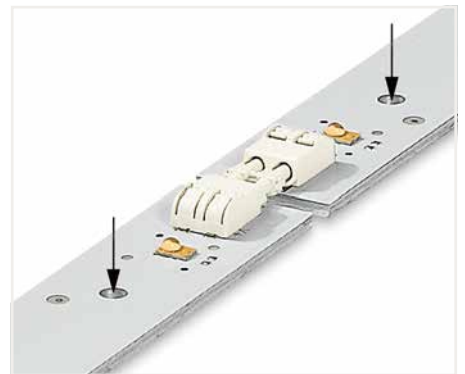
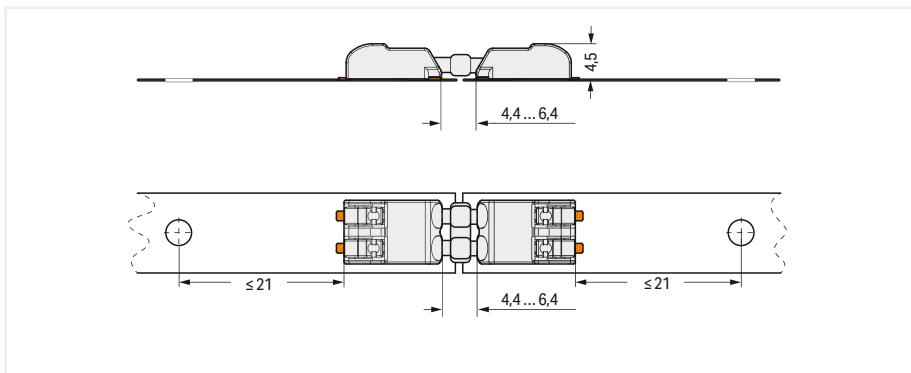
Dimensions (in mm):



Dimensions (in mm):



Assembly: Place PCBs on a flat surface and connect Terminal Blocks on adjoining PCBs via board-to-board link. Disassembly: Pull PCBs apart (max. 10 mating cycles).



The PCBs must be secured.

1

## Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons ▶ 0.75 mm 1.5 mm<sup>2</sup> ▶ Pin Spacing: 6 mm / 0.236 inch ▶ 2061 Series

1



- Board-to-board link simplifies LED module assembly
- Easy push-in connection and disconnection without push-button actuation

### Electrical Data

Pin spacing	6 mm / 0.236 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	9 A	9 A	9 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	10 A	-	10 A

### Material Data

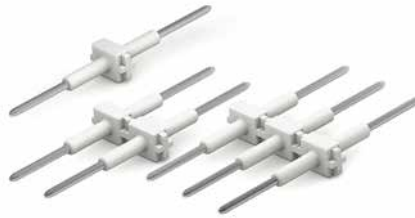
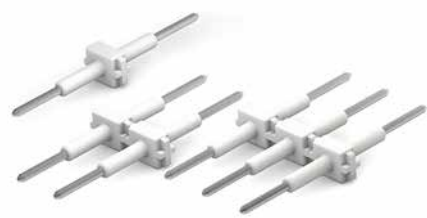
Material group	I
Insulating material	Polyamide (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Silver-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

# Board-to-Board Links for SMD PCB Terminal Blocks with Push-Buttons ▶ 0.75 mm 1.5 mm<sup>2</sup> ▶ Pin Spacing: 6 mm / 0.236 inch ▶ 2061 Series

Pin length: 30 mm; white

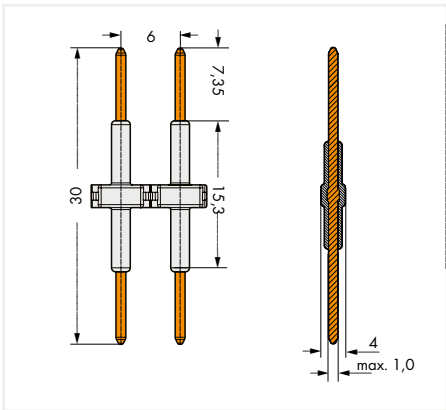
Pin length: 34 mm; white



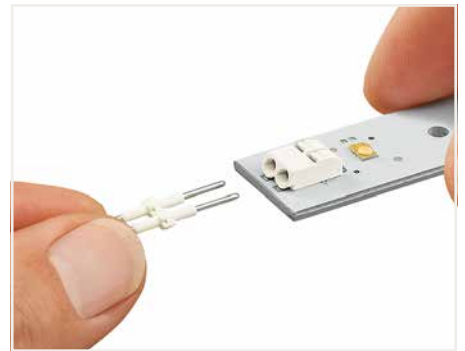
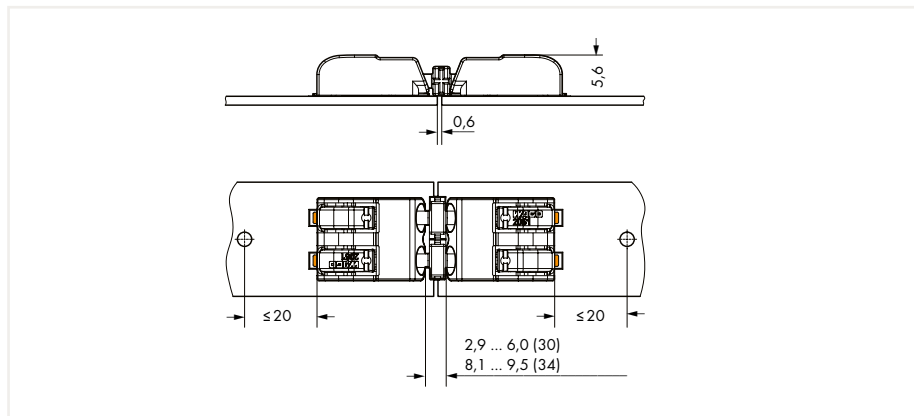
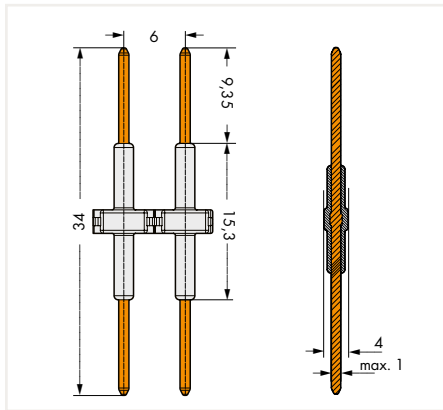
Pole No.	Item No.	Pack. Unit
1	2061-901	700
2	2061-902	300
3	2061-903	200
4	2061-904	100

Pole No.	Item No.	Pack. Unit
1	2061-901/034-000	700
2	2061-902/034-000	300
3	2061-903/034-000	200
4	2061-904/034-000	100

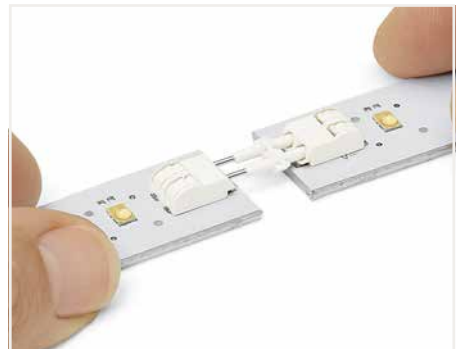
Dimensions (in mm):



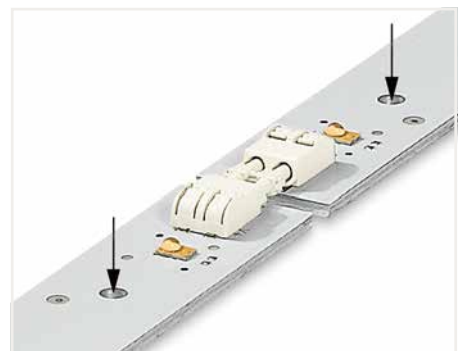
Dimensions (in mm):



Inserting a board-to-board link into the Terminal Block.



Assembly: Place PCBs on a flat surface and connect Terminal Blocks on adjoining PCBs via board-to-board link. Disassembly: Pull PCBs apart (max. 10 mating cycles).



The PCBs must be secured.

1

## Board-to-Board Link for SMD PCB Terminal Blocks ▶ 2065 Series

1



- Board-to-board links simplify LED module assembly
- Space-saving connection of PCBs

### Electrical Data

Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated Current	9 A	9 A	9 A
Approvals per	UL 1977		
Rated voltage	600 V		
Rated current	9 A		

### Material Data

Contact material	Copper alloy
Contact Plating	Silver-plated

### Environmental Requirements

Limit temperature range	-60 ... +120 °C
-------------------------	-----------------

The layout must meet the requirements of the insulation coordination standard EN/IEC 60664-1 and applicable end product standards.

**NOTE: Terminal block without insulation housing! Protection against accidental contact must be provided at voltages higher than low voltages (e.g., SELV/PELV) for the relevant application.**

# Board-to-Board Link for SMD PCB Terminal Blocks ▶ 2065 Series

1

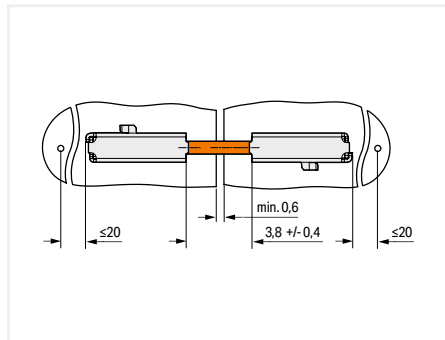
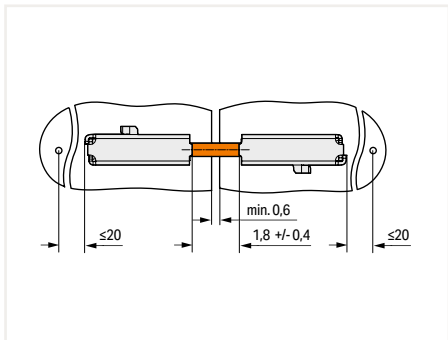
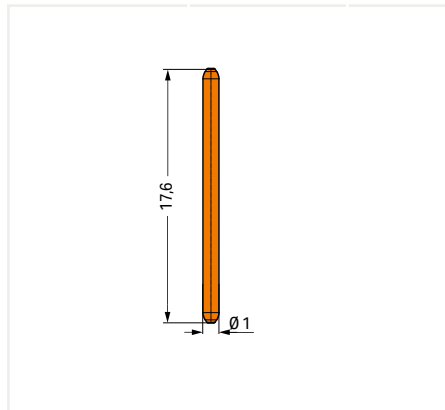
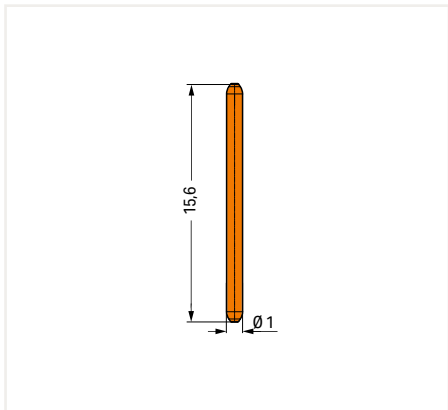
Pin length: 15.6 mm

Pin length: 17.6 mm



Item No.	PU
2065-131	1500

Item No.	PU
2065-133	1500



Inserting board-to-board links into the Terminal Blocks.

Assembly: Place PCBs on a flat surface and connect Terminal Blocks on adjoining PCBs via board-to-board link. Disassembly: Support disconnection by opening the terminals with operating tool (max. 5 mating cycles).

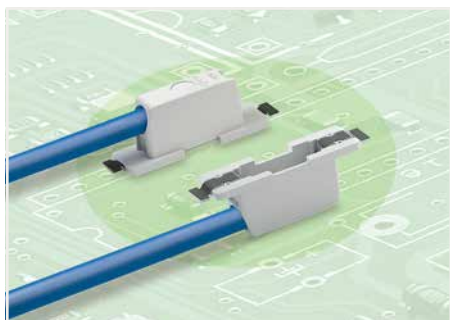
The PCBs must be secured.

PU = Packaging Unit; SPU = Subpackaging Unit; Dimensions in mm

## Through-Board SMD PCB Terminal Block ▶ 2070 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Operating tool ▶ 0.75 mm<sup>2</sup> ▶ Color: white

1



- SMD PCB Terminal Block with Push-in CAGE CLAMP® connection for back-side wiring of LED modules
- Low profile of just 1.1 mm on the module's front side
- Connect solid conductors via push-in termination
- Insert fine-stranded conductors and remove all conductors via operating tool

Electrical Data	FR4 PCB Type			Metal-Core PCBs		
Pin spacing	6.5 mm / 0.256 inch			6.5 mm / 0.256 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overtoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	320 V	320 V	630 V	200 V	320 V	500 V
Rated surge voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Rated current	9 A	9 A	9 A	9 A	9 A	9 A
Approvals per	UL 1977			UL 1977		
Rated voltage	600 V			600 V		
Rated current	9 A			9 A		

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 10 mm / 0.31 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

Clearance and creepage distances  $\geq 3.0$  mm:  
500 V in applications per EN 60598-1

\*(III / 2)  $\hat{=}$  Overtoltage category III /  
Pollution degree 2

**PUSH-IN CAGE CLAMP®**

# Through-Board SMD PCB Terminal Block ▶ 2070 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Operating tool ▶ 0.75 mm<sup>2</sup> ▶ Color: white

Reel diameter: 330 mm



Reel diameter: 330 mm



Reel diameter: 330 mm

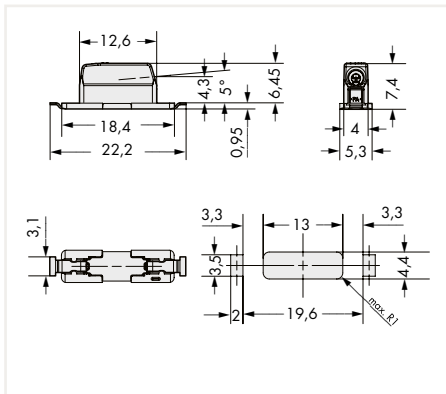


Pole No.	Item No.	Pack. Unit
1	2070-461/998-406	4770 (954)

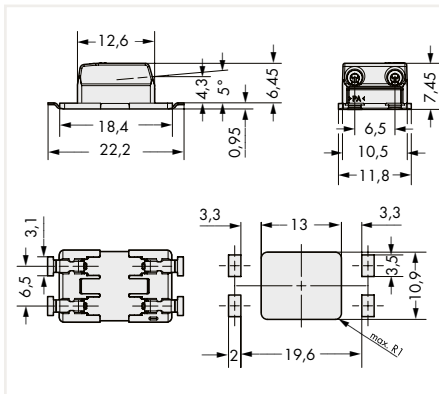
Pole No.	Item No.	Pack. Unit
2	2070-462/998-406	2385 (477)

Pole No.	Item No.	Pack. Unit
3	2070-463/998-406	1590 (318)

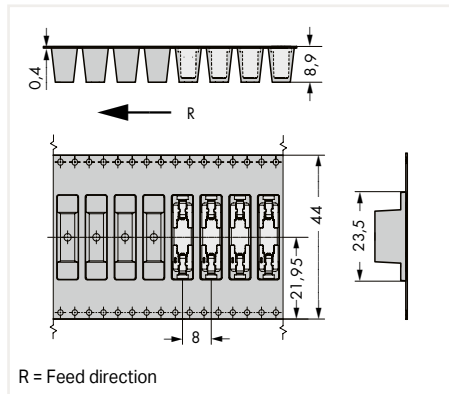
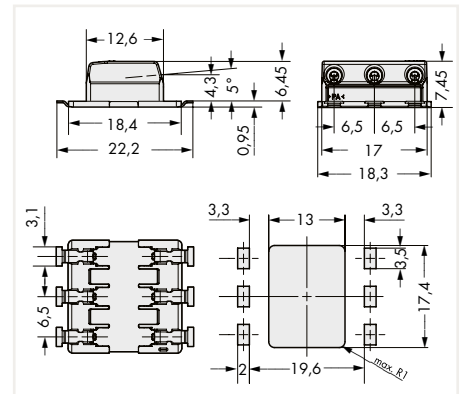
Dimensions (in mm):



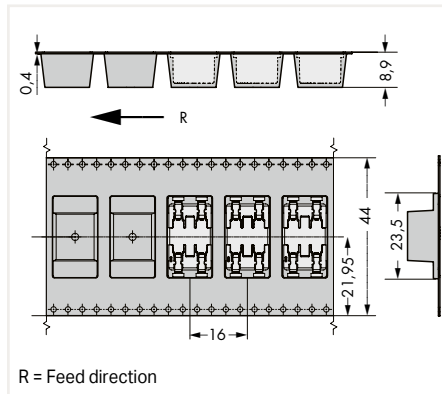
Dimensions (in mm):



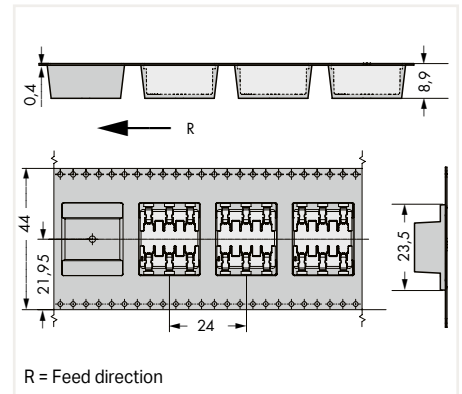
Dimensions (in mm):



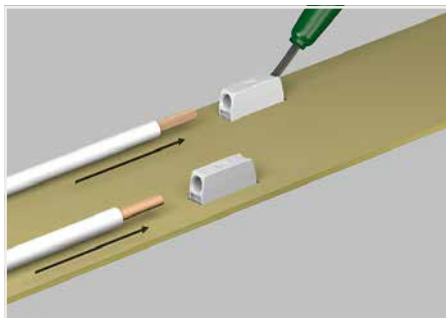
R = Feed direction



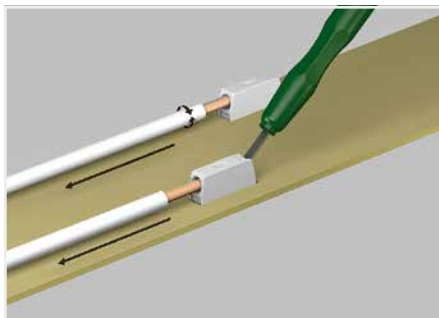
R = Feed direction



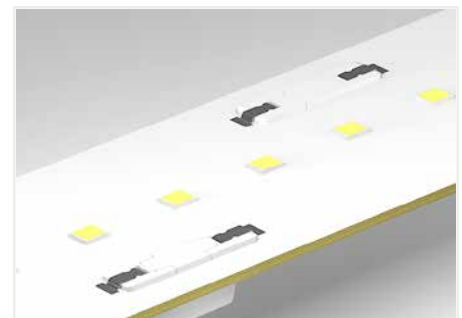
R = Feed direction



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.



Use an operating tool or simply "twist and pull" to remove solid conductors.



The variants with cover feature a center contact surface for easy pick-and-place assembly and minimum shadowing.

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>:

- Reel diameter of tape-and-reel packaging: 381 mm

# Through-Board SMD PCB Terminal Block ▶ 2070 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Operating tool ▶ 0.75 mm<sup>2</sup> ▶ Color: white

Reel diameter: 330 mm

Reel diameter: 330 mm

Reel diameter: 330 mm

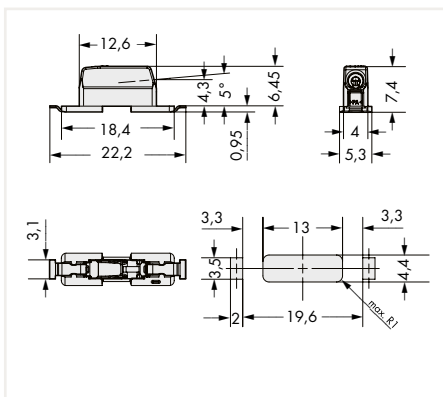


Pole No.	Item No.	Pack. Unit
1	2070-451/998-406	4770 (954)

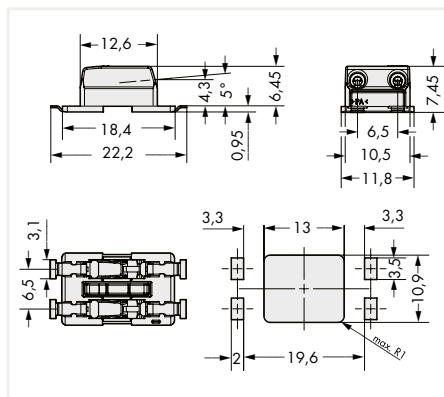
Pole No.	Item No.	Pack. Unit
2	2070-452/998-406	2385 (477)

Pole No.	Item No.	Pack. Unit
3	2070-453/998-406	1590 (318)

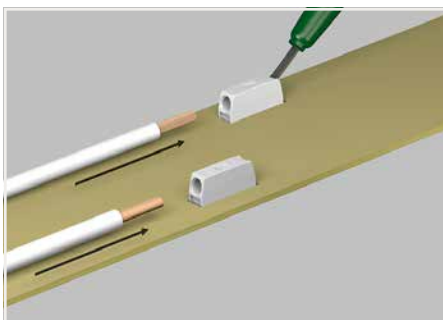
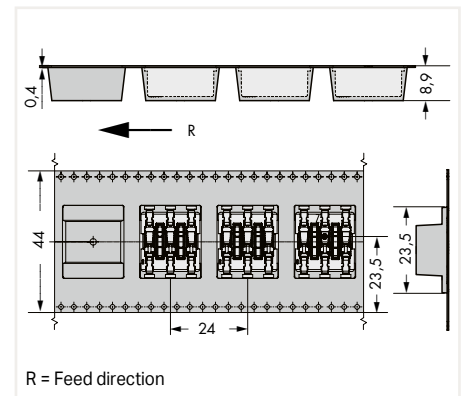
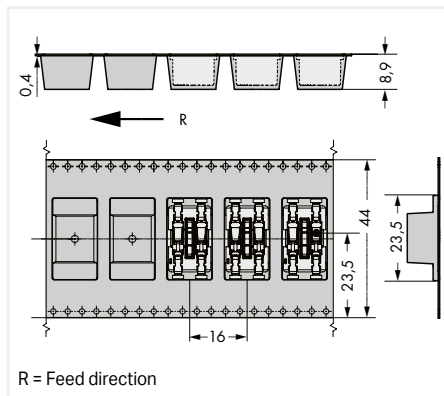
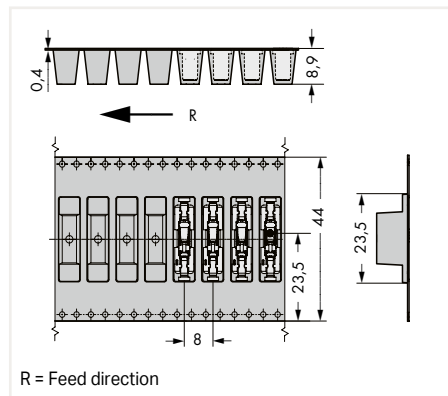
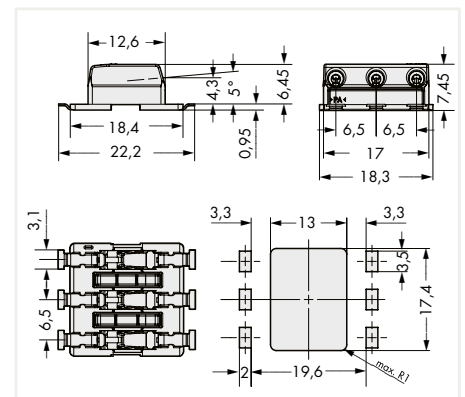
Dimensions (in mm):



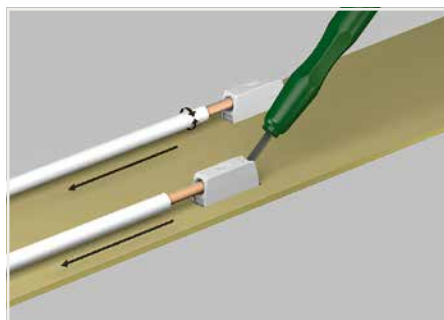
Dimensions (in mm):



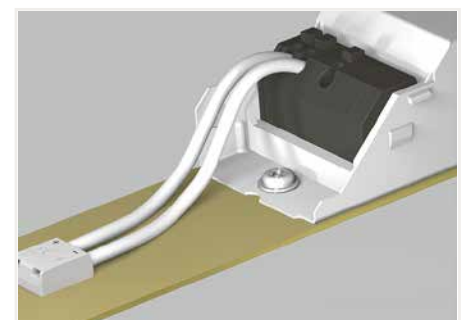
Dimensions (in mm):



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.



Use an operating tool or simply "twist and pull" to remove solid conductors.



Shift wiring to the back of the LED module via 2070 Series SMD PCB Terminal Blocks.

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>:

- Reel diameter of tape-and-reel packaging: 381 mm



**PUSH-IN CAGE CLAMP®**

# Through-Board SMD PCB Terminal Block ▶ 2070 Series

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Operating tool ▶ 0.75 mm<sup>2</sup> ▶ Color: white

Marking (+); Reel diameter: 330 mm

Marking (+ -); Reel diameter: 330 mm

Marking (+ - plain); Reel diameter: 330 mm

1

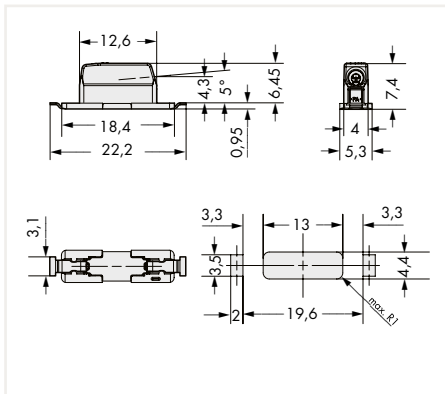


Pole No.	Item No.	Pack. Unit
1	2070-521/998-406	4770 (954)

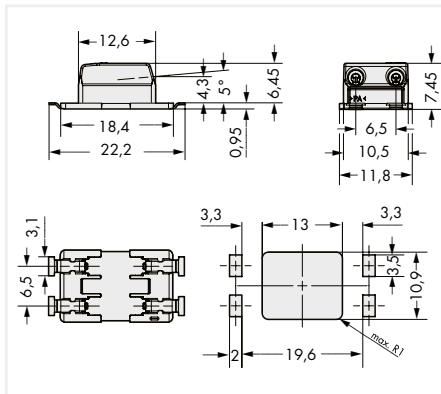
Pole No.	Item No.	Pack. Unit
2	2070-522/998-406	2385 (477)

Pole No.	Item No.	Pack. Unit
3	2070-523/998-406	1590 (318)

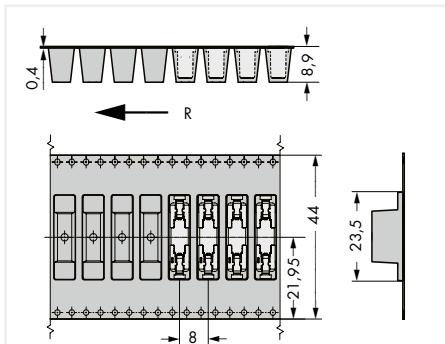
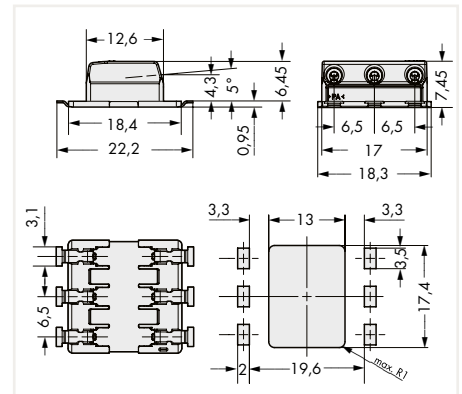
Dimensions (in mm):



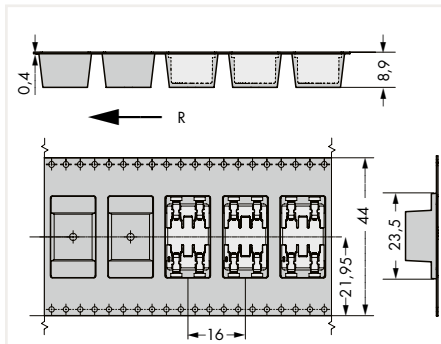
Dimensions (in mm):



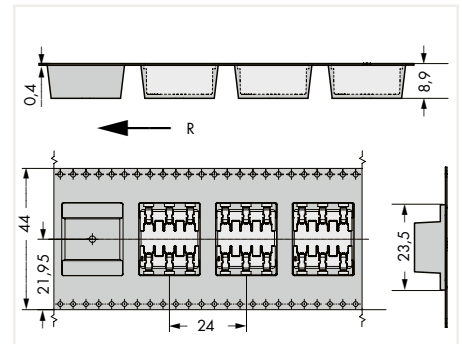
Dimensions (in mm):



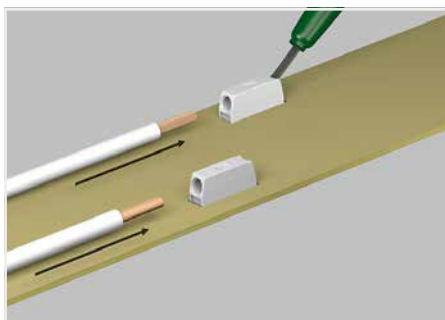
R = Feed direction



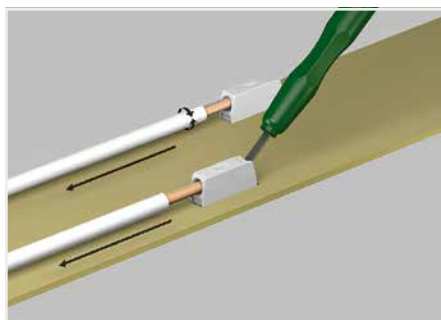
R = Feed direction



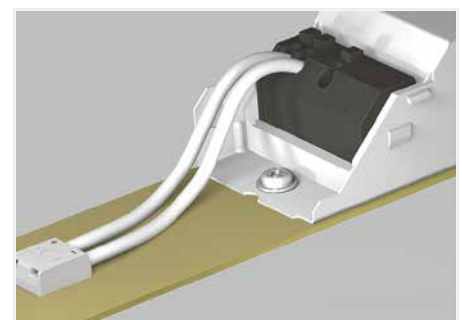
R = Feed direction



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.



Use an operating tool or simply "twist and pull" to remove solid conductors.



The printed variants offer unique pole marking on the back of the module.

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>:

- Reel diameter of tape-and-reel packaging: 381 mm

# Through-Board SMD PCB Terminal Block ▶ 2070 Series

**PUSH-IN CAGE CLAMP®**

Push-in CAGE CLAMP® ▶ Pin spacing: 6.5 mm / 0.256 inch ▶ Actuation type: Operating tool ▶ 0.75 mm<sup>2</sup> ▶ Color: white

1

Marking (-); Reel diameter: 330 mm

Marking (- +); Reel diameter: 330 mm

Marking (plain - +); Reel diameter: 330 mm

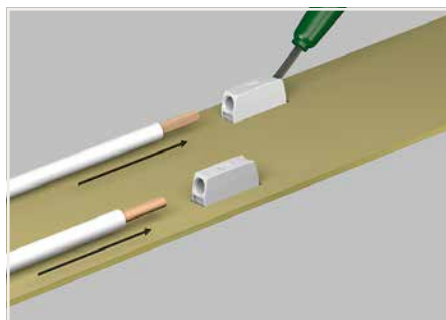
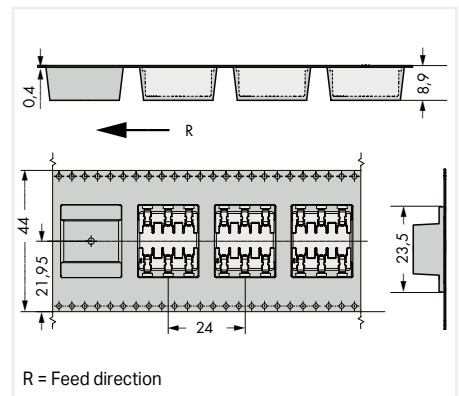
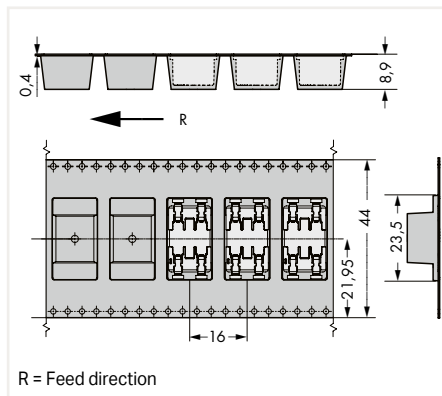
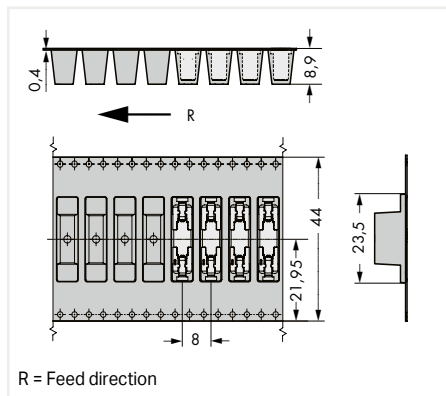
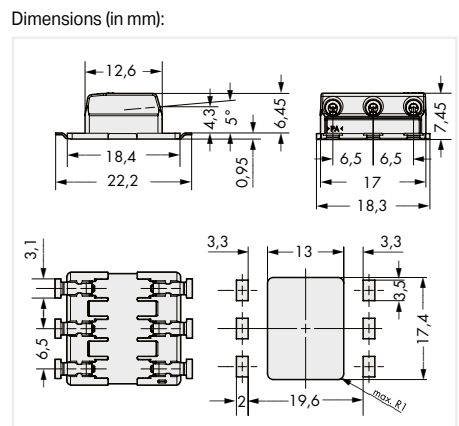
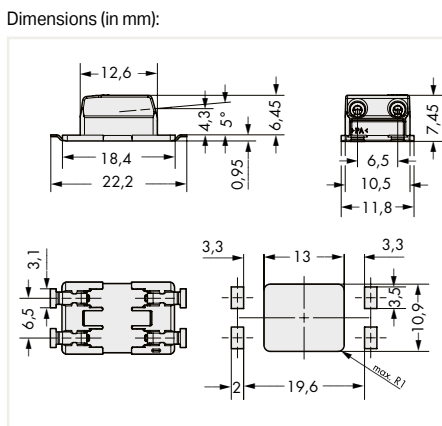
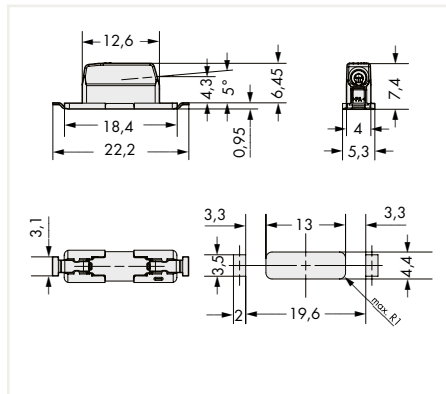


Pole No.	Item No.	Pack. Unit
1	2070-541/998-406	4770 (954)

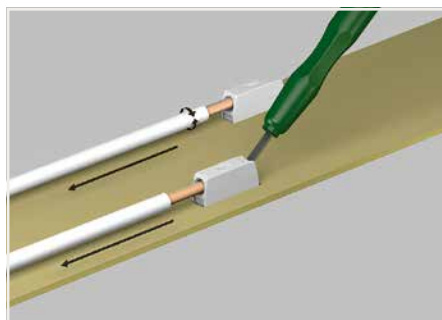
Pole No.	Item No.	Pack. Unit
2	2070-542/998-406	2385 (477)

Pole No.	Item No.	Pack. Unit
3	2070-543/998-406	1590 (318)

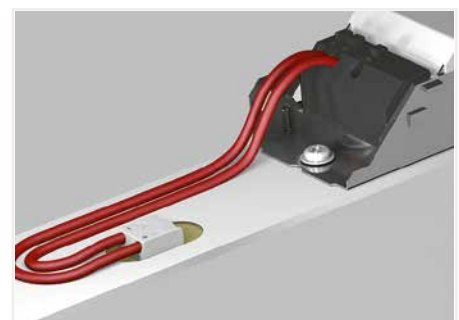
Dimensions (in mm):



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.



Use an operating tool or simply "twist and pull" to remove solid conductors.



The printed variants offer unique pole marking on the back of the module.

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>:

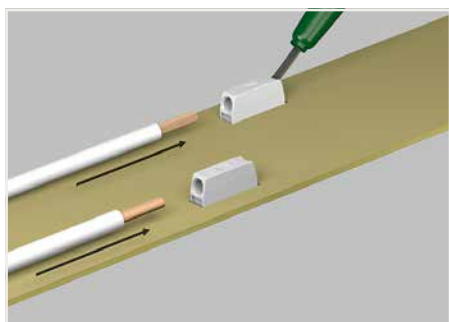
- Reel diameter of tape-and-reel packaging: 381 mm

# Operating Tool

1



Item No.	Pack. Unit
2070-400	1



Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.

## Through-Board SMD PCB Terminal Block ▶ 2075 Series

1



- For vertical wiring
- Wiring performed on the back of the LED module simplifies lighting manufacturing
- Low installation height minimizes on-board LED shadowing
- Compact design provides uniform light distribution
- An economical alternative to wire soldering
- For manual and automated wiring systems

### Electrical Data

Width	3 mm / 0.118 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	200 V	–	500 V
Rated surge voltage	4 kV	–	4 kV
Rated current	9 A	9 A	9 A
Approvals per	UL 1977		
Rated voltage	600 V		
Rated current	9 A		

### Connection Data

Connection technology	PUSH WIRE®
Strip length	3.7 mm / 0.15 inch
Conductor entry angle to the PCB	90°
Conductor range	
Solid conductor	0.34 ... 0.75 mm <sup>2</sup> / 20 ... 18 AWG

### Material Data

Limit temperature range	–60 ... +105 °C
Contact material	Electrolytic copper (Ecu)
Contact plating	Tin-plated

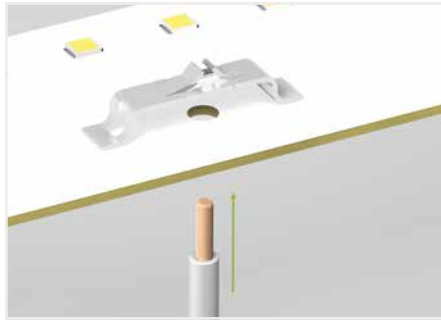
#### Note:

Terminal Block without insulation housing!  
Protection against accidental contact must be provided at voltages higher than low voltages (e.g., SELV/PELV) for the relevant application.

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

# Through-Board SMD PCB Terminal Block ▶ 2075 Series

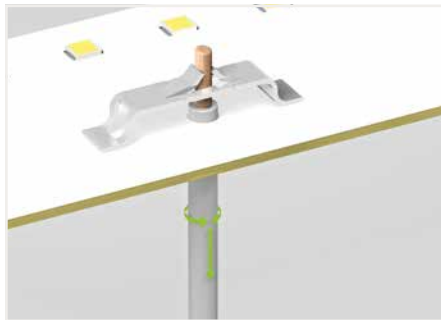
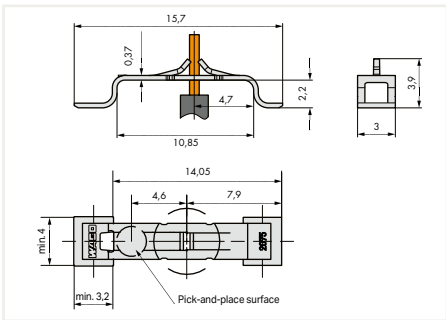
Reel diameter: 330 mm



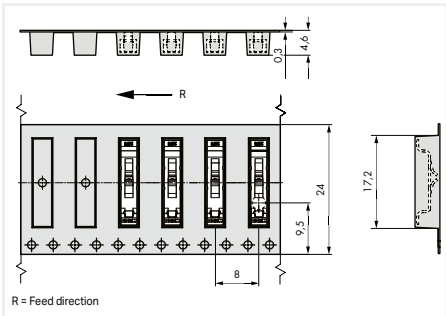
Push-in termination of solid conductors

Pole No.	Item No.	Pack. Unit
1	2075-381/997-404	18000 (2000)

Dimensions (in mm):

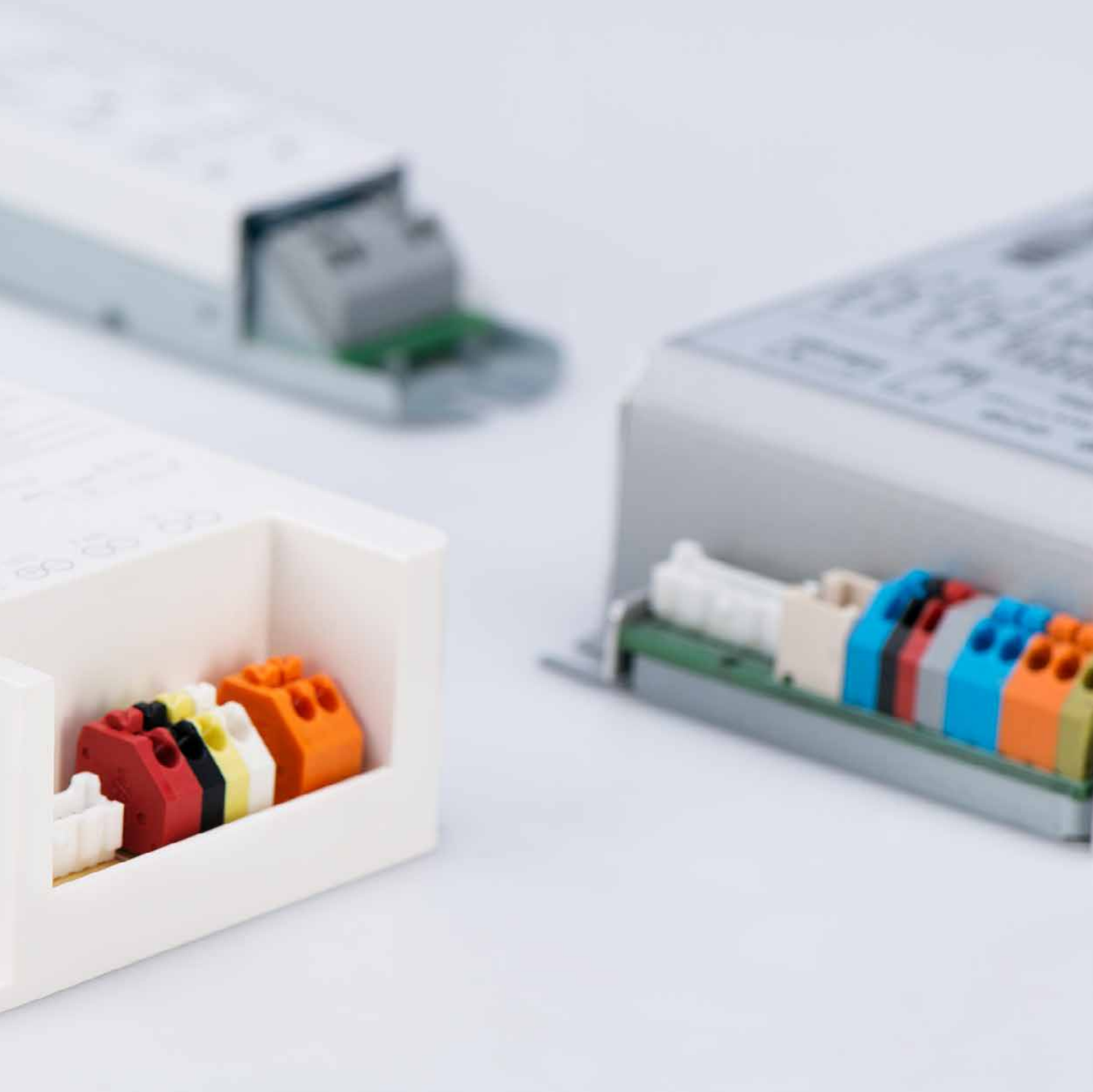


Simply twist and pull to remove conductors – no tools required.



R = Feed direction

1



# WAGO PCB Terminal Blocks for Drivers and Electronics

## WAGO PCB Terminal Blocks for Drivers and Electronics

		Nominal Cross-Sections	Series	Page
	THR PCB Terminal Block with Push-Buttons and Push-in CAGE CLAMP® Connection	0.75 mm <sup>2</sup>	2060	46
		1.5 mm <sup>2</sup>	2061	50
		0.5 mm <sup>2</sup>	250	60
		1.5 mm <sup>2</sup>	250	62
			805	68
	PCB Terminal Strips with Push-Buttons and Push-in CAGE CLAMP® Connection	0.5 mm <sup>2</sup>	250	54
		1.5 mm <sup>2</sup>	250	56
			805	64
		2.5 mm <sup>2</sup>	804	70
	Modular PCB Terminal Blocks and PCB-Terminal Strips with Push-Buttons and Push-in CAGE CLAMP® Connection	1.5 mm <sup>2</sup>	235	72
	PCB Terminal Blocks with PUSH WIRE® Connection	1.5 mm <sup>2</sup>	744	78
	Modular PCB Terminal Blocks and PCB Terminal Strips with PUSH WIRE® Connection	2.5 mm <sup>2</sup>	235	80
	Two-Conductor PCB Terminal Strips with PUSH WIRE® Connection	1.5 mm <sup>2</sup>	253	84
	PCB Terminal Blocks with Levers and Push-in CAGE CLAMP® Connection	1.5 mm <sup>2</sup>	2601	86
	PCB Terminal Blocks with Levers and Push-in CAGE CLAMP® Connection	4 mm <sup>2</sup>	2604	88
	PCB Terminal Blocks with Push-in CAGE CLAMP® Connection	4 mm <sup>2</sup>	2624	92

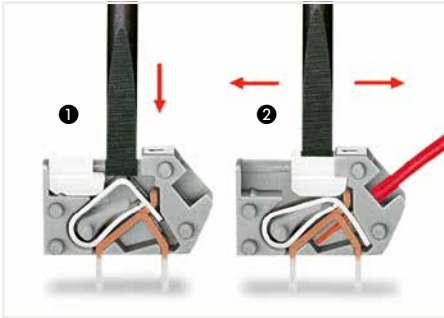
# PCB Terminal Blocks

## Description and Installation

### Product Overview by Pin Spacing

2

#### Actuation with Locking Slide/Push-Button/Lever



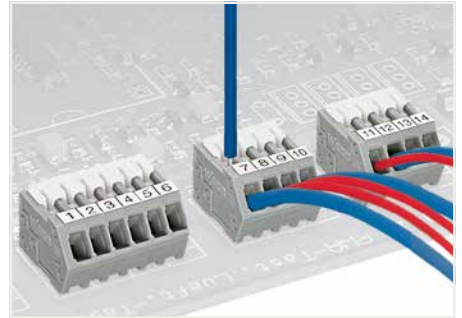
Conductor termination: ❶ To momentarily open the clamping unit, use screwdriver and then insert a stripped conductor. ❷ To open clamping unit for an extended period, move locking slide toward conductor entry hole. Then fully insert stripped conductor and move locking slide back to original position (also possible to perform with fingernail).

#### Actuation without Locking Slide/Push-Button/Lever

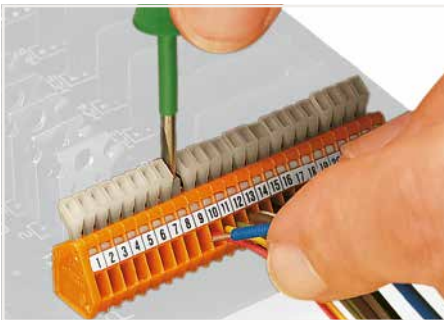


Inserting a conductor via operating tool (3.5 mm blade). Conductor entry and clamp operation are parallel.

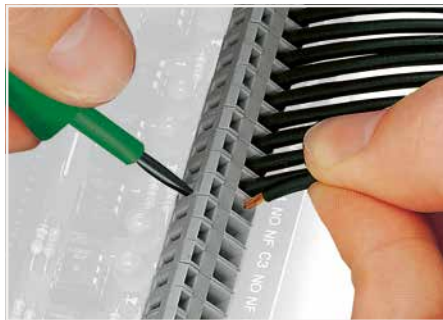
#### Testing



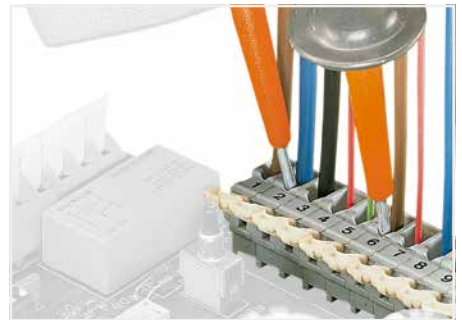
Inserting/removing a conductor.



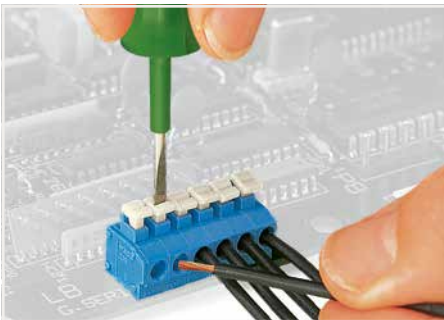
Inserting/removing a conductor.



Inserting a conductor via operating tool (3.5 mm blade). Screwdriver actuation perpendicular to conductor entry



Testing with test probes.



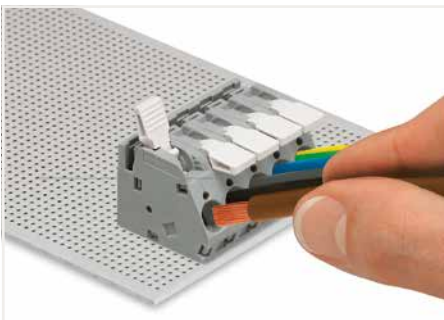
Inserting/removing fine-stranded conductors via push-button.



Removing a conductor without push-button.



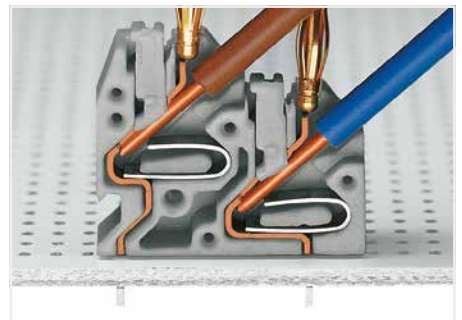
Inserting/removing a conductor (257 Series) via finger-operated levers. For terminal strips with finger-operated levers, see Full Line Catalog.



Inserting/removing a conductor – 2706 and 2716 Series.



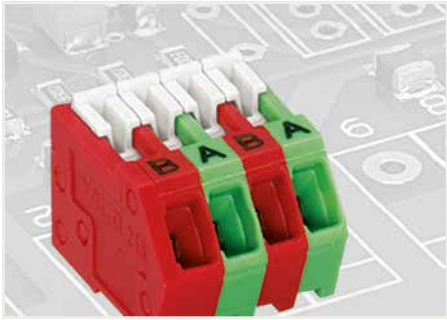
Inserting a conductor via operating tool (5.5 mm blade).



Testing with a 2 mm Ø test plug.



Marking



Factory direct marking

Commoning



Inserting a comb-style jumper bar.

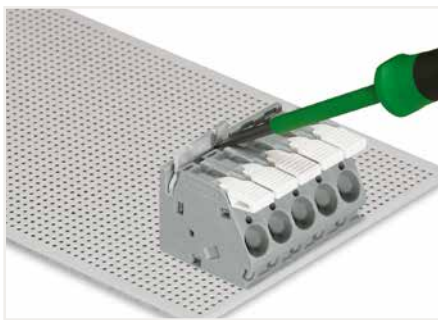
Specialty Functions



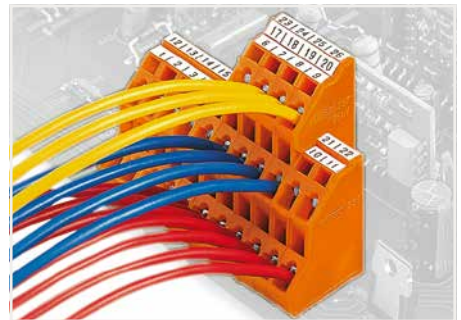
For terminal strips in other colors please contact factory.



Marking via self-adhesive marking strips (above) or factory direct marking.



Push jumper bar down firmly using a screwdriver until it hits the backstop – 2706 and 2716 Series.



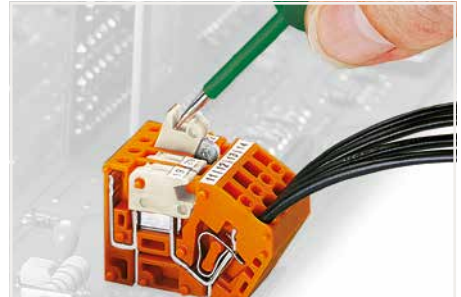
Space-saving triple-deck terminal strip



Mixed-color terminal strips with factory direct marking



Custom terminal strips are available upon request.



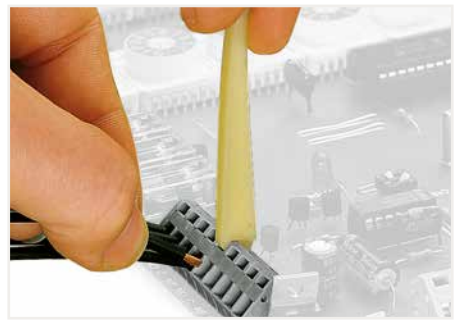
Opening a knife disconnect.



Marking via Mini-WSB and WMB markers or factory direct marking – 745 Series.



Horizontal commoning: Connection of adjacent terminals  
Note: Interruption of horizontal commoning reduces spacing to the adjacent solder pins.



Inserting a conductor via operating tool.

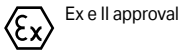
# PCB Terminal Blocks

## Product Overview by Pin Spacing

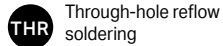
2

Housing colors available upon request:

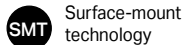
- Green-yellow
- Gray
- Dark gray
- Light gray
- White
- Orange
- Light green
- Black
- Blue
- Red
- Yellow
- Brown
- Green
- Violet
- Pink



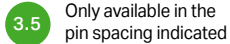
Ex e II approval



Through-hole reflow soldering



Surface-mount technology



Only available in the pin spacing indicated

2.5 mm		2.54 mm		3.5 mm		3.5 mm	
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
233 Series; 2 ... 24 poles; 160 V / 6 A		233 Series; 2 ... 24 poles; 160 V / 6 A		739 Series; 2 ... 12 poles; 160 V / 17.5 A		2086 Series; 2- ... 12 poles; 160 V / 17.5 A	
0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG	
○ 233-102 600		○ 233-402 600		○ 739-302 560		● 2086-1102 432	
○ 233-124 80		○ 233-424 80		○ 739-312 100		● 2086-1112 72	
233 Series; 2 ... 24 poles; 160 V / 6 A		233 Series; 2 ... 24 poles; 160 V / 6 A		805 Series; 2 ... 24 poles; 320 V / 17.5 A		2601 Series; 1- ... 12 poles; 160 V / 17.5 A	
0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG		0.14 ... 1.5 mm <sup>2</sup> / 26 ... 16 AWG	
○ 233-202 600		○ 233-502 600		○ 805-102 580		○ 2601-1101 120	
○ 233-224 80		○ 233-524 80		○ 805-124 40		○ 2601-1112 10	
234 Series; 2 ... 24 poles; 160 V / 6 A		234 Series; 2 ... 24 poles; 160 V / 6 A		805 Series; 2 ... 8 poles; 320 V / 17.5 A			
0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG			
○ 234-202 600		○ 234-502 600		● 805-302/200-604 600			
○ 234-224 80		○ 234-524 80		● 805-308/200-604 160			
250 Series; 2 ... 24 poles; 160 V / 4 A		250 Series; 2 ... 24 poles; 160 V / 4 A		250 Series; 2 ... 24 poles; 160 V / 8 A			
0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG		0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG			
○ 250-402 720		○ 250-1402 720		○ 250-102 560			
○ 250-424 60		○ 250-1424 60		○ 250-124 40			
250 Series; 2 ... 8 poles; 160 V / 4 A				250 Series; 2 ... 24 poles; 250 V / 8 A			
0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG				0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG			
● 250-402/350-604 720				○ 250-202 560			
● 250-408/350-604 220				○ 250-224 40			
218 Series; 2 ... 24 poles; 160 V / 6 A		218 Series; 2 ... 24 poles; 160 V / 6 A		250 Series; 2 ... 8 poles; 320 V / 8 A			
0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG			
○ 218-102 1000		○ 218-502 1000		● 250-202/353-604 560			
○ 218-124 60		○ 218-524 60		● 250-208/353-604 160			
218 Series; 2 ... 7 poles; 160 V / 6 A		218 Series; 2 ... 7 poles; 160 V / 6 A		744 Series; 2 ... 10 poles; 320 V / 2 A			
0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG "s"			
● 218-102/000-604 1000		● 218-502/000-604 1000		○ 744-392 1500			
● 218-107/000-604 240		● 218-507/000-604 240		○ 744-310 200			

# PCB Terminal Blocks

## Product Overview by Pin Spacing

3.81 mm		5 mm							
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
739 Series; 2 ... 12 poles; 320 V / 17.5 A		236 Series; 1 ... 48 poles; 320 V / 24 A		236 Series; 2 ... 6 poles; 320 V / 24 A		742 Series; 1 ... 3 conductors, 320 V / 16 A		235 Series; 2 ... 12 poles; 320 V / 17.5 A	
0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG	
739-332 520		236-101 420		236-402/334-604 420		742-101 384		235-402/331-000 420	
739-342 100		236-148 20		236-406/334-604 140		742-153 100		235-412/331-000 60	
235 Series; 1 ... 48 poles; 320 V / 17.5 A		736 Series; 2 x 2 ... 24 x 2 poles; 320 V / 21 A		740 Series; 2 ... 24 poles; 320 V / 16 A		742 Series; 1 conductor/2 conductors, 320 V / 16 A		2604 Series; 2 ... 12 poles; with levers; 400 V / 32 A	
0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG	
235-101 520		736-102 161		740-102 460		742-121 300		2604-1102 200	
235-148 20		736-124 14		740-124 40		742-178 200		2604-1112 30	
235 Series; 1 ... 48 poles; 320 V / 17.5 A		737 Series; 2 x 3 ... 24 x 3 poles; 320 V / 21 A		253 Series; 2 ... 16 poles; 320 V / 17.5 A		742 Series; 1 ... 3 conductors, 320 V / 15 A		2624 Series; 2 ... 12 poles; 400 V / 41 A	
0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG	
235-101/330-000 520		737-102 92		253-102 400		742-111 300		2624-1102 200	
235-148/330-000 20		737-124 8		253-116 40		742-163 100		2624-1112 35	
		738 Series; 2 x 4 ... 24 x 4 poles; 320 V / 18 A		250 Series; 2 ... 16 poles; 320 V / 17.5 A		741 Series; 2 ... 16 poles; 320 V / 16 A		231 Series; 2 ... 12 poles; 320 V / 16 A	
		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
		738-102 72		250-502 400		741-102 400		231-602/017-000 100	
		738-124 6		250-516 40		741-116 40		231-612/017-000 25	
		255 Series; 1 ... 48 poles; 320 V / 24 A		250 Series; 2 ... 24 poles; 320 V / 10 A		735 Series; 2 ... 7 poles; 320 V / 10 A		731 Series; 2 ... 12 poles; 320 V / 5 A	
		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
		255-401 400		250-702 264		735-302 500		731-132 50	
		255-448 20		250-724 24		735-307 140		731-142/048-000 25	
		256 Series; 1 ... 48 poles; 320 V / 24 A		816 Series; 2 ... 12 poles; 320 V / 14 A		235 Series; 2 ... 48 poles; 320 V / 24 A		2086 Series; 2 ... 8-poles; 320 V / 17.5 A	
		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		2 x 0.2 ... 1.5 mm <sup>2</sup> / 2 x 24 ... 16 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"		0.14 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG	
		256-401 400		816-102 400		235-402 421		2086-3102 360	
		256-448 20		816-112 60		235-448 20		2086-3108 84	
		257 Series; 1 ... 48 poles; 320 V / 24 A		254 Series; 1 ... 48 poles; 320 V / 24 A		745 Series; 2 ... 12 poles; 320 V / 32 A			
		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"		0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG			
		257-401 400		254-451 420		745-3102 276			
		257-448 20		254-498 20		745-3112 48			
		739 Series; 2 ... 24 poles; 320 V / 24 A		804 Series; 2 ... 16 poles; 320 V / 24 A		745 Series; 2 ... 12 poles; 320 V / 32 A			
		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.25 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG		0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG			
		739-102 400		804-102 420		745-102 230			
		739-124 20		804-116 60		745-112 40			

# PCB Terminal Blocks

## Product Overview by Pin Spacing

2

5.08 mm				7.5 mm			
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
236 Series; 1 ... 48 poles; 320 V / 24 A		742 Series; 1 ... 3 conductors, 320 V / 16 A		236 Series; 1 ... 24 poles; 630 V / 24 A	Ex	235 Series; 1 ... 24 poles; 630 V / 17.5 A	
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG	0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG
236-101 420		742-106 384		236-201 280		235-501/331-000 280	745-3152 228
236-148 20		742-158 100		236-224 20		235-524/331-000 20	745-3162 36
736 Series; 2 x 2 ... 24 x 2 poles; 320 V / 21 A		742 Series; 1 conductor/2 conductors, 320 V / 16 A		736 Series; 2 x 2 ... 16 x 2 poles; 630 V / 21 A		235 Series; 1 ... 24 poles; 630 V / 24 A	745 Series; 2 ... 12 poles; 630 V / 32 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"	0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG
736-302 161		742-126 300		736-502 133		235-501 280	745-152 180
736-324 14		742-176 200		736-516 14		235-524 20	745-162 30
737 Series; 2 x 3 ... 24 x 3 poles; 320 V / 21 A		742 Series; 1 ... 3 conductors, 320 V / 15 A		737 Series; 2 x 3 ... 16 x 3 poles; 630 V / 21 A		254 Series; 1 ... 24 poles; 630 V / 24 A	745 Series; 2 ... 12 poles; 630 V / 41 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG
737-302 92		742-116 300		737-502 76		254-551 280	745-302 128
737-324 8		742-168 100		737-516 8		254-574 20	745-312 16
738 Series; 2 x 4 ... 24 x 4 poles; 320 V / 18 A		741 Series; 2 ... 16 poles; 320 V / 16 A		255 Series; 1 ... 24 poles; 630 V / 24 A	Ex	741 Series; 2 ... 10 poles; 630 V / 16 A	2706 Series; 2 ... 12 poles; 630 V / 41 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	0.5 ... 6 mm <sup>2</sup> / 20 ... 10 AWG
738-302 72		741-202 400		255-501 280		741-302 340	2706-102 85
738-324 6		741-216 40		255-524 20		741-310 60	2706-112 15
255 Series; 1 ... 48 poles; 320 V / 24 A	Ex			256 Series; 1 ... 24 poles; 320 V / 24 A	Ex	250 Series; 2 ... 12 poles; 630 V / 17.5 A	2706 Series; 2 ... 12 poles; 630 V / 41 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG				0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG	0.5 ... 6 mm <sup>2</sup> / 20 ... 10 AWG
255-401 400				256-501 280		250-602 340	2706-152 85
255-448 20				256-524 20		250-612 40	2706-162 15
256 Series; 1 ... 48 poles; 320 V / 24 A	Ex	235 Series; 1 ... 48 poles; 320 V / 24 A		257 Series; 1 ... 24 poles; 630 V / 24 A	Ex	804 Series; 2 ... 12 poles; 320 V / 24 A	746 Series; 2 ... 12 poles; 1000 V / 50 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.25 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG	2 x 0.5 ... 10 mm <sup>2</sup> / 2 x 20 ... 8 AWG
256-401 400		235-401 420		257-501 280		804-302 340	746-2302 60
256-448 20		235-448 20		257-524 20		804-312 40	746-2312 16
257 Series; 1 ... 48 poles; 320 V / 24 A	Ex	254 Series; 1 ... 48 poles; 320 V / 24 A		739 Series; 2 ... 12 poles; 630 V / 24 A		2604 Series; 2 ... 12 poles; with levers; 630 V / 32 A	2624 Series; 2 ... 12 poles; 630 V / 41 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG
257-401 400		254-451 420		739-202 340		2604-1302 200	2624-1302 200
257-448 20		254-498 20		739-212 40		2604-1312 30	2624-1312 25
739 Series; 2 ... 24 poles; 320 V / 24 A						2606 Series; 2 ... 12 poles; with levers; 1000 V / 41 A	2626 Series; 2 ... 12 poles; 1000 V / 41 A
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG						0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG	0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG
739-152 400						2606-1102/020-000 120	2626-1102/020-000 140
739-174 20						2606-1112/020-000 25	2626-1112/020-000 25

# PCB Terminal Blocks

## Product Overview by Pin Spacing



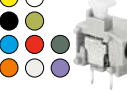









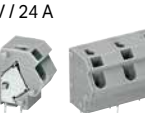


















7.62 mm				10 mm			
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
236 Series; 1 ... 24 poles; 630 V / 24 A		235 Series; 1 ... 24 poles; 630 V / 17.5 A		236 Series; 1 ... 24 poles; 1000 V / 10 A	Ex	235 Series; 1 ... 24 poles; 1000 V / 17.5 A	Ex
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG	
236-201 280		235-501/331-000 280		236-301 200		235-801/331-000 220	
236-224 20		235-524/331-000 20		236-324 20		235-824/331-000 20	
736 Series; 2 x 2 ... 16 x 2 poles; 630 V / 24 A		235 Series; 1 ... 24 poles; 630 V / 24 A		736 Series; 2 x 2 ... 12 x 2 poles; 1000 V / 24 A		235 Series; 1 ... 24 poles; 1000 V / 24 A	Ex
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"	
736-602 133		235-501 280		736-702 112		235-801 220	
736-616 14		235-524 20		736-712 14		235-824 20	
737 Series; 2 x 3 ... 16 x 3 poles; 630 V / 24 A		254 Series; 1 ... 24 poles; 630 V / 24 A		737 Series; 2 x 3 ... 12 x 3 poles; 1000 V / 24 A		254 Series; 1 ... 24 poles; 1000 V / 24 A	Ex
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"	
737-602 76		254-551 280		737-702 64		254-651 280	
737-616 8		254-574 20		737-712 8		254-674 20	
255 Series; 1 ... 24 poles; 630 V / 24 A	Ex	741 Series; 2 ... 10 poles; 630 V / 16 A		255 Series; 1 ... 24 poles; 1000 V / 24 A	Ex	741 Series; 2 ... 8 poles; 1000 V / 16 A	Ex
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
255-501 280		741-402 320		255-601 200		741-502 280	
255-524 20		741-410 60		255-624 20		741-508 60	
256 Series; 1 ... 24 poles; 320 V / 24 A	Ex			256 Series; 1 ... 24 poles; 630 V / 24 A	Ex	2616 Series; 2 ... 12 poles; with levers; 1000 V / 76 A	
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG				0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG	
256-501 280				256-601 200		2616-1102/020-000 50	
256-524 20				256-624 20		2616-1112/020-000 10	
257 Series; 1 ... 24 poles; 630 V / 24 A	Ex			257 Series; 1 ... 24 poles; 1000 V / 24 A	Ex	2636 Series; 2 ... 12 poles; 1000 V / 76 A	
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG				0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG	
257-501 280				257-601 200		2636-1102/020-000 50	
257-524 20				257-624 20		2636-1112/020-000 15	
739 Series; 2 ... 12 poles; 630 V / 24 A				739 Series; 2 ... 12 poles; 630 V / 24 A		2716 Series; 2 ... 8 poles; 320 V / 75 A	
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG				0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		1.5 ... 16 mm <sup>2</sup> / 16 ... 6 AWG	
739-232 340				739-3202 280		2716-102 65	
739-242 40				739-3212 40		2716-108 15	
				745 Series; 2 ... 12 poles; 1000 V / 32 A	Ex	2716 Series; 2 ... 8 poles; 1000 V / 76 A	
				0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG		1.5 ... 16 mm <sup>2</sup> / 16 ... 6 AWG	
				745-3202 192		2716-152 52	
				745-3212 24		2716-158 12	

2

# PCB Terminal Blocks

## Product Overview by Pin Spacing

2

10.16 mm		11.5 mm		12.5 mm		15 mm	
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
236 Series; 1 ... 24 poles; 1000 V / 10 A		235 Series; 1 ... 24 poles; 1000 V / 17.5 A		2604 Series; 2 ... 12 poles; with levers; 1000 V / 32 A		2606 Series; 2 ... 12 poles; 1000 V / 41 A	2616 Series; 2 ... 8 poles; 1000 V / 76 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG		0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG		0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG	0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG
○ 236-301 200		○ 235-801/331-000 220		○ 2604-1502 130		○ 2606-1352 80	○ 2616-1352 44
○ 236-324 20		○ 235-824/331-000 20		○ 2604-1512 15		○ 2606-1362 12	○ 2616-1358 14
736 Series; 2 x 2 ... 12 x 2 poles; 1000 V / 21 A		235 Series; 1 ... 24 poles; 1000 V / 24 A		2624 Series; 2 ... 12 poles; 1000 V / 41 A		2606 Series; 2 ... 12 poles; 1000 V / 41 A	2616 Series; 2 ... 8 poles; 1000 V / 76 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG "s"		0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG		0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG	0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG
○ 736-802 112		○ 235-801 220		○ 2624-1502 100		○ 2606-3352 80	○ 2616-3352 44
○ 736-812 14		○ 235-824 20		○ 2624-1512 20		○ 2606-3362 12	○ 2616-3358 14
737 Series; 2 x 3 ... 12 x 3 poles; 1000 V / 21 A		254 Series; 1 ... 24 poles; 1000 V / 24 A				2626 Series; 2 ... 12 poles; 1000 V / 48 A	2636 Series; 2 ... 8 poles; 1000 V / 76 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.5 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG "s"				0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG	0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG
○ 737-802 64		○ 254-651 280				○ 2626-1352 100	○ 2636-1352 60
○ 737-812 8		○ 254-674 20				○ 2636-1362 12	○ 2636-1358 18
255 Series; 1 ... 24 poles; 1000 V / 24 A		741 Series; 2 ... 8 poles; 1000 V / 16 A				2626 Series; 2 ... 12 poles; 1000 V / 48 A	2636 Series; 2 ... 8 poles; 1000 V / 76 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG				0.2 ... 10 mm <sup>2</sup> / 24 ... 8 AWG	0.75 ... 16 mm <sup>2</sup> / 18 ... 4 AWG
○ 255-601 200		○ 741-602 280				○ 2636-3352 100	○ 2636-3352 50
○ 255-624 20		○ 741-608 60				○ 2636-3362 12	○ 2636-3358 16
256 Series; 1 ... 24 poles; 630 V / 24 A						745 Series; 2 ... 12 poles; 1000 V / 32 A	745 Series; 2 ... 12 poles; 1000 V / 41 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG						0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG
○ 256-601 200						○ 745-3252 168	○ 745-1452 64
○ 256-624 20						○ 745-3262 12	○ 745-1462 8
257 Series; 1 ... 24 poles; 1000 V / 24 A						745 Series; 2 ... 12 poles; 1000 V / 41 A	745 Series; 2 ... 5 poles; 1000 V / 76 A
							
0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG						0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG	0.2 ... 16 mm <sup>2</sup> / 24 ... 6 AWG
○ 257-601 200						○ 745-1402 80	○ 745-602/006-000 36
○ 257-624 20						○ 745-1412 8	○ 745-605/006-000 12
						2706 Series; 2 ... 12 poles; 1000 V / 41 A	2716 Series; 2 ... 8 poles; 1000 V / 76 A
							
						0.5 ... 6 mm <sup>2</sup> / 20 ... 10 AWG	1.5 ... 16 mm <sup>2</sup> / 16 ... 6 AWG
						○ 2706-302 65	○ 2716-202 50
						○ 2706-312 5	○ 2716-208 10
							2716 Series; 2 ... 8 poles; 1000 V / 76 A
							
							1.5 ... 16 mm <sup>2</sup> / 16 ... 6 AWG
							○ 2716-252 40
							○ 2716-258 8

# PCB Terminal Blocks; Pluggable PCB Terminal Blocks ▶ Jumpers

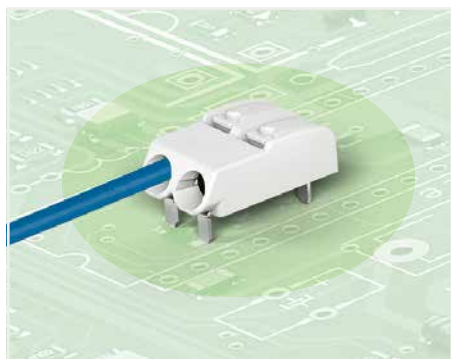
## Product Overview by Pin Spacing

20 mm		Pluggable PCB Terminal Block		Jumper	
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
745 Series; 2 ... 5 poles; 1000 V / 76 A		252 Series; 2 ... 10 poles; 320 V / 2 A	3.5	Comb-Style Jumper Bar; 5 mm pin spacing; for 745 Series – 4 mm <sup>2</sup>	
0.2 ... 16 mm <sup>2</sup> / 24 ... 6 AWG		Ø 0.4 ... 0.8 mm "s" / 26 ... 20 AWG "s"		745-181	50
745-652/006-000	32	252-102	600	745-185	50
745-655/006-000	8	252-110	150	Comb-Style Jumper Bar; 7.5 mm pin spacing; for 745 Series – 4 mm <sup>2</sup>	
		252 Series; 2 ... 10 poles; 320 V / 2 A	3.5		
				745-191	50
		Ø 0.4 ... 0.8 mm "s" / 26 ... 20 AWG "s"		745-195	50
		252-152	600	Comb-Style Jumper Bar; 10 mm pin spacing; for 745 Series – 4 mm <sup>2</sup>	
		252-160	150		
		252 Series; 2 ... 10 poles; 320 V / 2 A	3.5	745-281	50
				745-285	50
		Ø 0.4 ... 0.8 mm "s" / 26 ... 20 AWG "s"		Comb-Style Jumper Bar; 7.5 mm pin spacing; for 745 Series and 2706 Series – 6 mm <sup>2</sup>	
		252-302	600		
		252-310	150	745-381	50
		243 Series; 2 ... 8 poles; 320 V / 6 A	5.75	745-385	50
				Comb-Style Jumper Bar; 10 mm pin spacing; for 745 Series and 2706 Series – 6 mm <sup>2</sup>	
Ø 0.4 ... 1.0 mm / 24 ... 18 AWG		243-742	50		
		243-748	50	745-391	50
		806 Series; 2 ... 12 poles; 320 V / 10 A	5	745-395	50
				Comb-Style Jumper Bar; 10 mm pin spacing; for 745 Series and 2716 Series – 16 mm <sup>2</sup>	
		2 x 0.2 ... 1.5 mm <sup>2</sup> / 2 x 24 ... 16 AWG			
		806-102	400	745-582	50
		806-112	60	745-585	50
				Comb-Style Jumper Bar; 15 mm pin spacing; for 745 Series and 2716 Series – 16 mm <sup>2</sup>	
				745-631	50
				745-635	50
				Comb-Style Jumper Bar; 20 mm pin spacing; for 745 Series and 2716 Series – 16 mm <sup>2</sup>	
				745-681	50
				745-685	50

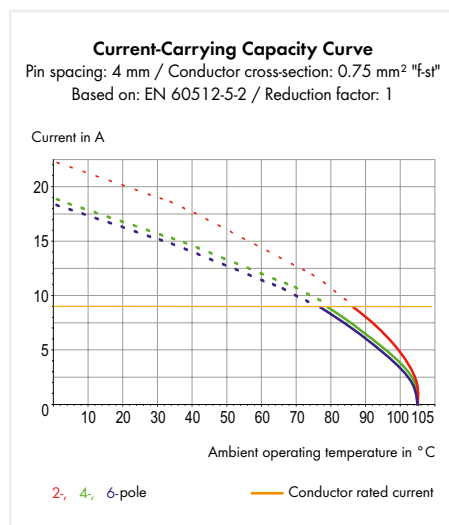
2

**THR PCB Terminal Block ▶ 2060 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Pin spacing: 4 mm / 0.157 inch ▶ Solder pin length: 2.4 mm



- THR PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering



Electrical Data	1-pole			2-/3-pole		
Pin spacing	4 mm / 0.157 inch			4 mm / 0.157 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overtoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	63 V	160 V	320 V	63 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
Rated current	9 A	9 A	9 A	9 A	9 A	9 A
Approvals per	UL 1977			UL 1977		
Rated voltage	600 V			320 V		
Rated current	9 A			9 A		

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 0.34 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 <sup>+1.0</sup> mm

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

**Application notes:**

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

**Recommendation for stencil:**

150 µm material thickness

The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

\*(III / 2) ≙ Overtoltage category III / Pollution degree 2



### THR PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Pin spacing: 4 mm / 0.157 inch ▶ Solder pin length: 2.4 mm

2 solder pins/pole; white\*; Reel diameter: 330 mm

2 solder pins/pole; black; Reel diameter: 330 mm



Push-in termination of solid conductors

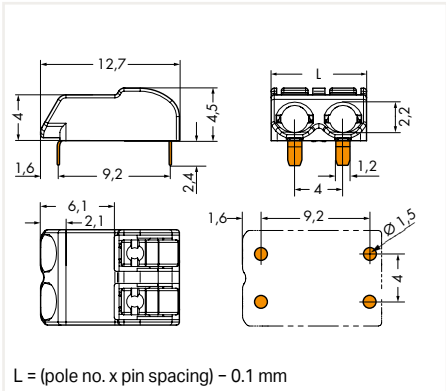
2

Pole No.	Item No.	Pack. Unit
1	2060-1451/998-404	10800 (1200)
2	2060-1452/998-404	6750 (750)
3	2060-1453/998-404	4950 (550)

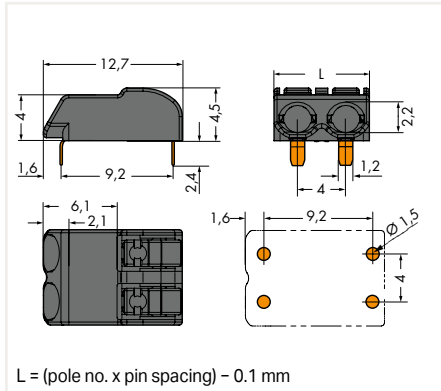
Pole No.	Item No.	Pack. Unit
1	2060-1471/998-404	10800 (1200)
2	2060-1472/998-404	6750 (750)
3	2060-1473/998-404	4950 (550)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

Dimensions (in mm):

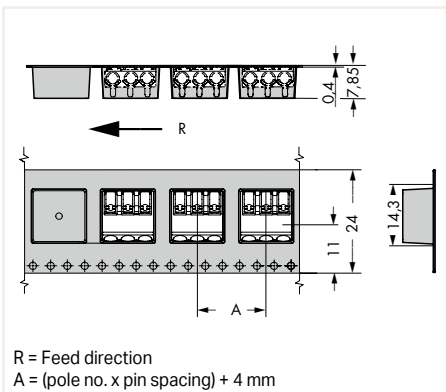


Dimensions (in mm):

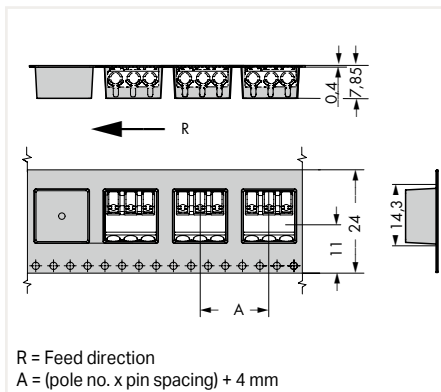


Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g. via 206-860 Operating Tool).

Dimensions (in mm):



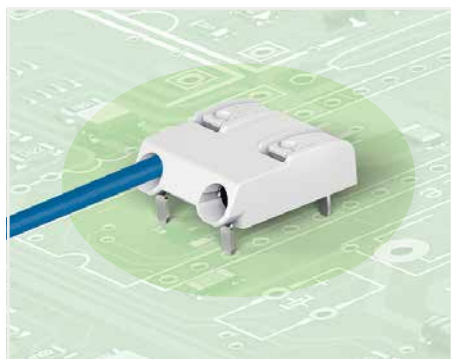
Dimensions (in mm):



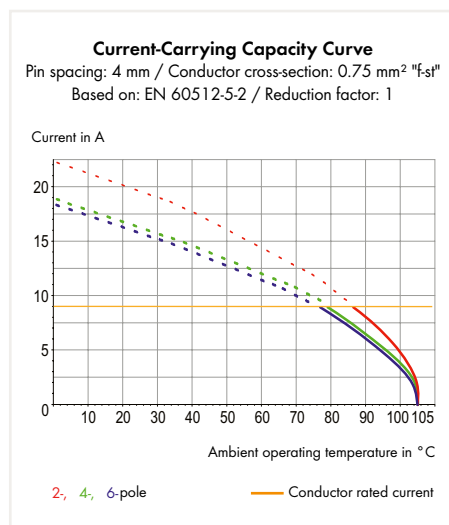
Available in tape-and-reel packaging for automated assembly

**THR PCB Terminal Block ▶ 2060 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Pin spacing: 8 mm / 0.314 inch ▶ Solder pin length: 2.4 mm



- THR PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 4.5 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering



Electrical Data			
Pin spacing	8 mm / 0.314 inch		
Ratings per	IEC / EN 60664-1		
Overtoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	630 V	1000 V
Rated surge voltage	6 kV	6 kV	6 kV
Rated current	9 A	9 A	9 A
Approvals per	UL 1977		
Rated voltage	600 V		
Rated current	9 A		

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	6 ... 7 mm / 0.24 ... 0.28 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor	0.2 ... 0.75 mm <sup>2</sup> / 24 ... 18 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.34 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 0.34 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 <sup>+1.0</sup> mm

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

**Application notes:**

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

**Recommendation for stencil:**

150 µm material thickness

The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

\*(III / 2) ≙ Overtoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

### THR PCB Terminal Block ▶ 2060 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.75 mm<sup>2</sup> ▶ Pin spacing: 8 mm / 0.314 inch ▶ Solder pin length: 2.4 mm

2 solder pins/pole; white\*; Reel diameter: 330 mm

2 solder pins/pole; black; Reel diameter: 330 mm



Inserting solid conductors via push-in termination (picture shows 2060 Series).

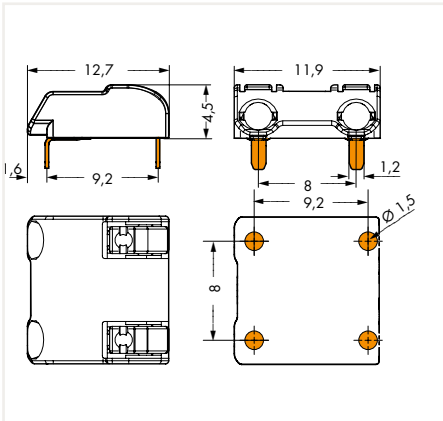
2

Pole No.	Item No.	Pack. Unit
2	2060-1852/998-404	4950 (550)

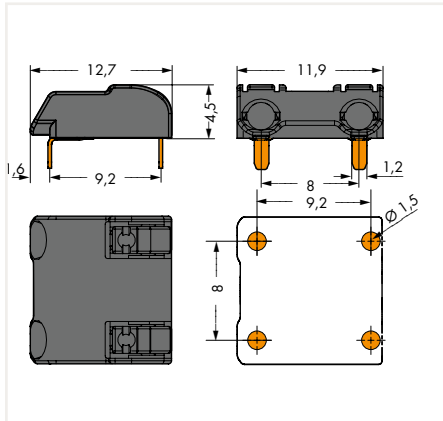
Pole No.	Item No.	Pack. Unit
2	2060-1872/998-404	4950 (550)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

Dimensions (in mm):

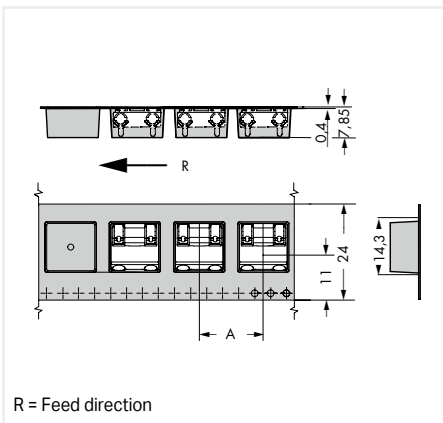


Dimensions (in mm):



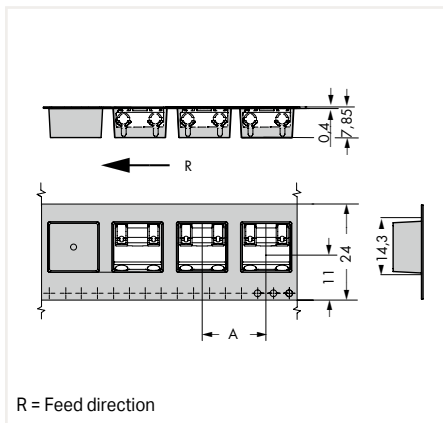
Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g., via 206-860 Operating Tool).

Dimensions (in mm):



R = Feed direction

Dimensions (in mm):



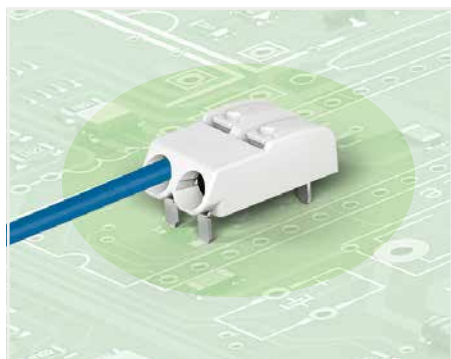
R = Feed direction



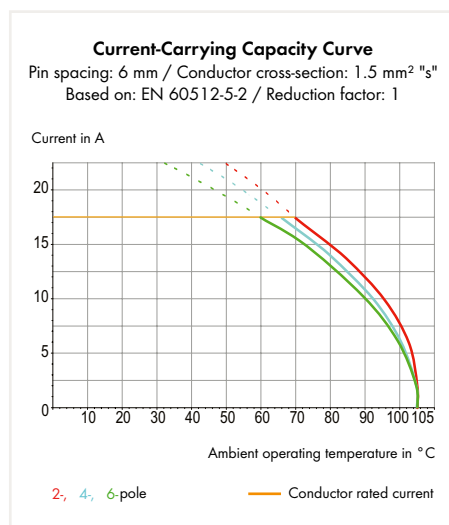
Available in tape-and-reel packaging for automated assembly

**THR PCB Terminal Block ▶ 2061 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 6 mm / 0.24 inch ▶ Solder pin length: 2.4 mm



- THR PCB Terminal Blocks with Push-in CAGE CLAMP® connection technology and push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Just 5.6 mm tall
- Available in tape-and-reel packaging for automated assembly
- Also suitable for wave soldering
- Assemble Terminal Blocks without pole loss



Electrical Data	1-pole			2-/3-pole		
Pin spacing	6 mm / 0.157 inch			6 mm / 0.157 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	250 V	320 V	630 V	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	600 V	600 V	600 V	300 V	-	300 V
Rated current	10 A	10 A	10 A	10 A	-	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	7 ... 10 mm / 0.28 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Fine-stranded conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.5 ... 0.75 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 0.75 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 <sup>+1.0</sup> mm

Solder Pin Data	
Solder pin length	1.5 mm
Solder pin dimensions	1.2 x 0.75 mm
Plated through-hole diameter	1.5 <sup>+1.0</sup> mm

Material Data	
Material group	I
Insulating material	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

**Application notes:**

Suitable for lead-free, reflow-soldering profiles per DIN EN 61760-1 and IEC 60068-2-58 up to max. 260°C peak temperature. Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.

**Recommendation for stencil:**

150 µm material thickness

The stencil hole diameter is identical to the outer diameter of the metal-plated PCB hole.

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

**THR PCB Terminal Block ▶ 2061 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 6 mm / 0.24 inch ▶ Solder pin length: 2.4 mm

2 solder pins/pole; white\*; Reel diameter: 330 mm

2 solder pins/pole; black; Reel diameter: 330 mm



Push-in termination of solid conductors

2

2.4 mm long solder pin

Pole No.	Item No.	Pack. Unit
1	2061-1601/998-404	5760 (640)
2	2061-1602/998-404	4320 (480)
3	2061-1603/998-404	2880 (320)

2.4 mm long solder pin

Pole No.	Item No.	Pack. Unit
1	2061-1621/998-404	5760 (640)
2	2061-1622/998-404	4320 (480)
3	2061-1623/998-404	2880 (320)

1.5 mm long solder pin

Pole No.	Item No.	Pack. Unit
1	2061-1641/998-404	5760 (640)
2	2061-1642/998-404	4320 (480)
3	2061-1643/998-404	2880 (320)

1.5 mm long solder pin

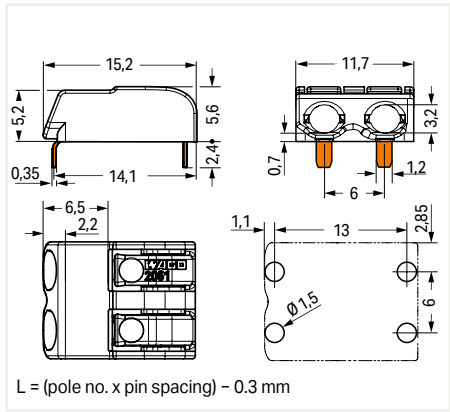
Pole No.	Item No.	Pack. Unit
1	2061-1661/998-404	5760 (640)
2	2061-1662/998-404	4320 (480)
3	2061-1663/998-404	2880 (320)

\*Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality.

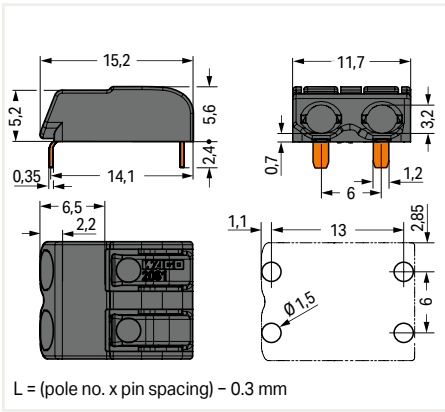


Inserting/removing fine-stranded conductors by lightly pressing on a push-button (e.g. via 206-861 Operating Tool).

Dimensions (in mm):

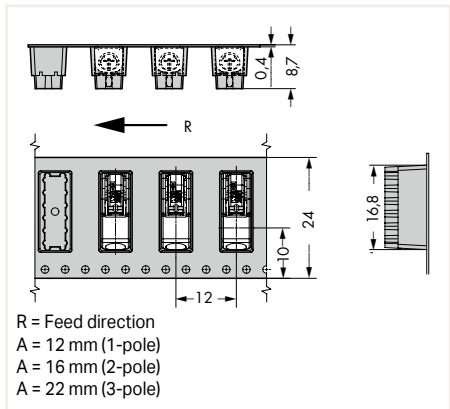


Dimensions (in mm):

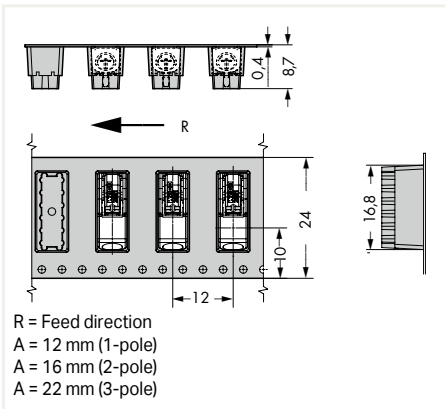


Available in tape-and-reel packaging for automated assembly

Dimensions (in mm):



Dimensions (in mm):



## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Color: gray



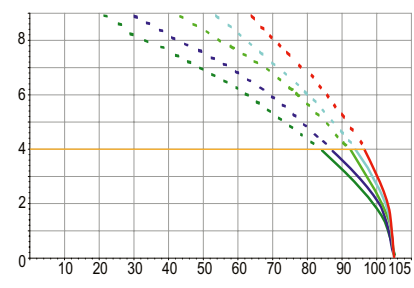
- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request

2

### Current-Carrying Capacity Curve

Pin spacing: 2.5 mm / Conductor cross-section: 0.5 mm<sup>2</sup> "f-st"  
Based on: EN 60512-5-2 / Reduction factor: 1

Current in A



2, 4, 6, 12, 24-pole

— Conductor rated current

### Electrical Data

Pin spacing	2.5 mm / 0.098 inch			2.54 mm / 0.1 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	160 V	160 V	320 V	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
Rated current	4 A	4 A	4 A	4 A	4 A	4 A

Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	600 V
Rated current	5 A	–	5 A	5 A	–	5 A

Approvals per	CSA			CSA		
Use group	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	300 V
Rated current	2 A	–	2 A	2 A	–	2 A

### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor range	
Solid conductor	0.14 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG

### Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

### Material Data

Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

PUSH-IN CAGE CLAMP®

### PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Color: gray

Pin spacing: 2.5 mm / 0.098 inch

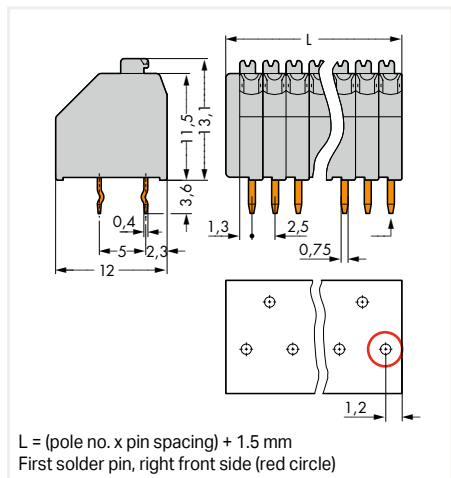
Pin spacing: 2.54 mm / 0.1 inch



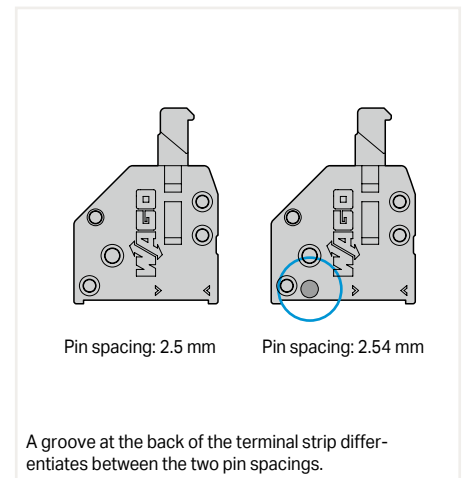
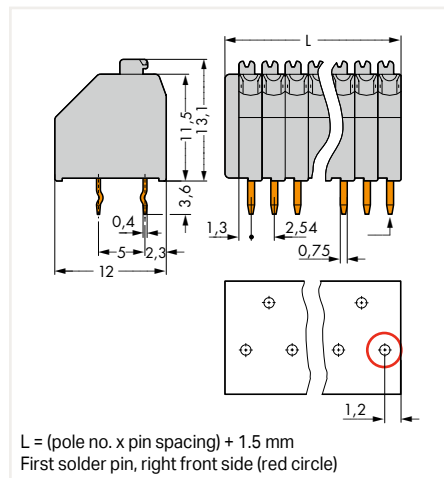
2

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2	250-402	720 (80)	2	250-1402	720 (80)
3	250-403	520 (130)	3	250-1403	520 (130)
4	250-404	400 (100)	4	250-1404	400 (100)
5	250-405	340 (85)	5	250-1405	340 (85)
6	250-406	280 (70)	6	250-1406	280 (70)
7	250-407	240 (60)	7	250-1407	240 (60)
8	250-408	220 (55)	8	250-1408	200 (50)
9	250-409	200 (50)	9	250-1409	180 (45)
10	250-410	180 (45)	10	250-1410	160 (40)
11	250-411	160 (40)	11	250-1411	160 (40)
12	250-412	140 (35)	12	250-1412	140 (35)
13	250-413	140 (35)	13	250-1413	120 (30)
14	250-414	120 (30)	14	250-1414	120 (30)
15	250-415	120 (30)	15	250-1415	120 (30)
16	250-416	100 (25)	16	250-1416	100 (25)
17	250-417	100 (25)	17	250-1417	100 (25)
18	250-418	80 (20)	18	250-1418	100 (25)
19	250-419	80 (20)	19	250-1419	80 (20)
20	250-420	80 (20)	20	250-1420	80 (20)
21	250-421	80 (20)	21	250-1421	80 (20)
22	250-422	80 (20)	22	250-1422	80 (20)
23	250-423	80 (20)	23	250-1423	60 (15)
24	250-424	60 (15)	24	250-1424	60 (15)

Dimensions (in mm):



Dimensions (in mm):

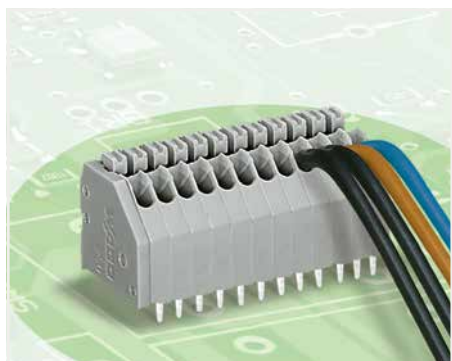


Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ○ white, ● violet
- Mixed-color PCB connector strips
- Terminal strips with spacers
- Direct marking

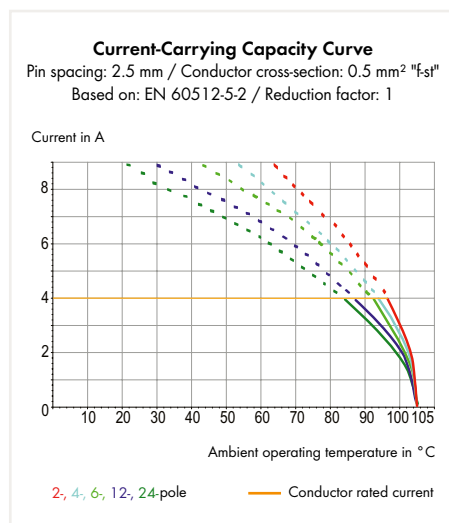
## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 2.5 mm / 0.098 inch ▶ Color: gray



- Compact PCB terminal strips with push-buttons
- Version with in-line solder pins
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request

2



Electrical Data			
Pin spacing	2.5 mm / 0.098 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	100 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	4 A	4 A	4 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor range	
Solid conductor	0.14 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG

Solder Pin Data	
Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2



PUSH-IN CAGE CLAMP®

**PCB Terminal Block ▶ 250 Series**

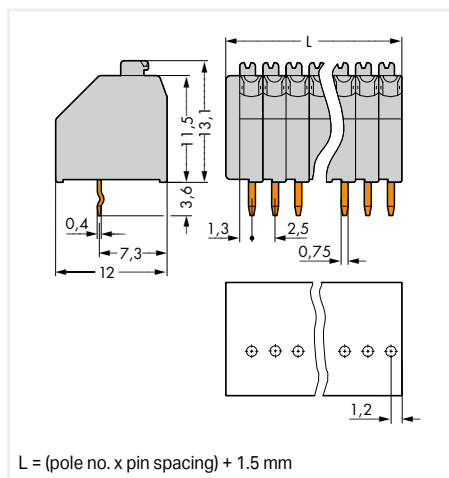
Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 2.5 mm / 0.098 inch ▶ Color: gray

Pin spacing: 2.5 mm / 0.098 inch



Pole No.	Item No.	Pack. Unit
2	250-302	720 (80)
3	250-303	520 (130)
4	250-304	400 (100)
5	250-305	340 (85)
6	250-306	280 (70)
7	250-307	240 (60)
8	250-308	220 (55)
9	250-309	200 (50)
10	250-310	180 (45)
11	250-311	160 (40)
12	250-312	140 (35)
13	250-313	140 (35)
14	250-314	120 (30)
15	250-315	120 (30)
16	250-316	100 (25)
17	250-317	100 (25)
18	250-318	80 (20)
19	250-319	80 (20)
20	250-320	80 (20)
21	250-321	80 (20)
22	250-322	80 (20)
23	250-323	80 (20)
24	250-324	60 (15)

Dimensions (in mm):

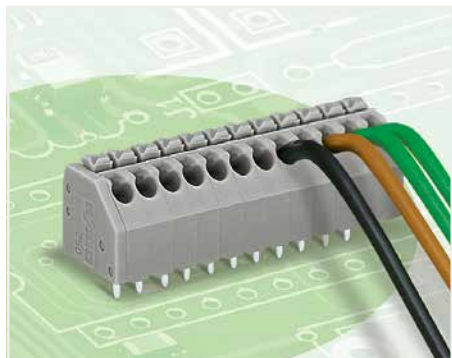


Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ○ white, ● violet
- Mixed-color PCB connector strips
- Terminal strips with spacers
- Direct marking

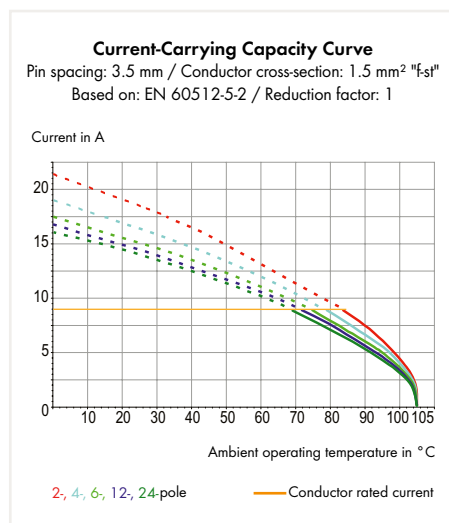
## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray



- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring
- Custom color combinations
- Terminal strips also available with spacers upon request

2



Electrical Data	1 front solder pin/pole			1 solder pin/pole, staggered		
Pin spacing	3.5 mm / 0.138 inch			3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overtoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	160 V	160 V	320 V	250 V	320 V	630 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	4 kV	4 kV	4 kV
Rated current	8 A	8 A	8 A	8 A	8 A	8 A
Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	300 V	-	300 V	300 V	-	300 V
Rated current	5 A	-	5 A	5 A	-	5 A
Approvals per	CSA			CSA		
Use group	B	C	D	B	C	D
Rated voltage	300 V	-	300 V	300 V	-	300 V
Rated current	10 A	-	10 A	10 A	-	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor range	
Solid conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

\*(III / 2) ≙ Overtoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray

1 solder pin/pole, front in-line

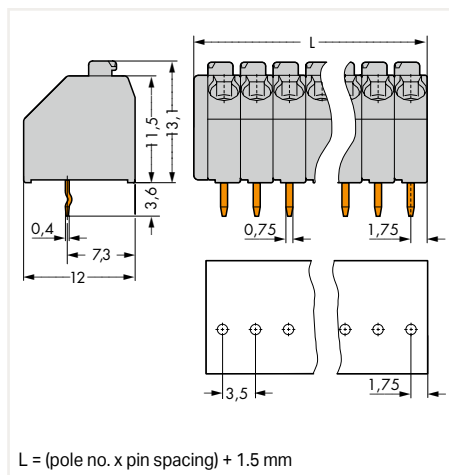


1 solder pin/pole, staggered

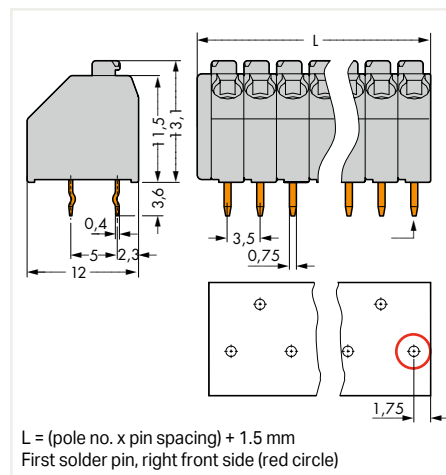


Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2	250-102	560 (140)	2	250-202	560 (140)
3	250-103	400 (100)	3	250-203	400 (100)
4	250-104	300 (75)	4	250-204	300 (75)
5	250-105	240 (60)	5	250-205	240 (60)
6	250-106	200 (50)	6	250-206	200 (50)
7	250-107	180 (45)	7	250-207	180 (45)
8	250-108	160 (40)	8	250-208	160 (40)
9	250-109	140 (35)	9	250-209	140 (35)
10	250-110	120 (30)	10	250-210	120 (30)
11	250-111	120 (30)	11	250-211	120 (30)
12	250-112	100 (25)	12	250-212	100 (25)
13	250-113	100 (25)	13	250-213	100 (25)
14	250-114	80 (20)	14	250-214	80 (20)
15	250-115	80 (20)	15	250-215	80 (20)
16	250-116	80 (20)	16	250-216	80 (20)
17	250-117	80 (20)	17	250-217	80 (20)
18	250-118	60 (15)	18	250-218	60 (15)
19	250-119	60 (15)	19	250-219	60 (15)
20	250-120	60 (15)	20	250-220	60 (15)
21	250-121	60 (15)	21	250-221	60 (15)
22	250-122	60 (15)	22	250-222	60 (15)
23	250-123	60 (15)	23	250-223	60 (15)
24	250-124	40 (10)	24	250-224	40 (10)

Dimensions (in mm):



Dimensions (in mm):

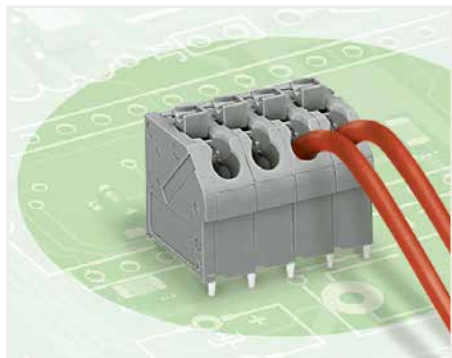


Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● black, ● red, ● green, ● orange, ● blue, ○ light gray, ● brown, ● light green, ● yellow, ● violet, ○ white, ● pink
- Mixed-color PCB connector strips
- Terminal strips with spacers
- Direct marking

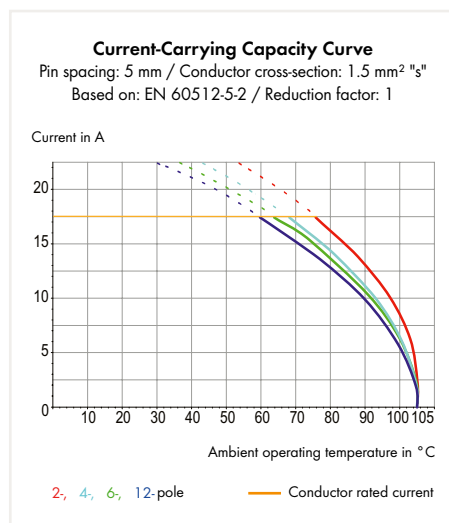
## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Color: gray



- Compact PCB terminal strips with push-buttons
- Push-in termination of solid conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring

2



Electrical Data						
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	320 V	320 V	630 V	500 V	630 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV
Rated current	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	300 V
Rated current	2 A	–	2 A	2 A	–	2 A
Approvals per	CSA			CSA		
Use group	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	300 V
Rated current	10 A	–	10 A	10 A	–	10 A
Connection Data						
Connection technology	Push-in CAGE CLAMP®					
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch					
Conductor entry angle to the PCB	45°					
Conductor range						
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG					
Fine-stranded conductor	0.75 ... 1.5 mm <sup>2</sup> / 18 ... 16 AWG					
Fine-stranded conductor; with insulated ferrule	0.5 ... 1 mm <sup>2</sup>					
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 1 mm <sup>2</sup>					
Solder Pin Data						
Solder pin length	4 mm					
Solder pin dimensions	0.5 x 0.75 mm					
Drilled hole diameter	1.2 <sup>+0.1</sup> mm					
Material Data						
Material group	I					
Insulating material	Polyamide 66 (PA 66)					
Flammability class per UL94	V0					
Limit temperature range	–60 ... +105 °C					
Clamping spring material	Chrome nickel spring steel (CrNi)					
Contact material	Electrolytic copper (E <sub>cu</sub> )					
Contact plating	Tin-plated					

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

**PCB Terminal Block ▶ 250 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Color: gray

5 mm (0.197 inch) pin spacing

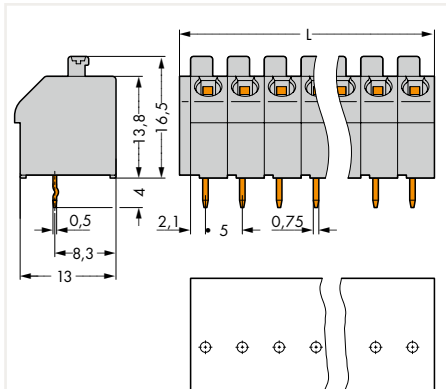
7.5 mm (0.295 inch) pin spacing



2

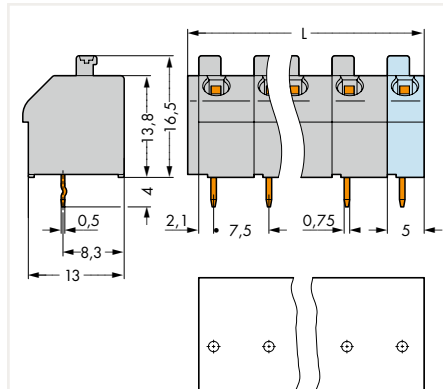
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2	250-502	400 (100)	2	250-602	340 (85)
3	250-503	280 (70)	3	250-603	200 (50)
4	250-504	220 (55)	4	250-604	160 (40)
5	250-505	180 (45)	5	250-605	120 (30)
6	250-506	140 (35)	6	250-606	100 (25)
7	250-507	120 (30)	7	250-607	80 (20)
8	250-508	100 (25)	8	250-608	80 (20)
9	250-509	100 (25)	9	250-609	60 (15)
10	250-510	80 (20)	10	250-610	60 (15)
11	250-511	80 (20)	11	250-611	40 (10)
12	250-512	60 (15)	12	250-612	40 (10)
13	250-513	60 (15)			
14	250-514	60 (15)			
15	250-515	60 (15)			
16	250-516	40 (10)			

Dimensions (in mm):



$$L = (\text{pole no.} \times \text{pin spacing}) + 1.5 \text{ mm}$$

Dimensions (in mm):



$$L = (\text{pole no.} - 1) \times \text{pin spacing} + 5 \text{ mm} + 1.5 \text{ mm}$$

Available upon request (depending on quantity required):

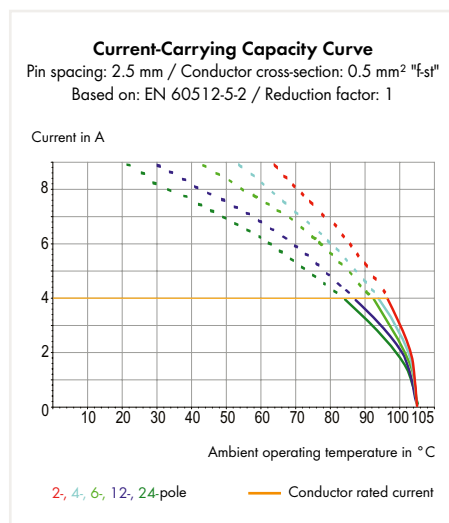
- Other pole numbers
- Other colors: ● red, ● orange, ● blue, ○ light gray, ● brown, ● light green, ● yellow, ○ white
- Mixed-color PCB connector strips
- Direct marking

## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Color: gray



- Cost-effective integration of high-temperature resistant THR terminal strips into SMT reflow soldering processes
- Versions with suction pads are available in tape-and-reel packaging for automated assembly
- Push-in termination of solid and ferruled conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring



Electrical Data			
Pin spacing	2.5 mm / 0.098 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	160 V	160 V	250 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	4 A	4 A	4 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	5 A	-	5 A
Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	2 A	-	2 A
Connection Data			
Connection technology	Push-in CAGE CLAMP®		
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch		
Conductor entry angle to the PCB	45°		
Conductor range			
Solid conductor	0.14 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG		
Fine-stranded conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG		
Solder Pin Data			
Solder pin length	2.4 mm		
Solder pin dimensions	0.4 x 0.75 mm		
Drilled hole diameter	1 <sup>+0.1</sup> mm		
Material Data			
Material group	III a		
Insulating material	Polyamide 46 (PA 46)		
Flammability class per UL94	V2		
Limit temperature range	-60 ... +105 °C		
Contact material	Copper alloy		
Contact plating	Tin-plated		

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

**PCB Terminal Block ▶ 250 Series**

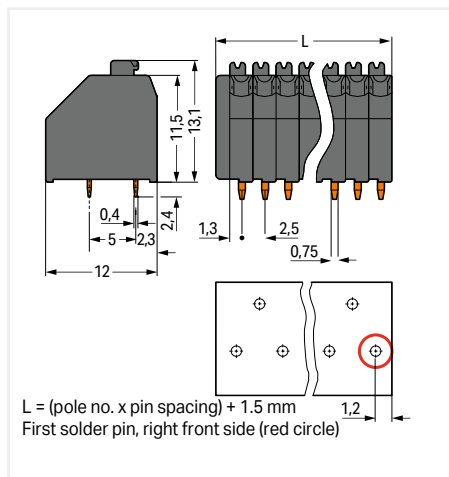
Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 0.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Color: gray

1 solder pin/pole, staggered



Pole No.	Item No.	Pack. Unit
2	250-402/353-604	720 (180)
3	250-403/353-604	520 (130)
4	250-404/353-604	400 (100)
5	250-405/353-604	340 (85)
6	250-406/353-604	280 (70)
7	250-407/353-604	240 (60)
8	250-408/353-604	220 (55)
10	250-410/353-604	180 (45)

Dimensions (in mm):



Available upon request (depending on quantity required):

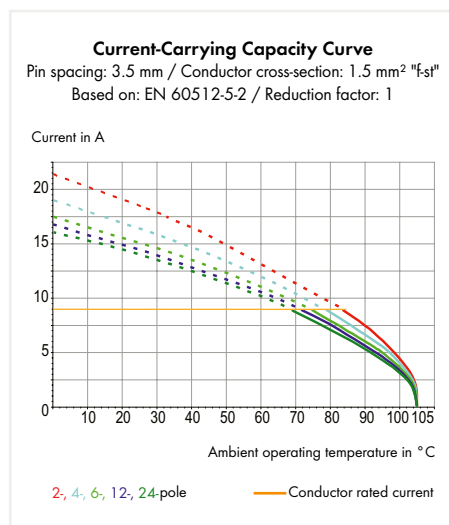
- Other pole numbers
- Direct marking

## PCB Terminal Block ▶ 250 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray



- Cost-effective integration of high-temperature resistant THR terminal strips into SMT reflow soldering processes
- Versions with suction pads are available in tape-and-reel packaging for automated assembly
- Push-in termination of solid and ferruled conductors
- Termination/removal of fine-stranded conductors via push-buttons
- 45° conductor entry angle provides easy, space-saving wiring



Electrical Data	1 front solder pin/pole		
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	200 V	320 V	320 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	8 A	8 A	8 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	5 A	-	5 A

Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	10 A	-	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle to the PCB	45°
Conductor range	
Solid conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor	0.2 ... 0.5 mm <sup>2</sup> / 24 ... 20 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	2.4 mm
Solder pin dimensions	0.4 x 0.75 mm
Drilled hole diameter	1 <sup>+0.1</sup> mm

Material Data	
Material group	III a
Insulating material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +105 °C
Contact material	Copper alloy
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2



**PUSH-IN CAGE CLAMP®****PCB Terminal Block ▶ 250 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray

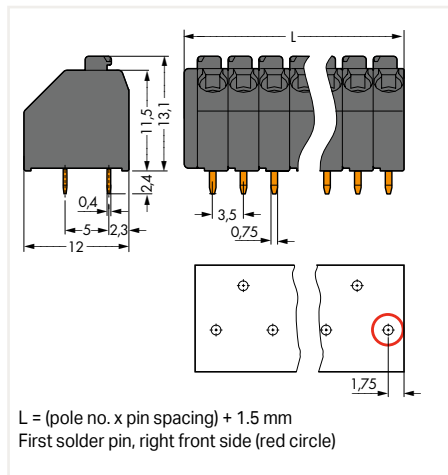
Variants with additional suction pad in tape-and-reel packaging per IEC 60286-3; 330 mm reel diameter; 160 Units/reel



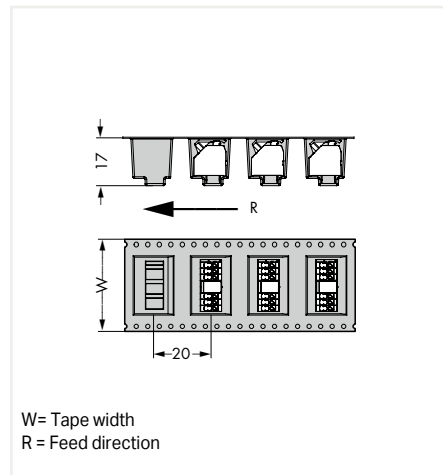
2

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	W (mm)
2	250-202/353-604	560 (140)	2	250-202/353-604/997-404	24
3	250-203/353-604	400 (100)	3	250-203/353-604/997-404	24
4	250-204/353-604	300 (75)	4	250-204/353-604/997-405	32
5	250-205/353-604	240 (60)	5	250-205/353-604/997-405	32
6	250-206/353-604	200 (50)	6	250-206/353-604/997-406	44
7	250-207/353-604	180 (45)	7	250-207/353-604/997-406	44
8	250-208/353-604	160 (40)	8	250-208/353-604/997-406	44

Dimensions (in mm):



Dimensions (in mm):

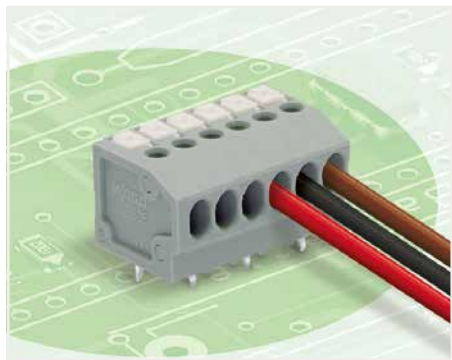


Available upon request (depending on quantity required):

- Other pole numbers
- Direct marking

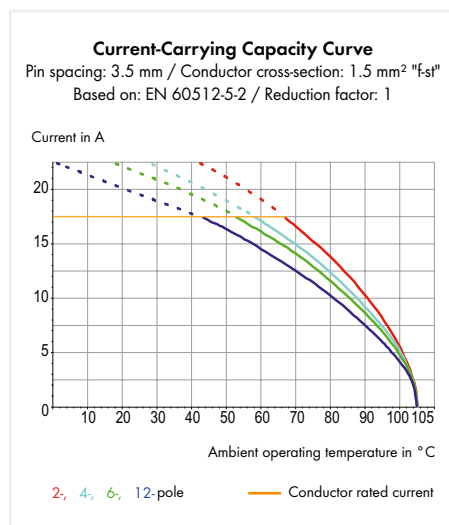
## PCB Terminal Block ▶ 805 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray



- PCB terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled, fine-stranded conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation
- Versions with/without test slots and spacers
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor

2



Electrical Data			
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	150	300 V
Rated current	10 A	10 A	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

## PCB Terminal Block ▶ 805 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (staggered) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray

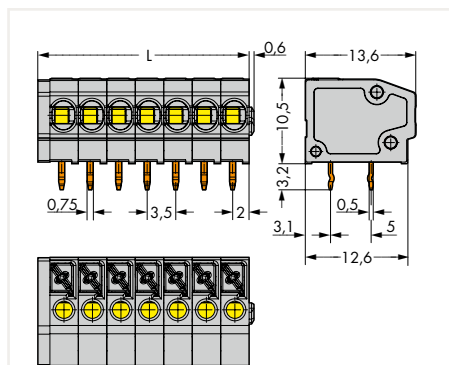
Slots for 2 mm Ø test plug



2

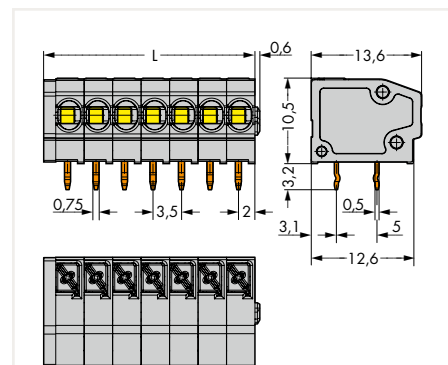
Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2	805-102	580 (145)	2	805-302	580 (145)
3	805-103	420 (105)	3	805-303	420 (105)
4	805-104	320 (80)	4	805-304	320 (80)
5	805-105	260 (65)	5	805-305	260 (65)
6	805-106	220 (55)	6	805-306	220 (55)
7	805-107	180 (45)	7	805-307	180 (45)
8	805-108	160 (40)	8	805-308	160 (40)
9	805-109	140 (35)	9	805-309	140 (35)
10	805-110	120 (30)	10	805-310	120 (30)
11	805-111	100 (25)	11	805-311	100 (25)
12	805-112	100 (25)	12	805-312	100 (25)
13	805-113	100 (25)	13	805-313	100 (25)
14	805-114	100 (25)	14	805-314	100 (25)
15	805-115	80 (20)	15	805-315	80 (20)
16	805-116	80 (20)	16	805-316	80 (20)
17	805-117	80 (20)	17	805-317	80 (20)
18	805-118	60 (15)	18	805-318	60 (15)
19	805-119	60 (15)	19	805-319	60 (15)
20	805-120	60 (15)	20	805-320	60 (15)
21	805-121	60 (15)	21	805-321	60 (15)
22	805-122	60 (15)	22	805-322	60 (15)
23	805-123	60 (15)	23	805-323	60 (15)
24	805-124	40 (10)	24	805-324	40 (10)

Dimensions (in mm):

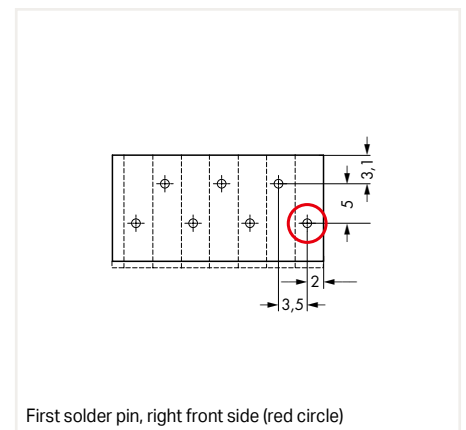


L = (pole no. x pin spacing) + 1.5 mm

Dimensions (in mm):



L = (pole no. x pin spacing) + 1.5 mm



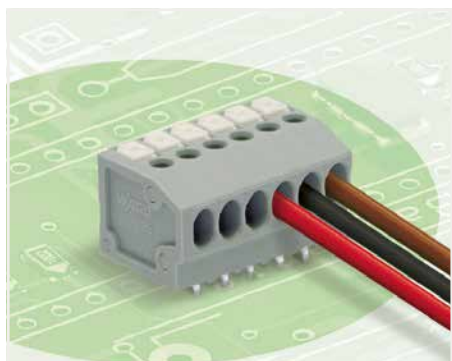
First solder pin, right front side (red circle)

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: blue, orange
- Mixed-color PCB connector strips
- Direct marking

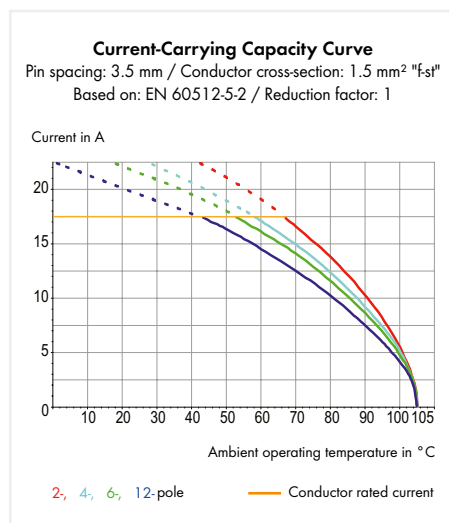
## PCB Terminal Block ▶ 805 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray



- PCB terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Version with in-line solder pins
- Push-in termination of solid and ferruled, fine-stranded conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation
- Versions with/without test slots and spacers
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor

2



Electrical Data			
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Rated current	17.5 A	17.5 A	17.5 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>CU</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

**PCB Terminal Block ▶ 805 Series**

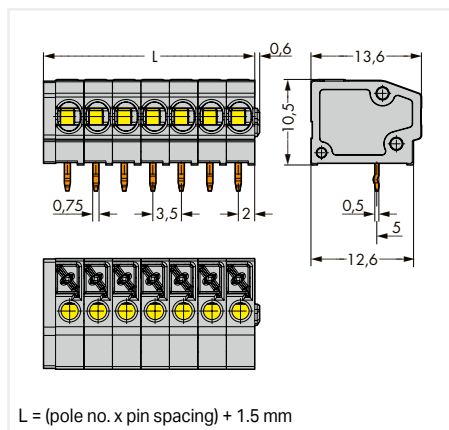
Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Solder pin arrangement: Over the entire terminal strip (in-line) ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray

Slots for 2 mm Ø test plug

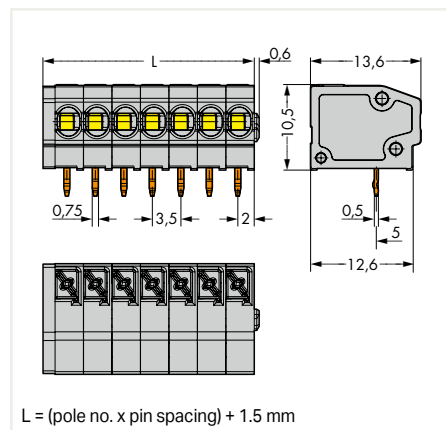


Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
2	805-152	600 (150)	2	805-352	600 (150)
3	805-153	420 (105)	3	805-353	420 (105)
4	805-154	300 (75)	4	805-354	300 (75)
5	805-155	260 (65)	5	805-355	260 (65)
6	805-156	220 (55)	6	805-356	220 (55)
7	805-157	180 (45)	7	805-357	180 (45)
8	805-158	160 (40)	8	805-358	160 (40)
9	805-159	140 (35)	9	805-359	140 (35)
10	805-160	120 (30)	10	805-360	120 (30)
11	805-161	100 (25)	11	805-361	100 (25)
12	805-162	100 (25)	12	805-362	100 (25)
13	805-163	100 (25)	13	805-363	100 (25)
14	805-164	100 (25)	14	805-364	100 (25)
15	805-165	80 (20)	15	805-365	80 (20)
16	805-166	80 (20)	16	805-366	80 (20)
17	805-167	80 (20)	17	805-367	80 (20)
18	805-168	60 (15)	18	805-368	60 (15)
19	805-169	60 (15)	19	805-369	60 (15)
20	805-170	60 (15)	20	805-370	60 (15)
21	805-171	60 (15)	21	805-371	60 (15)
22	805-172	60 (15)	22	805-372	60 (15)
23	805-173	60 (15)	23	805-373	60 (15)
24	805-174	40 (10)	24	805-374	40 (10)

Dimensions (in mm):



Dimensions (in mm):

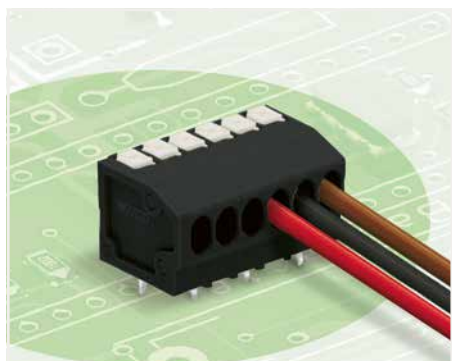


Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● blue, ● orange
- Mixed-color PCB connector strips
- Direct marking

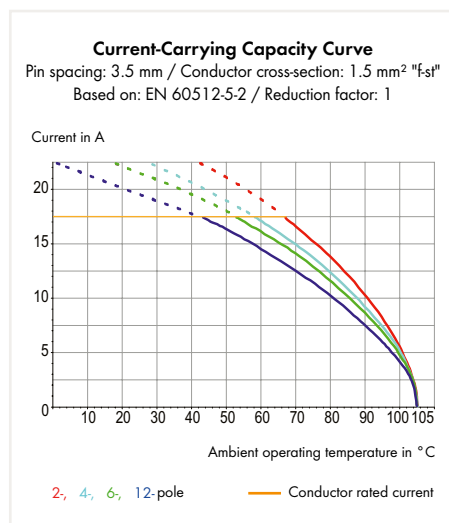
## THR PCB Terminal Block ▶ 805 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ Terminal strip ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ 1.5 mm<sup>2</sup> ▶ Color: black



- THR PCB terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled, fine-stranded conductors
- Flush-mount push-buttons that close with minimal force for convenient termination/removal of fine-stranded conductors
- Convenient, tool-free operation

2



Electrical Data			
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	200 V	320 V	320 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor	0.2 ... 1.5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	2.2 mm
Solder pin dimensions	0.5 x 0.75 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	III a
Insulating material	Polyamide 46 (PA 46)
Flammability class per UL94	V2
Limit temperature range	-60 ... +115 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>CU</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

**THR PCB Terminal Block ▶ 805 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ Terminal strip ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ 1.5 mm<sup>2</sup> ▶ Color: black

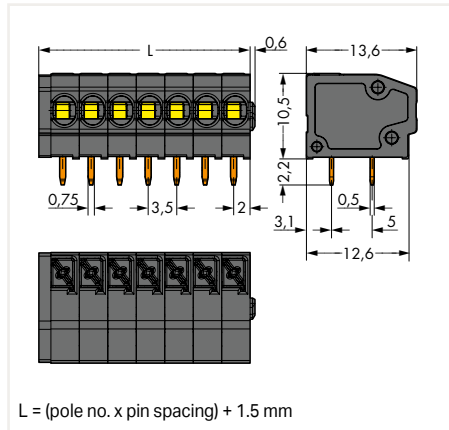
With additional suction pad in tape-and-reel packaging per IEC 60286-3; 330 mm reel diameter; 160 Units/reel



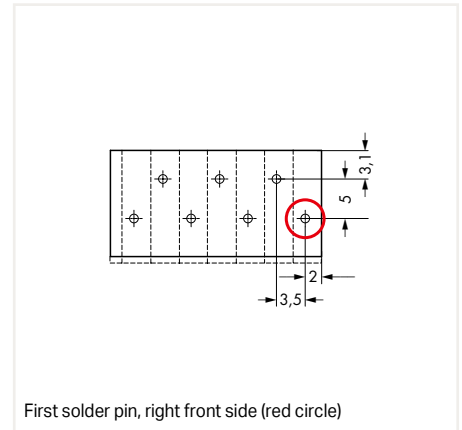
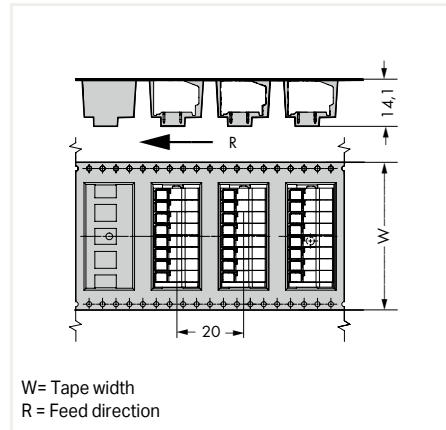
2

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	W (mm)
2	805-302/200-604	600 (150)	2	805-302/200-604/997-404	24
3	805-303/200-604	420 (105)	3	805-303/200-604/997-405	32
4	805-304/200-604	300 (75)	4	805-304/200-604/997-405	32
5	805-305/200-604	260 (65)	5	805-305/200-604/997-405	32
6	805-306/200-604	220 (55)	6	805-306/200-604/997-406	44
7	805-307/200-604	180 (45)	7	805-307/200-604/997-406	44
8	805-308/200-604	160 (40)	8	805-308/200-604/997-406	44

Dimensions (in mm):



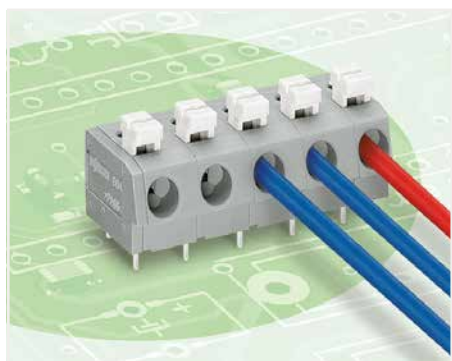
Dimensions (in mm):



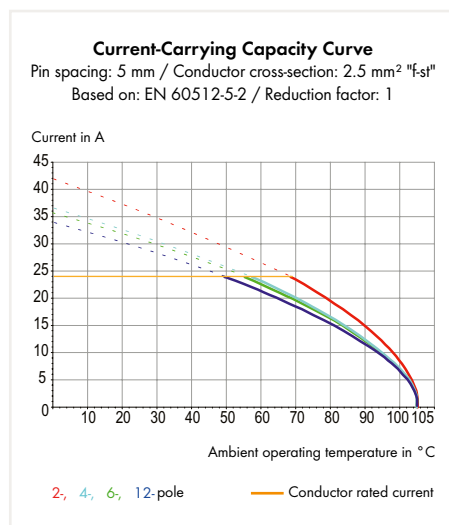
## PCB Terminal Block ▶ 804 Series

Push-in CAGE CLAMP® ▶ 2.5 mm<sup>2</sup> ▶ Actuation type: Push-button ▶ Color: gray

2



- PCB terminal strips with push-buttons and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled, fine-stranded conductors
- A large conductor entry accommodates conductors with a cross-section up to 12 AWG with an insulation diameter up to 4.2 mm
- Terminal strips with spacers to increase pin spacing
- Versions available with custom internal commoning (factory assembly), e.g., commoning ground conductor



Electrical Data						
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	250 V	320 V	630 V	320 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV	4 kV	4 kV	4 kV
Rated current	24 A	24 A	24 A	24 A	24 A	24 A

Approvals per	UL 1059			UL 1059		
Use group	B	C	D	B	C	D
Rated voltage	300 V	-	300 V	300 V	-	300 V
Rated current	10 A	-	10 A	10 A	-	10 A

Approvals per	CSA			CSA		
Use group	B	C	D	B	C	D
Rated voltage	300 V	-	300 V	300 V	-	300 V
Rated current	10 A	-	10 A	10 A	-	10 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	10 ... 11 mm / 0.39 ... 0.43 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.6 mm
Solder pin dimensions	0.8 x 0.6 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2



**PUSH-IN CAGE CLAMP®****PCB Terminal Block ▶ 804 Series**Push-in CAGE CLAMP® ▶ 2.5 mm<sup>2</sup> ▶ Actuation type: Push-button ▶ Color: gray

Pin spacing: 2.5 mm / 0.098 inch

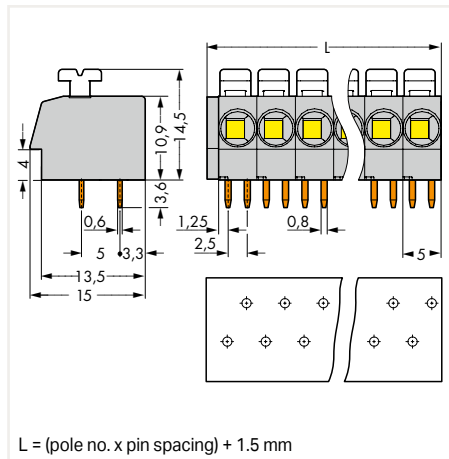
Pin spacing: 2.54 mm / 0.1 inch



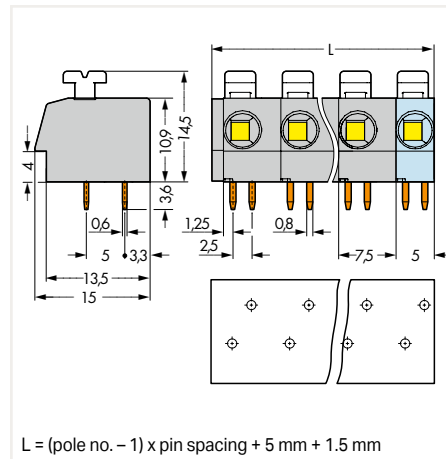
Pole No.	Item No.	Pack. Unit
2	804-102	420 (105)
3	804-103	300 (75)
4	804-104	220 (55)
5	804-105	180 (45)
6	804-106	140 (35)
7	804-107	120 (30)
8	804-108	100 (25)
9	804-109	100 (25)
10	804-110	80 (20)
11	804-111	80 (20)
12	804-112	80 (20)
13	804-113	60 (15)
14	804-114	60 (15)
15	804-115	60 (15)
16	804-116	60 (15)

Pole No.	Item No.	Pack. Unit
2	804-302	340 (85)
3	804-303	220 (55)
4	804-304	160 (40)
5	804-305	120 (30)
6	804-306	100 (25)
7	804-307	80 (20)
8	804-308	80 (20)
9	804-309	60 (15)
10	804-310	60 (15)
11	804-311	60 (15)
12	804-312	40 (10)

Dimensions (in mm):



Dimensions (in mm):

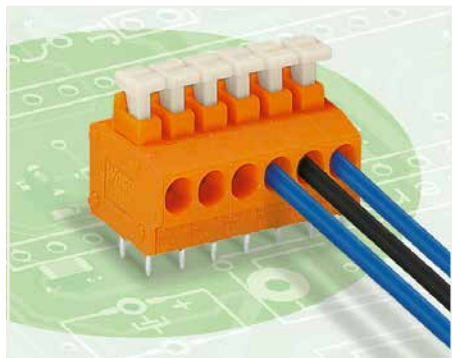


Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: red, orange, light green, pink, blue (blue for Ex i applications)
- Mixed-color PCB connector strips
- 10 mm pin spacing version with spacers
- Direct marking

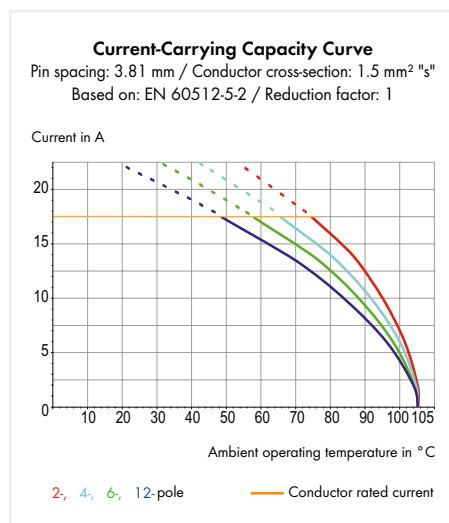
## Modular PCB Terminal Block ▶ 235 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.81 mm / 0.15 inch



- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons

2



Electrical Data			
Pin spacing	3.81 mm / 0.15 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	200 V	320 V	500 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	–	300 V
Rated current	10 A	–	10 A

Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	–	–
Rated current	10 A	–	–

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Fine-stranded conductor	0.75 ... 1.5 mm <sup>2</sup> / 18 ... 16 AWG (I <sub>max</sub> 4 A)
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

PUSH-IN CAGE CLAMP®

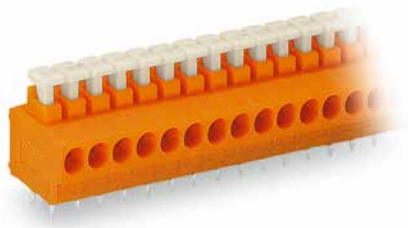
## Modular PCB Terminal Block ▶ 235 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.81 mm / 0.15 inch

Modular Terminal Block with push-button



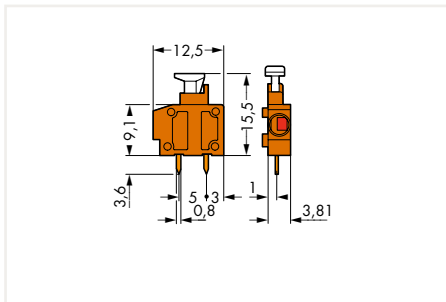
Terminal strip with push-buttons



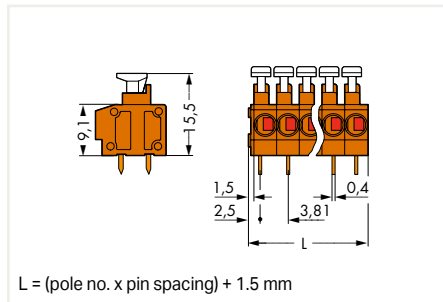
2

Color	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
● orange	235-101	800 (100)	2	235-102	520 (130)
● red	235-770	800 (100)	3	235-103	360 (90)
○ gray	235-771	800 (100)	4	235-104	280 (70)
● dark gray	235-772	800 (100)	5	235-105	220 (55)
● blue	235-774	800 (100)	6	235-106	180 (45)
○ white	235-775	800 (100)	7	235-107	160 (40)
● yellow	235-776	800 (100)	8	235-108	140 (35)
● light green	235-777	800 (100)	9	235-109	120 (30)
● black	235-778	800 (100)	10	235-110	120 (30)

Dimensions (in mm):



Dimensions (in mm):



## Accessories, for all products on this page



End plates for modular Terminal Blocks; snap-on type; 1 mm thick		
Color	Item No.	Pack. Unit
● orange	235-600	100
● red	235-800	100
○ gray	235-100	100
● dark gray	235-200	100
● blue	235-400	100
○ white	235-850	100
● yellow	235-550	100
● light green	235-700	100
● black	235-500	100



Spacer, doubles 3.81 mm (0.15 inch) pin spacing		
Color	Item No.	Pack. Unit
● orange	235-316	100

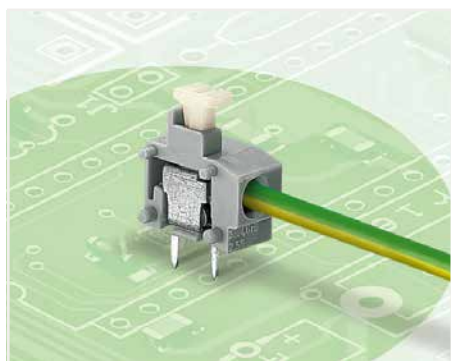
Available upon request (depending on quantity required):

- Other pole numbers
- Other colors for terminal strips: ● red, ○ gray, ● dark gray, ● blue, ○ white, ● yellow, ● light green, ● black
- Mixed-color PCB connector strips
- Direct marking

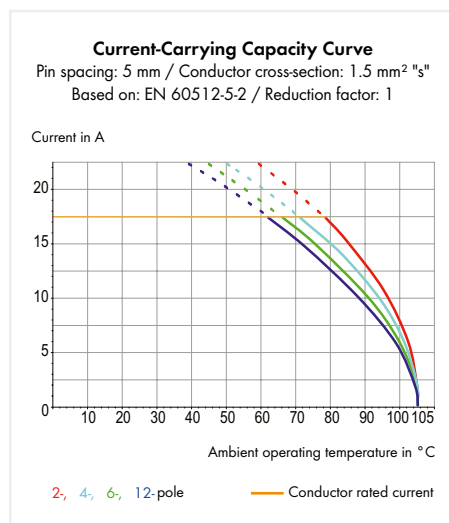
## Modular PCB Terminal Block ▶ 235 Series

### Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup>

2



- Modular PCB Terminal Blocks with push-buttons for custom terminal strip assemblies
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- For two-conductor versions, visit [www.wago.com](http://www.wago.com).



Electrical Data									
Pin spacing	5/5.08 mm / 0.2 inch			7.5/7.62 mm / 0.3 inch			10/10.16 mm / 0.4 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	250 V	320 V	630 V	400 V	630 V	1000 V	630 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A	17.5 A

Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	300 V	300 V	–	300 V
Rated current	10 A	–	10 A	10 A	–	10 A	10 A	–	10 A

Approvals per	CSA			CSA			CSA		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	–	300 V	–	–	300 V	–	–
Rated current	15 A	–	–	15 A	–	–	15 A	–	–

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.25 ... 0.5 mm <sup>2</sup> (Imax. 2 A)
Fine-stranded conductor	0.75 ... 1.5 mm <sup>2</sup> (Imax. 6 A)
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

# Modular PCB Terminal Block ▶ 235 Series

## Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup>

Pin spacing: 5/5.08 mm / 0.2 inch

Pin spacing: 7.5/7.62 mm / 0.3 inch

Pin spacing: 10/10.16 mm / 0.4 inch



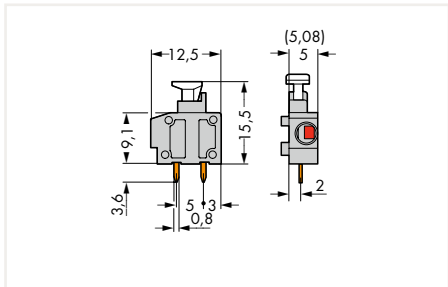
2

Color	Item No.	Pack. Unit
○ gray	235-401/331-000	800 (100)
● red	235-740/331-000	800 (100)
● yellow	235-741/331-000	800 (100)
● dark gray	235-742/331-000	800 (100)
○ light gray	235-743/331-000	800 (100)
● blue	235-744/331-000	800 (100)
○ white	235-745/331-000	800 (100)
● orange	235-746/331-000	800 (100)
● light green	235-747/331-000	800 (100)
● black	235-748/331-000	800 (100)
● violet	235-749/331-000	800 (100)

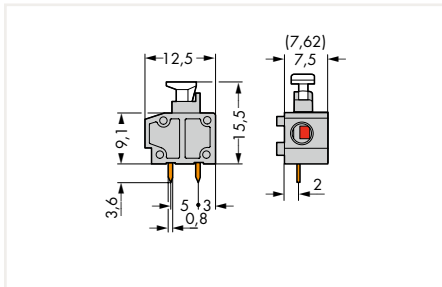
Color	Item No.	Pack. Unit
○ gray	235-501/331-000	600 (100)
● dark gray	235-752/331-000	600 (100)
○ light gray	235-753/331-000	600 (100)
● blue*	235-754/331-000	600 (100)
● orange	235-756/331-000	600 (100)
● light green	235-757/331-000	600 (100)
● black	235-758/331-000	600 (100)

Color	Item No.	Pack. Unit
○ gray	235-801/331-000	400 (100)
● dark gray	235-762/331-000	400 (100)
○ light gray	235-763/331-000	400 (100)
● blue*	235-764/331-000	400 (100)
● orange	235-766/331-000	400 (100)
● light green	235-767/331-000	400 (100)
● black	235-768/331-000	400 (100)

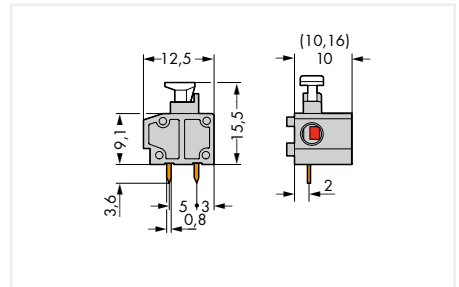
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



\*Suitable for Ex i applications

Accessories, for all products on this page



Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

Color	Item No.	Pack. Unit
○ gray	235-701	100

End plates for modular Terminal Blocks; snap-on type; 1 mm thick

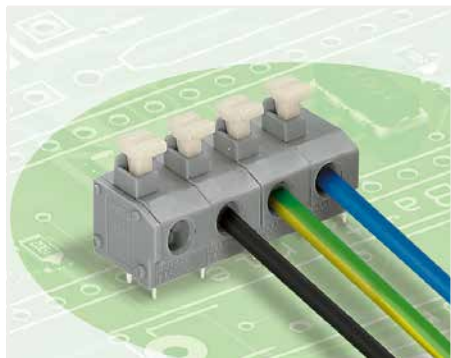
Color	Item No.	Pack. Unit
○ gray	235-100	100
● dark gray	235-200	100
○ light gray	235-300	100
● blue	235-400	100
● black	235-500	100
● yellow	235-550	100
● orange	235-600	100
● violet	235-650	100
● light green	235-700	100
● red	235-800	100
○ white	235-850	100

Available upon request (depending on quantity required):

- Other colors

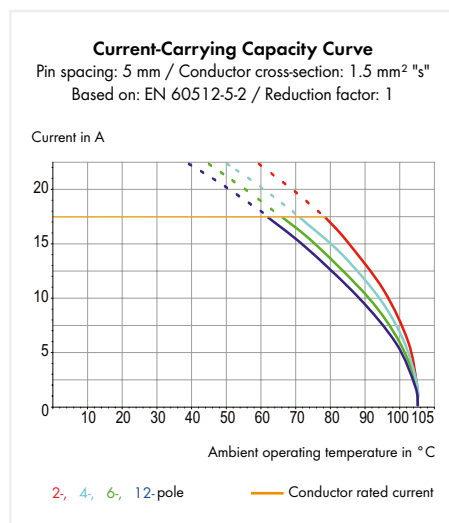
## PCB Terminal Block ▶ 235 Series

Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 5/5.08 mm / 0.197/0.2 inch ▶ Color: gray



- PCB terminal strips with push-buttons
- Push-in termination of solid and ferruled conductors
- Convenient termination/removal of fine-stranded conductors via push-buttons
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart

2

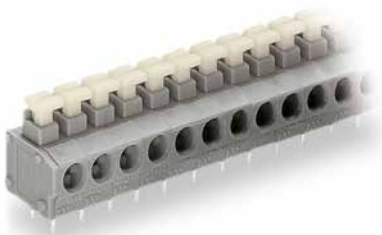


Electrical Data			
Pin spacing	5/5.08 mm / 0.2 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	10 A	-	10 A
Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	-	-
Rated current	15 A	-	-
Connection Data			
Connection technology	Push-in CAGE CLAMP®		
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch		
Conductor entry angle to the PCB	0°		
Conductor range			
Solid conductor	0.2 ... 1.5 mm <sup>2</sup> / 20 ... 14 AWG		
Fine-stranded conductor	0.25 ... 0.5 mm <sup>2</sup> (Imax. 2 A)		
Fine-stranded conductor	0.75 ... 1.5 mm <sup>2</sup> (Imax. 6 A)		
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>		
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>		
Solder Pin Data			
Solder pin length	3.6 mm		
Solder pin dimensions	0.4 x 0.8 mm		
Drilled hole diameter	1 <sup>+0.1</sup> mm		
Material Data			
Material group	I		
Insulating material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	-60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact Material	Electrolytic copper (E <sub>cu</sub> )		
Contact plating	Tin-plated		

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®****PCB Terminal Block ▶ 235 Series**

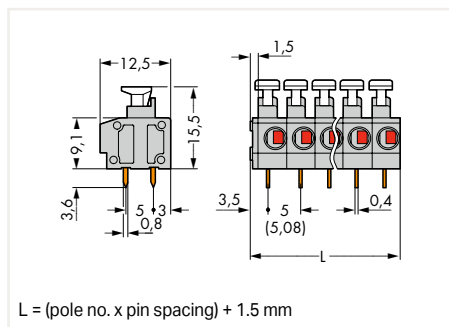
Push-in CAGE CLAMP® ▶ Actuation type: Push-button ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 5/5.08 mm / 0.197/0.2 inch ▶ Color: gray



2

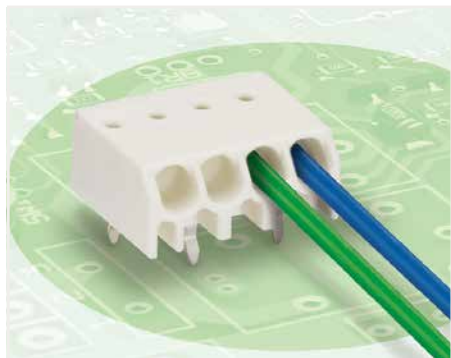
Pole No.	Item No.	Pack. Unit
2	235-402/331-000	420 (105)
3	235-403/331-000	280 (70)
4	235-404/331-000	220 (55)
5	235-405/331-000	180 (45)
6	235-406/331-000	140 (35)
7	235-407/331-000	120 (30)
8	235-408/331-000	100 (25)
9	235-409/331-000	100 (25)
10	235-410/331-000	80 (20)
12	235-412/331-000	60 (15)

Dimensions (in mm):



Available upon request (depending on quantity required):

- Other pole numbers
- Terminal strips with 7.5/7.62 mm and 10/10.16 mm pin spacing
- Other colors: ● red, ○ light gray, ● dark gray, ● blue, ○ white, ● yellow, ● light green, ● black, ● orange, ● violet
- Mixed-color PCB connector strips
- Direct marking

**PCB Terminal Block ▶ 744 Series****PUSH WIRE® ▶ Actuation type: Operating tool ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.5 mm / 0.138 inch ▶****Color: white**

- PCB Terminal Blocks with PUSH WIRE® connection
- Push-in termination of solid conductors – low insertion forces
- Just 6.6 mm tall
- Conductor removal via disconnection tool or by twist and pull

2

Electrical Data			
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	2 A	2 A	2 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	2 A	-	2 A

Connection Data	
Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

Solder Pin Data	
Solder pin length	3.5 mm
Solder pin dimensions	0.35 x 0.9 mm
Drilled hole diameter	1.1 <sup>-0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	-60 ... +105 °C
Contact Material	Copper alloy
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2



### PCB Terminal Block ▶ 744 Series

PUSH WIRE® ▶ Actuation type: Operating tool ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: white



2

Pole No.	Item No.	Pack. Unit
2	744-392	1500
3	744-303	1000
4	744-304	800
6	744-306	500
7	744-307	300
8	744-308	300
10	744-310	200

Dimensions (in mm):

Two-pole version with additional anti-rotating pin



Inserting a conductor via push-in termination.

For 3 poles and more,  $L = (\text{pole no.} \times \text{pin spacing}) + 0.9 \text{ mm}$   
First solder pin, right front side (red circle)



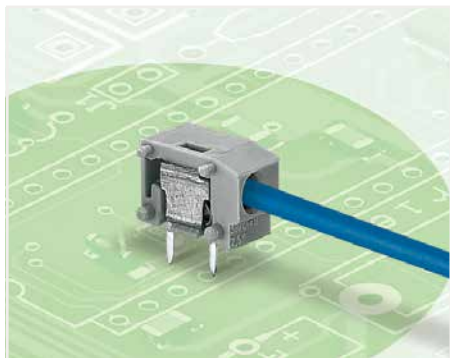
Removing a conductor via 1.0 mm Ø 206-841 Disconnection Tool.

744 Series Terminal Blocks are also available with shortened solder pins (2.4 mm) for very flat LED drivers (Suffix /364-000, e.g. 744-303/364-000).

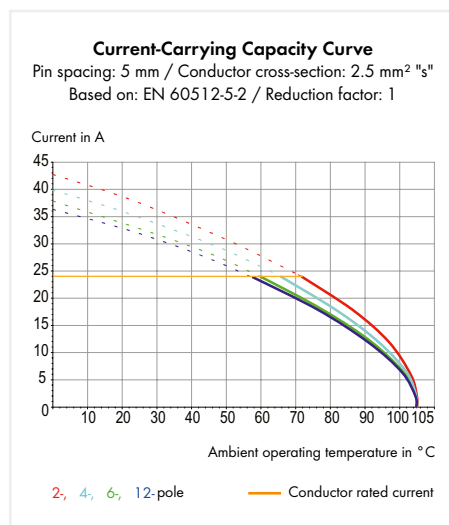
## Modular PCB Terminal Block ▶ 235 Series

### PUSH WIRE® ▶ Actuation type: Operating tool ▶ 2.5 mm<sup>2</sup>

2



- Low-profile modular PCB Terminal Blocks with PUSH WIRE® connection for custom terminal strip assemblies
- Push-in termination of solid conductors
- Double solder pins for high mechanical stability
- Conductor removal via (2.5 x 0.4) mm screwdriver
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart
- For two-conductor versions, visit [www.wago.com](http://www.wago.com).



#### Electrical Data

Pin spacing	5/5.08 mm / 0.2 inch			7.5/7.62 mm / 0.3 inch			10/10.16 mm / 0.4 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	250 V	320 V	630 V	400 V	630 V	1000 V	630 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	24 A	24 A	24 A	24 A	24 A	24 A	24 A	24 A	24 A

Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	–	300 V	300 V	–	300 V
Rated current	10 A	–	10 A	10 A	–	10 A	10 A	–	10 A

Approvals per	CSA			CSA			CSA		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	–	300 V	–	–	300 V	–	–
Rated current	15 A	–	–	15 A	–	–	15 A	–	–

#### Connection Data

Connection technology	PUSH WIRE®
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Conductor entry angle to the PCB	0°
Conductor range	
Solid conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>

#### Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.4 x 0.8 mm
Drilled hole diameter	1 <sup>+0.1</sup> mm

#### Material Data

Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>C</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

# Modular PCB Terminal Block ▶ 235 Series

## PUSH WIRE® ▶ Actuation type: Operating tool ▶ 2.5 mm<sup>2</sup>

Pin spacing: 5/5.08 mm / 0.2 inch

Pin spacing: 7.5/7.62 mm / 0.3 inch

Pin spacing: 10/10.16 mm / 0.4 inch



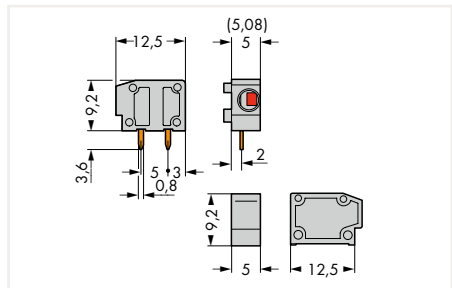
2

Color	Item No.	Pack. Unit
○ gray	235-401	800 (100)
● dark gray	235-742	800 (100)
○ light gray	235-743	800 (100)
● blue	235-744	800 (100)
● orange	235-746	800 (100)
● light green	235-747	800 (100)

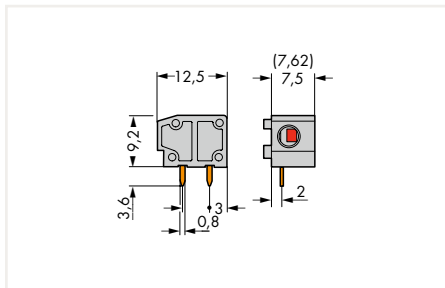
Color	Item No.	Pack. Unit
○ gray	235-501	600 (100)
● dark gray	235-752	600 (100)
○ light gray	235-753	600 (100)
● blue*	235-754	600 (100)
● orange	235-756	600 (100)
● light green	235-757	600 (100)

Color	Item No.	Pack. Unit
○ gray	235-801	400 (100)
● dark gray	235-762	400 (100)
○ light gray	235-763	400 (100)
● blue*	235-764	400 (100)
● orange	235-766	400 (100)
● light green	235-767	400 (100)

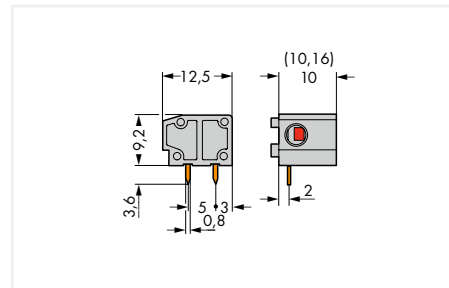
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



\*Suitable for Ex i applications

### Accessories, for all products on this page



#### Spacer, doubles 5/5.08 mm (0.2 inch) pin spacing

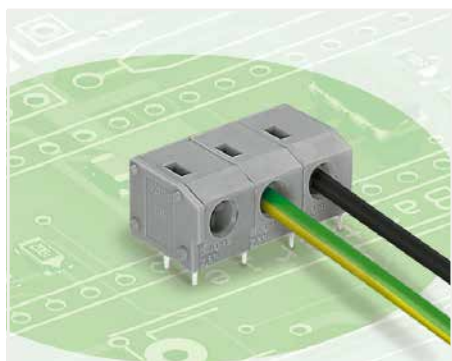
Color	Item No.	Pack. Unit
○ gray	235-701	100

#### End plates for modular Terminal Blocks; snap-on type; 1 mm thick

Color	Item No.	Pack. Unit
○ gray	235-100	100
● dark gray	235-200	100
○ light gray	235-300	100
● blue	235-400	100
● black	235-500	100
● yellow	235-550	100
● orange	235-600	100
● violet	235-650	100
● light green	235-700	100
● red	235-800	100
○ white	235-850	100

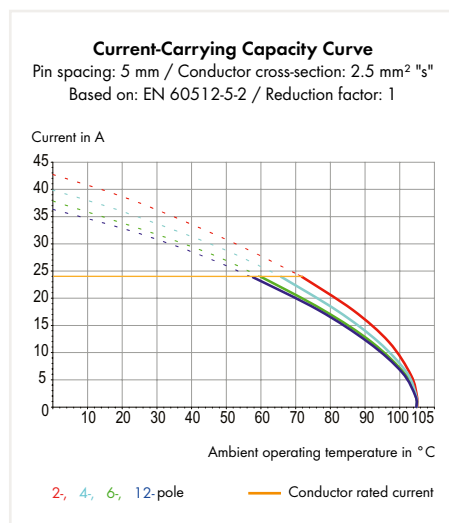
Available upon request (depending on quantity required):

- Other colors

**PCB Terminal Block ▶ 235 Series****PUSH WIRE® ▶ Actuation type: Operating tool ▶ 2.5 mm<sup>2</sup> ▶ Pin spacing: 5/5.08 mm / 0.197/0.2 inch****▶ Color: gray**

- Low-profile PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Push-in termination of solid conductors
- Double solder pins for high mechanical stability
- Set to metric or inch pin spacing by compressing PCB terminal strips or pulling them apart

2



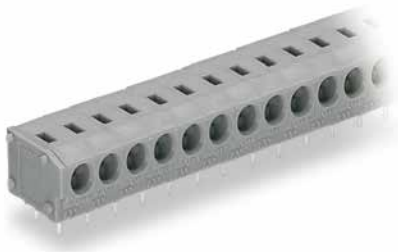
Electrical Data			
Pin spacing	5/5.08 mm / 0.2 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	24 A	24 A	24 A
Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	–	300 V
Rated current	10 A	–	10 A
Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	–	–
Rated current	15 A	–	–
Connection Data			
Connection technology	PUSH WIRE®		
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch		
Conductor entry angle to the PCB	0°		
Conductor range			
Solid conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG		
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>		
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>		
Solder Pin Data			
Solder pin length	3.6 mm		
Solder pin dimensions	0.4 x 0.8 mm		
Drilled hole diameter	1 <sup>+0.1</sup> mm		
Material Data			
Material group	I		
Insulating material	Polyamide 66 (PA 66)		
Flammability class per UL94	V0		
Limit temperature range	–60 ... +105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact Material	Electrolytic copper (E <sub>C</sub> )		
Contact plating	Tin-plated		

\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

PUSH WIRE®

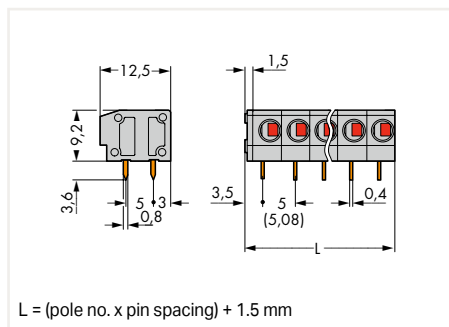
**PCB Terminal Block ▶ 235 Series**PUSH WIRE® ▶ Actuation type: Operating tool ▶ 2.5 mm<sup>2</sup> ▶ Pin spacing: 5/5.08 mm / 0.197/0.2 inch

▶ Color: gray



Pole No.	Item No.	Pack. Unit
2	235-402	420 (105)
3	235-403	280 (70)
4	235-404	220 (55)
5	235-405	180 (45)
6	235-406	140 (35)
7	235-407	120 (30)
8	235-408	100 (25)
9	235-409	100 (25)
10	235-410	80 (20)
12	235-412	60 (15)

Dimensions (in mm):



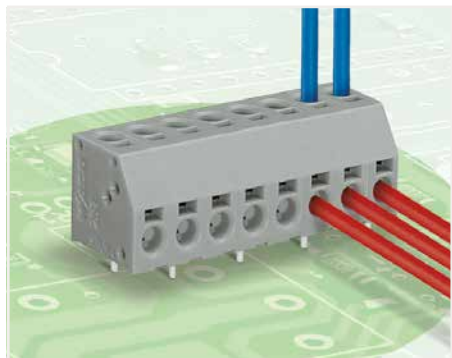
Available upon request (depending on quantity required):

- Other pole numbers
- Terminal strips with 7.5/7.62 mm and 10/10.16 mm pin spacing
- Other colors: ● blue, ○ light gray, ● dark gray, ● light green, ● orange
- Mixed-color PCB connector strips
- Direct marking

## 2-conductor PCB Terminal Block ▶ 253 Series

PUSH WIRE® ▶ Actuation type: Operating tool ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 5 mm / 0.197 inch ▶

Color: gray

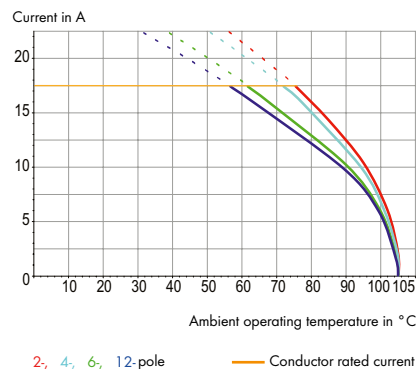


- PCB terminal strips with PUSH WIRE® connection and screwdriver actuation
- Double-conductor connection provides top-entry (vertical) and/or side-entry (horizontal) wiring
- Push-in termination of solid conductors
- Double entries for power supply and potential distribution

2

### Current-Carrying Capacity Curve Conductor – Solder Pin

Pin spacing: 5 mm / Conductor cross-section: 1.5 mm<sup>2</sup> "e"  
Based on: EN 60512-5-2 / Reduction factor: 1



#### Electrical Data

Pin spacing	5 mm / 0.197 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	320 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	17.5 A	17.5 A	17.5 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	–	300 V
Rated current	8 A	–	8 A

Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	–	300 V
Rated current	8 A	–	8 A

#### Connection Data

Connection technology	PUSH WIRE®
Strip length	8.5 ... 9.5 mm / 0.32 ... 0.36 inch
Conductor entry angle (1) to the PCB	0°
Conductor entry angle (2) to the PCB	90°
Conductor range	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

#### Solder Pin Data

Solder pin length	3.6 mm
Solder pin dimensions	0.5 x 0.8 mm
Drilled hole diameter	1.1 <sup>+0.1</sup> mm

#### Material Data

Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

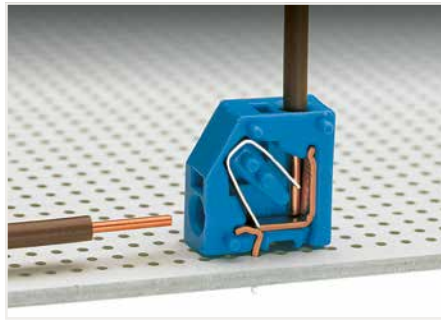
\*(III / 2) ≙ Overvoltage category III /  
Pollution degree 2

PUSH WIRE®

**2-conductor PCB Terminal Block ▶ 253 Series**PUSH WIRE® ▶ Actuation type: Operating tool ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 5 mm / 0.197 inch ▶

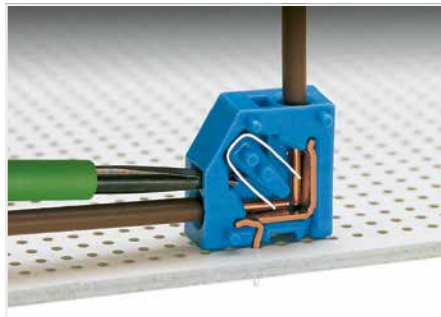
Color: gray

1 solder pin/pole, staggered



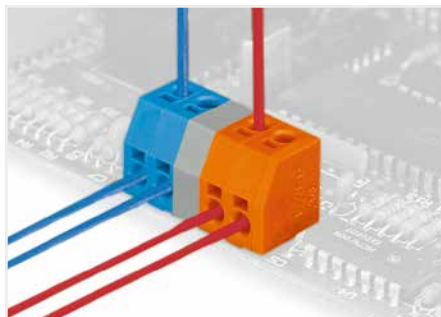
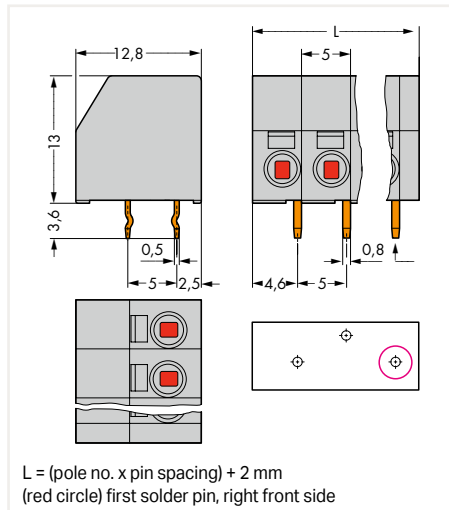
Inserting a conductor via push-in termination.

Pole No.	Item No.	Pack. Unit
2	253-102	400 (100)
3	253-103	280 (70)
4	253-104	220 (55)
5	253-105	160 (40)
6	253-106	140 (35)
7	253-107	120 (30)
8	253-108	100 (25)
9	253-109	100 (25)
10	253-110	80 (20)
11	253-111	80 (20)
12	253-112	60 (15)
13	253-113	60 (15)
14	253-114	60 (15)
15	253-115	60 (15)
16	253-116	40 (10)



Removing a conductor via 2.5 mm screwdriver.

Dimensions (in mm):



Mixed-color terminal strips (with or without spacer) are available upon request.

Available upon request (depending on quantity required):

- Other pole numbers
- Other colors: ● red, ○ light gray, ● blue, ○ white, ● yellow, ● light green, ● black, ● orange, ● violet
- Mixed-color PCB connector strips
- Direct marking

**PCB Terminal Block ▶ 2601 Series**Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.5 mm / 0.138 inch ▶

Color: gray

2



- PCB Terminal Blocks with levers and Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled conductors
- Intuitive and tool-free operation
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Testing can be performed both parallel and perpendicular to conductor entry

Electrical Data			
Pin spacing	3.5 mm / 0.138 inch		
Ratings per	IEC / EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	160 V	160 V	320 V
Rated surge voltage	2,5 kV	2,5 kV	2,5 kV
Rated current	17,5 A	17,5 A	17,5 A

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Solid conductor	0,14 ... 1,5 mm <sup>2</sup> / 26 ... 16 AWG
Fine-stranded conductor	0,2 ... 1,5 mm <sup>2</sup> / 24 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup>

Material Data	
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

Mechanical Data	
Solder pin arrangement	Over the entire terminal strip (in-line)
Solder pin length	3.6 mm
Solder pin dimensions	1 x 0.5 mm
Drilled hole diameter with tolerance	1.2 <sup>(+0.1)</sup> mm

Environmental Requirements	
Limit temperature range	-60 ... +105 °C

UL/CSA approval pending

For approvals and corresponding ratings, visit  
www.wago.com



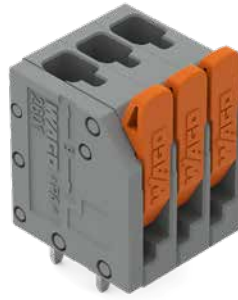
## PCB Terminal Block ▶ 2601 Series

Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 1.5 mm<sup>2</sup> ▶ Pin spacing: 3.5 mm / 0.138 inch ▶ Color: gray

Conductor connection direction to PCB: 0°

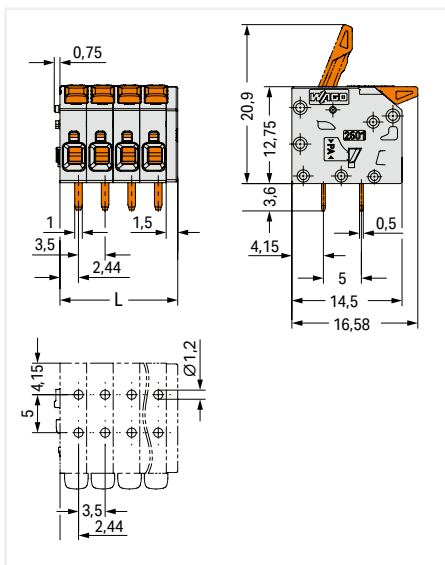


Conductor connection direction to PCB: 90°

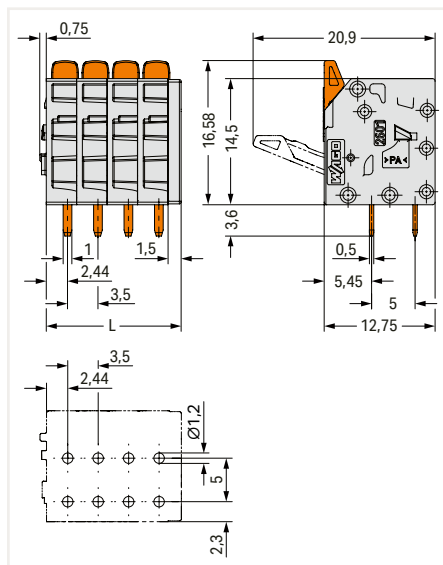


2

Pole No.	Item No.	PU	Pole No.	Item No.	PU
2	2601-1102	120	2	2601-3102	220
3	2601-1103	70	3	2601-3103	160
4	2601-1104	50	4	2601-3104	120
5	2601-1105	40	5	2601-3105	100
6	2601-1106	30	6	2601-3106	80
7	2601-1107	20	7	2601-3107	70
8	2601-1108	20	8	2601-3108	60
9	2601-1109	20	9	2601-3109	60
10	2601-1110	10	10	2601-3110	50
11	2601-1111	10	11	2601-3111	50
12	2601-1112	10	12	2601-3112	40



L = (pole no. - 1) x pin spacing + 5 mm



L = (pole no. - 1) x pin spacing + 5 mm

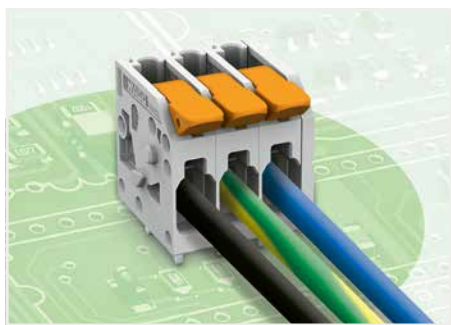
PU = Packaging Unit; SPU = Subpackaging Unit; Dimensions in mm

Variants:

- Other pole numbers
- Direct marking
- Other colors
- Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>

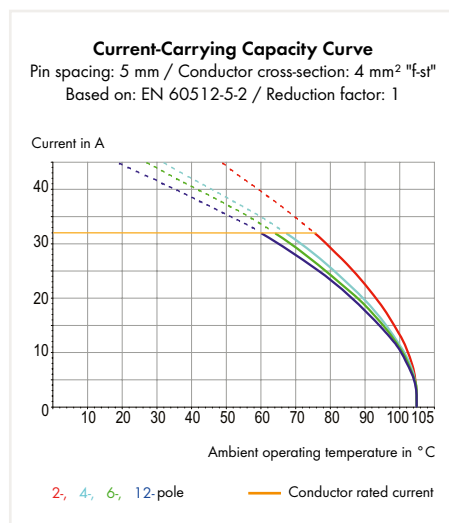
## PCB Terminal Block ▶ 2604 Series

Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 4 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray



- PCB Terminal Block with levers and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Intuitive and tool-free operation
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Testing can be performed both parallel and perpendicular to conductor entry

2



Electrical Data									
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch			11.5 mm / 0.453 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	320 V	400 V	630 V	630 V	630 V	1000 V	1000 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	32 A	32 A	32 A	32 A	32 A	32 A	32 A	32 A	32 A
Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	300 V	600 V	600 V	600 V	–
Rated current	20 A	–	10 A	20 A	20 A	5 A	20 A	20 A	–
Connection Data									
Connection technology	Push-in CAGE CLAMP®								
Strip length	9 ... 11 mm / 0.35 ... 0.43 inch								
Conductor entry angle to the PCB	0°								
Conductor range									
Solid conductor	0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG								
Fine-stranded conductor	0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG								
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with twin ferrule	0.25 ... 1.5 mm <sup>2</sup>								
Solder Pin Data									
Solder pin length	4 mm								
Solder pin dimensions	0.8 x 1 mm								
Drilled hole diameter	1.3 <sup>+0.1</sup> mm								
Material Data									
Material group	I								
Insulating material	Polyamide 66 (PA 66)								
Flammability class per UL94	V0								
Limit temperature range	–60 ... +105 °C								
Clamping spring material	Chrome nickel spring steel (CrNi)								
Contact Material	Electrolytic copper (E <sub>Cu</sub> )								
Contact plating	Tin-plated								

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

**PCB Terminal Block ▶ 2604 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 4 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray

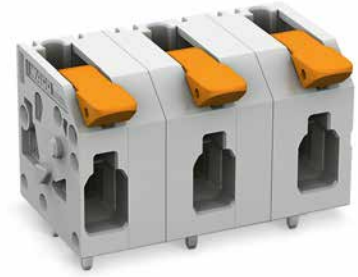
Pin spacing: 5 mm / 0.197 inch



Pin spacing: 7.5 mm / 0.295 inch



Pin spacing: 11.5 mm / 0.453 inch



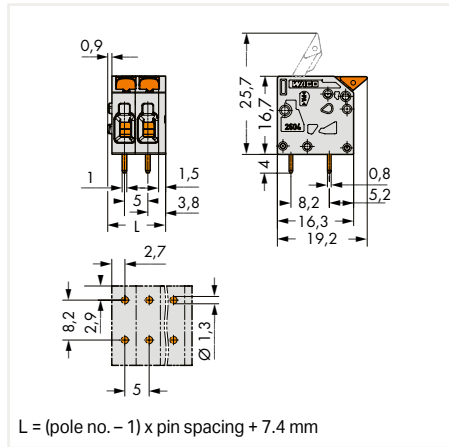
2

Pole No.	Item No.	Pack. Unit
1	2604-1101	300
2	2604-1102	200
3	2604-1103	130
4	2604-1104	100
5	2604-1105	80
6	2604-1106	60
7	2604-1107	60
8	2604-1108	50
9	2604-1109	40
10	2604-1110	40
11	2604-1111	30
12	2604-1112	30

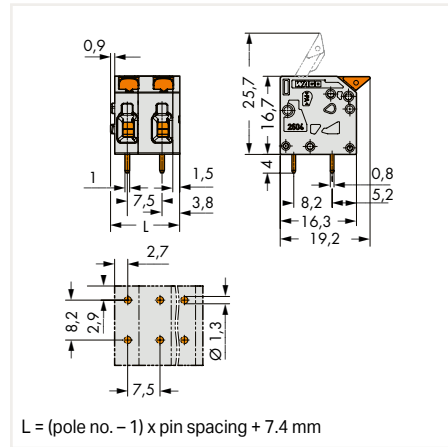
Pole No.	Item No.	Pack. Unit
2	2604-1302	150
3	2604-1303	100
4	2604-1304	70
5	2604-1305	60
6	2604-1306	45
7	2604-1307	40
8	2604-1308	35
9	2604-1309	30
10	2604-1310	25
11	2604-1311	25
12	2604-1312	25

Pole No.	Item No.	Pack. Unit
2	2604-1502	120
3	2604-1503	70
4	2604-1504	50
5	2604-1505	40
6	2604-1506	30
7	2604-1507	25
8	2604-1508	25
9	2604-1509	25
10	2604-1510	20
11	2604-1511	20
12	2604-1512	15

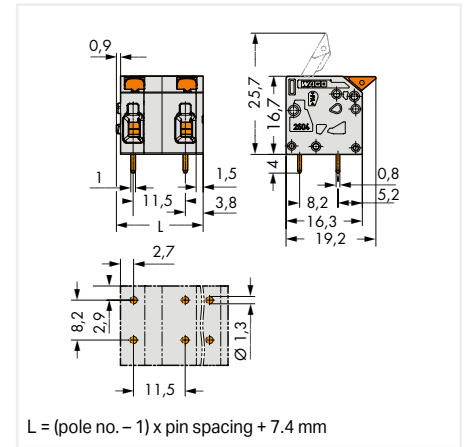
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

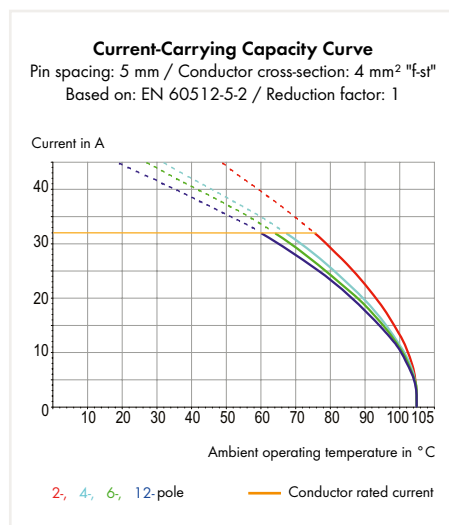
**PCB Terminal Block ▶ 2604 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 4 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray



- PCB Terminal Block with levers and Push-in CAGE CLAMP®
- Push-in termination of solid and ferruled conductors
- Intuitive and tool-free operation
- Several clamping units can be held open simultaneously – convenient for terminating multi-core cables
- Testing can be performed both parallel and perpendicular to conductor entry

2



Electrical Data									
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch			11.5 mm / 0.453 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	320 V	400 V	630 V	630 V	630 V	1000 V	1000 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	32 A	32 A	32 A	32 A	32 A	32 A	32 A	32 A	32 A

Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	300 V	600 V	600 V	600 V	–
Rated current	20 A	–	10 A	20 A	20 A	5 A	20 A	20 A	–

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 ... 11 mm / 0.35 ... 0.43 inch
Conductor entry angle to the PCB	90°
Conductor range	
Solid conductor	0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 4 mm <sup>2</sup> / 24 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor; with twin ferrule	0.25 ... 1.5 mm <sup>2</sup>

Solder Pin Data	
Solder pin length	4 mm
Solder pin dimensions	0.8 x 1 mm
Drilled hole diameter	1.3 <sup>+0.1</sup> mm

Material Data	
Material group	I
Insulating material	Polyamide 66 (PA 66)
Flammability class per UL94	V0
Limit temperature range	–60 ... +105 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>Cu</sub> )
Contact plating	Tin-plated

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®****PCB Terminal Block ▶ 2604 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Lever ▶ 4 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing:  
5 mm / 0.197 inch ▶ Color: gray

Pin spacing: 5 mm / 0.197 inch



Pin spacing: 7.5 mm / 0.295 inch



Pin spacing: 11.5 mm / 0.453 inch



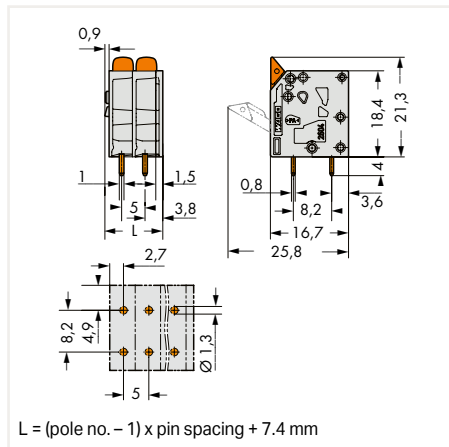
2

Pole No.	Item No.	Pack. Unit
1	2604-3101	250
2	2604-3102	180
3	2604-3103	120
4	2604-3104	90
5	2604-3105	70
6	2604-3106	50
7	2604-3107	50
8	2604-3108	40
9	2604-3109	40
10	2604-3110	30
11	2604-3111	30
12	2604-3112	30

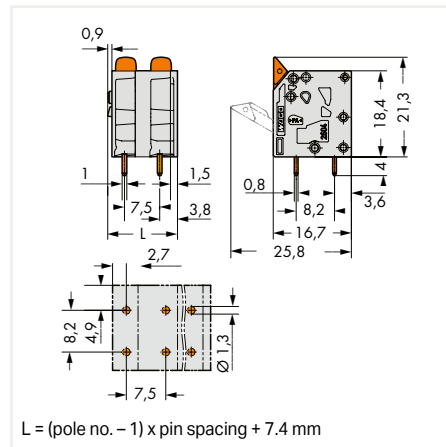
Pole No.	Item No.	Pack. Unit
2	2604-3302	150
3	2604-3303	100
4	2604-3304	70
5	2604-3305	50
6	2604-3306	45
7	2604-3307	40
8	2604-3308	30
9	2604-3309	30
10	2604-3310	25
11	2604-3311	25
12	2604-3312	25

Pole No.	Item No.	Pack. Unit
2	2604-3502	120
3	2604-3503	70
4	2604-3504	50
5	2604-3505	40
6	2604-3506	30
7	2604-3507	25
8	2604-3508	25
9	2604-3509	25
10	2604-3510	20
11	2604-3511	20
12	2604-3512	15

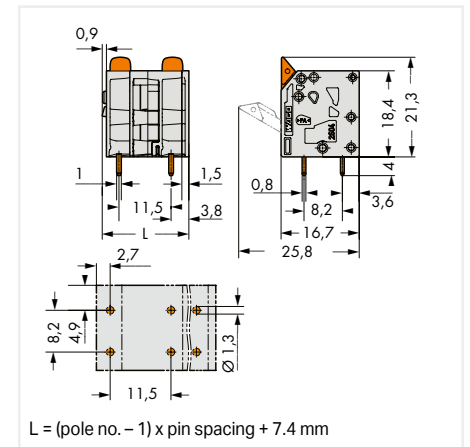
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

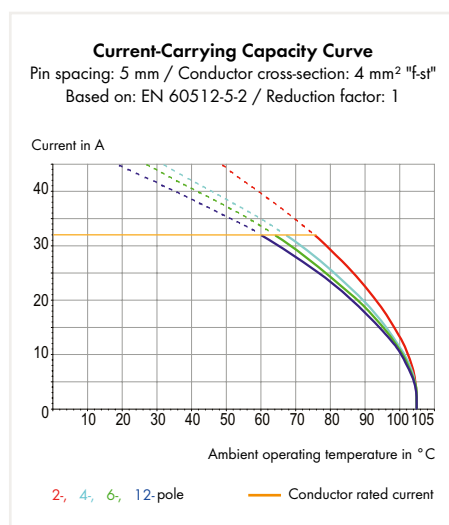
## PCB Terminal Block ▶ 2624 Series

Push-in CAGE CLAMP® ▶ Actuation type: Operating tool ▶ 6 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray



- PCB Terminal Block with Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled conductors
- Ideal for panel feedthrough applications via operation parallel to conductor entry
- Testing can be performed both parallel and perpendicular to conductor entry

2



Electrical Data									
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch			11.5 mm / 0.453 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	320 V	400 V	630 V	630 V	630 V	1000 V	1000 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	41 A	41 A	41 A	41 A	41 A	41 A	41 A	41 A	41 A
Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	150 V	300 V	600 V	600 V	–
Rated current	26 A	–	10 A	26 A	26 A	10 A	26 A	26 A	–
Connection Data									
Connection technology	Push-in CAGE CLAMP®								
Strip length	10 ... 12 mm / 0.39 ... 0.47 inch								
Conductor entry angle to the PCB	0°								
Conductor range									
Solid conductor	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG								
Fine-stranded conductor	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG								
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with twin ferrule	0.25 ... 1.5 mm <sup>2</sup>								
Solder Pin Data									
Solder pin length	4 mm								
Solder pin dimensions	0.8 x 1 mm								
Drilled hole diameter	1.3 <sup>+0.1</sup> mm								
Material Data									
Material group	I								
Insulating material	Polyamide 66 (PA 66)								
Flammability class per UL94	V0								
Limit temperature range	–60 ... +105 °C								
Clamping spring material	Chrome nickel spring steel (CrNi)								
Contact Material	Electrolytic copper (E <sub>Cu</sub> )								
Contact plating	Tin-plated								

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2

**PUSH-IN CAGE CLAMP®**

### PCB Terminal Block ▶ 2624 Series

Push-in CAGE CLAMP® ▶ Actuation type: Operating tool ▶ 6 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray

Pin spacing: 5 mm / 0.197 inch

Pin spacing: 7.5 mm / 0.295 inch

Pin spacing: 11.5 mm / 0.453 inch



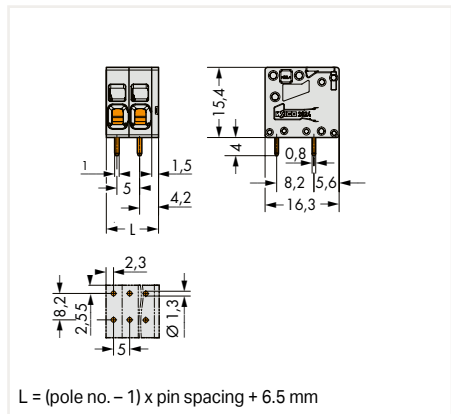
2

Pole No.	Item No.	Pack. Unit
1	2624-1101	300
2	2624-1102	200
3	2624-1103	150
4	2624-1104	100
5	2624-1105	100
6	2624-1106	80
7	2624-1107	50
8	2624-1108	50
9	2624-1109	50
10	2624-1110	40
11	2624-1111	35
12	2624-1112	35

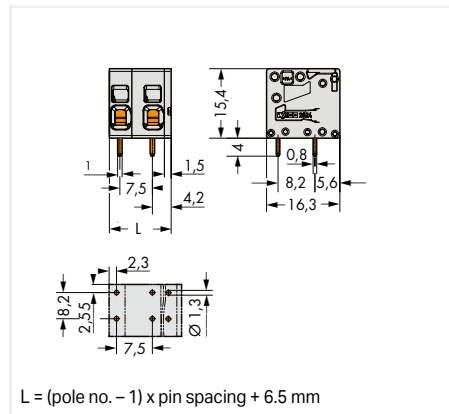
Pole No.	Item No.	Pack. Unit
2	2624-1302	200
3	2624-1303	120
4	2624-1304	80
5	2624-1305	70
6	2624-1306	50
7	2624-1307	50
8	2624-1308	40
9	2624-1309	35
10	2624-1310	35
11	2624-1311	25
12	2624-1312	25

Pole No.	Item No.	Pack. Unit
2	2624-1502	100
3	2624-1503	80
4	2624-1504	50
5	2624-1505	40
6	2624-1506	40
7	2624-1507	30
8	2624-1508	25
9	2624-1509	25
10	2624-1510	20
11	2624-1511	20
12	2624-1512	20

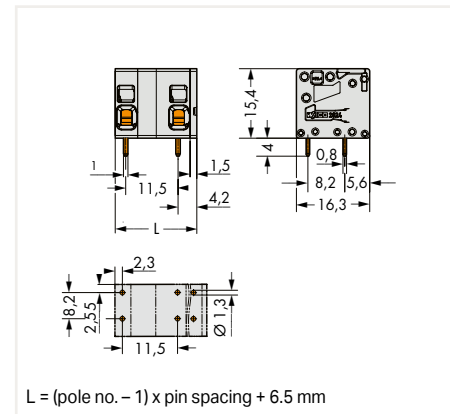
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking

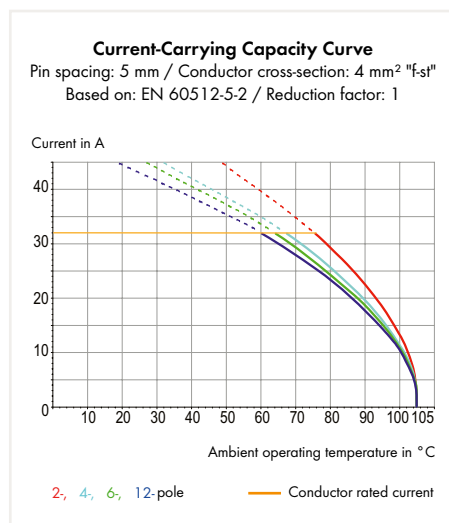
## PCB Terminal Block ▶ 2624 Series

Push-in CAGE CLAMP® ▶ Actuation type: Operating tool ▶ 6 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray



- PCB Terminal Block with Push-in CAGE CLAMP® connection
- Push-in termination of solid and ferruled conductors
- Ideal for panel feedthrough applications via operation parallel to conductor entry
- Testing can be performed both parallel and perpendicular to conductor entry

2



Electrical Data									
Pin spacing	5 mm / 0.197 inch			7.5 mm / 0.295 inch			11.5 mm / 0.453 inch		
Ratings per	IEC / EN 60664-1			IEC / EN 60664-1			IEC / EN 60664-1		
Overvoltage category	III	III	II	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2	3	2	2
Rated voltage	320 V	400 V	630 V	630 V	630 V	1000 V	1000 V	1000 V	1000 V
Rated surge voltage	4 kV	4 kV	4 kV	6 kV	6 kV	6 kV	8 kV	8 kV	8 kV
Rated current	41 A	41 A	41 A	41 A	41 A	41 A	41 A	41 A	41 A
Approvals per	UL 1059			UL 1059			UL 1059		
Use group	B	C	D	B	C	D	B	C	D
Rated voltage	300 V	–	300 V	300 V	150 V	300 V	600 V	600 V	–
Rated current	26 A	–	10 A	26 A	26 A	10 A	26 A	26 A	–
Connection Data									
Connection technology	Push-in CAGE CLAMP®								
Strip length	10 ... 12 mm / 0.39 ... 0.47 inch								
Conductor entry angle to the PCB	90°								
Conductor range									
Solid conductor	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG								
Fine-stranded conductor	0.2 ... 6 mm <sup>2</sup> / 24 ... 10 AWG								
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG								
Fine-stranded conductor; with twin ferrule	0.25 ... 1.5 mm <sup>2</sup>								
Solder Pin Data									
Solder pin length	4 mm								
Solder pin dimensions	0.8 x 1 mm								
Drilled hole diameter	1.3 <sup>+0.1</sup> mm								
Material Data									
Material group	I								
Insulating material	Polyamide 66 (PA 66)								
Flammability class per UL94	V0								
Limit temperature range	–60 ... +105 °C								
Clamping spring material	Chrome nickel spring steel (CrNi)								
Contact Material	Electrolytic copper (E <sub>cu</sub> )								
Contact plating	Tin-plated								

\*(III / 2) ≙ Overvoltage category III / Pollution degree 2



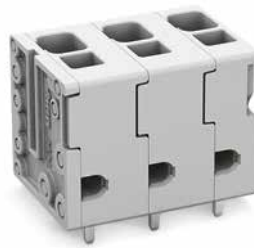
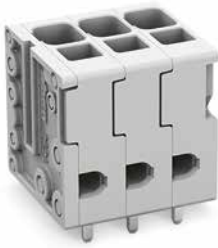
**PUSH-IN CAGE CLAMP®****PCB Terminal Block ▶ 2624 Series**

Push-in CAGE CLAMP® ▶ Actuation type: Operating tool ▶ 6 mm<sup>2</sup> ▶ Modular Terminal Block ▶ Pin spacing: 5 mm / 0.197 inch ▶ Color: gray

Pin spacing: 5 mm / 0.197 inch

Pin spacing: 7.5 mm / 0.295 inch

Pin spacing: 11.5 mm / 0.453 inch



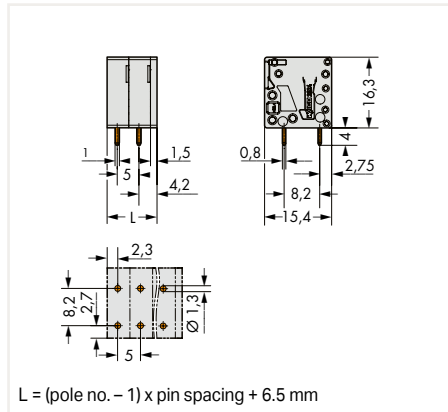
2

Pole No.	Item No.	Pack. Unit
1	2624-3101	300
2	2624-3102	200
3	2624-3103	150
4	2624-3104	100
5	2624-3105	100
6	2624-3106	80
7	2624-3107	50
8	2624-3108	50
9	2624-3109	50
10	2624-3110	40
11	2624-3111	35
12	2624-3112	35

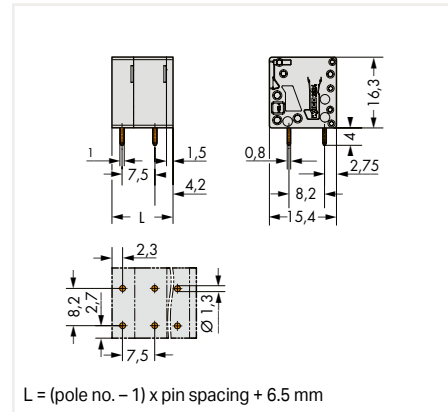
Pole No.	Item No.	Pack. Unit
2	2624-3302	200
3	2624-3303	120
4	2624-3304	80
5	2624-3305	70
6	2624-3306	50
7	2624-3307	50
8	2624-3308	40
9	2624-3309	35
10	2624-3310	35
11	2624-3311	25
12	2624-3312	25

Pole No.	Item No.	Pack. Unit
2	2624-3502	100
3	2624-3503	80
4	2624-3504	50
5	2624-3505	40
6	2624-3506	40
7	2624-3507	30
8	2624-3508	25
9	2624-3509	25
10	2624-3510	20
11	2624-3511	20
12	2624-3512	20

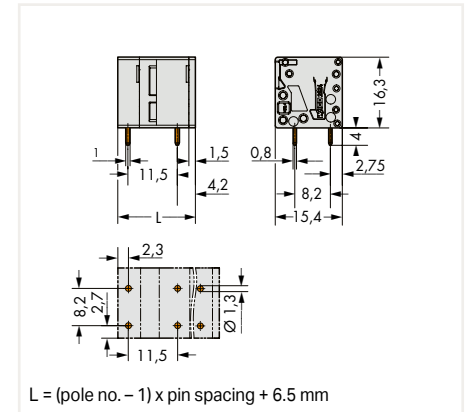
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Available upon request (depending on quantity required):

- Other pole numbers
- Other colors
- Direct marking



# **WAGO MULTI CONNECTION SYSTEM**

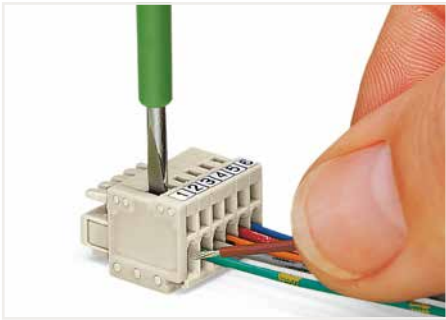
## WAGO MULTI CONNECTION SYSTEM

			Page
	MICRO; Pin Spacing: 2.5 mm	733 Series	100
	MINI HD; Pin Spacing: 3.5 mm	713 Series	100
	MINI SL; Pin Spacing: 3.5 mm	714 Series	100
	MINI; Pin Spacing: 3.5 mm	734 Series 2734 Series	101
	MINI; Pin Spacing: 3.81 mm	734 Series 2734 Series	102
	MIDI; Pin Spacing: 5 mm	721 Series 722 Series 2721 Series	103
	MIDI Classic; Pin Spacing: 5 mm	231 Series 232 Series 731 Series 2231 Series	104
	MIDI Classic; Pin Spacing: 5.08 mm	231 Series 232 Series 2231 Series	105
	<i>picoMAX</i> <sup>®</sup> Pluggable Connectors <i>picoMAX</i> <sup>®</sup> eCOM Pluggable Connectors	2091 Series 2092 Series	109

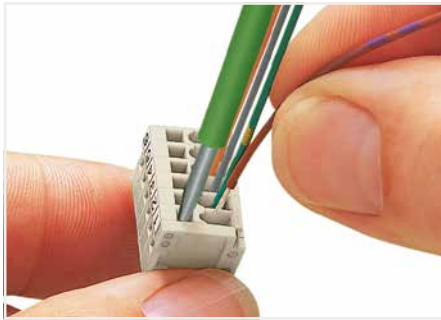
## MCS – MULTI CONNECTION SYSTEM

### Description and Installation

3



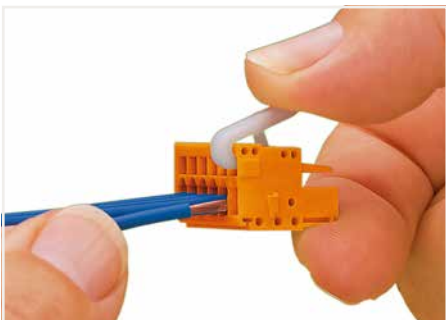
Inserting a conductor via (2.5 x 0.4) mm screwdriver.  
Operation is performed perpendicular to conductor entry.



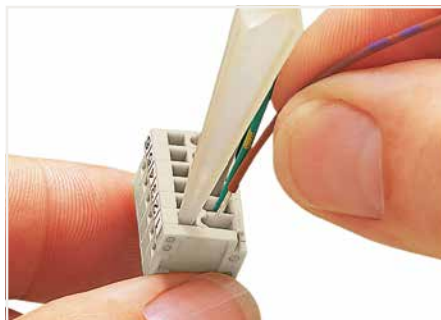
Inserting a conductor via (2.5 x 0.4) mm screwdriver.  
Operation parallel to conductor entry



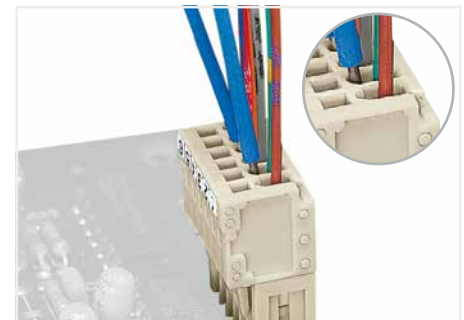
Male header and female connector – 100% protected against mismatching  
Only mating halves with the same pole number can be connected.



Inserting a conductor via push-button.  
(Item No. 734-230)



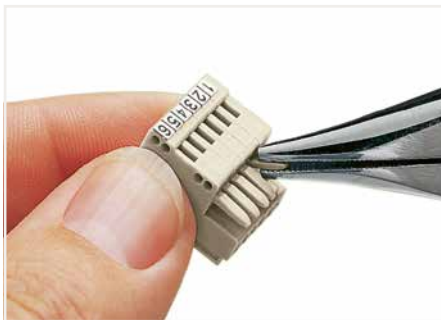
Inserting a conductor via operating tool.  
(Item No. 233-332)  
Operation parallel to conductor entry



Testing via 1 mm Ø test pin (Item No. 735-500),  
touch contact.



Coding a male header – fitting coding key(s).



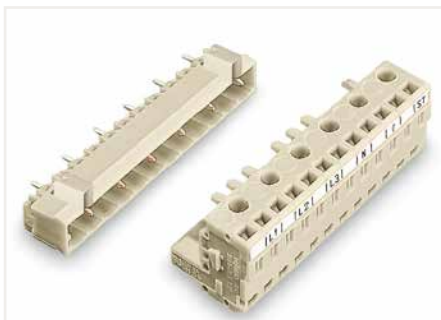
Coding a female connector – removing coding finger(s).



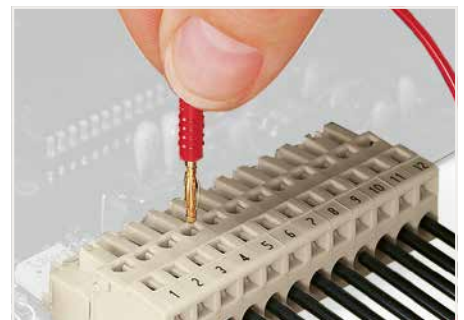
Factory marking or custom marking via self-adhesive strips.



Prevents the insulation of smaller conductors from being inserted into the clamping unit.



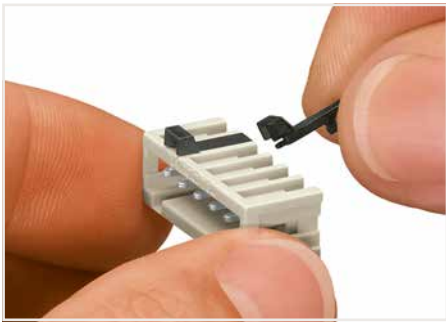
For 10 mm pin spacing, please contact factory.



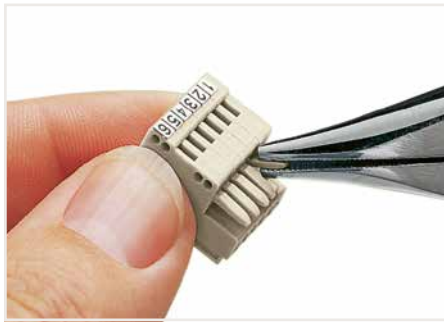
Testing with 2 mm or 2.3 mm Ø test plug.

# MCS – MULTI CONNECTION SYSTEM

## Description and Installation



Coding a male header – fitting coding key(s).



Coding a female connector – removing coding finger(s).

3



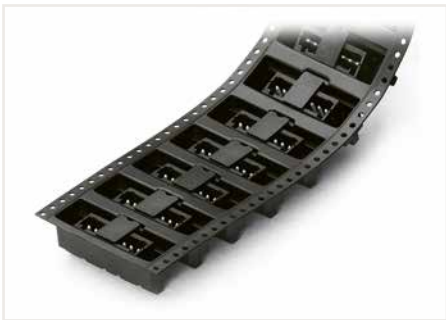
Wire-to-wire connection of single conductors



Wire-to-wire connection of multi-core cables  
Plug-in connection using strain relief plates and locking levers



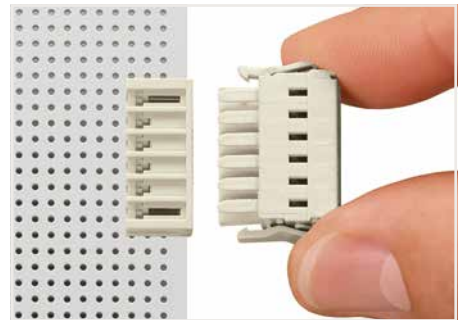
THR male headers for reflow soldering in SMT applications



Tape-and-reel packaging for THR male headers



Locking levers prevent accidental disconnection.



Locking levers prevent accidental disconnection.

# MCS – MULTI CONNECTION SYSTEM

## Product Overview by Pin Spacing

3

2.5 mm							
733 Series; MICRO; 100% Mismatching Protection; 160 V; 6 A							
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Male headers with straight solder pins; 2 ... 12 poles		Male headers with straight solder pins; 2 ... 12 poles		Female connectors; 2 ... 12 poles		Male connectors; 2 ... 12 poles	
733-332	200	733-332/105-604	200	733-102	200	733-202	200
733-342	100	733-342/105-604	100	733-112	50	733-212	50
Male headers with angled solder pins; 2 ... 12 poles		Male headers with angled solder pins; 2 ... 12 poles		Female connectors with locking levers; 2 ... 12 poles			
733-362	200	733-362/105-604	200	733-102/037-000	100		
733-372	100	733-372/105-604	100	733-112/037-000	50		




3.5 mm							
713 Series; MINI HD; 100% Mismatching Protection; 160 V; 10 A							
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Male headers with straight solder pins; 6 ... 36 poles		Male headers with angled solder pins; 6 ... 36 poles		Male headers with straight solder pins; 6 ... 36 poles		Male headers with angled solder pins; 6 ... 36 poles	
713-1403	100	713-1423	100	713-1403/105-000	100	713-1423/105-000	100
713-1418	20	713-1438	20	713-1418/105-000	20	713-1438/105-000	20
Male headers with straight solder pins and levers; 6 ... 36 poles		Male headers with angled solder pins and levers; 6 ... 36 poles		Male headers with straight solder pins and levers; 6 ... 36 poles		Male headers with angled solder pins and levers; 6 ... 36 poles	
713-1403/037-000	50	713-1423/037-000	50	713-1403/116-000	50	713-1423/116-000	50
713-1418/037-000	10	713-1438/037-000	10	713-1418/116-000	10	713-1438/116-000	10
Male headers with straight solder pins and threaded flanges; 6 ... 36 poles		Male headers with angled solder pins and threaded flanges; 6 ... 36 poles		Male headers with straight solder pins and threaded flanges; 6 ... 36 poles		Male headers with angled solder pins and threaded flanges; 6 ... 36 poles	
713-1403/107-000	50	713-1423/107-000	50	713-1403/117-000	50	713-1423/117-000	50
713-1418/107-000	10	713-1438/107-000	10	713-1418/117-000	10	713-1438/117-000	10
						Female connectors; 6 ... 36 poles	
						Female connectors with levers; 6 ... 36 poles	
						Female connectors with threaded flanges; 6 ... 36 poles	

3.5 mm							
714 Series; MINI SL; 160 V; 8 A							
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Male headers with straight solder pins; 2 ... 16 poles		Male headers with angled solder pins; 2 ... 16 poles		Female connectors; 2 ... 16 poles			
714-132	200	714-162	200	714-102	200		
714-146	100	714-176	100	714-116	50		

**THR** Through-hole reflow soldering

# MCS – MULTI CONNECTION SYSTEM




















## Product Overview by Pin Spacing

3.5 mm									
734/2734 Series; MINI; 100% Mismatching Protection									
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
Male headers with straight solder pins; 2 ... 24 poles		Female headers with straight solder pins; 2 ... 24 poles		Female connectors; 2 ... 24 poles		Male connectors; 2 ... 24 poles		Combi strips; 2 ... 12 poles	
○		○		○		○		○	
734-132	200	734-462	200	734-102	200	734-302	200	734-362	100
734-154	50	734-484	25	734-124	25	734-324	25	734-372	25
Male headers with angled solder pins; 2 ... 24 poles		Female headers with angled solder pins; 2 ... 24 poles		Female connectors with locking levers; 2 ... 24 poles		Male connectors with mounting flanges; 2 ... 24 poles		Combi strips with locking levers; 2 ... 12 poles	
○		○		○		○		○	
734-162	200	734-532	200	734-102/037-000	100	734-302/019-000	100	734-362/037-000	100
734-184	50	734-554	25	734-124/037-000	10	734-324/019-000	10	734-372/037-000	25
Male headers with straight solder pins; 2 ... 16 poles		Female headers with straight solder pins and locking levers; 2 ... 24 poles		Female connectors with snap-in mounting feet; 2 ... 24 poles		Male connectors with snap-in mounting feet; 2 ... 24 poles		Combi strips with snap-in mounting feet; 2 ... 12 poles	
●		○		○		○		○	
734-132/105-604	200	734-462/037-000	100	734-102/008-000	200	734-302/018-000	200	734-362/008-000	100
734-146/105-604	50	734-484/037-000	10	734-124/008-000	25	734-324/018-000	25	734-372/008-000	25
Male headers with angled solder pins; 2 ... 16 poles		Female headers with angled solder pins and locking levers; 2 ... 24 poles							
●		○							
734-162/105-604	200	734-532/037-000	100						
734-176/105-604	50	734-554/037-000	10						
Double-deck male headers with angled solder pins; 4 ... 24 poles						Female connectors with levers 2 ... 16-poles		Female connectors with push-buttons; 2 ... 24 poles	
○						○		○	
734-402	100					0.14 ... 1.5 mm <sup>2</sup> / 26 ... 14 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
734-412	50					2734-1102/327-000	200	2734-102	200
						2734-1116/327-000	25	2734-124	25
Double-deck male headers with angled solder pins and support; 4 ... 24 poles								Female connectors with push-buttons and locking levers; 2 ... 24 poles	
○								○	
734-402/001-000	100							0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
734-412/001-000	50							2734-102/037-000	100
								2734-124/037-000	10
Male headers with straight solder pins and threaded flanges; 2 ... 24 poles								Female connectors with push-buttons and mounting flanges; 2 ... 24 poles	
○								○	
734-132/108-000	200							0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
734-154/108-000	50							2734-102/031-000	100
								2734-124/031-000	10
Male headers with angled solder pins and threaded flanges; 2 ... 24 poles		Female connectors with screw flanges; 2 ... 24 poles		Male connectors with threaded flanges; 2 ... 24 poles		Female connectors with push-buttons and screw flanges; 2 ... 24 poles			
○		○		○		○			
		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG			
		734-162/108-000	200	734-102/107-000	100	734-302/109-000	100	2734-102/107-000	100
		734-184/108-000	50	734-124/107-000	10	734-324/109-000	10	2734-124/107-000	10

# MCS – MULTI CONNECTION SYSTEM

## Product Overview by Pin Spacing


































3

3.81 mm									
734/2734 Series; MINI; 100% Mismatching Protection									
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
Male headers with straight solder pins; 2 ... 20 poles		Female headers with straight solder pins; 2 ... 20 poles		Female connectors; 2 ... 20 poles		Male connectors; 2 ... 20 poles		Female connectors with push-buttons; 2 ... 20 poles	
734-232	200	734-502	200	734-202	200	734-332	200	2734-202	200
734-250	50	734-520	25	734-220	25	734-350	25	2734-220	25
0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
Male headers with angled solder pins; 2 ... 20 poles		Female headers with angled solder pins; 2 ... 20 poles		Female connectors with locking levers; 2 ... 20 poles		Male connectors with mounting flanges; 2 ... 20 poles		Female connectors with push-buttons and locking levers; 2 ... 20 poles	
734-262	200	734-562	200	734-202/037-000	100	734-332/019-000	100	2734-202/037-000	100
734-280	50	734-580	25	734-220/037-000	10	734-350/019-000	10	2734-220/037-000	10
0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
Male headers with straight solder pins; 2 ... 16 poles		Female headers with straight solder pins and locking levers; 2 ... 20 poles		Female connectors with snap-in mounting feet; 2 ... 20 poles		Male connectors with snap-in mounting feet; 2 ... 20 poles		Female connectors with push-buttons and mounting flanges; 2 ... 20 poles	
734-232/105-604	200	734-502/037-000	100	734-202/008-000	200	734-332/018-000	200	2734-202/031-000	100
734-242/105-604	100	734-520/037-000	10	734-220/008-000	25	734-350/018-000	25	2734-220/031-000	10
0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG		0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG	
Male headers with angled solder pins; 2 ... 16 poles		Female headers with angled solder pins and locking levers; 2 ... 20 poles							
734-262/105-604	200	734-562/037-000	100						
734-272/105-604	100	734-580/037-000	10						
Double-deck male headers with angled solder pins; 4 ... 24 poles									
734-432	100								
734-442	50								
Double-deck male headers with angled solder pins and support; 4 ... 24 poles									
734-432/001-000	100								
734-442/001-000	50								



# MCS – MULTI CONNECTION SYSTEM

## Product Overview by Pin Spacing

5 mm									
721/722/2721 Series; MIDI; 100% Mismatching Protection; 320 V; 12 A (16 A)									
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
Male headers with straight solder pins; 2 ... 20 poles		Female headers with straight solder pins; 2 ... 20 poles		Female connectors; 2 ... 20 poles		Male connectors; 2 ... 20 poles		Female connectors with push-buttons; 2 ... 20 poles	
721-132/001-000	200	722-132	100	721-102/026-000	100	721-602	100	721-102/026-000	100
721-150/001-000	50	722-150	10	721-120/026-000	10	721-620	10	721-120/026-000	10
Male headers with angled solder pins; 2 ... 20 poles		Female headers with angled solder pins; 2 ... 20 poles		Female connectors with locking levers; 2 ... 20 poles		Male connectors with mounting flanges; 2 ... 20 poles		Female connectors with push-buttons and locking levers; 2 ... 20 poles	
721-432/001-000	200	722-232	100	721-102/037-000	100	721-602/019-000	100	721-102/037-000	100
721-450/001-000	50	722-250	10	721-120/037-000	10	721-620/019-000	10	721-120/037-000	10
Male headers with straight solder pins; 16 A; 2 ... 20 poles		Female headers with straight solder pins and locking levers; 2 ... 20 poles		Female connectors with snap-in mounting feet; 2 ... 20 poles		Male connectors with snap-in mounting feet; 2 ... 20 poles		Female connectors with push-buttons and snap-in mounting feet; 2 ... 20 poles	
721-162/001-000	200	722-132/039-000	100	721-102/008-000	100	721-602/018-000	100	721-102/008-000	100
721-180/001-000	50	722-150/039-000	10	721-120/008-000	10	721-620/018-000	10	721-120/008-000	10
Male headers with angled solder pins; 16 A; 2 ... 20 poles		Female headers with angled solder pins and locking levers; 2 ... 20 poles		Female connectors with mounting flanges; 2 ... 20 poles		Male connectors with snap-in flanges; 2 ... 20 poles		Female connectors with push-buttons and mounting flanges; 2 ... 20 poles	
721-462/001-000	200	722-232/039-000	100	721-102/031-000	100	721-602/114-000	100	721-102/031-000	100
721-480/001-000	50	722-250/039-000	10	721-120/031-000	10	721-620/114-000	10	721-120/031-000	10
Male connectors for rail-mount Terminal Blocks; 2 ... 20 poles		Female headers with straight solder pins and mounting flanges; 2 ... 20 poles		Angled female connectors, conductor entry same direction as latches; 2 ... 20 poles					
721-162/003-000	200	722-132/031-000	100	722-202/026-000	100				
721-180/003-000	50	722-150/031-000	10	722-220/026-000	10				
Female connectors for rail-mount Terminal Blocks; 2 ... 20 poles		Female headers with angled solder pins and mounting flanges; 2 ... 20 poles		Angled female connectors, conductor entry opposite of latches; 2 ... 20 poles					
722-132/005-000	100	722-232/031-000	100	722-102/026-000	100				
722-150/005-000	10	722-250/031-000	10	722-120/026-000	10				
Female connectors with locking levers for rail-mount Terminal Blocks; 2 ... 20 poles		Female headers with straight solder pins and spacers; 2 ... 20 poles		2-conductor female connectors; 2 ... 16 poles				Female connectors with flanges for panel mounting; 2 ... 20 poles	
722-132/005-000/039-000	100	722-132/047-000	100	721-2102/026-000	100			721-302/031-000	100
722-150/005-000/039-000	10	722-150/047-000	10	721-2116/026-000	25			721-320/031-000	10
		Female headers with angled solder pins and spacers; 2 ... 20 poles		2-conductor female connectors with locking levers; 2 ... 16 poles				Female connectors with snap-in feet for panel mounting; 2 ... 20 poles	
		722-232/047-000	100	721-2102/037-000	100			721-302/008-000	100
		722-250/047-000	10	721-2116/037-000	10			721-320/008-000	10

# MCS – MULTI CONNECTION SYSTEM

## Product Overview by Pin Spacing

3

5 mm									
231/232/731/2231 Series; MIDI Classic; 320 V; 12 A									
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit		
Male headers with straight solder pins; 2 ... 24 poles		Female headers with straight solder pins; 2 ... 24 poles		Female connectors; 2 ... 24 poles		Male connectors; 2 ... 24 poles		Female connectors with push-buttons; 2 ... 24 poles	
231-132/001-000	200	232-132	100	231-102/026-000	100	231-602	100	2231-102/026-000	100
231-154/001-000	50	232-154	10	231-124/026-000	10	231-624	10	2231-124/026-000	10
Male headers with angled solder pins; 2 ... 24 poles		Female headers with angled solder pins; 2 ... 24 poles		Female connectors with locking levers; 2 ... 24 poles		Male connectors with mounting flanges; 2 ... 24 poles		Female connectors with push-buttons and locking levers; 2 ... 24 poles	
231-432/001-000	200	232-232	100	231-102/037-000	100	231-602/019-000	100	2231-102/037-000	100
231-454/001-000	50	232-254	10	231-124/037-000	10	231-624/019-000	10	2231-124/037-000	10
Male headers with straight solder pins and mounting flanges; 2 ... 14 poles		Female headers with straight solder pins and locking levers; 2 ... 24 poles		Female connectors with snap-in mounting feet; 2 ... 24 poles		Male connectors with snap-in mounting feet; 2 ... 24 poles		Female connectors with push-buttons and snap-in mounting feet; 2 ... 24 poles	
231-132/040-000	200	232-132/039-000	100	231-102/008-000	100	231-602/018-000	100	2231-102/008-000	100
231-144/040-000	50	232-154/039-000	10	231-124/008-000	10	231-624/018-000	10	2231-124/008-000	10
Male headers with angled solder pins and mounting flanges; 2 ... 14 poles		Female headers with angled solder pins and locking levers; 2 ... 24 poles		Female connectors with mounting flanges; 2 ... 24 poles		Male connectors with snap-in flanges; 2 ... 24 poles		Female connectors with push-buttons and mounting flanges; 2 ... 24 poles	
231-432/040-000	200	232-232/039-000	100	231-102/031-000	100	231-602/114-000	50	2231-102/031-000	100
231-444/040-000	50	232-254/039-000	10	231-124/031-000	10	231-624/114-000	10	2231-124/031-000	10
Male headers with straight solder pins; 2 ... 12 poles		Female headers with straight solder pins and mounting flanges; 2 ... 24 poles		Angled female connectors, conductor entry same direction as latches; 2 ... 24 poles				Female connectors with push-buttons and integrated end plate; 2 ... 24 poles	
231-132/001-000/105-604	200	232-132/031-000	100	232-202/026-000	100			2231-102/102-000	100
231-142/001-000/105-604	100	232-154/031-000	10	232-224/026-000	10			2231-124/102-000	10
Male headers with angled solder pins; 2 ... 12 poles		Female headers with angled solder pins and mounting flanges; 2 ... 24 poles		Angled female connectors, conductor entry opposite of latches; 2 ... 24 poles				Double-pin male connectors for DIN-35 rail mounting; 2 ... 24 poles	
231-432/001-000/105-604	200	232-232/031-000	100	232-102/026-000	100			232-502/007-000	100
231-442/001-000/105-604	100	232-254/031-000	10	232-124/026-000	10			232-524/007-000	10
Double-deck male headers; 2 ... 16 poles				2-conductor female connectors; 2 ... 16 poles				Female connectors with mounting flanges for panel mounting; 2 ... 20 poles	
232-332	100			0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG				0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
232-346	25			231-2102/026-000	100			731-502/031-000	100
				231-2116/026-000	25			731-520/031-000	10
Male connectors for rail-mount Terminal Blocks; 2 ... 20 poles		Female connectors for rail-mount Terminal Blocks; 2 ... 20 poles		2-conductor female connectors with locking levers; 2 ... 16 poles				Female connectors with snap-in feet for panel mounting; 2 ... 20 poles	
231-162/003-000	200	232-132/005-000	100	231-2102/037-000	100			0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
231-180/003-000	50	232-150/005-000	10	231-2116/037-000	10			731-502/008-000	100
								731-520/008-000	10

# MCS – MULTI CONNECTION SYSTEM

## Product Overview by Pin Spacing

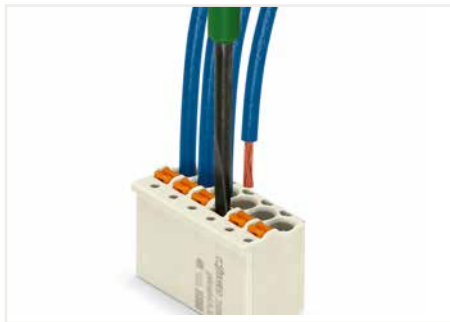
5.08 mm									
231/232/731/2231 Series; MIDI Classic; 320 V; 12 A (16 A)									
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
Male headers with straight solder pins; 2 ... 24 poles		Female headers with straight solder pins; 2 ... 24 poles		Female connectors; 2 ... 24 poles		Male connectors; 2 ... 24 poles		Female connectors with push-buttons; 2 ... 24 poles	
231-332/001-000	200	232-162	100	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG	
231-354/001-000	50	232-184	10	231-302/026-000	100	231-632	100	2231-302/026-000	100
Male headers with angled solder pins; 2 ... 24 poles		Female headers with angled solder pins; 2 ... 24 poles		231-324/026-000	10	231-654	10	2231-324/026-000	10
231-532/001-000	200	232-262	100	Female connectors with locking levers; 2 ... 24 poles		Male connectors with mounting flanges; 2 ... 24 poles		Female connectors with push-buttons and locking levers; 2 ... 24 poles	
231-554/001-000	50	232-284	10	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG	
Male headers with straight solder pins; 16 A; 2 ... 24 poles		Female headers with straight solder pins and locking levers; 2 ... 24 poles		231-302/037-000	100	231-632/019-000	100	2231-302/037-000	100
231-362/001-000	200	232-162/039-000	100	231-324/037-000	10	231-654/019-000	10	2231-324/037-000	10
231-384/001-000	50	232-184/039-000	10	Female connectors with snap-in mounting feet; 2 ... 24 poles		Male connectors with snap-in mounting feet; 2 ... 24 poles		Female connectors with push-buttons and snap-in mounting feet; 2 ... 24 poles	
231-362/001-000	200	232-162/039-000	100	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG	
231-562/001-000	200	232-262/039-000	100	231-302/008-000	100	231-632/018-000	100	2231-302/008-000	100
231-584/001-000	50	232-284/039-000	10	231-324/008-000	10	231-654/018-000	10	2231-324/008-000	10
Male headers with angled solder pins; 16 A; 2 ... 24 poles		Female headers with angled solder pins and locking levers; 2 ... 24 poles		Female connectors with mounting flanges; 2 ... 24 poles		Male connectors with snap-in flanges; 2 ... 24 poles		Female connectors with push-buttons and mounting flanges; 2 ... 24 poles	
231-562/001-000	200	232-262/039-000	100	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG	
231-584/001-000	50	232-284/039-000	10	231-302/031-000	100	231-632/114-000	50	2231-302/031-000	100
Double-deck male headers; 2 ... 16 poles		Female headers with straight solder pins and mounting flanges; 2 ... 24 poles		231-324/031-000	10	231-654/114-000	10	2231-324/031-000	10
232-362	100	232-162/031-000	100	2-conductor female connectors; 2 ... 16 poles		Angled female connectors, conductor entry same direction as latches; 2 ... 24 poles		Angled female connectors, conductor entry same direction as latches; 2 ... 24 poles	
232-376	25	232-184/031-000	10	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
Male headers with straight solder pins and threaded flanges; 2 ... 16 poles		Female headers with angled solder pins and mounting flanges; 2 ... 24 poles		231-2302/026-000	100	232-402/026-000	100	232-424/026-000	10
231-332/108-000	200	232-262/031-000	100	231-2316/026-000	25	232-402/026-000	100	232-424/026-000	10
231-346/108-000	50	232-284/031-000	10	2-conductor female connectors with locking levers; 2 ... 16 poles		Angled female connectors, conductor entry opposite of latches; 2 ... 24 poles		Angled female connectors, conductor entry opposite of latches; 2 ... 24 poles	
Male headers with angled solder pins and threaded flanges; 2 ... 16 poles		Female headers with straight solder pins; 2 ... 24 poles		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG	
231-332/108-000	200	232-162/031-000	100	231-2302/037-000	100	232-302/026-000	100	232-324/026-000	10
231-346/108-000	50	232-184/031-000	10	231-2316/037-000	10	232-324/026-000	10	232-324/026-000	10
Male headers with straight solder pins and threaded flanges; 2 ... 16 poles		Female headers with angled solder pins and mounting flanges; 2 ... 24 poles		2-conductor female connectors with screw flanges; 2 ... 16 poles		Male connectors with snap-in and threaded flanges; 2 ... 16 poles		Double-pin male connectors for DIN-35 rail mounting; 2 ... 24 poles	
231-332/108-000	200	232-262/031-000	100	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		232-532/007-000	100
231-346/108-000	50	232-284/031-000	10	231-2302/107-000	100	231-632/129-000	50	232-554/007-000	10
Male headers with angled solder pins and threaded flanges; 2 ... 16 poles		Female headers with straight solder pins; 2 ... 24 poles		231-2316/107-000	10	231-646/129-000	10	Female connectors with push-buttons and screw flanges; 2 ... 24 poles	
231-532/108-000	200	232-162/108-000	200	Female connectors with screw flanges; 2 ... 16 poles		Male connectors with threaded flanges; 2 ... 16 poles		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG	
231-546/108-000	50	232-184/108-000	50	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG		2231-302/107-000	100
				231-302/107-000	100	231-632/109-000	100	2231-316/107-000	10
				231-316/107-000	10	231-646/109-000	10		

3

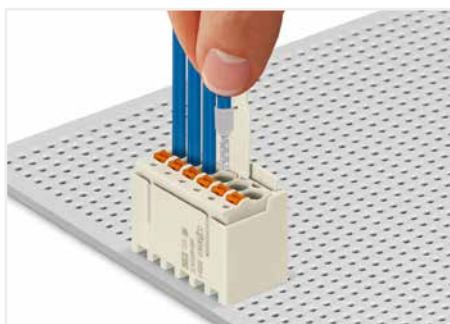
# picoMAX® Pluggable Connectors

## Description and Installation

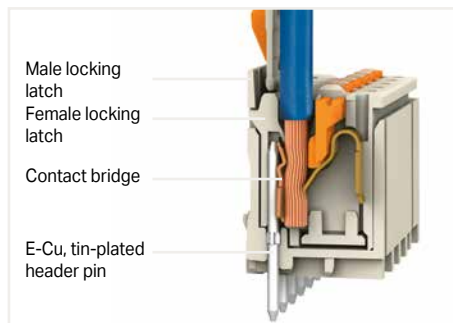
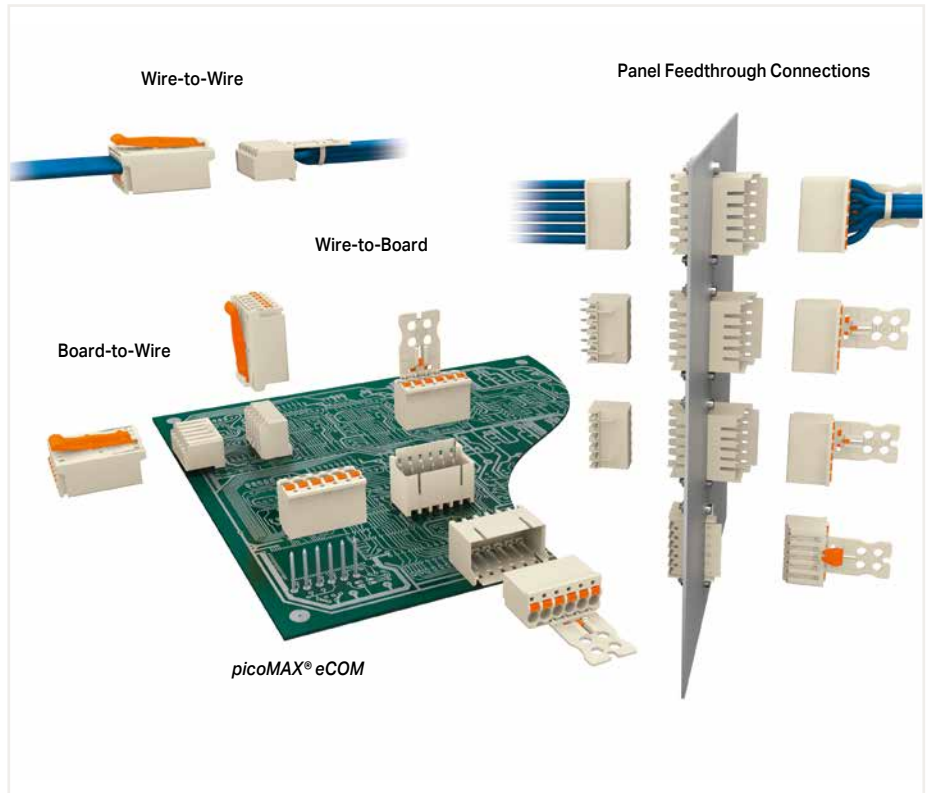
3



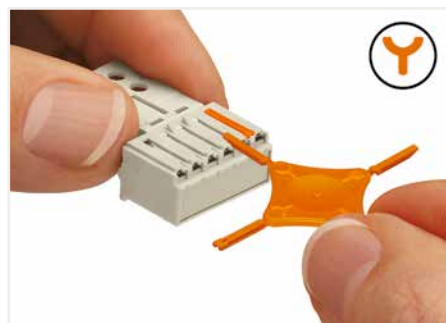
Inserting a fine-stranded conductor into an unmated female connector via push-button.



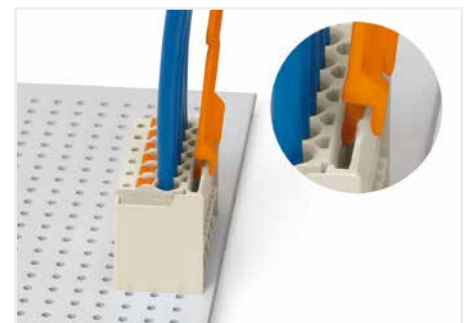
Inserting solid and ferruled conductors via push-in termination.



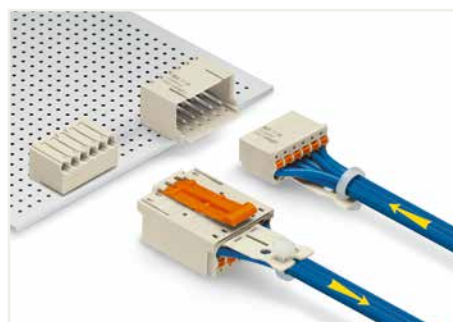
The locking latch of the male header interlocks with the locking latch of the female connector, for a secure connection.



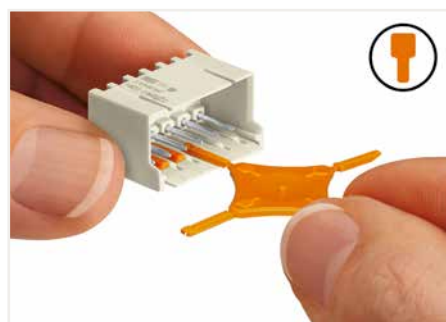
Coding a female connector (via 209x-1610 Coding Key Carrier and two keys for female connector, see symbol)



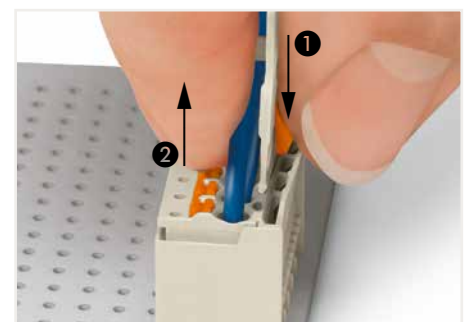
Disconnecting a female connector via unlocking tool; Plug unlocking tool into the male header's locking latch.



Easy-to-identify PCB inputs and outputs



Coding a male header (via 209x-1610 Coding Key Carrier and two keys for male header, see symbol).



Disconnecting female connector via sliding connector release  
 1 Push down sliding connector release (gripping plate) to open the locking latch.  
 2 Pull out female connector from male header.

# picoMAX® Pluggable Connectors

## Combination Overview for Male and Female Connectors/Headers

Male Connectors/Headers							
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit
with straight solder pins, 2 ... 12 poles		with angled solder pins, 2 ... 12 poles		for conductor connection, 2 ... 5 poles		for panel feedthrough connections, 2 ... 8 poles Outside	
							Inside (unlocked)
2091-1402	200	2091-1422	200	0.2 ... 2.5 mm² / 24 ... 12 AWG			
2091-1412	100	2091-1432	100	2091-1522/002-000	200	2091-1632/024-000	100
				2091-1528/002-000	50	2091-1638/002-000	50

Female Connectors/Headers	Description	Male Connector/Header		Panel Feedthrough Connector	
		with straight solder pins	with angled solder pins	Outside	Inside (unlocked)
for conductor connection, gripping plate and sliding connector release, 2 ... 12 poles  0.2 ... 1.5 mm² / 24 ... 14 AWG 2091-1102/002-000 100 2091-1112/002-000 50	with straight solder pins	✓	✓	✓	✓
	with angled solder pins	✓	✓	✓	✓
	for conductor connection, with gripping plate, 2 ... 12 poles 	✓	✓	✓	✓
for conductor connection, 2 ... 12 poles  0.2 ... 1.5 mm² / 24 ... 14 AWG 2091-1102 200 2091-1112 100	with straight solder pins	✓	✓	✓	✓
	with angled solder pins	✓	✓	✓	✓
	for conductor connection, 2 ... 12 poles 	✓	✓	✓	✓
for conductor connection, 2 ... 12 poles  0.2 ... 1.5 mm² / 24 ... 14 AWG 2091-1122 200 2091-1132 100	with straight solder pins	✓	✓	✓	✓
	with angled solder pins	✓	✓	✓	✓
	with straight solder pins, 2 ... 8 poles 	✗	✗	✓	✗
with angled solder pins, 2 ... 8 poles  2091-1322 200 2091-1328 100	with straight solder pins	✗	✗	✓	✗
	with angled solder pins	✗	✗	✓	✓
	with straight solder pins, 2 ... 8 poles 	✗	✗	✓	✗

3



Disconnection: Open locking latches via unlocking tool (2092-1630).

All data refers to 3.5 mm pin spacing.



This combination of male and female connectors/headers is allowed.

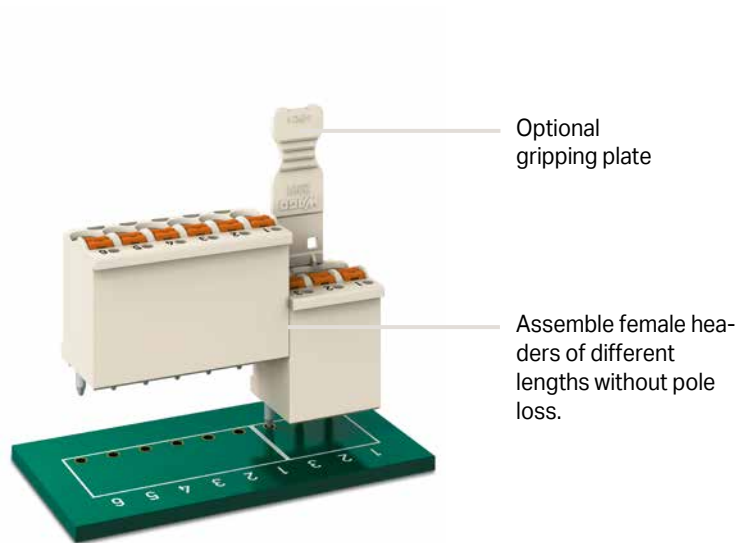
Item numbers for:  
 3.5 mm pin spacing 2091-1xxx (160 V/10 A)  
 5 mm pin spacing 2092-1xxx (320 V/16 A)  
 7.5 mm pin spacing 2092-3xxx (630 V/16 A)



This combination of male and female connectors/headers is not allowed.

## *picoMAX*® eCOM Pluggable Connectors Description and Installation

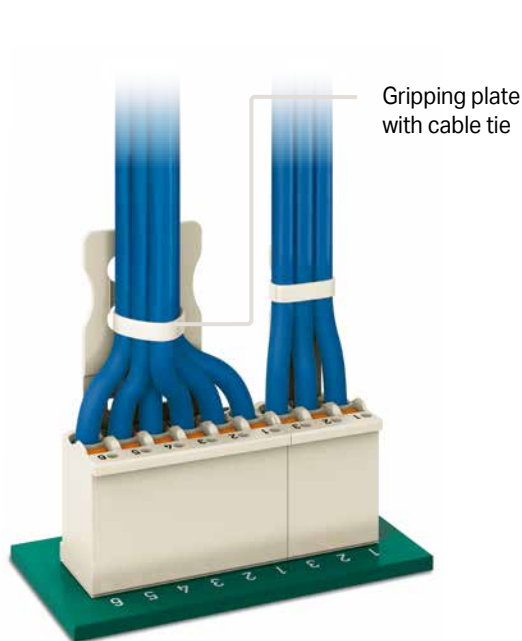
1. Place and solder the pluggable female headers as marked on the PCB.



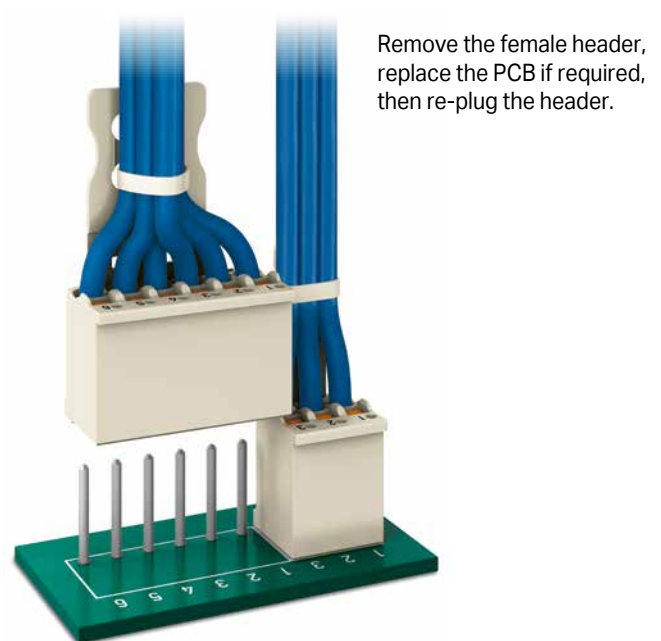
WAGO's *picoMAX*® eCOM Pluggable Female Headers are delivered with solder pins so they can be directly soldered to a PCB and then wired just as Terminal Blocks are. Push-in CAGE CLAMP® allows solid, stranded and fine-stranded conductors to be terminated via push-buttons. Solid and ferruled conductors are terminated by simply pushing them into Unit. For simplified maintenance, the pluggable female headers can be removed without altering the wiring and then plugged onto the replacement PCB.

3























2. Wired female headers



3. During maintenance



## picoMAX® eCOM Pluggable Connectors System Overview for Standard Female Headers

picoMAX® eCOM Pluggable Connectors; Female Connectors/Headers								
Pin Spacing 3.5 mm; 2 ... 12 poles		Pin Spacing 5 mm; 2 ... 12 poles		Pin Spacing 7.5 mm; 2 ... 5 poles				
Item No.	Pack. Unit	Item No.	Pack. Unit	Item No.	Pack. Unit			
With straight solder pins; without gripping plate								
								
0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG				
2091-1172	200	2092-1172	200	2092-3172	100			
2091-1182	100	2092-1182	100	2092-3175	100			
With straight solder pins; with gripping plate								
								
0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG				
2091-1152	100	2092-1152	100	2092-3152	100			
2091-1162	50	2092-1162	50	2092-3155	100			
With angled solder pins; without gripping plate								
								
0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG				
2091-1372	200	2092-1372	200	2092-3372	100			
2091-1382	100	2092-1382	100	2092-3375	100			
With angled solder pins; with gripping plate								
								
0.2 ... 1.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG		0.2 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG				
2091-1352	100	2092-1352	100	2092-3352	100			
2091-1362	50	2092-1362	50	2092-3355	100			
Gripping plates for field assembly								
								
2091-1600	100	2092-1600	100	2092-3600	100			
2091-1603	100	2092-1603	100	2092-3603	100			
Gripping plates with sliding connector release for field assembly								
								
2091-1600/002-000	100	2092-1600/002-000	100	2092-3600/002-000	100			
2091-1603/002-0	100	2092-1603/002-000	100	2092-3603/002-000	100			
Accessories								
	Item No.	Pack. Unit		Item No.	Pack. Unit		Item No.	Pack. Unit
	Operating tool; with a partially insulated shaft; type 1, (2.5 x 0.4) mm blade			Unlocking tool; for female connectors; without gripping plate or sliding connector release			Test pin; 1 mm Ø; with solder connection for test cable	
	210-719	50		2092-1630	100		735-500	1
							859-500	1



# WAGO Field-Wiring Terminal Blocks for Lighting



## WAGO Field-Wiring Terminal Blocks for Lighting

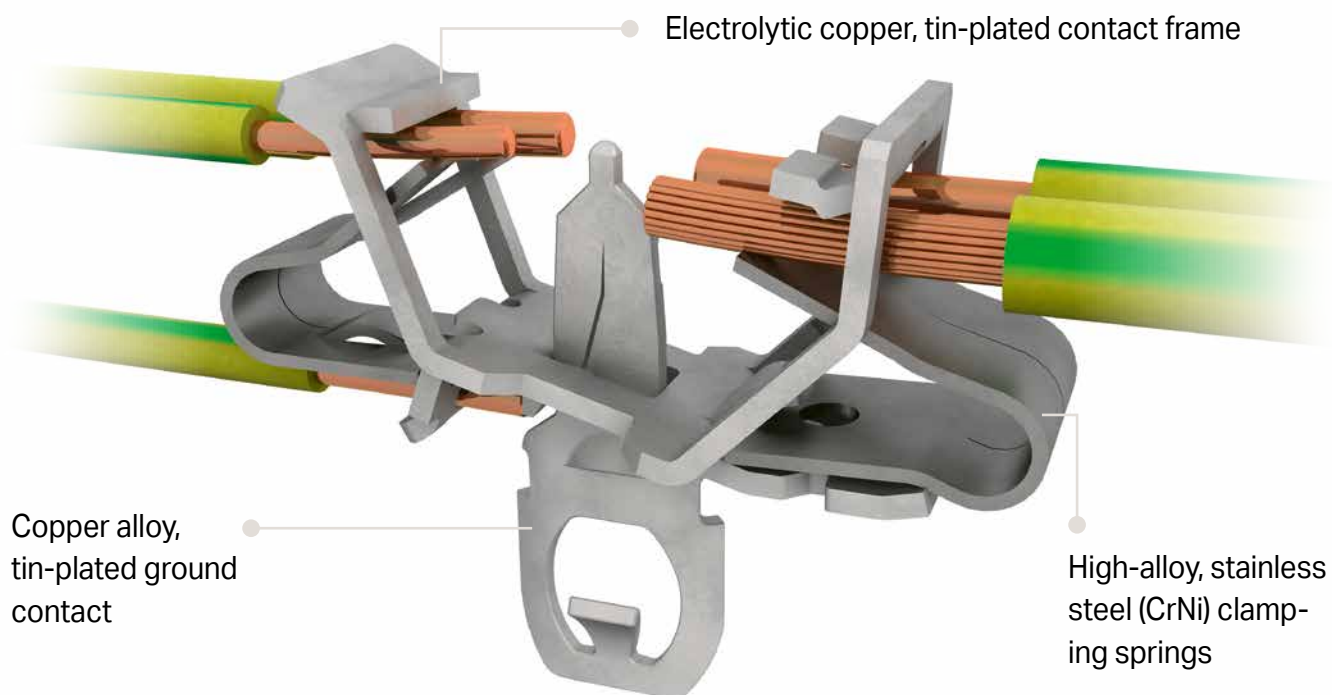
			Page
	Lighting Terminal Blocks	294 Series	114
	Dividable Terminal Strips, Compact Terminal Blocks	272 Series	128
	4-Conductor, Chassis-Mount Terminal Strips	862 Series	134
	Modular Terminal Blocks and Terminal Strips	260 Series 261 Series 262 Series 264 Series	138
	Rail-Mount Terminal Blocks Mini; for DIN-15 and DIN-35 Rails	264 Series	156

## Connect Lighting and Equipment Worldwide

### 294 Series

## Contact Technology

4



**Internal connection:**  
**PUSH WIRE®** for internal wiring with solid conductors

#### EUROPE

1 x 0.5 ... 2.5 mm<sup>2</sup>; "s"

1 x 0.5 ... 1.5 mm<sup>2</sup>; "s"

1 x 0.5 ... 0.75 mm<sup>2</sup>; "s"

#### AMERICA

1 x 18 ... 14 AWG; "s"

1 x 18 ... 16 AWG; "s"

1 x 18 AWG; "s"

#### JAPAN

1 x Ø 0.8 ... 1.6 mm; "s"

1 x Ø 0.8 ... 1.0 mm; "s"

1 x Ø 0.8 mm; "s"

**External connection:**  
**Push-in CAGE CLAMP®** for power supply connections for all conductor types

#### EUROPE

2 x 0.5 ... 2.5 mm<sup>2</sup>; "s; st; f-st"

#### AMERICA

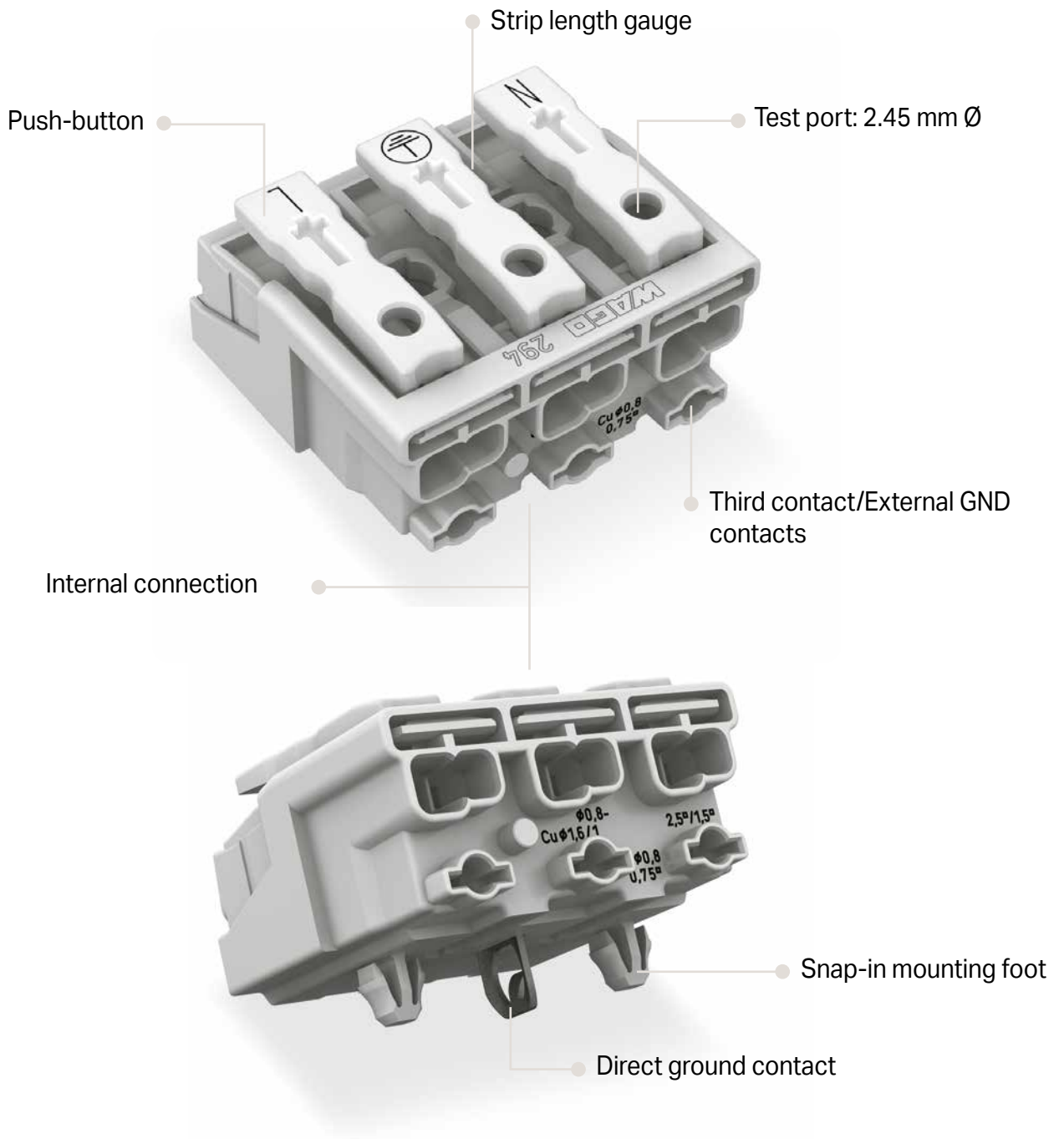
2 x 18 ... 12 AWG; "s"

2 x 18 ... 14 AWG; "st; f-st"

#### JAPAN

2 x Ø 0.8 ... 2.0 mm; "s"

2 x 0.5 ... 2.0 mm<sup>2</sup>; "st; f-st"



## 294 Series with Two Snap-In Mounting Feet



Pole No.	Marking	Item No.	Without GND contact	With direct GND contact	With screw-type GND contact	With snap-in GND contact	With angled snap-in GND contact
2	plain	294-5002	-	-	-	-	-
	N L	294-5012	-	-	-	-	-
	N' L'	294-5022	-	-	-	-	-
	DA- DA+	294-5032	-	-	-	-	-
	- +	294-5072	-	-	-	-	-
	1 N	294-5052	-	-	-	-	-
2 1	294-5042	-	-	-	-	-	
3	plain	294-5003	-	-	-	-	-
	N ⊕ L	294-5013	294-5113	294-5413	294-5213	294-5313	
	N' ⊕ L'	294-5023	294-5123	294-5423	294-5223	294-5323	
	1 ⊕ N	294-5053	294-5153	294-5453	294-5253	294-5353	
	3 2 1	294-5043	-	-	-	-	
	N E L	294-5093/3025-000	-	-	-	-	
4	plain	294-5004	-	-	-	-	
	1/L' 2/L ⊕ N	294-5024	294-5124	294-5424	294-5224	294-5324	
	1 2 ⊕ N	294-5014	294-5114	294-5414	294-5214	294-5314	
	4 3 2 1	294-5044	-	-	-	-	
	1/L' 2/L E N	294-5094/4025-000	-	-	-	-	
5	plain	294-5005	-	-	-	-	
	L3 L2 L1 ⊕ N	294-5015	-	294-5415	294-5215	294-5315	
	L' N' L ⊕ N	294-5025	-	294-5425	294-5225	294-5325	
	DA+ DA- L ⊕ N	294-5035	-	294-5435	294-5235	294-5335	
	DA- N ⊕ L DA+	294-5075	294-5175	294-5475	294-5275	294-5375	
	3 N ⊕ 1 2	294-5055	294-5155	294-5455	294-5255	294-5355	
	5 4 3 2 1	294-5045	-	-	-	-	
	DA+ DA- L E N	294-5095/5025-000	-	-	-	-	
	L3 L2 L1 E N	294-5095/5026-000	-	-	-	-	
	L' N' L E N	294-5095/5027-000	-	-	-	-	

4

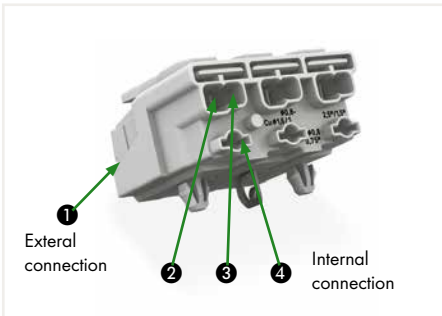
## 294 Series without Snap-In Mounting Feet

Pole No.	Marking					
		Item No.	Item No.	Item No.	Item No.	Item No.
	plain	294-4002	-	-	-	-
	N L	294-4012	-	-	-	-
	N' L'	294-4022	-	-	-	-
	DA- DA+	294-4032	-	-	-	-
	- +	294-4072	-	-	-	-
	1 N	294-4052	-	-	-	-
	2 1	294-4042	-	-	-	-
	plain	294-4003	-	-	-	-
	N ⊕ L	294-4013	-	294-4413	294-4213	294-4313
	N' ⊕ L'	294-4023	-	294-4423	294-4223	294-4323
	1 ⊕ N	294-4053	-	294-4453	294-4253	294-4353
	3 2 1	294-4043	-	-	-	-
	N E L	294-4093/3025-000	-	-	-	-
	-	-	-	-	-	-
	plain	294-4004	-	-	-	-
	1/L' 2/L ⊕ N	294-4024	-	294-4424	294-4224	294-4324
	1 2 ⊕ N	294-4014	-	294-4414	294-4214	294-4314
	4 3 2 1	294-4044	-	-	-	-
	1/L' 2/L E N	294-4094/4025-000	-	-	-	-
	plain	294-4005	-	-	-	-
	L3 L2 L1 ⊕ N	294-4015	-	294-4415	294-4215	294-4315
	L' N' L ⊕ N	294-4025	-	294-4425	294-4225	294-4325
	DA+ DA- L ⊕ N	294-4035	-	294-4435	294-4235	294-4335
	DA- N ⊕ L DA+	294-4075	-	294-4475	294-4275	294-4375
	3 N ⊕ 1 2	294-4055	-	294-4455	294-4255	294-4355
	5 4 3 2 1	294-4045	-	-	-	-
	DA+ DA- L E N	294-4095/5025-000	-	-	-	-
	L3 L2 L1 E N	294-4095/5026-000	-	-	-	-
	L' N' L E N	294-4095/5027-000	-	-	-	-
	plain	294-4006	-	-	-	-
	-	-	-	-	-	-
	plain	294-4007	-	-	-	-
	-	-	-	-	-	-

## Field-Wiring Terminal Blocks 294 Series



- External connection of solid, stranded and fine-stranded conductors
- Universal conductor termination (AWG, metric)
- Third contact located at the bottom of internal connection end
- Strain relief plate can be retrofitted



1  
External  
connection

2 3 4  
Internal  
connection

### Electrical Data

Ratings per	IEC / EN 60998-1	IEC / EN 60998-2-2
Overvoltage category	III	II
Pollution degree	2	2
Rated voltage	500 V	500 V
Rated surge voltage	4 kV	4 kV
Rated current	24 A	24 A
Temperature specification	T85	T85

### Connection Data for External Connection

Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor range (conductor termination ❶)	
Solid, stranded or fine-stranded conductor	2 x 0.5 ... 2.5 mm <sup>2</sup>
Solid, stranded or fine-stranded conductor; with ferrule	2 x 0.5 ... 1.5 mm <sup>2</sup>
Solid conductor (AWG)	2 x 18 ... 12
Fine-stranded and stranded conductor (AWG)	2 x 18 ... 14

### Connection Data for Internal Connection

Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor range (conductor termination ❷)	
Solid conductor	0.5 ... 2.5 mm <sup>2</sup> / 18 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 1.5 mm <sup>2</sup>
Fine-stranded conductor; with insulated ferrule	0.5 ... 1 mm <sup>2</sup>
Conductor range (conductor termination ❸)	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 18 ... 16 AWG
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with insulated ferrule	0.5 ... 0.75 mm <sup>2</sup>
Conductor range (conductor termination ❹)	
Solid conductor	0.5 ... 0.75 mm <sup>2</sup> / 18 AWG

### Material Data

Material group	IIa
Insulation material	Polycarbonate (PC)
Flammability class per UL94	V0
Temperature stability	Relative Temperature Index (RTI) of 120°C
Processing temperature	-5 ... +40 °C
Storage temperature	-35 ... +85 °C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

16 mm-high versions are available upon request.

## Field-Wiring Terminal Block ▶ 2-Pole 294 Series

Without GND contact



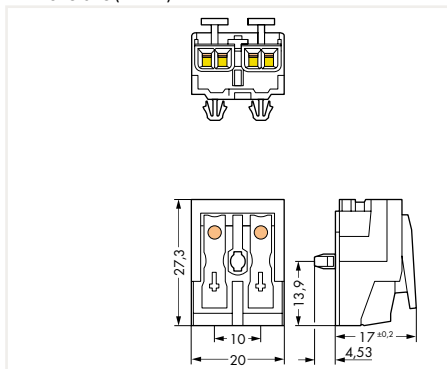
Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
plain	294-5002	1000
N L	294-5012	1000
N' L'	294-5022	1000
DA- DA+	294-5032	1000
- +	294-5072	1000
2 1	294-5042	1000
1 N	294-5052	1000

Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
plain	294-4002	1000
N L	294-4012	1000
N' L'	294-4022	1000
DA- DA+	294-4032	1000
- +	294-4072	1000
2 1	294-4042	1000
1 N	294-4052	1000

Dimensions (in mm):



# Field-Wiring Terminal Block ▶ 3-Pole 294 Series

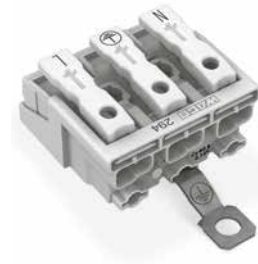
Without GND contact



With direct GND contact



With screw-type GND contact



4

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
plain	294-5003	500
N ⊕ L	294-5013	500
N' ⊕ L'	294-5023	500
1 ⊕ N	294-5053	500
3 2 1	294-5043	500
N E L	294-5093/3025-000	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
N ⊕ L	294-5113	500
N' ⊕ L'	294-5123	500
1 ⊕ N	294-5153	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
N ⊕ L	294-5413	500
N' ⊕ L'	294-5423	500
1 ⊕ N	294-5453	500

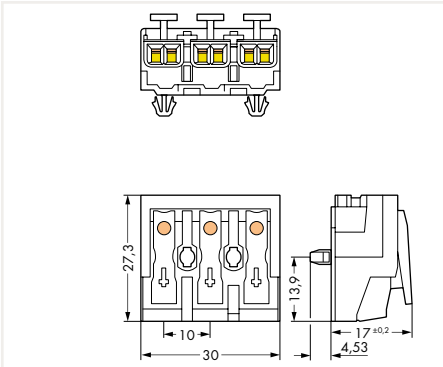
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
plain	294-4003	500
N ⊕ L	294-4013	500
N' ⊕ L'	294-4023	500
1 ⊕ N	294-4053	500
3 2 1	294-4043	500
N E L	294-4093/3025-000	500

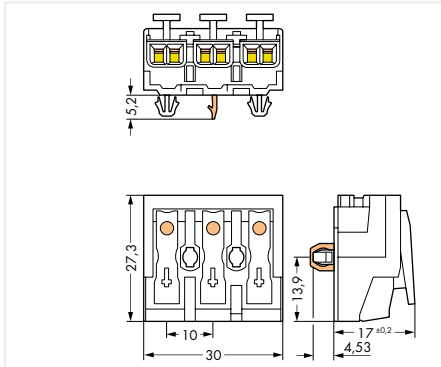
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
N ⊕ L	294-4413	500
N' ⊕ L'	294-4423	500
1 ⊕ N	294-4453	500

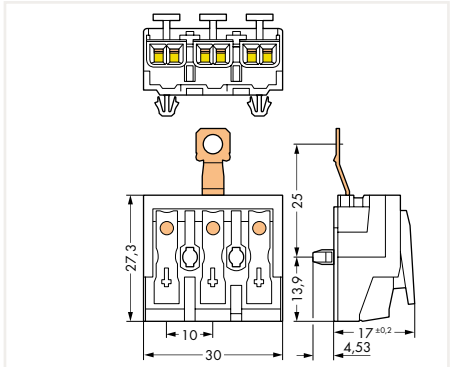
Dimensions (in mm):



Dimensions (in mm):



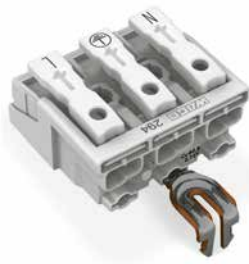
Dimensions (in mm):



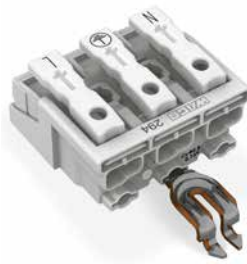


# Field-Wiring Terminal Block ▶ 3-Pole 294 Series

With snap-in GND contact



With angled snap-in GND contact



Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
N ⊕ L	294-5213	500
N' ⊕ L'	294-5223	500
1 ⊕ N	294-5253	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
N ⊕ L	294-5313	500
N' ⊕ L'	294-5323	500
1 ⊕ N	294-5353	500

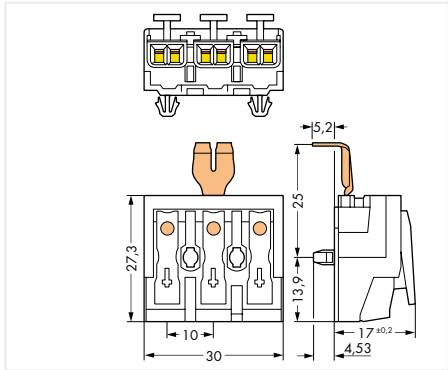
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
N ⊕ L	294-4213	500
N' ⊕ L'	294-4223	500
1 ⊕ N	294-4253	500

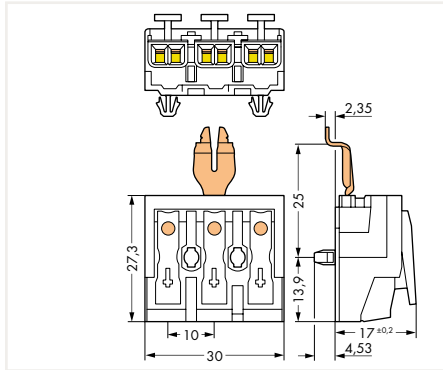
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
N ⊕ L	294-4313	500
N' ⊕ L'	294-4323	500
1 ⊕ N	294-4353	500

Dimensions (in mm):



Dimensions (in mm):



# Field-Wiring Terminal Block ▶ 4-Pole 294 Series

Without GND contact



With direct GND contact



With screw-type GND contact



4

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
plain	294-5004	500
1/L' 2/L ⊕ N	294-5024	500
1 2 ⊕ N	294-5014	500
4 3 2 1	294-5044	500
1/L' 2/L E N	294-5094/4025-000	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-5124	500
1 2 ⊕ N	294-5114	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-5424	500
1 2 ⊕ N	294-5414	500

Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
plain	294-4004	500
1/L' 2/L ⊕ N	294-4024	500
1 2 ⊕ N	294-4014	500
4 3 2 1	294-4044	500
1/L' 2/L E N	294-4094/4025-000	500

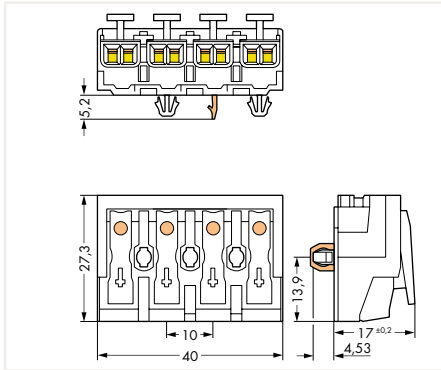
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-4424	500
1 2 ⊕ N	294-4414	500

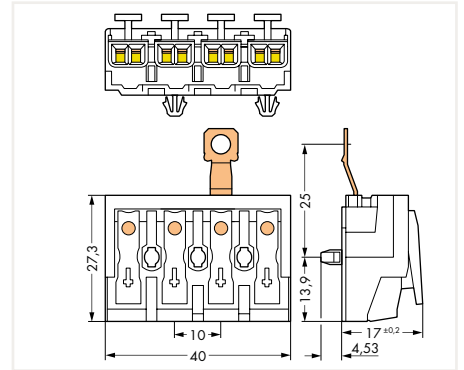
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



# Field-Wiring Terminal Block ▶ 4-Pole 294 Series

With snap-in GND contact



With angled snap-in GND contact



Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-5224	500
1 2 ⊕ N	294-5214	500

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-5324	500
1 2 ⊕ N	294-5314	500

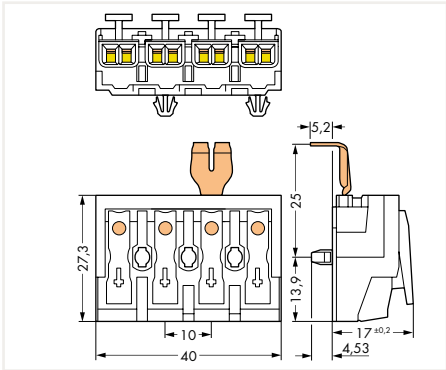
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
1/L' 2/L ⊕ N	294-4224	500
1 2 ⊕ N	294-4214	500

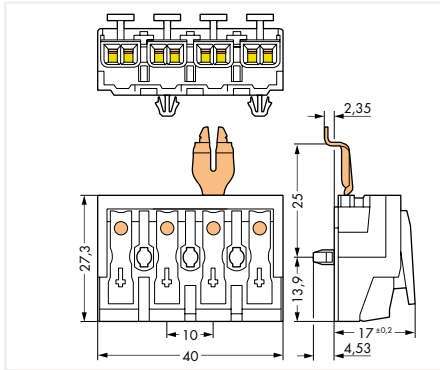
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
N ⊕ L	294-4324	500
N' ⊕ L'	294-4314	500

Dimensions (in mm):



Dimensions (in mm):



# Field-Wiring Terminal Block ▶ 5-Pole 294 Series

Without GND contact



With direct GND contact



With screw-type GND contact



Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
plain	294-5005	250
L3 L2 L1 ⊕ N	294-5015	250
L' N' L ⊕ N	294-5025	250
DA+ DA- L ⊕ N	294-5035	250
DA- N ⊕ L DA+	294-5075	250
3 N ⊕ 1 2	294-5055	250
5 4 3 2 1	294-5045	250
DA+ DA- L E N	294-5095/5025-000	250
L3 L2 L1 E N	294-5095/5026-000	250
L' N' L E N	294-5095/5027-000	250

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
DA- N ⊕ L DA+	294-5175	250
3 N ⊕ 1 2	294-5155	250

Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-5415	250
L' N' L ⊕ N	294-5425	250
DA+ DA- L ⊕ N	294-5435	250
DA- N ⊕ L DA+	294-5475	250
3 N ⊕ 1 2	294-5455	250

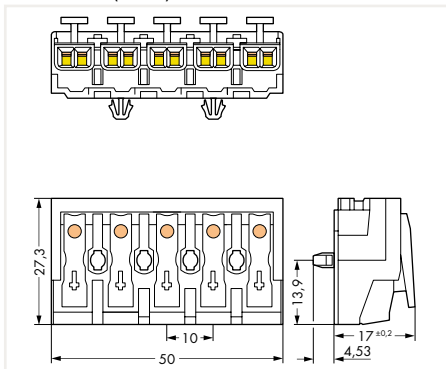
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
plain	294-4005	250
L3 L2 L1 ⊕ N	294-4015	250
L' N' L ⊕ N	294-4025	250
DA+ DA- L ⊕ N	294-4035	250
DA- N ⊕ L DA+	294-4075	250
3 N ⊕ 1 2	294-4055	250
5 4 3 2 1	294-4045	250
DA+ DA- L E N	294-4095/5025-000	250
L3 L2 L1 E N	294-4095/5026-000	250
L' N' L E N	294-4095/5027-000	250

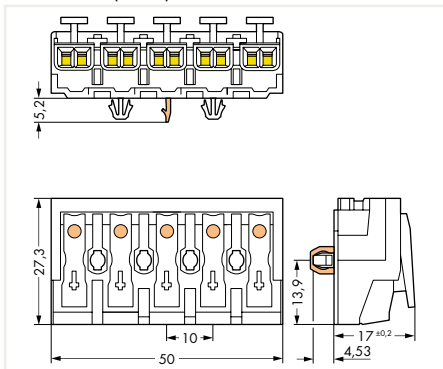
Versions without snap-in mounting feet

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-4415	250
L' N' L ⊕ N	294-4425	250
DA+ DA- L ⊕ N	294-4435	250
DA- N ⊕ L DA+	294-4475	250
3 N ⊕ 1 2	294-4455	250

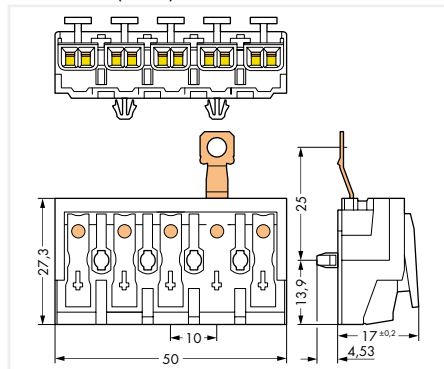
Dimensions (in mm):



Dimensions (in mm):

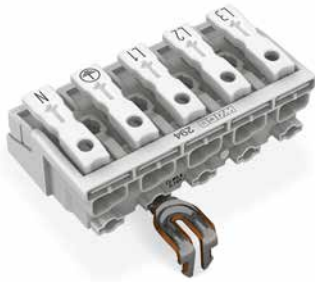


Dimensions (in mm):

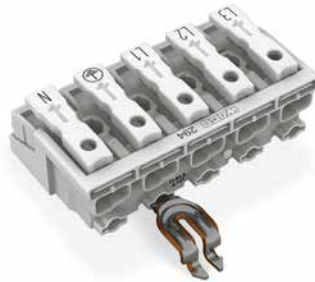


## Field-Wiring Terminal Block ▶ 5-Pole 294 Series

With snap-in GND contact



With angled snap-in GND contact



Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-5215	250
L' N' L ⊕ N	294-5225	250
DA+ DA- L ⊕ N	294-5235	250
DA- N ⊕ L DA+	294-5275	250
3 N ⊕ 1 2	294-5255	250

Versions without snap-in mounting feet:

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-4215	250
L' N' L ⊕ N	294-4225	250
DA+ DA- L ⊕ N	294-4235	250
DA- N ⊕ L DA+	294-4275	250
3 N ⊕ 1 2	294-4255	250

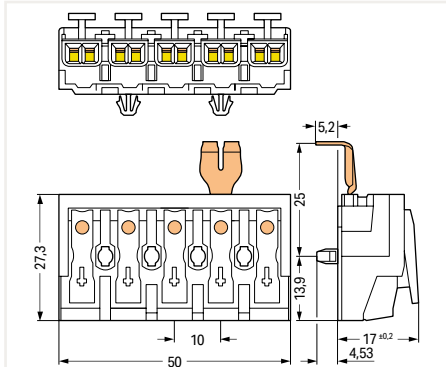
Versions with snap-in mounting feet:

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-5315	250
L' N' L ⊕ N	294-5325	250
DA+ DA- L ⊕ N	294-5335	250
DA- N ⊕ L DA+	294-5375	250
3 N ⊕ 1 2	294-5355	250

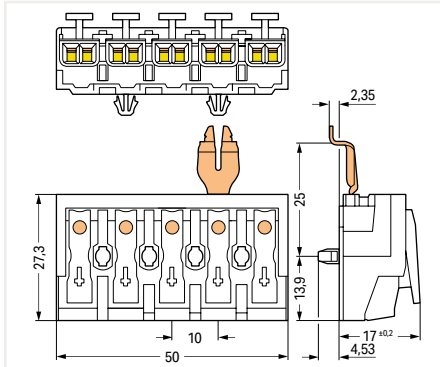
Versions without snap-in mounting feet:

Marking	Item No.	Pack. Unit
L3 L2 L1 ⊕ N	294-4315	250
L' N' L ⊕ N	294-4325	250
DA+ DA- L ⊕ N	294-4335	250
DA- N ⊕ L DA+	294-4375	250
3 N ⊕ 1 2	294-4355	250

Dimensions (in mm):



Dimensions (in mm):



## Field-Wiring Terminal Block ▶ 6- and 7-Pole 294 Series

6-pole; without GND contact

7-pole; without direct GND contact



Versions without snap-in mounting feet

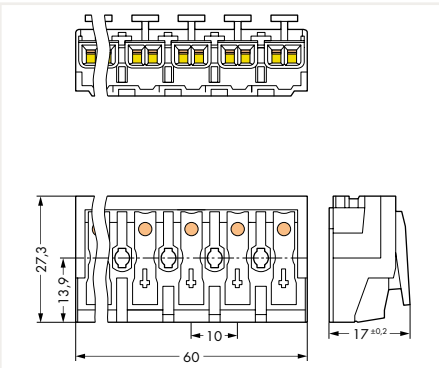
Marking	Item No.	Pack. Unit
plain	294-4006	200

Versions without snap-in mounting feet

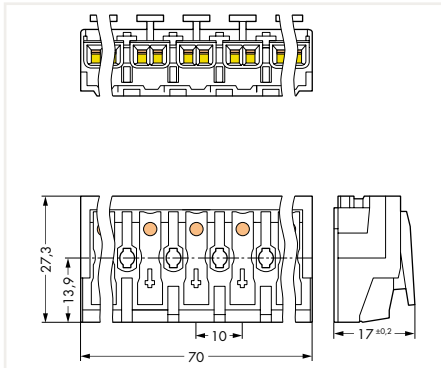
Marking	Item No.	Pack. Unit
plain	294-4007	200

4

Dimensions (in mm):



Dimensions (in mm):



## Accessories 294 Series



Strain relief plate; for multicore cable: 1 x 5.2 ... 12 mm outer diameter		
Color	Item No.	Pack. Unit
○ white	294-364	50

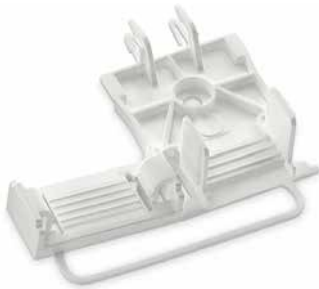


Strain relief; with snap-in mounting feet; for 4.5 ... 12 mm cable diameter		
Color	Item No.	Pack. Unit
○ white	294-370	500



Disconnection tool; removes conductors from PUSH WIRE® connections; for 294 Series		
Item No.	Pack. Unit	
206-294	1	

4

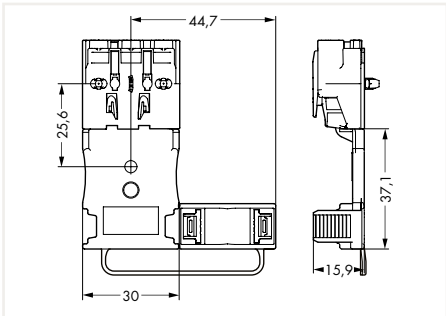


Strain relief plate; for single strands: min. 3 x 0.5 mm <sup>2</sup> , max. 5 x 2.5 mm <sup>2</sup> or 7 x 1.5 mm <sup>2</sup>		
Color	Item No.	Pack. Unit
○ white	294-384	50

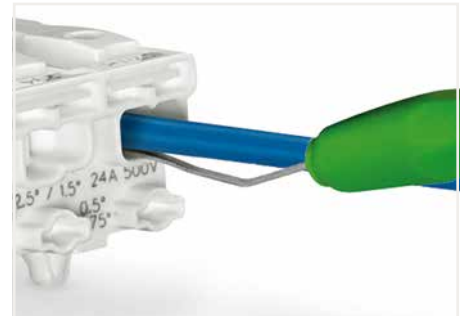
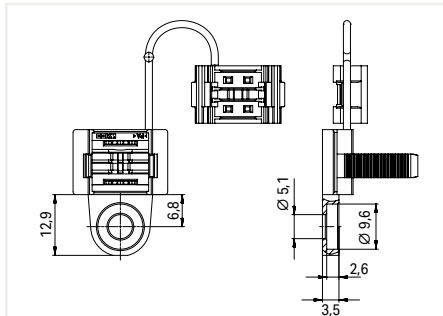


Strain relief; for screw/riev mounting; for 4.5 ... 12 mm cable diameter		
Color	Item No.	Pack. Unit
○ white	294-375	500

Dimensions (in mm):



Dimensions (in mm):

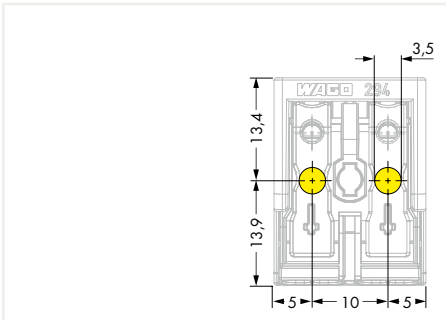


Conductor removal: Slide disconnection tool beneath the conductor and pull conductor out.

# Drilled-Hole Patterns for Snap-In Mounting Feet 294 Series

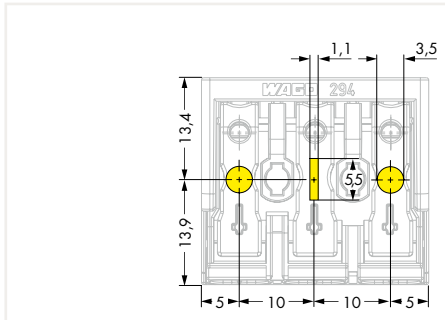
2-pole; without GND contact

Dimensions (in mm):



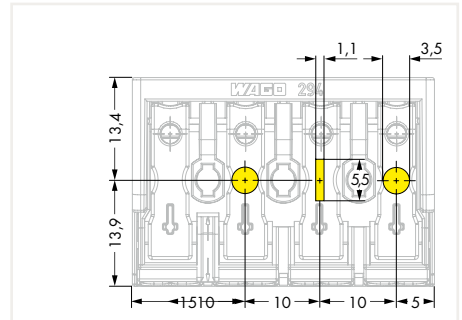
3-pole; with direct GND contact

Dimensions (in mm):



4-pole; with direct GND contact

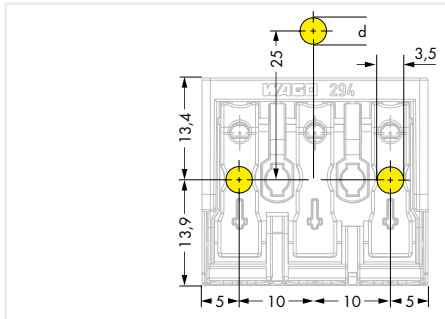
Dimensions (in mm):



4

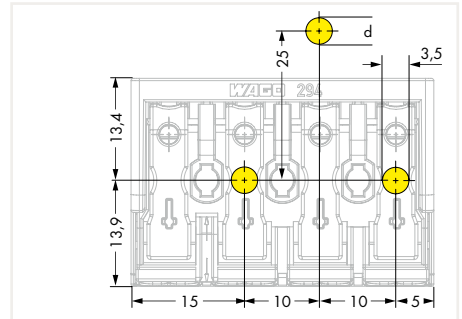
3-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)

Dimensions (in mm):



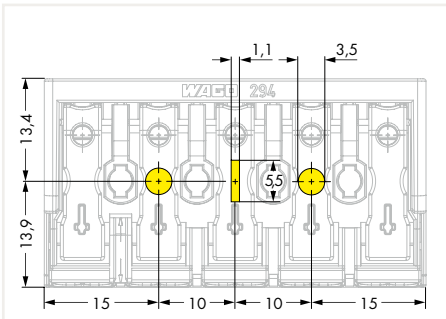
4-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)

Dimensions (in mm):



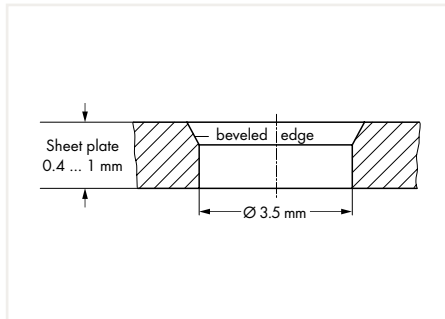
5-pole; with direct GND contact

Dimensions (in mm):



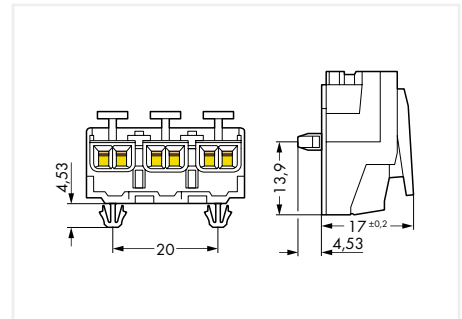
Drilled hole for snap-in mounting foot

Dimensions (in mm):



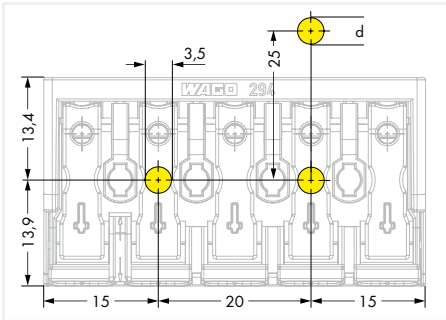
Snap-in mounting foot

Dimensions (in mm):



5-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)

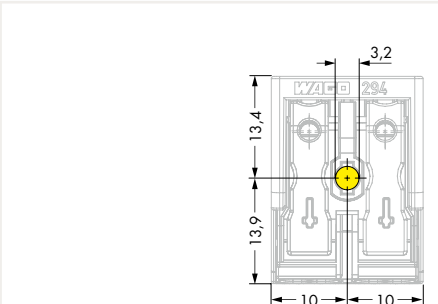
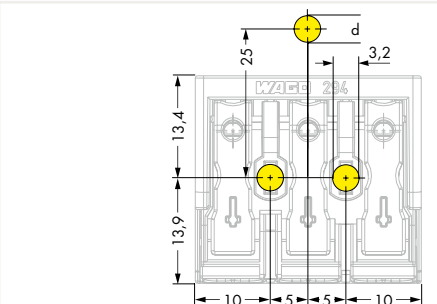
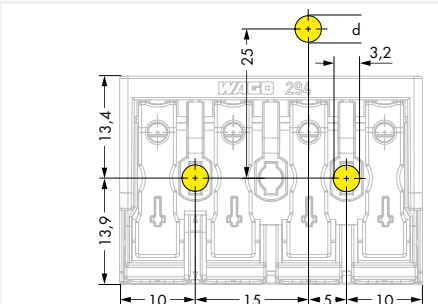
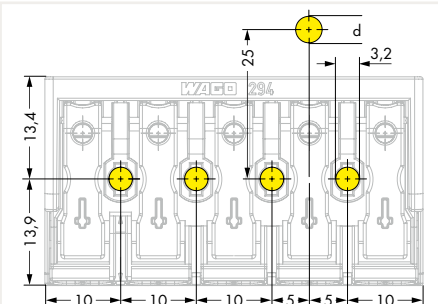
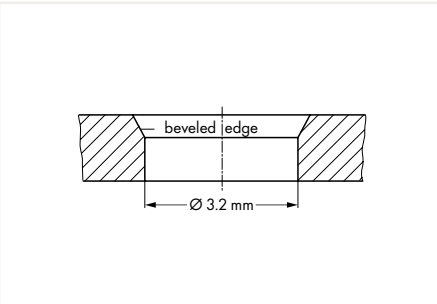
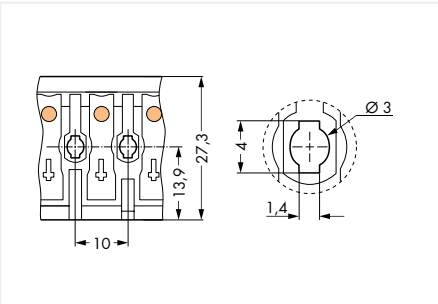
Dimensions (in mm):





# Drilled-Hole Patterns for Screw Mounting

## 294 Series

<p>2-pole; without GND contact</p>	<p>3-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)</p>	<p>4-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)</p>
<p>Dimensions (in mm):</p>  <p>Technical drawing showing a 2-pole terminal block with dimensions: 13.4 mm total height, 13.9 mm height to the center of the first pole, 10 mm pole width, and 3.2 mm pole-to-pole spacing.</p>	<p>Dimensions (in mm):</p>  <p>Technical drawing showing a 3-pole terminal block with dimensions: 13.4 mm total height, 13.9 mm height to the center of the first pole, 10 mm pole width, 5 mm spacing between poles, and 3.2 mm pole-to-pole spacing. A snap-in GND contact (d) is shown at the top.</p>	<p>Dimensions (in mm):</p>  <p>Technical drawing showing a 4-pole terminal block with dimensions: 13.4 mm total height, 13.9 mm height to the center of the first pole, 10 mm pole width, 15 mm spacing between poles, and 3.2 mm pole-to-pole spacing. A snap-in GND contact (d) is shown at the top.</p>
<p>5-pole; with snap-in GND contact (d = 4.9 mm); with screw-type GND contact (d ≤ 4.1 mm)</p>	<p>Hole for screw mount</p>	<p>Mounting hole for screw</p>
<p>Dimensions (in mm):</p>  <p>Technical drawing showing a 5-pole terminal block with dimensions: 13.4 mm total height, 13.9 mm height to the center of the first pole, 10 mm pole width, 5 mm spacing between poles, and 3.2 mm pole-to-pole spacing. A snap-in GND contact (d) is shown at the top.</p>	<p>Dimensions (in mm):</p>  <p>Technical drawing of a hole for screw mounting, showing a beveled edge and a diameter of Ø 3.2 mm.</p>	<p>Dimensions (in mm):</p>  <p>Technical drawing of a mounting hole for a screw, showing a diameter of Ø 3 mm, a height of 4 mm, a total height of 27.3 mm, a width of 10 mm, and a distance of 13.9 mm from the bottom edge to the center of the hole.</p>

4

Notice: The maximum thread diameter for self-tapping screws is 3.0 mm.  
 Drilled-hole patterns at 1:1 scale

# Dividable Terminal Strip 272 Series

Technical Data	
2 x 0.5 ... 1.5 mm <sup>2</sup> "s"	2 x 20 ... 16 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B	300 V, 10 A
I <sub>N</sub> 18 A	300 V
8 ... 9 mm / 0.33 inch	

Technical Data	
2 x 0.5 ... 1.5 mm <sup>2</sup> "s"	2 x 20 ... 16 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B	300 V, 10 A
I <sub>N</sub> 18 A	300 V
8 ... 9 mm / 0.33 inch	

- Dividable terminal strips; with additional push-wire connection for 0.5/0.75 mm<sup>2</sup> H07V-U (NYA) per pole; for screw or screwless mounting (WAGO pins); ground contact, for screw/rievet or snap-in contact (pluggable)
- » \* Gray Terminal Block side
  - » \*\* White Terminal Block side
  - » ① For tool-free mounting
  - » ② For wiring on white Terminal Block side only
  - » ③ Factory-assembled ground contacts; (please indicate position when ordering)



### Accessories

Connecting pin; for plate thickness:			
	1 mm	271-702	1000
	1 mm ①	271-711	1000
	1.5 mm ①	271-712	1000

Push-button; loose; for retrofit	
	271-120 1000

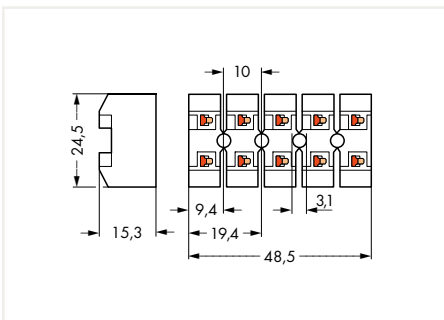
Assembly tool; for Terminal Blocks with GND contact	
	249-100 1

Felt-tip pen; for direct, permanent manual marking	
	210-110 1

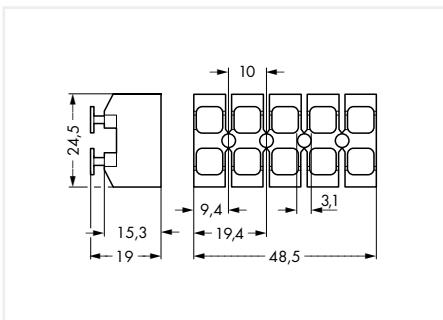
Terminal strip; without push-buttons; white		
Pole No.	Item No.	Pack. Unit
1	272-101	1000
2	272-102	1000
3	272-103	500
4	272-104	500
5	272-105	500
12	272-112	40
With screw-type GND contact ③		
3	272-103/1xx-000	500
4	272-104/1xx-000	500
5	272-105/1xx-000	500
With snap-in GND contact ③		
3	272-103/2xx-000	500
4	272-104/2xx-000	500
5	272-105/2xx-000	500

Terminal strip; with push-buttons on both sides; white		
Pole No.	Item No.	Pack. Unit
1	272-301	500
2	272-302	500
3	272-303	500
4	272-304	500
5	272-305	500
12	272-312	40
With screw-type GND contact ③		
3	272-303/1xx-000	500
4	272-304/1xx-000	500
5	272-305/1xx-000	500
With snap-in GND contact ③		
3	272-303/2xx-000	500
4	272-304/2xx-000	500
5	272-305/2xx-000	500

Dimensions (in mm):



Dimensions (in mm):



# Dividable Terminal Strip 272 Series

### Technical Data

2 x 0.5 ... 1.5 mm <sup>2</sup> "s"	2 x 20 ... 16 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B	300 V, 10 A
I <sub>N</sub> 18 A	300 V
8 ... 9 mm / 0.33 inch	



Terminal strip; with standard marking; without push-buttons; white

Pole No.	Marking	Item No.	Pack. Unit
1	L1, N	272-102/001-000	1000
2	, N, L1	272-103/001-000	1000
3	, N, L1, L2	272-104/001-000	500
4	, N, L1, L2, L3	272-105/001-000	500

Item number examples for a 3-pole terminal strip without push-buttons:

a) Without marking:

Without GND contact 272-103

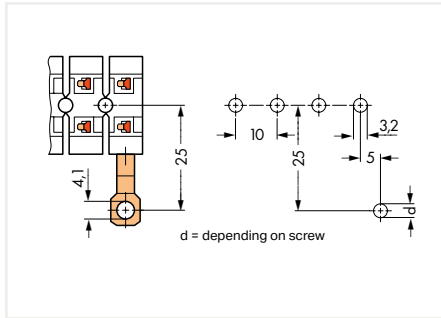
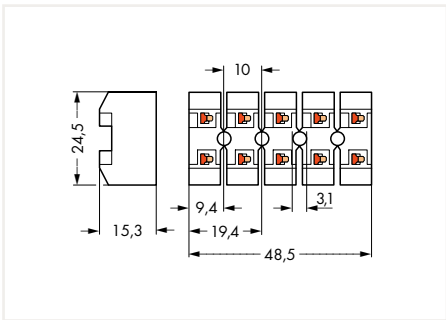
b) With printing ; N; L1:

Without GND contact 272-103/001-000

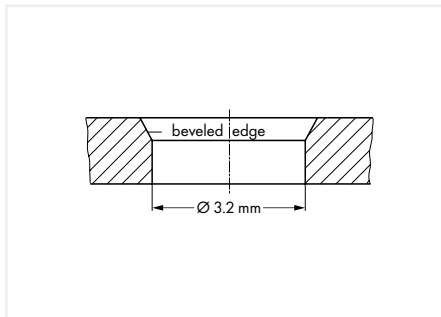
With snap-in GND contact 272-103/201-000

With screw-type GND contact 272-103/101-000

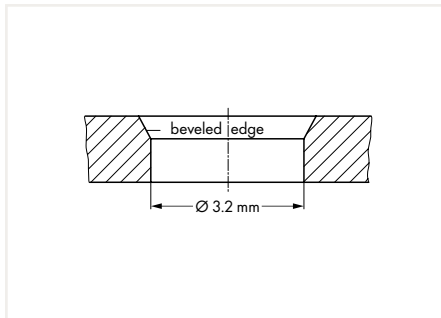
Dimensions (in mm):



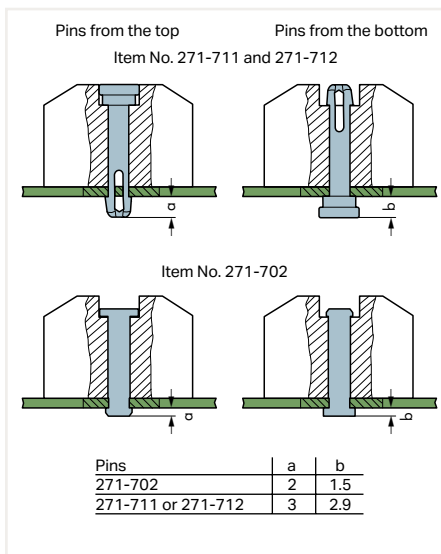
Mounting holes for GND contacts  
(GND contact for screw/rivet mounting)



Mounting holes for GND contacts  
(snap-in GND contact)



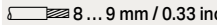
Mounting holes for pins



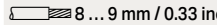
Screwless mounting with pins

# Dividable Terminal Strip 272 Series

### Technical Data

1 x 0.5 ... 0.75 mm <sup>2</sup> "s"	1 x 20 ... 18 AWG sol.*
1 x 0.5 ... 2.5 mm <sup>2</sup> "s"	1 x 20 ... 14 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B; I <sub>N</sub> 18 A	300 V $\overline{\text{VA}}$ ; 300 V $\text{E}$
 8 ... 9 mm / 0.33 inch	

### Technical Data

1 x 0.5 ... 0.75 mm <sup>2</sup> "s"	1 x 20 ... 18 AWG sol.*
1 x 0.5 ... 2.5 mm <sup>2</sup> "s"	1 x 20 ... 14 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B; I <sub>N</sub> 18 A	300 V $\overline{\text{VA}}$ ; 300 V $\text{E}$
 8 ... 9 mm / 0.33 inch	





Dividable terminal strips; with additional push-wire connection for 0.5/0.75 mm<sup>2</sup> H07V-U (NYA) per pole; for screw or screwless mounting (WAGO pins); with snap-in mounting foot for mounting holes 3.5 mm  $\varnothing$ , mounting plate 0.6 ... 1.2 mm thick; ground contact, for screw/rievet or snap-in contact (pluggable)

- \* Gray Terminal Block side
- \*\* White Terminal Block side
- » ❶ Item no. suffix for standard printings: 001-000
- » ❷ For tool-free mounting
- » ❸ Factory-assembled ground contacts; (please indicate position when ordering)

### Accessories

Push-button; loose; for retrofit	271-120	1000
		

Assembly tool; for Terminal Blocks with GND contact	249-100	1
		

Felt-tip pen; for direct, permanent manual marking	210-110	1
		

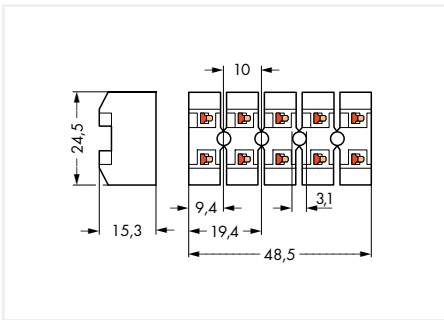
### Terminal strip; without push-buttons; white

Pole No.	Item No.	Pack. Unit
1	272-581	1000
2 ❶	272-582	1000
3 ❶	272-583	500
4 ❶	272-584	500
5 ❶	272-585	500
12	272-592	40
With screw-type GND contact ❸		
3	272-583/1xx-000	500
4	272-584/1xx-000	500
5	272-585/1xx-000	500
With snap-in GND contact ❹		
3	272-583/2xx-000	500
4	272-584/2xx-000	500
5	272-585/2xx-000	500

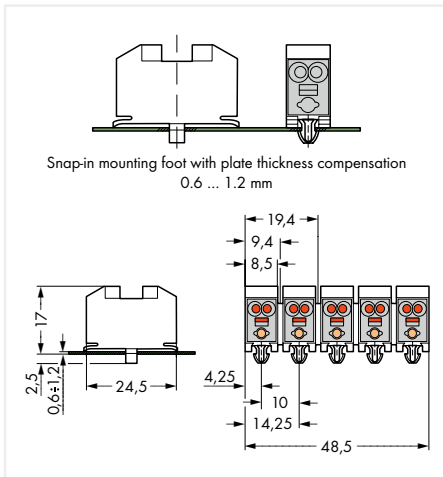
### Terminal strip; with snap-in mounting foot; white

Pole No.	Item No.	Pack. Unit
1	272-681	500
2 ❶	272-682	500
3 ❶	272-683	500
4 ❶	272-684	500
5 ❶	272-685	500
12	272-692	40
With screw-type GND contact ❸		
3	272-683/1xx-000	500
4	272-684/1xx-000	500
5	272-685/1xx-000	500
With snap-in GND contact ❹		
3	272-683/2xx-000	500
4	272-684/2xx-000	500
5	272-685/2xx-000	500




### Dimensions (in mm):



### Dimensions (in mm):



### Item-Specific Accessories

Connecting pin; for plate thickness:			
	1 mm	271-702	1000
	1 mm ❶	271-711	1000
	1.5 mm ❶	271-712	1000

# Dividable Terminal Strip, Compact Terminal Block 272 Series

Technical Data	
2 x 0.5 ... 1.5 mm <sup>2</sup> "s"	2 x 20 ... 16 AWG sol.*
2 x 0.5 ... 2.5 mm <sup>2</sup> "s"	2 x 20 ... 14 AWG sol.**
380 V~, size B	300 V, 10 A
I <sub>N</sub> 18 A	300 V
8 ... 9 mm / 0.33 inch	

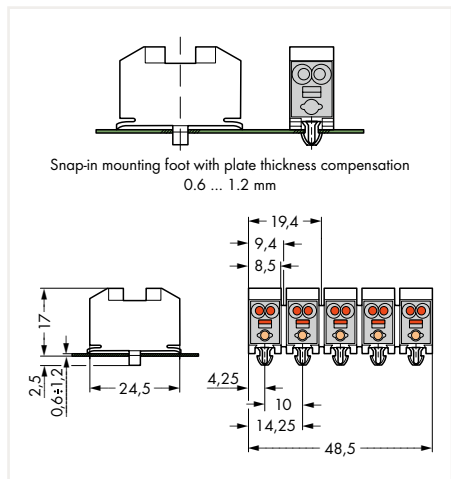
Technical Data	
2 x 0.5 ... 1.5 mm <sup>2</sup> "s"	2 x 20 ... 16 AWG sol.*
380 V~, size B	300 V, 10 A
I <sub>N</sub> 26 A	300 V
8 ... 9 mm / 0.33 inch	



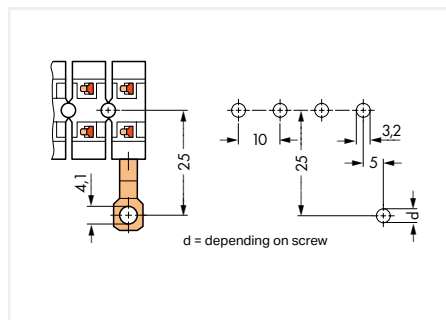
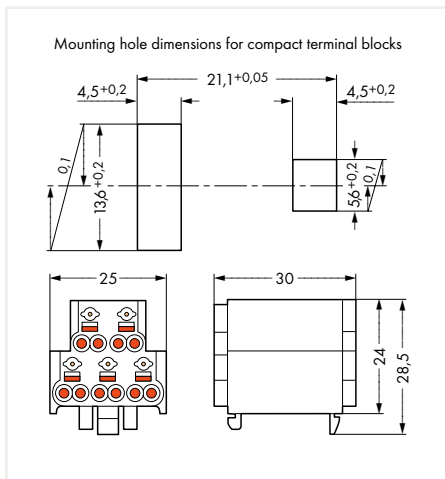
Terminal strip; with snap-in mounting foot; white		
Pole No.	Item No.	Pack. Unit
1	272-131	500
2	272-132	500
3	272-133	500
4	272-134	500
5	272-135	500
12	272-142	40
With screw-type GND contact		
3	272-133/1xx-000	500
4	272-134/1xx-000	500
5	272-135/1xx-000	500
With snap-in GND contact		
3	272-133/2xx-000	500
4	272-134/2xx-000	500
5	272-135/2xx-000	500

Compact Terminal Block; with snap-in mounting feet; white; for cutouts; plate thickness up to 1 mm; with additional push-wire connection for 0.5/0.75 mm <sup>2</sup> H07 V-U (NVA) per pole		
Pole No.	Item No.	Pack. Unit
5	272-122	500
With printing: L1; L2 (upper level); L3; N;  (lower level)		
5	272-122/001-000	500

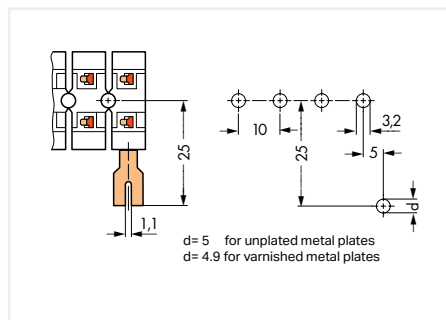
Dimensions (in mm):



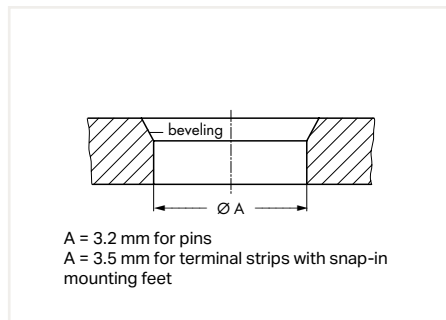
Dimensions (in mm):



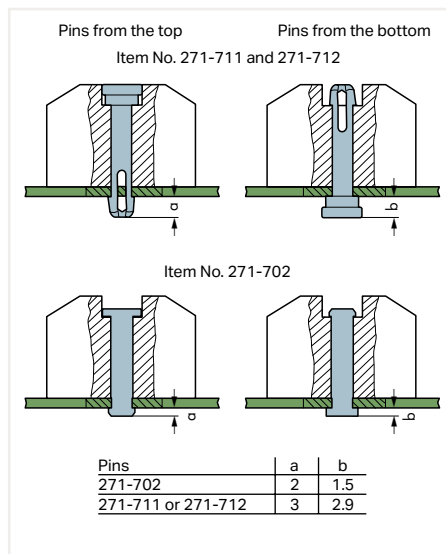
Mounting holes for GND contacts  
(GND contact for screw/riev mounting)



Mounting holes for GND contacts  
(snap-in GND contact)



Mounting holes for pins



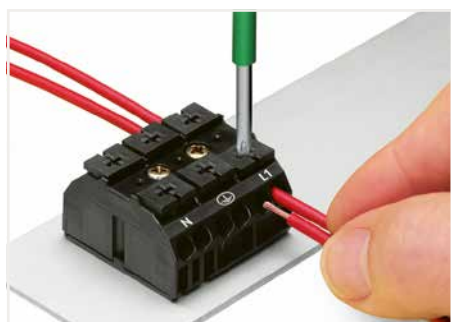
Screwless mounting with pins

4

## 4-Conductor Chassis-Mount Terminal Strips

### Description and Installation

#### 862 Series



Terminating four conductors per pole – solid and fine-stranded.



Marking by direct, one-side printing or marking strips

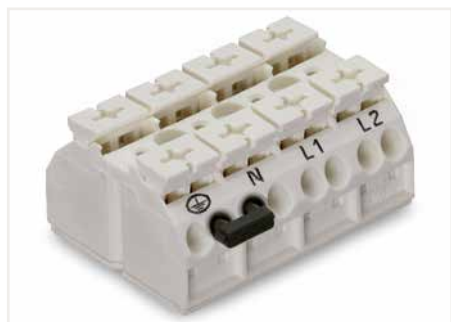


Testing with a 2 mm Ø test plug.

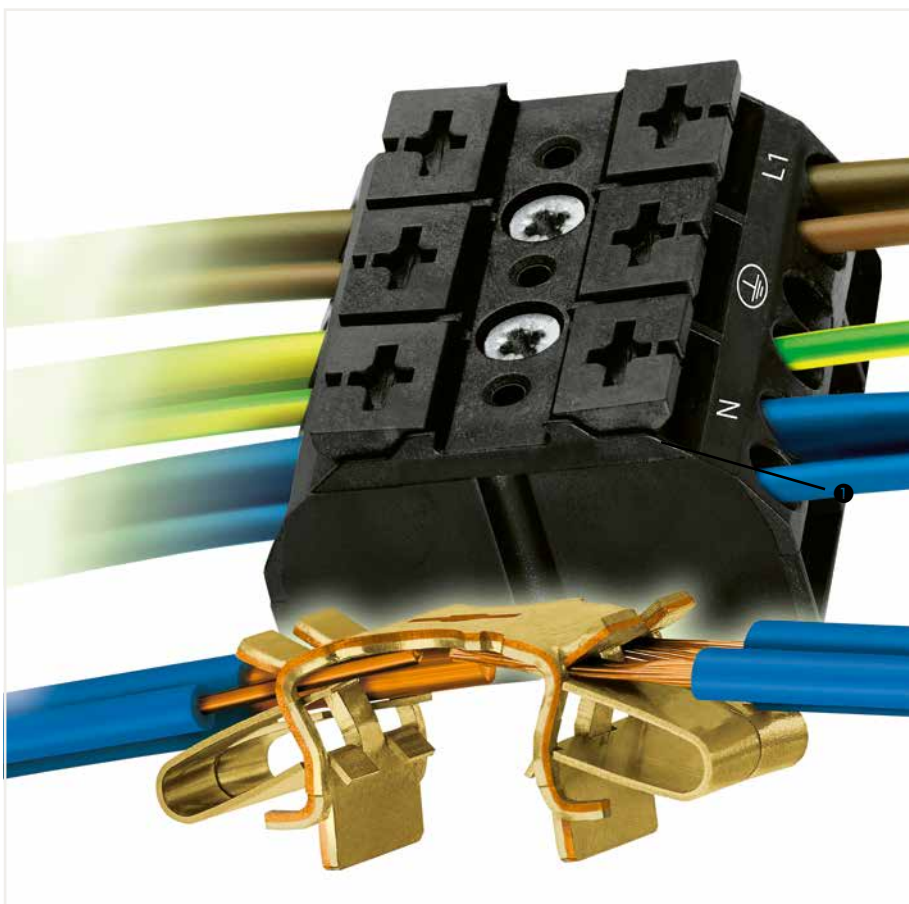
4



Makes an automatic contact to the mounting plate. The plate's varnish is instantly penetrated.



Commoning with comb-style jumper bar.



#### Cost-effective features:

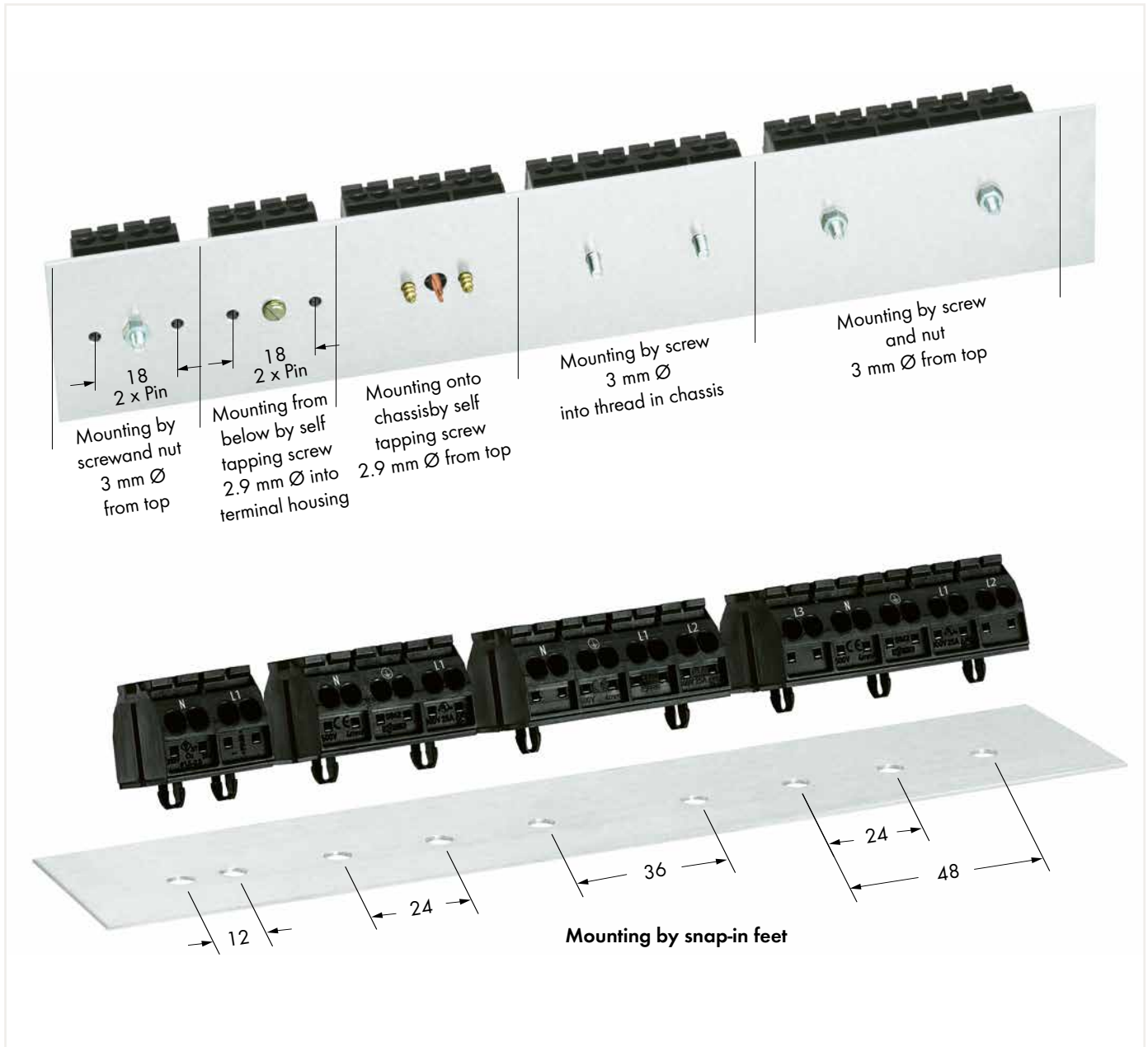
WAGO's 862 Series Chassis-Mount Terminal Strips were developed specifically to minimize wiring costs, while accommodating requirements for flexible mounting, multiple connection points and easy handling:

- Equipped with Push-in CAGE CLAMP®, the 862 Series connects up to four conductors sized 0.5 to 4 mm<sup>2</sup> (20–12 AWG). Due to multiple connection points per pole, different conductor sizes can be used within the same Terminal Block position.
- For factory wiring, Push-in CAGE CLAMP® Connection Technology allows solid conductors, fine-stranded conductors with ferrules or ultrasonically bonded conductors from 0.5 to 4 mm<sup>2</sup> (20–12 AWG) to be terminated by simply pushing them into Unit (length of bonded conductor end: min. 10 mm).
- Convenient automatic grounding contact optional
- Snap-in mounting feet for fast assembly
- Push-buttons for easy installation with an operating tool or by hand
- Built-in test points simplify testing with 2 mm Ø test plug
- Flexible marking options with standard marking (pre-marked), marking strip or custom marked for large orders

# 4-Conductor Chassis-Mount Terminal Strips

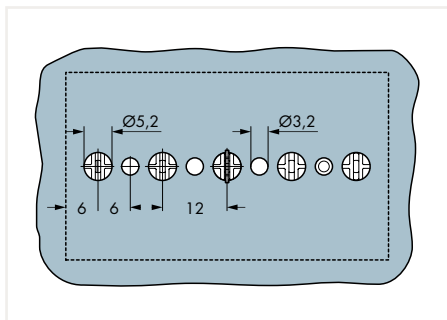
## Mounting Types

### 862 Series

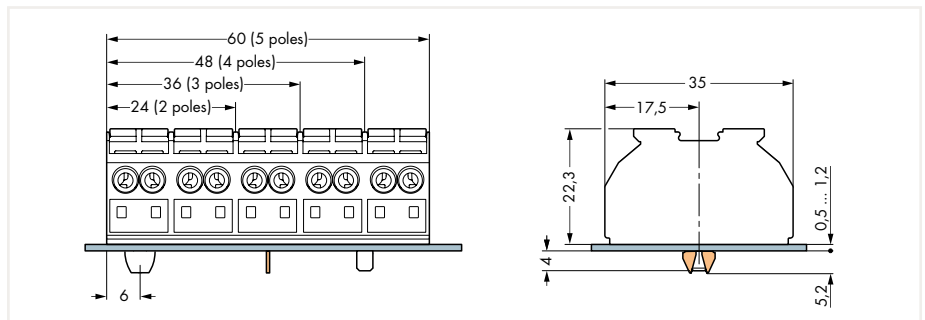


4

Dimensions (in mm):

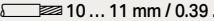
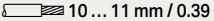


Dimensions (in mm) for GND contact and snap-in mounting foot (Ø 5.2 mm)



Dimensions (in mm) for chassis-mount terminal strips

## 4-Conductor Chassis-Mount Terminal Strip ▶ 2- and 3-Pole ▶ 4 mm<sup>2</sup> 862 Series

Technical Data		Technical Data	
0.5 ... 4 mm <sup>2</sup>	20 ... 12 AWG	0.5 ... 4 mm <sup>2</sup>	20 ... 12 AWG
500 V / 6 kV / 3	300 V, 20 A <sup>VA</sup>	500 V / 6 kV / 3	300 V, 20 A <sup>VA</sup>
I <sub>N</sub> 32 A	300 V, 20 A <sup>CE</sup>	I <sub>N</sub> 32 A	300 V, 20 A <sup>CE</sup>
Module width: 5.2 mm / 0.205 inch		Module width: 5.2 mm / 0.205 inch	
 10 ... 11 mm / 0.39 ... 0.41 inch		 10 ... 11 mm / 0.39 ... 0.41 inch	



4

		2-pole			3-pole		
		Item No.	Item No.	Pack. Unit	Item No.	Item No.	Pack. Unit
For mounting via M3 screw and nut or for 2.9 mm Ø self-tapping screw from top	Without GND contact	● 862-552	○ 862-652	500	● 862-503	○ 862-603	250
	With GND contact	● 862-1552	○ 862-1652	500			
		● 862-2552	○ 862-2652	500			
					● 862-1503	○ 862-1603	250
					● 862-2503	○ 862-2603	250
For mounting via 2.9 mm Ø self-tapping screw from bottom					● 862-8503	○ 862-8603	250
					● 862-9503	○ 862-9603	250
1 snap-in mounting foot per pole		● 862-562	○ 862-662	500			
		● 862-1562	○ 862-1662	500			
		● 862-2562	○ 862-2662	500			
					● 862-533	○ 862-633	250
					● 862-1533	○ 862-1633	250
Snap-in foot at pos. 1+3					● 862-2533	○ 862-2633	250
					● 862-8533	○ 862-8633	250
					● 862-9533	○ 862-9633	250
					● 862-593	○ 862-693	250
					● 862-1593	○ 862-1693	250
				● 862-2593	○ 862-2693	250	
				● 862-8593	○ 862-8693	250	
				● 862-9593	○ 862-9693	250	

### 862 Series Accessories



Comb-style jumper bar; simply push into the conductor entry; I<sub>N</sub> 32 A

Item No.	Pack. Unit
862-482	5



Test plug; with 500 mm cable; 2 mm Ø

Color	Item No.	Pack. Unit
● red	210-136	50



Test plug; with 500 mm cable; 2.3 mm Ø

Color	Item No.	Pack. Unit
● yellow	210-137	50



# 4-Conductor Chassis-Mount Terminal Strip ▶ 4- and 5-Pole ▶ 4 mm<sup>2</sup> 862 Series


Technical Data	
0.5 ... 4 mm <sup>2</sup>	20 ... 12 AWG
500 V / 6 kV / 3	300 V, 20 A
I <sub>N</sub> 32 A	300 V, 20 A
Module width: 5.2 mm / 0.205 inch	
10 ... 11 mm / 0.39 ... 0.41 inch	

Technical Data	
0.5 ... 4 mm <sup>2</sup>	20 ... 12 AWG
500 V / 6 kV / 3	300 V, 20 A
I <sub>N</sub> 32 A	300 V, 20 A
Module width: 5.2 mm / 0.205 inch	
10 ... 11 mm / 0.39 ... 0.41 inch	



4

Without GND contact	With GND contact	4-pole	5-pole
plain		● 862-504	● 862-505
⊕-N-L1-L2		● 862-1504	● 862-1505
N-⊕-L1-L2		● 862-2504	● 862-2505
	N-⊕-L1-L2	● 862-8504	● 862-8505
	⊕-N-L1-L2	● 862-9504	● 862-9505
⊕-N-L1-L2-L3			● 862-1525
L3-N-⊕-L1-L2			● 862-2525
	L3-N-⊕-L1-L2		● 862-8525
	⊕-N-L1-L2-L3		● 862-9525
1 snap-in mounting foot per pole			
plain		● 862-534	● 862-525
⊕-N-L1-L2		● 862-1534	
N-⊕-L1-L2		● 862-2534	
	N-⊕-L1-L2	● 862-8534	
	⊕-N-L1-L2	● 862-9534	
⊕-N-L1-L2-L3			● 862-1525
L3-N-⊕-L1-L2			● 862-2525
	L3-N-⊕-L1-L2		● 862-8525
	⊕-N-L1-L2-L3		● 862-9525
Snap-in foot at pos. 1+4			
plain		● 862-594	
⊕-N-L1-L2		● 862-1594	
N-⊕-L1-L2		● 862-2594	
	N-⊕-L1-L2	● 862-8594	
	⊕-N-L1-L2	● 862-9594	
Snap-in mounting foot at pos. 1+3+5			
plain			● 862-515
⊕-N-L1-L2-L3			● 862-1515
L3-N-⊕-L1-L2			● 862-2515
	L3-N-⊕-L1-L2		● 862-8515
	⊕-N-L1-L2-L3		● 862-9515

Item No.	Item No.	Pack. Unit
○ 862-604		200
○ 862-1604		200
○ 862-2604		200
○ 862-8604		200
○ 862-9604		200
○ 862-634		200
○ 862-1634		200
○ 862-2634		200
○ 862-8634		200
○ 862-9634		200
○ 862-694		200
○ 862-1694		200
○ 862-2694		200
○ 862-8694		200
○ 862-9694		200
○ 862-615		200
○ 862-1615		200
○ 862-2615		200
○ 862-8615		200
○ 862-9615		200

Item No.	Item No.	Pack. Unit
○ 862-605		200
○ 862-1605		200
○ 862-2605		200
○ 862-8605		200
○ 862-9605		200
○ 862-625		200
○ 862-1625		200
○ 862-2625		200
○ 862-8625		200
○ 862-9625		200
○ 862-615		200
○ 862-1615		200
○ 862-2615		200
○ 862-8615		200
○ 862-9615		200

862 Series Accessories



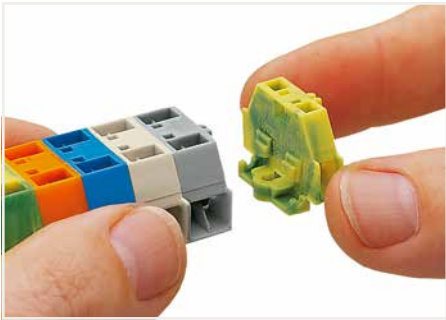
Operating tool with a partially insulated shaft; type 2; (3.5 x 0.5) mm blade	
Item No.	Pack. Unit
210-720	1

Marking strip; plain; 7.5 mm wide; 50 m reel		
Color	Item No.	Pack. Unit
○ white	709-178	1

# Modular Terminal Blocks and Terminal Strips

## 260 to 262 Series

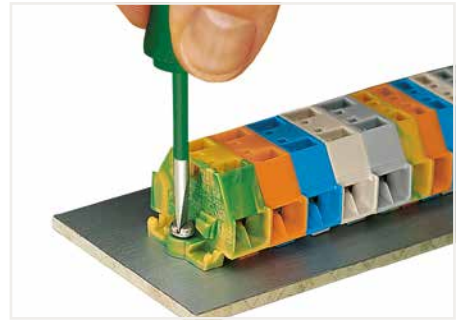
### Description and Installation



Assembling modular Terminal Blocks into terminal strips.



Mounting an end plate.

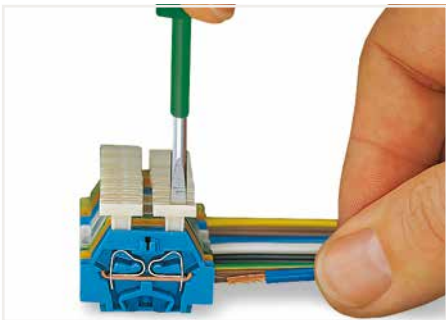


Mounting and securing a terminal strip directly to the plate via screw-type flanges.

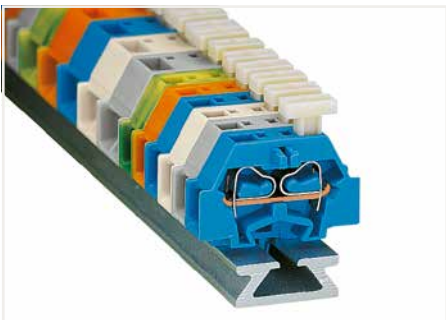
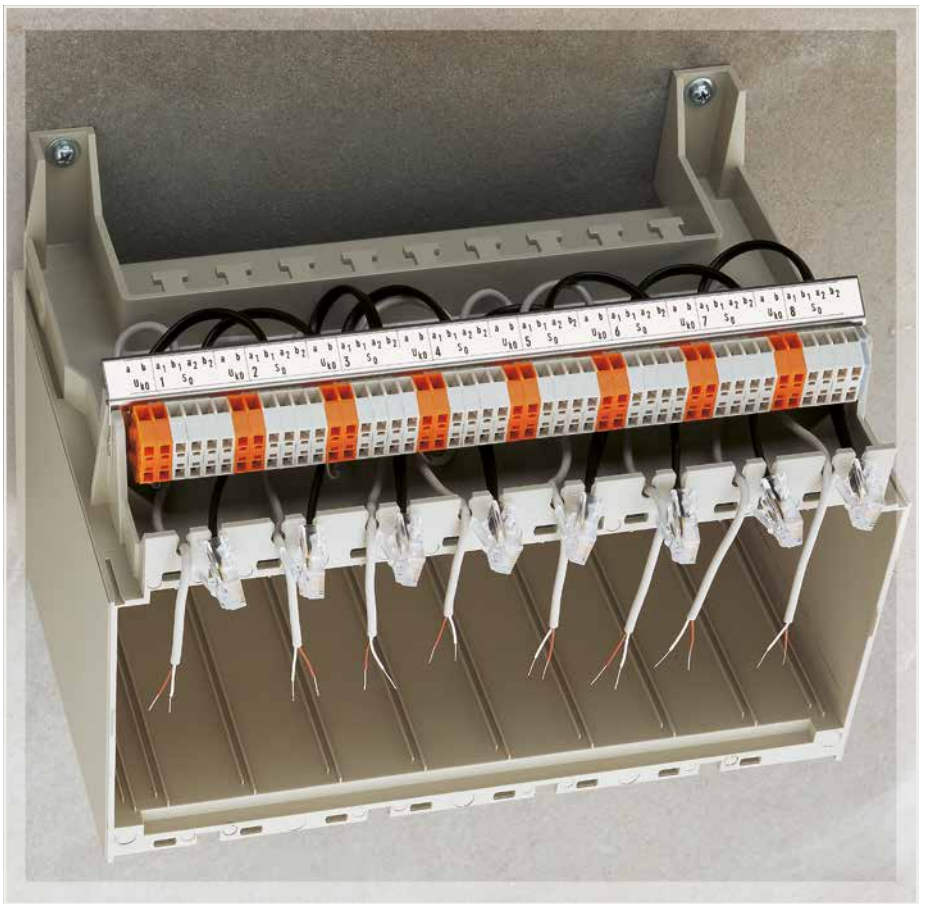
4



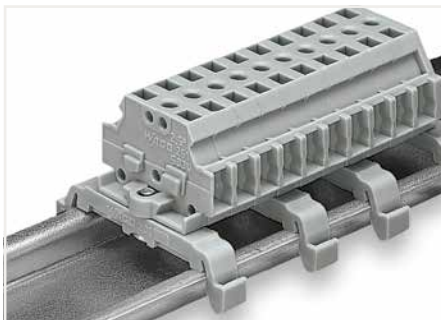
**CAGE CLAMP® termination:**  
Inserting a conductor.  
With ferruled conductors, it is necessary to use a Terminal Block one size smaller than the conductor's nominal cross section.



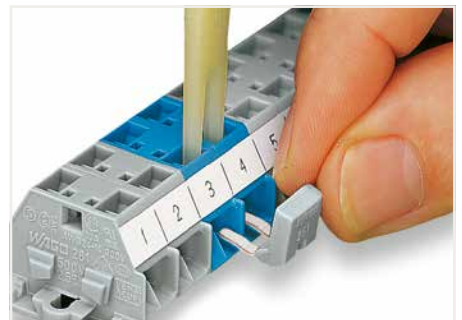
**CAGE CLAMP® termination:**  
Inserting a conductor via push-button.



Terminal strip; with push-buttons on one side



Terminal strip; with marker slot for Mini-WSB Quick Marking System



Commoning with comb-style jumper bar.



**CAGE CLAMP®** terminates the following copper conductors: solid



stranded



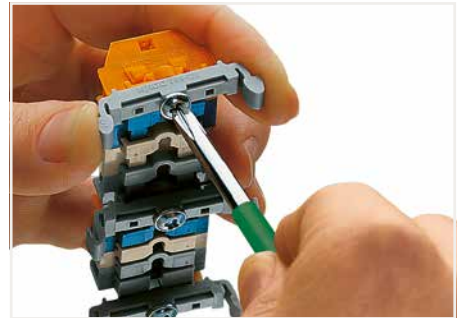
fine-stranded, also with tinned single strands



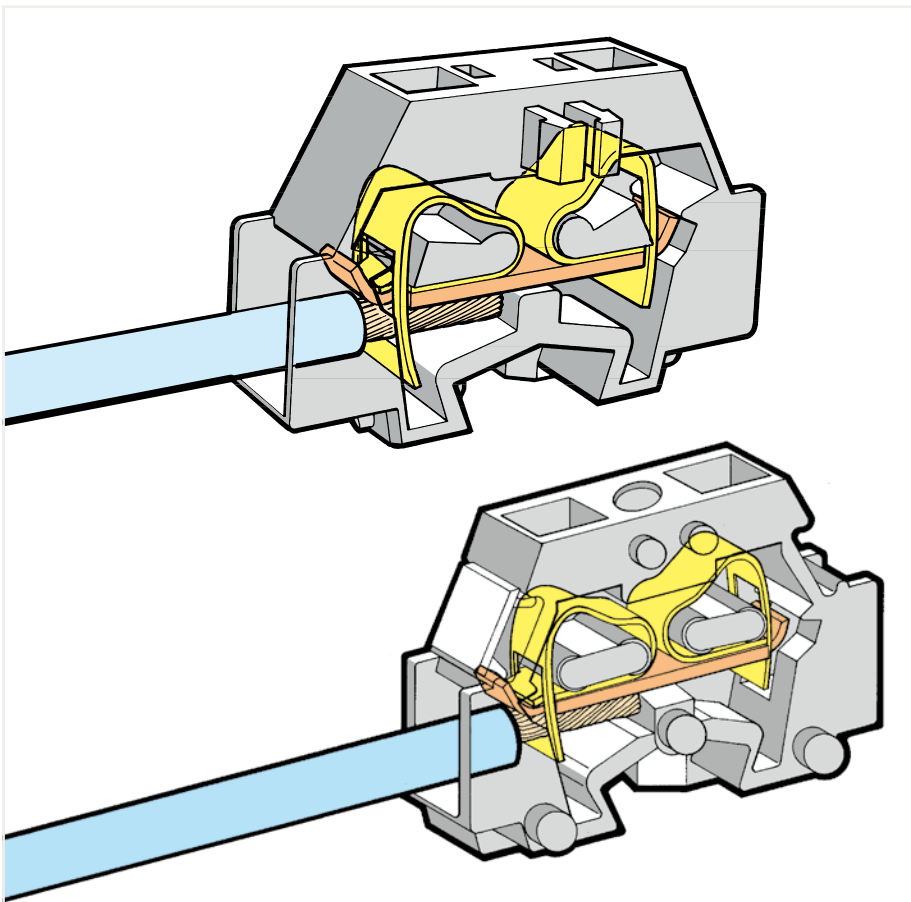
Mounting a terminal strip with snap-in feet into holes.



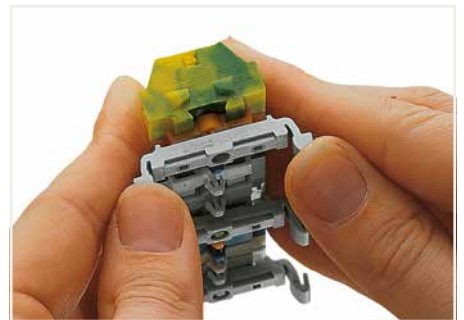
Mounting a terminal strip with snap-in feet onto the aluminum rail.



Mounting and securing a terminal strip directly to the plate via screw-type flanges.  
screwing a mounting foot (209-123)  
(distance between mounting feet: approx. 20 ... 25 mm)



Terminal strip; with mounting flanges; for DIN-35 rail



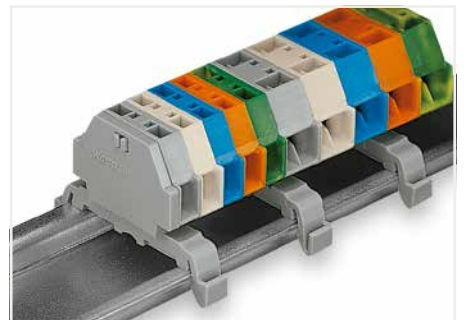
Terminal strip; with snap-in mounting feet; snapping a mounting foot (209-120)  
(distance between mounting feet: approx. 20 ... 25 mm)



Marking with self-adhesive marking strips.



Marking by direct printing (upon request).



Terminal strip; with snap-in mounting feet; for DIN-35 rail



fine-stranded,  
tip-bonded



fine-stranded,  
with ferrule  
(gastight crimped)




fine-stranded,  
with pin terminal  
(gastight crimped)


# Modular Terminal Block ▶ with Mounting Flange or Snap-In Mounting Foot

## 1.5 mm<sup>2</sup> ▶ 260 Series

### Technical Data

0.08 ... 1.5 mm <sup>2</sup> (28 ... 16 AWG)	28 ... 16 AWG
400 V / 6 kV / 3 ①	300 V, 10 A ②
I <sub>N</sub> 18 A	300 V, 15 A ③
Terminal Block width: 5 mm / 0.197 inch	
 8 ... 9 mm / 0.31 ... 0.35 inch	

### Technical Data


0.08 ... 1.5 mm <sup>2</sup> (28 ... 16 AWG)	28 ... 16 AWG
400 V / 6 kV / 3 ①	300 V, 10 A ②
I <sub>N</sub> 18 A	300 V, 15 A ③
Terminal Block width: 8 mm / 0.315 inch	
 8 ... 9 mm / 0.31 ... 0.35 inch	

① 400 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree


Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

### Accessories; 260 Series


Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	red	210-136	50
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Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	yellow	210-137	50
---	--------	---------	----


Aluminum mounting rail; 1000 mm long; 18 mm wide; 7 mm high

		210-154	1
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Plastic end stop; with WSB marker slot; for aluminum rail (210-154); 6 mm wide

		209-122	25
---	--	---------	----


Mounting foot; for DIN-35 rail; snaps onto Terminal Blocks with snap-in mounting foot; 6.4 mm wide

	gray	209-120	25
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Mounting screw; for mounting foot (209-120)

		209-119	500 (50)
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Mounting foot with screw; for DIN-35 rail; can be screwed on Terminal Blocks with mounting flange; 6.4 mm wide

	gray	209-123	25
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Mounting adapter; for DIN-35 rail; can be used as end plate; 6.5 mm wide

	gray	209-137	25
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Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

		210-720	1
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4



2-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
	260-301	300 (50)
	260-303	300 (50)
	260-304	300 (50)
	260-306	300 (50)
	260-307	300 (50)


4-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
	260-331	300 (50)
	260-333	300 (50)
	260-334	300 (50)
	260-336	300 (50)
	260-337	300 (50)


2-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

	260-311	300 (50)
	260-313	300 (50)
	260-314	300 (50)
	260-316	300 (50)
	260-317	300 (50)

4-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

	260-341	300 (50)
	260-343	300 (50)
	260-344	300 (50)
	260-346	300 (50)
	260-347	300 (50)

Space-saving 2-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet


	260-321	300 (50)
	260-323	300 (50)
	260-324	300 (50)
	260-326	300 (50)
	260-327	300 (50)

Space-saving 4-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet


	260-351	300 (50)
	260-353	300 (50)
	260-354	300 (50)
	260-356	300 (50)
	260-357	300 (50)

### Accessories; item-specific

Test plug module; snaps together; 5 mm wide


	gray	249-135	100 (25)
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Test plug module; with locking latches; snaps together; 5 mm wide


	gray	260-404	100 (25)
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### Accessories; item-specific

Test plug module; snaps together; 8 mm wide

	gray	249-138	100 (25)
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Test plug module; with locking latches; snaps together; 8 mm wide


	gray	260-405	100 (25)
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### Accessories; 260 Series


End plate; with mounting flange

	gray	260-361	300 (50)
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End plate; with snap-in mounting foot

	gray	260-371	300 (50)
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Comb-style jumper bar; insulated; reduces maximum conductor size to 1 mm<sup>2</sup>; I<sub>N</sub> 10 A; gray

	2-way	260-402	25
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Operating tool; insulated; for comb-style jumper bar

	2-way	209-132	1
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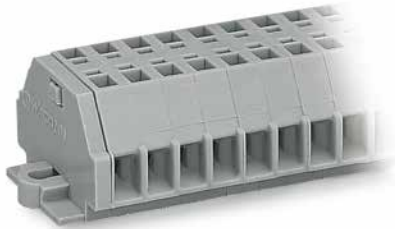
# Terminal Strip ▶ with Mounting Flanges or Snap-in Mounting Feet

## 1.5 mm<sup>2</sup> ▶ 260 Series

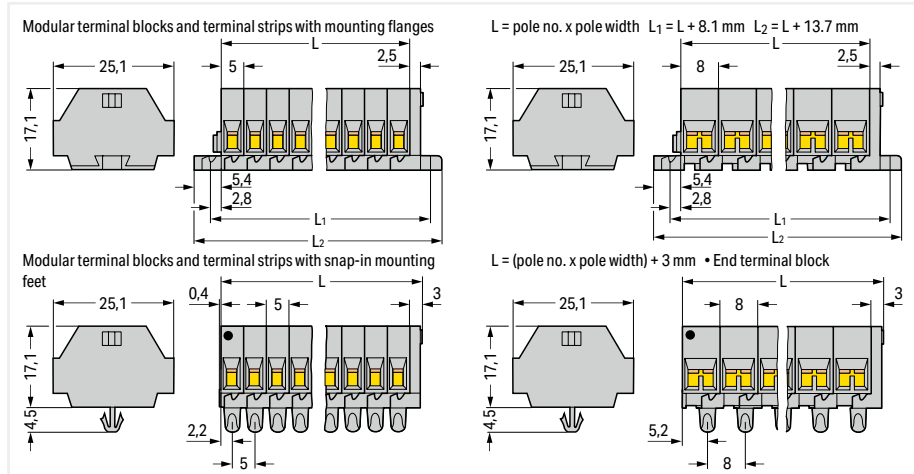
Technical Data	
0.08 ... 1.5 mm <sup>2</sup> (28 ... 16 AWG)	28 ... 16 AWG
400 V / 6 kV / 3 ❶	300 V, 10 A $\mathbb{N}$
I <sub>N</sub> 18 A	300 V, 15 A $\mathbb{C}$
Pole width: 5 mm / 0.197 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

Technical Data	
0.08 ... 1.5 mm <sup>2</sup> (28 ... 16 AWG)	28 ... 16 AWG
400 V / 6 kV / 3 ❶	300 V, 10 A $\mathbb{N}$
I <sub>N</sub> 18 A	300 V, 15 A $\mathbb{C}$
Pole width: 8 mm / 0.315 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

- ❶ 400 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree
  - ❷ Longer strips and/or mixed-color assemblies are available upon request.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



Dimensions in mm



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)



Terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter (also for 210-154 Aluminum Rail or with 209-120 Mounting Foot for DIN-35 rail)

2-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
2	260-102	100
3	260-103	100
4	260-104	100
5	260-105	100
6	260-106	100
7	260-107	100
8	260-108	100
9	260-109	50
10	260-110	50
11	260-111	50
12 ❷	260-112	25

4-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
2	260-202	100
3	260-203	100
4	260-204	100
5	260-205	100
6	260-206	100
7	260-207	100
8	260-208	100
9	260-209	50
10	260-210	50
11	260-211	25
12 ❷	260-212	25

2-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
2	260-152	100
3	260-153	100
4	260-154	100
5	260-155	100
6	260-156	50
7	260-157	50
8	260-158	50
9	260-159	50
10	260-160	25
11	260-161	25
12 ❷	260-162	25

4-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
2	260-252	100
3	260-253	100
4	260-254	100
5	260-255	100
6	260-256	50
7	260-257	50
8	260-258	50
9	260-259	50
10	260-260	25
11	260-261	25
12 ❷	260-262	25

# Modular Terminal Block ▶ with Mounting Flange or Snap-In Mounting Foot 2.5 mm<sup>2</sup> ▶ 261 Series

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ①	300 V, 15 A ②
I <sub>N</sub> 24 A	300 V, 20 A ③
Terminal Block width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ①	300 V, 15 A ②
I <sub>N</sub> 24 A	300 V, 20 A ③
Terminal Block width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

- ① 500 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree
  - ② Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



2-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
○ gray	261-301	200 (50)
○ light gray	261-303	200 (50)
● blue	261-304 ②	200 (50)
● orange	261-306	200 (50)
● green-yellow	261-307	200 (50)

4-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
○ gray	261-331	200 (50)
○ light gray	261-333	200 (50)
● blue	261-334 ②	200 (50)
● orange	261-336	200 (50)
● green-yellow	261-337	200 (50)

**Accessories; 261 Series**

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	red	210-136	50
--	-----	---------	----

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	yellow	210-137	50
--	--------	---------	----

Aluminum mounting rail; 1000 mm long; 18 mm wide; 7 mm high

		210-154	1
--	--	---------	---

Plastic end stop; with WSB marker slot; for aluminum rail (210-154); 6 mm wide

		209-122	25
--	--	---------	----

Mounting foot; for DIN-35 rail; snaps onto Terminal Blocks with snap-in mounting foot; 6.4 mm wide

	gray	209-120	25
--	------	---------	----

Mounting screw; for mounting foot (209-120)

		209-119	500 (50)
--	--	---------	----------

Mounting foot with screw; for DIN-35 rail; can be screwed on Terminal Blocks with mounting flange; 6.4 mm wide

	gray	209-123	25
--	------	---------	----

Mounting adapter; for DIN-35 rail; can be used as end plate; 6.5 mm wide

	gray	209-137	25
--	------	---------	----

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

		210-720	1
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2-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

○ gray	261-311	200 (50)
○ light gray	261-313	200 (50)
● blue	261-314 ②	200 (50)
● orange	261-316	200 (50)
● green-yellow	261-317	200 (50)

4-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

○ gray	261-341	200 (50)
○ light gray	261-343	200 (50)
● blue	261-344 ②	200 (50)
● orange	261-346	200 (50)
● green-yellow	261-347	200 (50)

Space-saving 2-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

○ gray	261-321	200 (50)
○ light gray	261-323	200 (50)
● blue	261-324 ②	200 (50)
● orange	261-326	200 (50)
● green-yellow	261-327	200 (50)

Space-saving 4-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

○ gray	261-351	200 (50)
○ light gray	261-353	200 (50)
● blue	261-354 ②	200 (50)
● orange	261-356	200 (50)
● green-yellow	261-357	200 (50)

**Accessories; item-specific**

Test plug module; snaps together; 6 mm wide

	gray	249-136	100 (25)
--	------	---------	----------

Test plug module; with locking latches; snaps together; 6 mm wide

	gray	261-404	100 (25)
--	------	---------	----------

**Accessories; item-specific**

Test plug module; snaps together; 10 mm wide

	gray	249-139	100 (25)
--	------	---------	----------

Test plug module; with locking latches; snaps together; 10 mm wide

	gray	261-405	100 (25)
--	------	---------	----------

**Accessories; 261 Series**

End plate; with mounting flange

	gray	261-361	300 (50)
--	------	---------	----------

Comb-style jumper bar; insulated; reduces maximum conductor size to 1.5 mm<sup>2</sup>; I<sub>N</sub> 16 A; gray

	2-way	261-402	25
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End plate; with snap-in mounting foot

	gray	261-371	300 (50)
--	------	---------	----------

Operating tool; insulated; for comb-style jumper bar

	2-way	209-132	1
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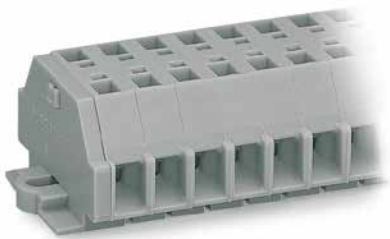
4

# Terminal Strip ▶ with Mounting Flanges or Snap-in Mounting Feet 2.5 mm<sup>2</sup> ▶ 261 Series

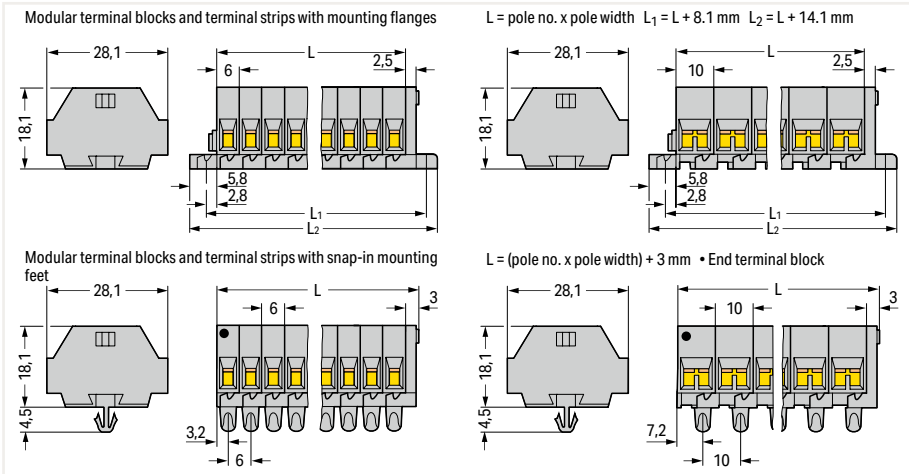
Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ❶	300 V, 15 A ❷
I <sub>N</sub> 24 A	300 V, 20 A ❸
Pole width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ❶	300 V, 15 A ❷
I <sub>N</sub> 24 A	300 V, 20 A ❸
Pole width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

- ❶ 500 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree
  - ❷ Terminal strips with a blue insulated housing are suitable for Ex i applications.  
Item no. suffixes .../000-006 (upon request)
  - ❸ Longer strips and/or mixed-color assemblies are available upon request.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



Dimensions in mm



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)



Terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter (also for 210-154 Aluminum Rail or with 209-120 Mounting Foot for DIN-35 rail)

2-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	261-102	100
○ 3	261-103	100
○ 4	261-104	100
○ 5	261-105	200
○ 6	261-106	50
○ 7	261-107	50
○ 8	261-108	50
○ 9	261-109	50
○ 10	261-110	25
○ 11	261-111	25
○ 12 ❸	261-112	25

4-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	261-202	100
○ 3	261-203	100
○ 4	261-204	100
○ 5	261-205	100
○ 6	261-206	50
○ 7	261-207	50
○ 8	261-208	50
○ 9	261-209	50
○ 10	261-210	25
○ 11	261-211	25
○ 12 ❸	261-212	25

2-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	261-152	100
○ 3	261-153	100
○ 4	261-154	100
○ 5	261-155	100
○ 6	261-156	50
○ 7	261-157	50
○ 8	261-158	50
○ 9	261-159	50
○ 10	261-160	25
○ 11	261-161	25
○ 12 ❸	261-162	25

4-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	261-252	100
○ 3	261-253	100
○ 4	261-254	100
○ 5	261-255	100
○ 6	261-256	50
○ 7	261-257	50
○ 8	261-258	50
○ 9	261-259	50
○ 10	261-260	25
○ 11	261-261	25
○ 12 ❸	261-262	25

# Terminal Strip ▶ with Mounting Flanges ▶ with Marker Slot for Mini-WSB Quick Marking System 2.5 mm<sup>2</sup> ▶ 261 Series

### Technical Data

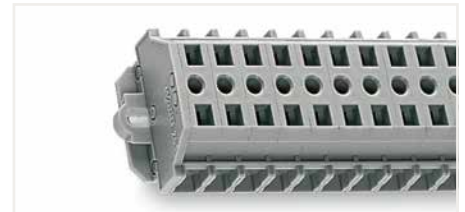
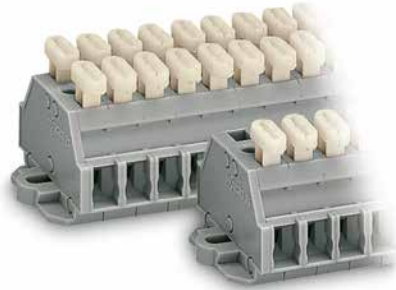
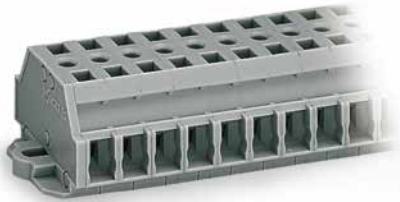
0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ❶	300 V, 15 A ❷
I <sub>N</sub> 24 A	300 V, 20 A ❸
Pole width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

### Technical Data

0.08 ... 2.5 mm <sup>2</sup>	28 ... 14 AWG
500 V / 6 kV / 3 ❶	300 V, 15 A ❷
I <sub>N</sub> 24 A	300 V, 20 A ❸
Pole width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

- ❶ 500 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree
- ❷ Longer strips are available upon request.

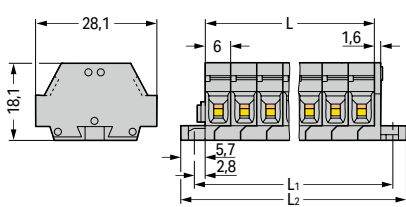
Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



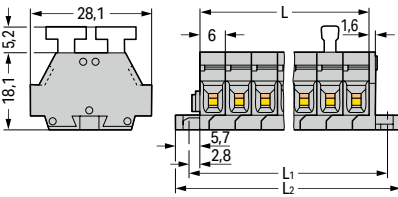
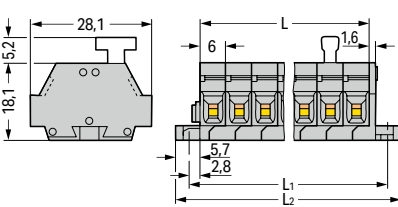
4

Dimensions in mm

Modular terminal blocks and terminal strips with mounting flanges



L = pole no. x pole width L<sub>1</sub> = L + 7.2 mm L<sub>2</sub> = L + 13 mm



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)

2-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	261-422	100
○ 3	261-423	100
○ 4	261-424	100
○ 5	261-425	200
○ 6	261-426	50
○ 7	261-427	50
○ 8	261-428	50
○ 9	261-429	50
○ 10	261-430	25
○ 11	261-431	25
○ 12 ❷	261-432	25

2-conductor terminal strip; with push-buttons on one side; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	261-422/331-000	100
○ 3	261-423/331-000	100
○ 4	261-424/331-000	100
○ 5	261-425/331-000	100
○ 6	261-426/331-000	50
○ 7	261-427/331-000	50
○ 8	261-428/331-000	50
○ 9	261-429/331-000	50
○ 10	261-430/331-000	25
○ 11	261-431/331-000	25
○ 12 ❸	261-432/331-000	25

2-conductor terminal strip; with push-buttons on both sides; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	261-422/341-000	100
○ 3	261-423/341-000	100
○ 4	261-424/341-000	100
○ 5	261-425/341-000	100
○ 6	261-426/341-000	50
○ 7	261-427/341-000	50
○ 8	261-428/341-000	50
○ 9	261-429/341-000	50
○ 10	261-430/341-000	25
○ 11	261-431/341-000	25
○ 12 ❹	261-432/341-000	25



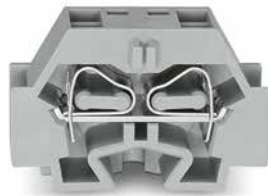
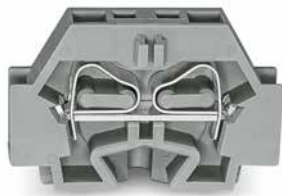
4

# Modular Terminal Block ▶ with Mounting Flange or Snap-In Mounting Foot 4 mm<sup>2</sup> ▶ 262 Series

Technical Data	
0.08 ... 4 mm <sup>2</sup>	28 ... 12 AWG
630 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 24 A	300 V, 20 A ③
Terminal Block width: 7 mm / 0.276 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

Technical Data	
0.08 ... 4 mm <sup>2</sup>	28 ... 12 AWG
630 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 32 A	300 V, 20 A ③
Terminal Block width: 12 mm / 0.472 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

- ① 630 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
  - ② Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



### Accessories; 262 Series

Mounting foot; for DIN-35 rail; snaps onto Terminal Blocks with snap-in mounting foot; 6.4 mm wide

gray	209-120	25
------	---------	----

Mounting screw; for mounting foot (209-120)

209-119	500 (50)
---------	----------

Mounting foot with screw; for DIN-35 rail; can be screwed on Terminal Blocks with mounting flange; 6.4 mm wide

gray	209-123	25
------	---------	----

Mounting adapter; for DIN-35 rail; can be used as end plate; 6.5 mm wide

gray	209-137	25
------	---------	----

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

210-720	1
---------	---

4

2-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
gray	262-301	100 (50)
blue	262-304 ②	100 (50)
orange	262-306	100 (50)
green-yellow	262-307	100 (50)

4-conductor Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
gray	262-331	100 (50)
blue	262-334 ②	100 (50)
orange	262-336	100 (50)
green-yellow	262-337	100 (50)

2-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

gray	262-311	100 (50)
blue	262-314 ②	100 (50)
orange	262-316	100 (50)
green-yellow	262-317	100 (50)

4-conductor Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

gray	262-341	100 (50)
blue	262-344 ②	100 (50)
orange	262-346	100 (50)
green-yellow	262-347	100 (50)

Space-saving 2-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

gray	262-321	100 (50)
blue	262-324 ②	100 (50)
orange	262-326	100 (50)
green-yellow	262-327	100 (50)

Space-saving 4-conductor end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

gray	262-351	100 (50)
blue	262-354 ②	100 (50)
orange	262-356	100 (50)
green-yellow	262-357	100 (50)

### Accessories; item-specific

Test plug module; snaps together; 7 mm wide

gray	249-137	100 (25)
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### Accessories; item-specific

Test plug module; snaps together; 12 mm wide

gray	249-140	100 (25)
------	---------	----------

### Accessories; 262 Series

End plate; with mounting flange

gray	262-361	300 (50)
------	---------	----------

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

red	210-136	50
-----	---------	----

End plate; with snap-in mounting foot

gray	262-371	300 (50)
------	---------	----------

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

yellow	210-137	50
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Comb-style jumper bar; insulated; reduces maximum conductor size to 2.5 mm<sup>2</sup>; I<sub>N</sub> 16 A; gray

2-way	262-402	25
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Aluminum mounting rail; 1000 mm long; 18 mm wide; 7 mm high

210-154	1
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Operating tool; insulated; for comb-style jumper bar

2-way	209-132	1
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Plastic end stop; with WSB marker slot; for aluminum rail (210-154); 6 mm wide

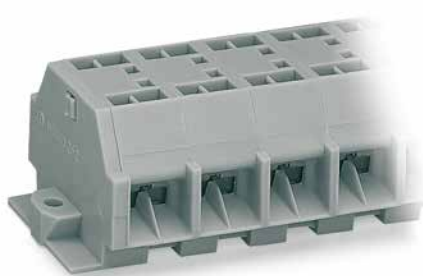
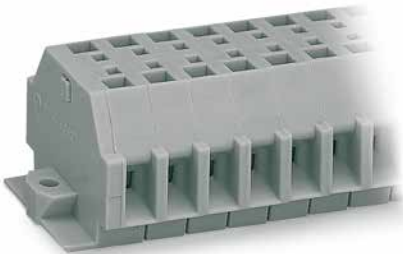
209-122	25
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# Terminal Strip ▶ with Mounting Flanges or Snap-in Mounting Feet 4 mm<sup>2</sup> ▶ 262 Series

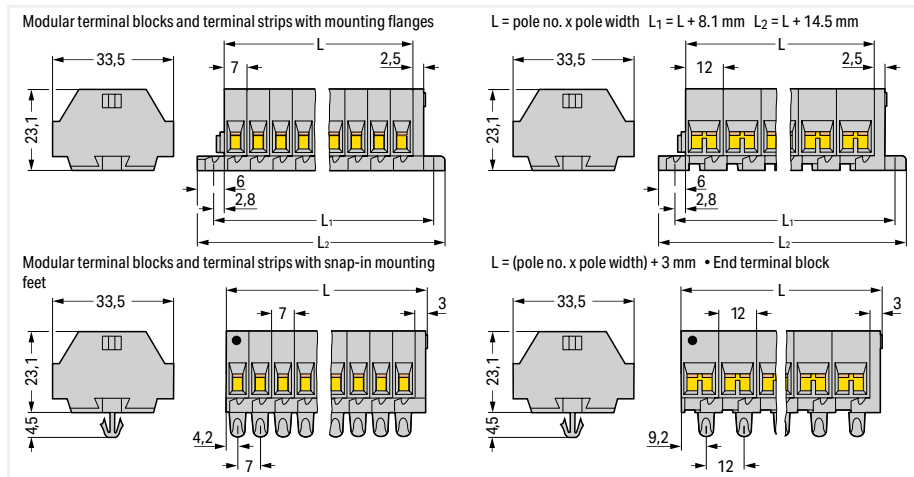
Technical Data	
0.08 ... 4 mm <sup>2</sup>	28 ... 12 AWG
630 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 24 A	300 V, 20 A ❸
Pole width: 7 mm / 0.276 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

Technical Data	
0.08 ... 4 mm <sup>2</sup>	28 ... 12 AWG
630 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 32 A	300 V, 20 A ❸
Pole width: 12 mm / 0.472 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

- ❶ 630 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
  - ❷ Terminal strips with a blue insulated housing are suitable for Ex i applications.  
Item no. suffixes .../000-006 (upon request)
  - ❸ Longer strips and/or mixed-color assemblies are available upon request.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



Dimensions in mm



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)



Terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter (also for 210-154 Aluminum Rail or with 209-120 Mounting Foot for DIN-35 rail)

2-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	262-102	100
○ 3	262-103	100
○ 4	262-104	100
○ 5	262-105	100
○ 6	262-106	100
○ 7	262-107	100
○ 8	262-108	100
○ 9	262-109	50
○ 10	262-110	25
○ 11	262-111	25
○ 12 ❸	262-112	25

4-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	262-202	100
○ 3	262-203	100
○ 4	262-204	100
○ 5	262-205	100
○ 6	262-206	50
○ 7	262-207	50
○ 8	262-208	50
○ 9	262-209	50
○ 10	262-210	25
○ 11	262-211	25
○ 12 ❸	262-212	25

2-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray ❷

Pole No.	Item No.	Pack. Unit
○ 2	262-152	100
○ 3	262-153	100
○ 4	262-154	100
○ 5	262-155	100
○ 6	262-156	50
○ 7	262-157	50
○ 8	262-158	50
○ 9	262-159	50
○ 10	262-160	25
○ 11	262-161	25
○ 12 ❸	262-162	25

4-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray ❷

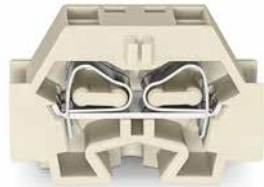
Pole No.	Item No.	Pack. Unit
○ 2	262-252	100
○ 3	262-253	100
○ 4	262-254	100
○ 5	262-255	100
○ 6	262-256	50
○ 7	262-257	50
○ 8	262-258	50
○ 9	262-259	50
○ 10	262-260	25
○ 11	262-261	25
○ 12 ❸	262-262	25

# Modular Ex Terminal Block ▶ with Mounting Flange or Snap-In Mounting Foot 4 mm<sup>2</sup> ▶ 262 Series

Technical Data	
0.5 ... 4 mm <sup>2</sup>	28 ... 12 AWG
550 V	300 V, 20 A
I <sub>N</sub> 23 A	300 V, 20 A
Terminal Block width: 7 mm / 0.276 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

Technical Data	
0.5 ... 4 mm <sup>2</sup>	28 ... 12 AWG
550 V	300 V, 20 A
I <sub>N</sub> 30 A	300 V, 20 A
Terminal Block width: 12 mm / 0.472 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

❶ Using crimped ferrules for corrosion protection, the rated cross section is reduced by one size. For conductor types and conductor preparation, see Section 11 "Electrical Equipment for Hazardous Environments."



4

2-conductor Ex e II Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
light gray	262-130	100 (50)

4-conductor Ex e II Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail

Color	Item No.	Pack. Unit
light gray	262-230	100 (50)

2-conductor Ex e II Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

light gray	262-180	100 (50)
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4-conductor Ex e II Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail

light gray	262-280	100 (50)
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Space-saving 2-conductor Ex e II end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

light gray	262-181	100 (50)
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Space-saving 4-conductor Ex e II end Terminal Block; without protruding snap-in mounting foot; for terminal strips with snap-in mounting feet

light gray	262-281	100 (50)
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### Accessories; 262 Series

End plate; with mounting flange

gray	262-363	50
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Mounting foot; for DIN-35 rail; snaps onto Terminal Blocks with snap-in mounting foot; 6.4 mm wide

gray	209-120	25
------	---------	----

End plate; with snap-in mounting foot

gray	262-373	50
------	---------	----

Mounting screw; for mounting foot (209-120)

gray	209-119	500 (50)
------	---------	----------

Comb-style jumper bar; insulated; reduces maximum conductor size to 2.5 mm<sup>2</sup>; I<sub>N</sub> 16 A; gray

2-way	262-402	25
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Mounting foot with screw; for DIN-35 rail; can be screwed on Terminal Blocks with mounting flange; 6.4 mm wide

gray	209-123	25
------	---------	----

Operating tool; insulated; for comb-style jumper bar

2-way	209-132	1
-------	---------	---

Mounting adapter; for DIN-35 rail; can be used as end plate; 6.5 mm wide

gray	209-137	25
------	---------	----

Aluminum mounting rail; 1000 mm long; 18 mm wide; 7 mm high

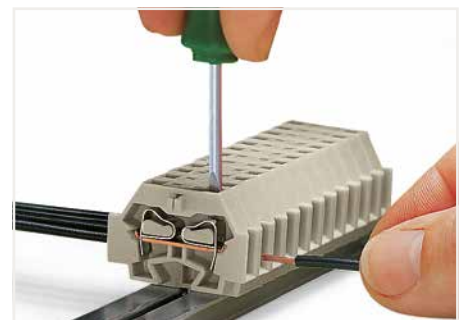
210-154	1
---------	---

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade

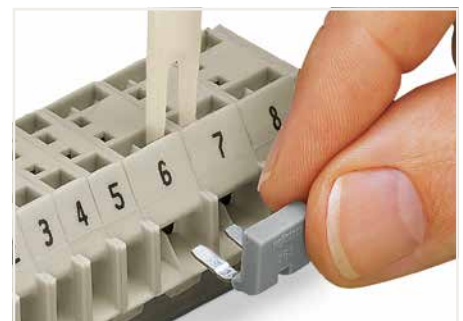
210-720	1
---------	---

Plastic end stop; with WSB marker slot; for aluminum rail (210-154); 6 mm wide

209-122	25
---------	----



CAGE CLAMP® termination: Inserting a conductor.



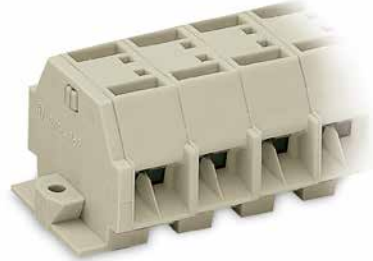
Commoning with comb-style jumper bar.

# Ex Terminal Strip ▶ with Mounting Flanges or Snap-in Mounting Feet 4 mm<sup>2</sup> ▶ 262 Series

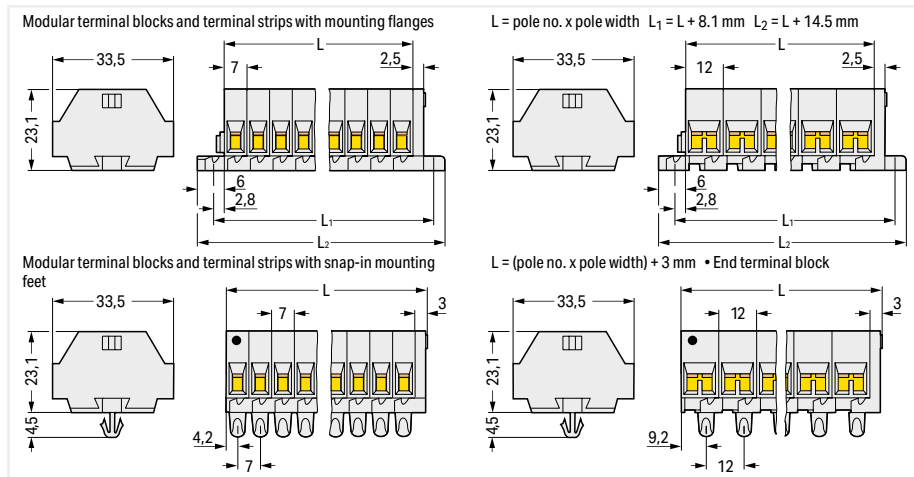
Technical Data	
0.5 ... 4 mm <sup>2</sup>	28 ... 12 AWG
550 V	300 V, 20 A <b>VA</b>
I <sub>N</sub> 23 A	300 V, 20 A <b>AE</b>
Pole width: 7 mm / 0.276 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

Technical Data	
0.5 ... 4 mm <sup>2</sup>	28 ... 12 AWG
550 V	300 V, 20 A <b>VA</b>
I <sub>N</sub> 30 A	300 V, 20 A <b>AE</b>
Pole width: 12 mm / 0.472 inch	
9 ... 10 mm / 0.35 ... 0.39 inch	

① Using crimped ferrules for corrosion protection, the rated cross section is reduced by one size. For conductor types and conductor preparation, see Section 11 "Electrical Equipment for Hazardous Environments."



Dimensions in mm



Terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter (with 209-123 Mounting Foot for DIN-35 rail)



Terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter (also for 210-154 Aluminum Rail or with 209-120 Mounting Foot for DIN-35 rail)

2-conductor Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	262-132	100
○ 3	262-133	100
○ 4	262-134	100
○ 5	262-135	100
○ 6	262-136	100
○ 7	262-137	50
○ 8	262-138	50
○ 9	262-139	50
○ 10	262-140	25
○ 11	262-141	25
○ 12 ②	262-142	25

4-conductor Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; with mounting foot (209-123) also for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	262-232	100
○ 3	262-233	100
○ 4	262-234	100
○ 5	262-235	100
○ 6	262-236	50
○ 7	262-237	50
○ 8	262-238	50
○ 9	262-239	50
○ 10	262-240	25
○ 11	262-241	25
○ 12 ②	262-242	25

2-conductor Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	262-182	100
○ 3	262-183	100
○ 4	262-184	100
○ 5	262-185	100
○ 6	262-186	50
○ 7	262-187	50
○ 8	262-188	50
○ 9	262-189	50
○ 10	262-190	25
○ 11	262-191	25
○ 12 ②	262-192	25

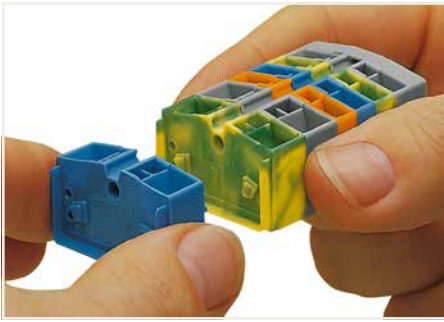
4-conductor Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; also for aluminum rail (210-154) or with mounting foot (209-120) for DIN-35 rail; gray

Pole No.	Item No.	Pack. Unit
○ 2	262-282	100
○ 3	262-283	100
○ 4	262-284	100
○ 5	262-285	100
○ 6	262-286	50
○ 7	262-287	50
○ 8	262-288	50
○ 9	262-289	50
○ 10	262-290	25
○ 11	262-291	25
○ 12 ②	262-292	25

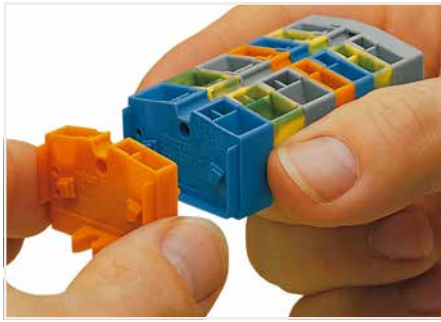
# Modular Terminal Blocks and Terminal Strips

## 264 Series

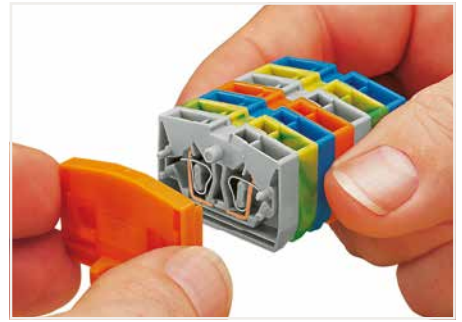
### Description and Installation



Assembling modular Terminal Blocks into terminal strips.



Mounting an "end Terminal Block" with mounting flange.

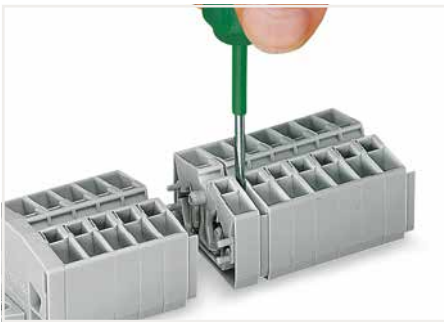


Mounting an end plate.

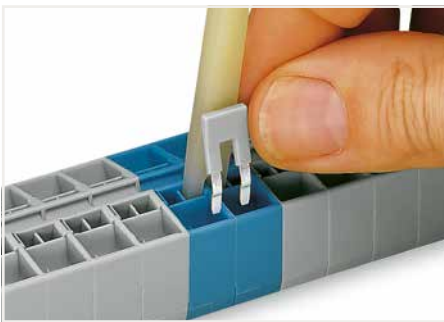
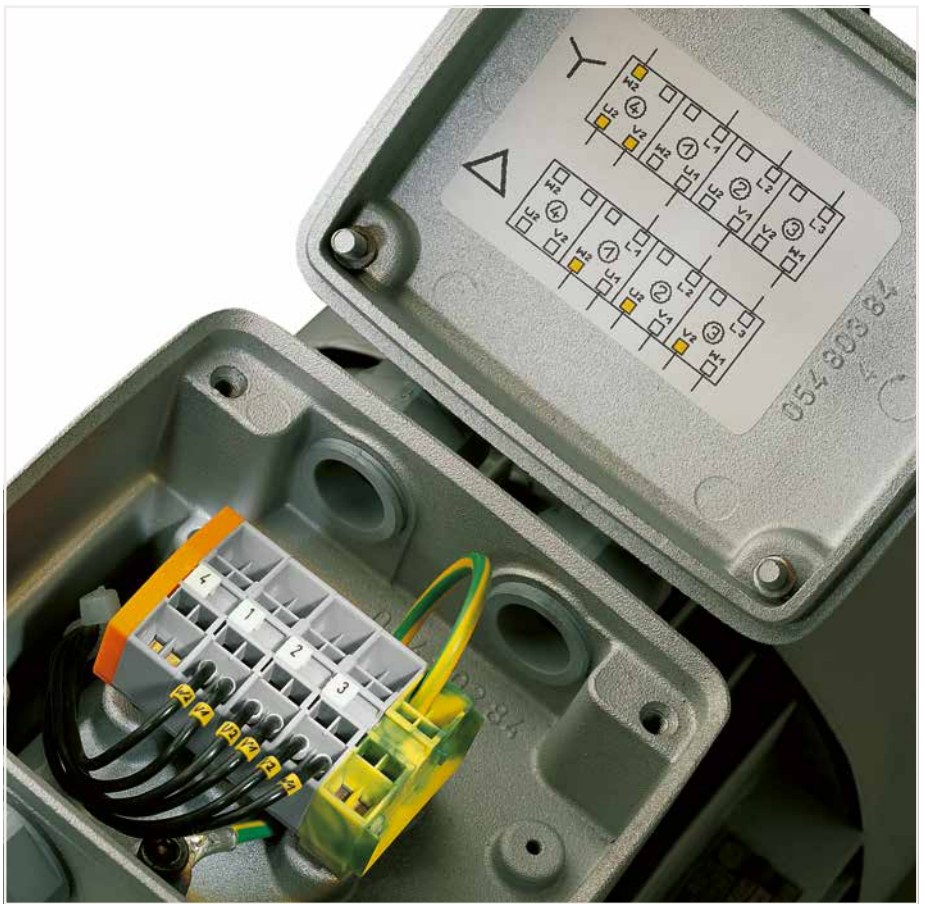
4



**CAGE CLAMP® termination:**  
Inserting a conductor.  
With ferruled conductors, it is necessary to use a Terminal Block one size smaller than the conductor's nominal cross section.



Removing a Terminal Block.



Commoning with comb-style jumper bar.



Marking with T-marker tag (209-290).



Combining 2- and 4-conductor Terminal Blocks.  
Marking via Mini-WSB Quick Marking System.



CAGE CLAMP® terminates the following copper conductors:  
solid



stranded

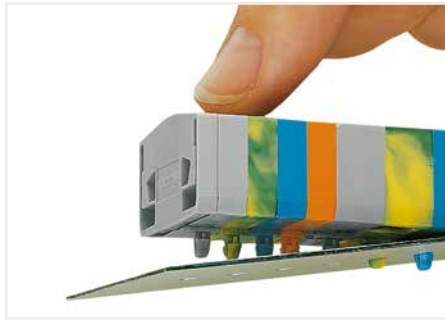


fine-stranded,  
also with tinned  
single strands

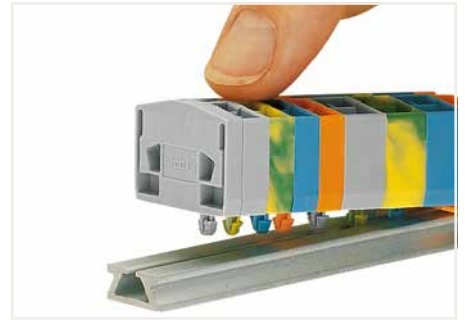
**CAGE CLAMP®**



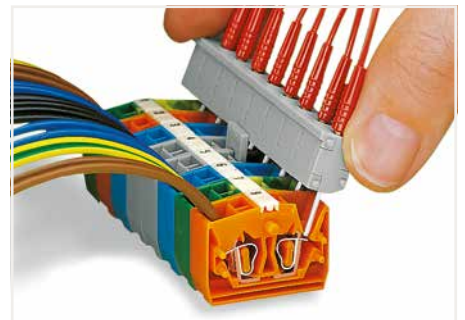
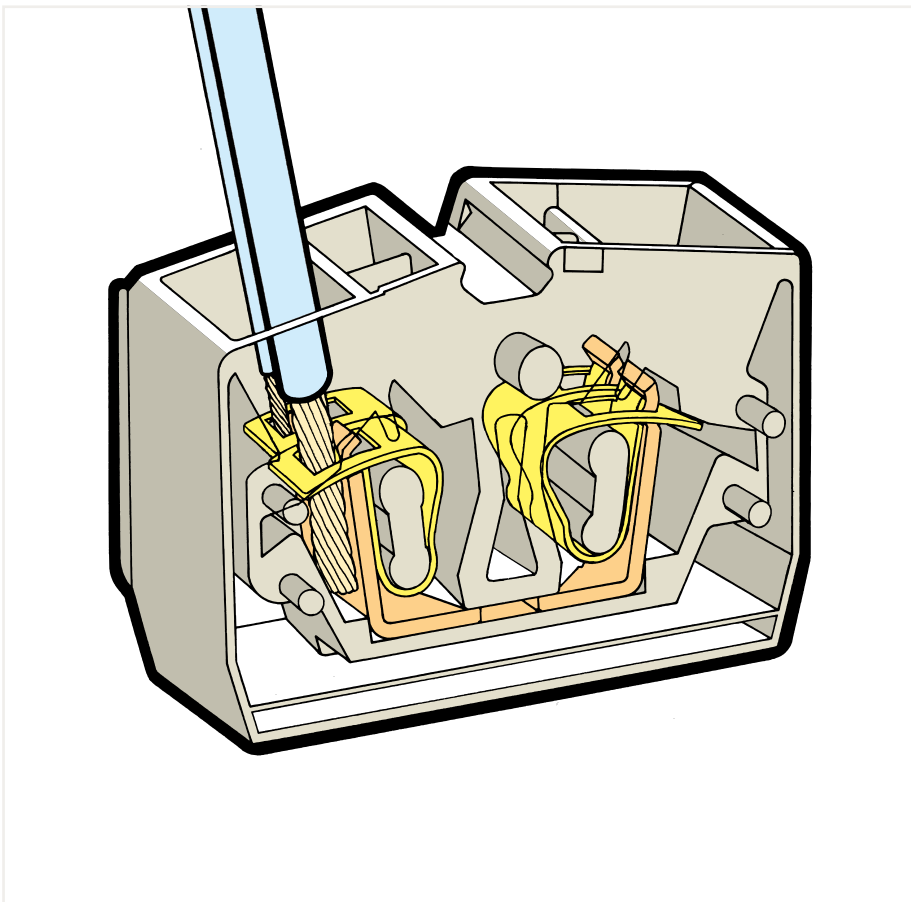
Mounting and securing a terminal strip directly to the plate via screw-type flanges.



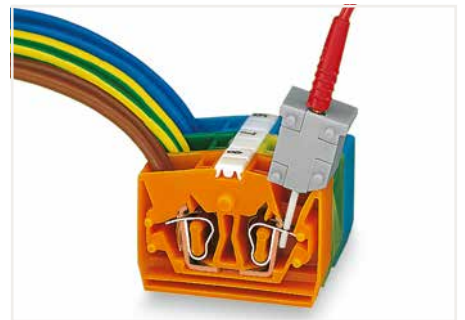
Mounting a terminal strip with snap-in feet into holes.



Mounting a terminal strip with snap-in feet onto the aluminum mounting rail.



Testing by touch contact to the CAGE CLAMP® spring (limited to 0.5 A and 48 V test voltage) – test pins are not protected against accidental contact.



Testing via CAGE CLAMP® on the current bar (max. nominal current: 6 A). CAGE CLAMP® clamps individual test contacts. The maximum test voltage is 400 V.



Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter



Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

# Modular Terminal Block ▶ with Mounting Flange

## 2.5 mm<sup>2</sup> ▶ 264 Series

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 24 A	600 V, 20 A ③
Terminal Block width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 24 A	600 V, 20 A ③
Terminal Block width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

\*12 AWG: THHN, THWN

- ① 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
- ② Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
- ③ Terminal Blocks with an Ex mark are suitable for Ex e II applications.  
0.5 ... 2.5 mm<sup>2</sup> / 20 ... 12 AWG\*  
690 V; 23 A

Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



4

2-conductor center Terminal Block; required between end plate and end Terminal Block for terminal strips with mounting flanges

Color	Item No.	Pack. Unit
gray	264-321	100
blue	264-324 ②	100
orange	264-326	100
green-yellow	264-327	100
light gray	264-131 ③	100

4-conductor center Terminal Block; required between end plate and end Terminal Block for terminal strips with mounting flanges

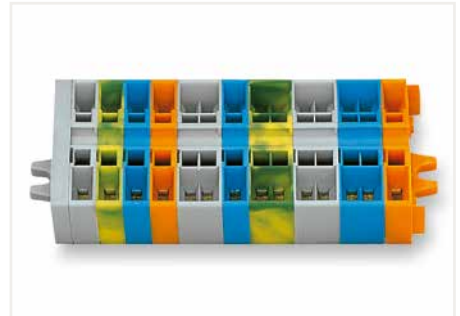
Color	Item No.	Pack. Unit
gray	264-351	100
blue	264-354 ②	100
orange	264-356	100
green-yellow	264-357	100
light gray	264-231 ③	100

2-conductor end Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter

gray	264-301	100
blue	264-304 ②	100
orange	264-306	100
green-yellow	264-307	100
light gray	264-130 ③	100

4-conductor end Terminal Block; with mounting flange; for screw or similar mounting types; 3.2 mm mounting hole diameter

gray	264-331	100
blue	264-334 ②	100
orange	264-336	100
green-yellow	264-337	100
light gray	264-230 ③	100



Terminal strip with mounting flanges, consisting of:

- End plate; with mounting flange
- Center Terminal Blocks
- End Terminal Block; with mounting flange

Accessories; item-specific  
Alternate comb-style jumper bar; insulated; I<sub>N</sub> = I<sub>N</sub> of Terminal Block

2-way	281-492	100 (25)
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Accessories; item-specific  
Alternate comb-style jumper bar; insulated; I<sub>N</sub> = I<sub>N</sub> of Terminal Block

2-way	280-492	200 (25)
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Test plug module; snaps together; 6 mm wide

gray	249-136	100 (25)
------	---------	----------

Test plug module; snaps together; 10 mm wide

gray	249-139	100 (25)
------	---------	----------

Mini-WSB marking card; white; 10 strips with 10 markers/ card; 5 mm wide markers

plain	248-501	5
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Mini-WSB marking card; white; 10 strips with 10 markers/ card; 5 mm wide markers

	264-900	5
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### Accessories; 264 Series

Appropriate marking systems: Mini-WSB/Mini-WSB Inline/T-marker tag

End and intermediate plate; 4 mm thick

orange	264-361	25
gray	264-364	25
light gray	264-363	25

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

red	210-136	50
-----	---------	----

Comb-style jumper bar; insulated; reduces maximum conductor size to 1.5 mm<sup>2</sup>; I<sub>N</sub> 16 A; gray

2-way	264-402	200 (25)
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Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

yellow	210-137	50
--------	---------	----

Operating tool; insulated

2-way	280-432	1
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T-marker tag; 30 markers per tag; up to 6 characters per marker; stretchable 5 ... 6 mm

plain	209-290	50
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# Modular Terminal Block ▶ with Snap-In Mounting Foot 2.5 mm² ▶ 264 Series

Technical Data	
0.08 ... 2.5 mm²	28 ... 12 AWG*
800 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 24 A	600 V, 20 A ③
Terminal Block width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	



Technical Data	
0.08 ... 2.5 mm²	28 ... 12 AWG*
800 V / 8 kV / 3 ①	300 V, 20 A ②
I <sub>N</sub> 24 A	600 V, 20 A ③
Terminal Block width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	



- \*12 AWG: THHN, THWN
- 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
  - Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
  - Terminal Blocks with an Ex mark are suitable for Ex e II applications.  
0.5 ... 2.5 mm² / 20 ... 12 AWG\*  
690 V; 23 A
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

2-conductor center Terminal Block; required between end plate and end Terminal Block for terminal strips with mounting flanges		
Color	Item No.	Pack. Unit
gray	264-311	100
blue	264-314 ②	100
orange	264-316	100
green-yellow	264-317	100
light gray	264-180 ③	100

4-conductor center Terminal Block; required between end plate and end Terminal Block for terminal strips with mounting flanges		
Color	Item No.	Pack. Unit
gray	264-341	100
blue	264-344 ②	100
orange	264-346	100
green-yellow	264-347	100
light gray	264-280 ③	100



Terminal strip with mounting flanges, consisting of:  
End plate  
• 4-conductor terminal strip; with snap-in mounting foot<sup>1)</sup>  
• Center Terminal Blocks  
• 2-conductor terminal strip; with snap-in mounting foot<sup>1)</sup>  
<sup>1)</sup> at every 4th or 5th Terminal Block of the strip

Accessories; item-specific			
Alternate comb-style jumper bar; insulated; I <sub>N</sub> = I <sub>N</sub> of Terminal Block			
	2-way	281-492	100 (25)

Accessories; item-specific			
Alternate comb-style jumper bar; insulated; I <sub>N</sub> = I <sub>N</sub> of Terminal Block			
	2-way	280-492	200 (25)

Test plug module; snaps together; 6 mm wide			
	gray	249-136	100 (25)

Test plug module; snaps together; 10 mm wide			
	gray	249-139	100 (25)

Mini-WSB marking card; white; 10 strips with 10 markers/ card; 5 mm wide markers			
	plain	248-501	5

Mini-WSB marking card; white; 10 strips with 10 markers/ card; 5 mm wide markers			
		264-900	5

**Accessories; 264 Series**  
Appropriate marking systems: Mini-WSB/Mini-WSB Inline/T-marker tag

End and intermediate plate; 4 mm thick			
	orange	264-371	25
	gray	264-374	25
	light gray	264-373	25

Aluminum mounting rail; 1000 mm long; 18 mm wide; 7 mm high			
		210-154	1

Comb-style jumper bar; insulated; reduces maximum conductor size to 1.5 mm²; I <sub>N</sub> 16 A; gray			
	2-way	264-402	200 (25)

Plastic end stop; with WSB marker slot; for aluminum mounting rail (210-154); 6 mm wide			
		209-122	25

Operating tool; insulated			
	2-way	280-432	1

T-marker tag; 30 markers per tag; up to 6 characters per marker; stretchable 5 ... 6 mm			
	plain	209-290	50

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V			
	red	210-136	50

Operating tool with a partially insulated shaft; Type 2; (3.5 x 0.5) mm blade			
		210-720	1

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V			
	yellow	210-137	50

# Terminal Strip ▶ with Mounting Flanges or Snap-in Mounting Feet

## 2.5 mm<sup>2</sup> ▶ 264 Series

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 Ⓢ	300 V, 20 A
I <sub>N</sub> 24 A	600 V, 20 A Ⓢ
Pole width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

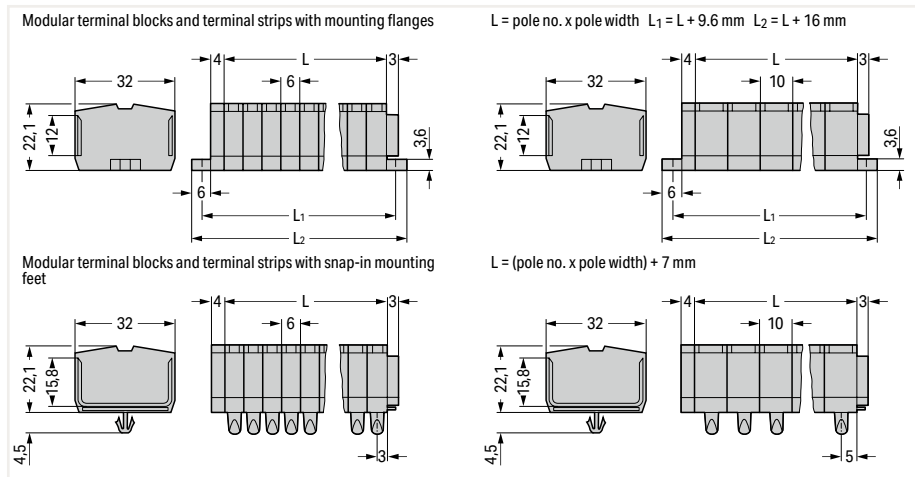
Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 Ⓢ	300 V, 20 A
I <sub>N</sub> 24 A	600 V, 20 A Ⓢ
Pole width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
690 V Ⓢ	300 V, 20 A
I <sub>N</sub> 23 A	600 V, 20 A Ⓢ
Pole width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	



4

Dimensions in mm



2-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; gray

Pole No.	Item No.	Pack. Unit
2	264-102	100
3	264-103	100
4	264-104	100
5	264-105	100
6	264-106	100
7	264-107	100
8	264-108	100
9	264-109	50
10	264-110	50
11	264-111	50
12 Ⓢ	264-112	25

4-conductor terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; gray

Pole No.	Item No.	Pack. Unit
2	264-202	100
3	264-203	100
4	264-204	100
5	264-205	100
6	264-206	100
7	264-207	100
8	264-208	100
9	264-209	50
10	264-210	50
11	264-211	25
12 Ⓢ	264-212	25

2-conductor Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; light gray

Pole No.	Item No.	Pack. Unit
2	264-132	100
3	264-133	100
4	264-134	100
5	264-135	100
6	264-136	100
7	264-137	100
8	264-138	100
9	264-139	50
10	264-140	50
11	264-141	25
12 Ⓢ	264-142	25

2-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; gray

Pole No.	Item No.	Pack. Unit
2	264-152	100
3	264-153	100
4	264-154	100
5	264-155	100
6	264-156	50
7	264-157	50
8	264-158	50
9	264-159	50
10	264-160	25
11	264-161	25
12 Ⓢ	264-162	25

4-conductor terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; gray

Pole No.	Item No.	Pack. Unit
2	264-252	100
3	264-253	100
4	264-254	100
5	264-255	100
6	264-256	50
7	264-257	50
8	264-258	50
9	264-259	50
10	264-260	25
11	264-261	25
12 Ⓢ	264-262	25

2-conductor Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; light gray

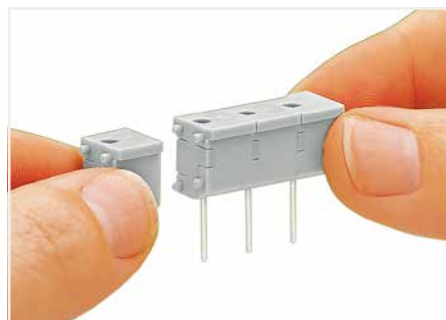
Pole No.	Item No.	Pack. Unit
2	264-182	100
3	264-183	100
4	264-184	100
5	264-185	100
6	264-186	50
7	264-187	50
8	264-188	50
9	264-189	50
10	264-190	25
11	264-191	25
12 Ⓢ	264-192	25

**Technical Data**

0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
690 V ②	300 V, 20 A ③
I <sub>N</sub> 23 A	600 V, 20 A ③
Pole width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	



- \*12 AWG: THHN, THWN
- 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
  - Suitable for Ex e II applications
  - Longer strips and/or mixed-color assemblies are available upon request.
- Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



Snapping individual modules together to assemble a multi-pole test plug module.



Item no. suffixes for gray terminal strips with mounting flanges:  
264-102 to 264-112  
264-202 to 264-212

blue.../000-006,  
Terminal strips with a blue insulated housing are suitable for Ex i applications.



Item no. suffixes for gray terminal strips with snap-in mounting feet:  
264-152 to 264-162  
264-252 to 264-262

blue.../000-006,  
Terminal strips with a blue insulated housing are suitable for Ex i applications.

4-conductor Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter; light gray

Pole No.	Item No.	Pack. Unit
○ 2	264-232	100
○ 3	264-233	100
○ 4	264-234	100
○ 5	264-235	100
○ 6	264-236	100
○ 7	264-237	100
○ 8	264-238	100
○ 9	264-239	50
○ 10	264-240	50
○ 11	264-241	100
○ 12 ③	264-242	25



Ex e II terminal strip; with mounting flanges; for screw or similar mounting types; 3.2 mm mounting hole diameter



Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter

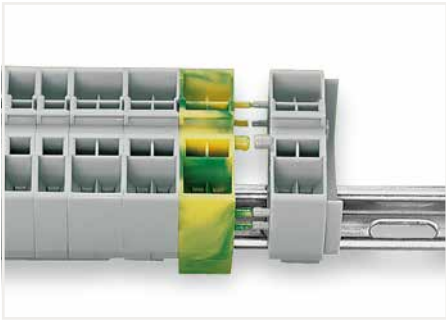
4-conductor Ex e II terminal strip; with snap-in mounting feet; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter; light gray

○ 2	264-282	100
○ 3	264-283	100
○ 4	264-284	100
○ 5	264-285	100
○ 6	264-286	100
○ 7	264-287	50
○ 8	264-288	50
○ 9	264-289	50
○ 10	264-290	25
○ 11	264-291	25
○ 12 ③	264-292	25

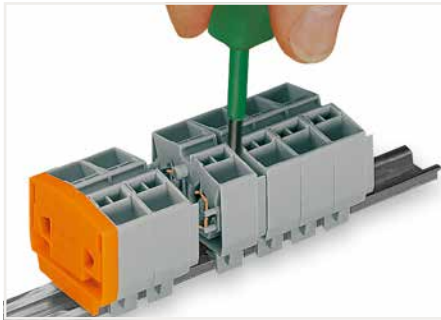
## Miniature Rail-Mount Terminal Blocks ▶ for DIN-15 and DIN-35 Rails

### 264 Series

### Description and Installation



Quick assembly keys prevent reverse mounting.



Separate terminal strip and slide individual Terminal Block laterally.

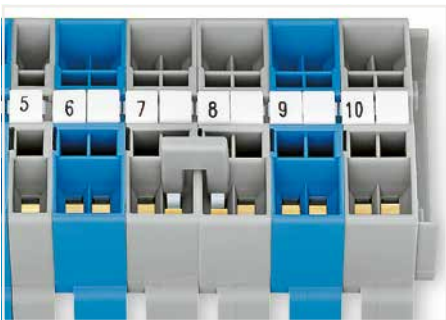


Remove Terminal Block from the DIN-rail with a levering action.

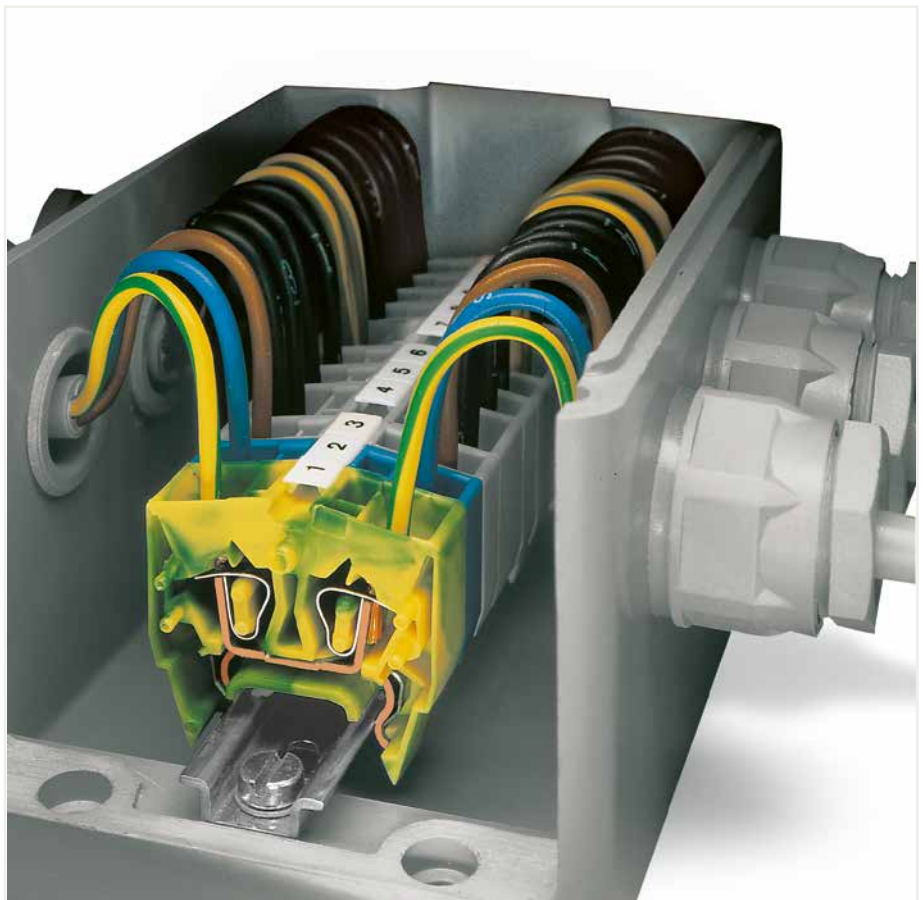
4



Commoning with comb-style jumper bar.



Commoning with comb-style jumper bar.



Easy-to-use miniature blocks that require minimal enclosure space.



Combining 2- and 4-conductor Terminal Blocks.



Marking via Mini-WSB Quick Marking System.



CAGE CLAMP® terminates the following copper conductors:  
solid



stranded

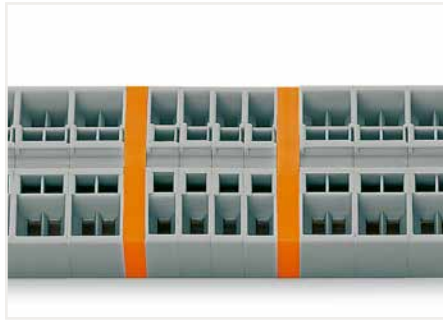


fine-stranded, also with tinned single strands

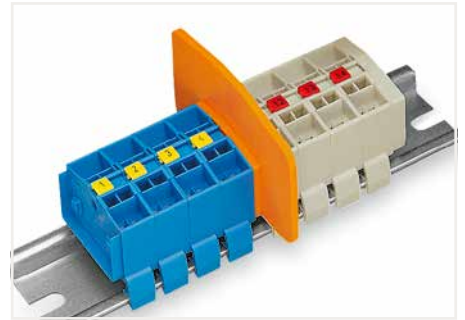
CAGE CLAMP®



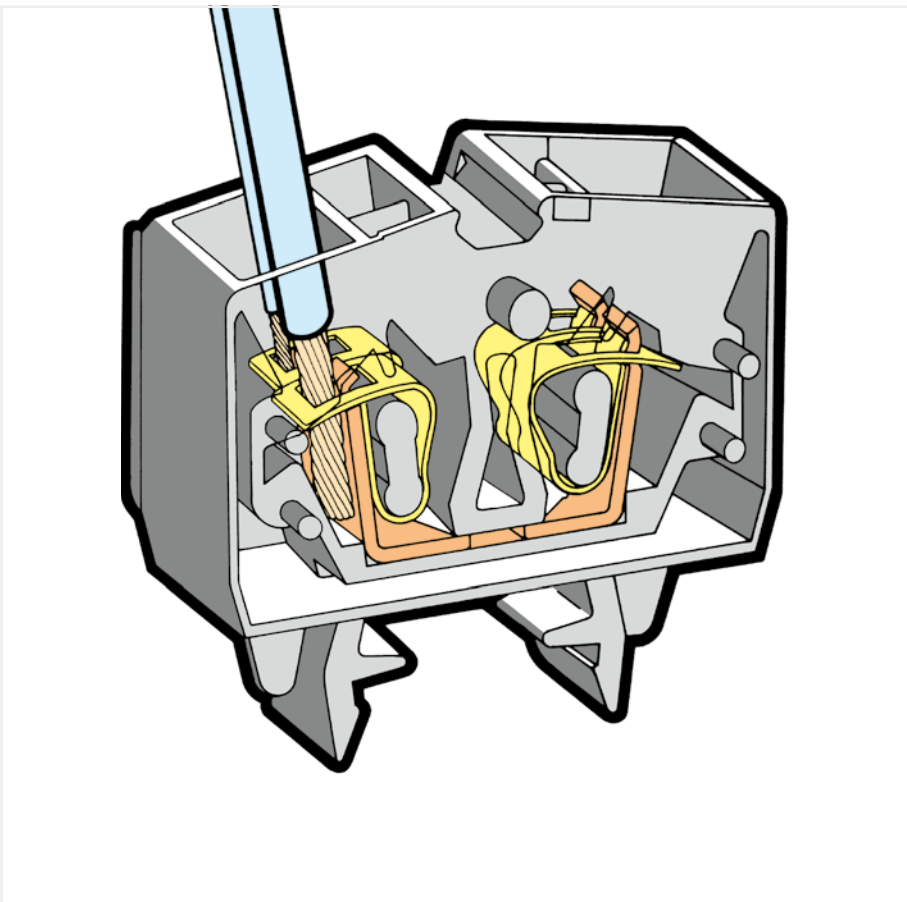
**CAGE CLAMP® termination:**  
Inserting a conductor.  
With ferruled conductors, it is necessary to use a Terminal Block one size smaller than the conductor's nominal cross section.



Separating groups via intermediate plates.



Ex e/Ex i separator plate for miniature rail-mount Terminal Blocks



Testing by touch contact to the CAGE CLAMP® spring (limited to 0.5 A and 48 V test voltage) – test pins are not protected against accidental contact.



Testing via CAGE CLAMP® on the current bar (max. nominal current: 6 A) – CAGE CLAMP® clamps individual test contacts. The maximum test voltage is 400 V.



Marking with T-marker tag (209-290).



fine-stranded, tip-bonded



fine-stranded, with ferrule (gastight crimped)



fine-stranded, with pin terminal (gastight crimped)

4

# Miniature Through/Ground Conductor and Ex Terminal Block ▶ for DIN-35 Rail 2.5 mm<sup>2</sup> ▶ 264 Series

### Technical Data

0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 24 A	600 V, 20 A ❸
Terminal Block width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

### Technical Data

0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 24 A	600 V, 20 A ❸
Terminal Block width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

\*12 AWG: THHN, THWN

- ❶ 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
- ❷ Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
- ❸ Terminal Blocks with an Ex mark are suitable for Ex e II applications.  
0.5 ... 2.5 mm<sup>2</sup> / 20 ... 12 AWG\*  
690 V; 23 A

Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

### Accessories; 264 Series

Appropriate marking systems:  
Mini-WSB/Mini-WSB Inline/T-marker tag


### End and intermediate plate; 4 mm thick

	orange	264-369	25
	gray	264-368	25
	light gray	264-370	25

### Ex e/Ex i separator; orange; 4 mm thick

	66 mm	264-367	25
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### Comb-style jumper bar; insulated; reduces maximum conductor size to 1.5 mm<sup>2</sup>; I<sub>N</sub> 16 A; gray

	2-way	264-402	200 (25)
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### Operating tool; insulated

	2-way	280-432	1
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### Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	red	210-136	50
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### Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

	yellow	210-137	50
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### Mini-WSB marking card; white; 10 strips with 10 markers/card; 5 mm wide markers

	plain	248-501	5
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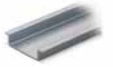
### Screwless end stop; for DIN-35 rail; 6 mm wide

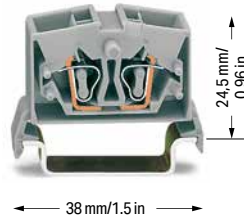
	gray	249-116	100 (25)
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### Steel DIN-rail; per EN 60715; 35 x 7.5 mm; 1 mm thick; 2 m long





	slotted	210-112	10 (1)
	unslotted	210-113	10

### Aluminum DIN-rail; similar to EN 60715; 35 x 8.2 mm; 1.6 mm thick; 2 m long

	unslotted	210-196	10
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### 2-conductor miniature through Terminal Block; for DIN-35 rail

Color	Item No.	Pack. Unit
	264-711	100
	264-714 ❷	100
	264-716	100
	264-125 ❸	100

### Accessories; item-specific





#### Alternate comb-style jumper bar; insulated; I<sub>N</sub> = I<sub>N</sub> of Terminal Block

	2-way	281-492	100 (25)
---	-------	---------	----------

### Test plug module; snaps together; 6 mm wide

	gray	249-136	100 (25)
---	------	---------	----------

### 4-conductor miniature through Terminal Block; for DIN-35 rail


Color	Item No.	Pack. Unit
	264-731	100
	264-734 ❷	100
	264-736	100
	264-225 ❸	100

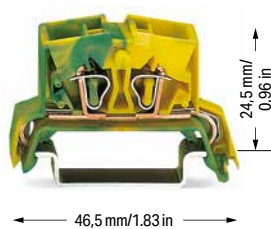
### Accessories; item-specific

#### Alternate comb-style jumper bar; insulated; I<sub>N</sub> = I<sub>N</sub> of Terminal Block



	2-way	280-492	200 (25)
---	-------	---------	----------

### Test plug module; snaps together; 10 mm wide

	gray	249-139	100 (25)
---	------	---------	----------




### 4-conductor miniature ground Terminal Block; for DIN-35 rail


Color	Item No.	Pack. Unit
	264-737	100
	264-737/999-950 ❸	100

### Accessories; item-specific

#### Alternate comb-style jumper bar; insulated; I<sub>N</sub> = I<sub>N</sub> of Terminal Block

	2-way	280-492	200 (25)
---	-------	---------	----------

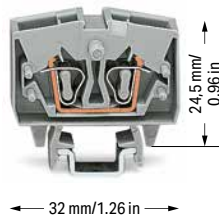
### Test plug module; snaps together; 10 mm wide

	gray	249-139	100 (25)
---	------	---------	----------

4

# Miniature Through/Ground Conductor and Ex Terminal Block ▶ for DIN-15 Rail 2.5 mm<sup>2</sup> ▶ 264 Series

Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 24 A	600 V, 20 A ❸
Terminal Block width: 6 mm / 0.236 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	

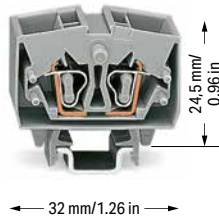


2-conductor miniature through Terminal Block; for DIN-15 rail		
Color	Item No.	Pack. Unit
gray	264-701	100
blue	264-704 ❷	100
orange	264-706	100
light gray ❸	264-120 ❸	100

Accessories; item-specific		
Alternate comb-style jumper bar; insulated; I <sub>N</sub> = I <sub>N</sub> of Terminal Block		
2-way	281-492	100 (25)

Test plug module; snaps together; 6 mm wide		
gray	249-136	100 (25)

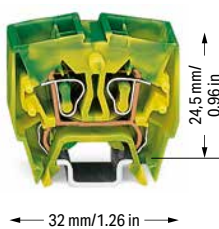
Technical Data	
0.08 ... 2.5 mm <sup>2</sup>	28 ... 12 AWG*
800 V / 8 kV / 3 ❶	300 V, 20 A ❷
I <sub>N</sub> 24 A	600 V, 20 A ❸
Terminal Block width: 10 mm / 0.394 inch	
8 ... 9 mm / 0.31 ... 0.35 inch	



4-conductor miniature through Terminal Block; for DIN-15 rail		
Color	Item No.	Pack. Unit
gray	264-721	100
blue	264-724 ❷	100
orange	264-726	100
light gray ❸	264-220 ❸	100

Accessories; item-specific		
Alternate comb-style jumper bar; insulated; I <sub>N</sub> = I <sub>N</sub> of Terminal Block		
2-way	280-492	200 (25)

Test plug module; snaps together; 10 mm wide		
gray	249-139	100 (25)



4-conductor miniature ground Terminal Block; for DIN-15 rail		
Color	Item No.	Pack. Unit
green-yellow	264-727	100
green-yellow ❸	264-727/999-950 ❸	100

Accessories; item-specific		
Alternate comb-style jumper bar; insulated; I <sub>N</sub> = I <sub>N</sub> of Terminal Block		
2-way	280-492	200 (25)

Test plug module; snaps together; 10 mm wide		
gray	249-139	100 (25)

\*12 AWG: THHN, THWN

- ❶ 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree
- ❷ Terminal Blocks with a blue insulated housing are suitable for Ex i applications.
- ❸ Terminal Blocks with an Ex mark are suitable for Ex e II applications.  
0.5 ... 2.5 mm<sup>2</sup> / 20 ... 12 AWG\*  
690 V; 23 A

Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

### Accessories; 264 Series

Appropriate marking systems:  
Mini-WSB/Mini-WSB Inline/T-marker tag

End and intermediate plate; 4 mm thick			
orange	264-369	25	
gray	264-368	25	
light gray	264-370	25	

Ex e/Ex i separator; orange; 4 mm thick		
66 mm	264-367	25

Comb-style jumper bar; insulated; reduces maximum conductor size to 1.5 mm <sup>2</sup> ; I <sub>N</sub> 16 A; gray		
2-way	264-402	200 (25)

Operating tool; insulated		
2-way	280-432	1

Operating tool; insulated		
1-way	209-130	1

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V		
red	210-136	50

Test plug; with 500 mm cable; 2 mm Ø; max. 42 V		
yellow	210-137	50

Screwless end stop; for DIN-15 rail; 6 mm wide		
gray	249-101	25

Steel DIN-rail; per EN 60715; 15 x 5.5 mm; 1 mm thick; 2 m long		
slotted	210-111	10 (1)
unslotted	210-295	10 (1)

Aluminum DIN-rail; similar to EN 60715; 15 x 5.5 mm; 1 mm thick; 2 m long		
unslotted	210-296	1

4

# WAGO Miniature Terminal Blocks TOPJOB® S – 2050/2250 Series

## Operation



Insert solid conductors or fine-stranded conductors with ferrules via push-in termination.



Insert fine-stranded conductors via operating tool.



Remove all conductors via operating tool.

4



Snapping a marking strip (2009-110) into a marker slot.



Testing with a 2 mm Ø 210-136 Test Plug (max. 42 V).



Insert a push-in type jumper bar and push down until it hits the backstop (example shows a 2000-406/020-000 Delta Jumper).



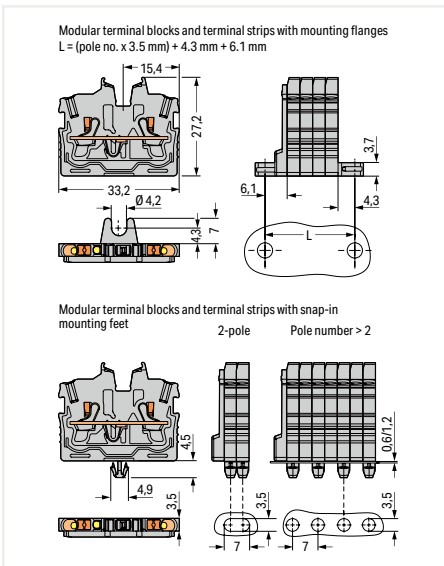
Separate Terminal Block assembly and slide individual Terminal Blocks laterally using an operating tool.



Mounting a terminal strip with snap-in feet into drilled holes.



Terminal strip with mounting flanges for screw mounting



Marking strip (2009-110) inserted in the marking slot with jumper symbols of the inserted jumper – delta jumper (2000-406/020-000)



# WAGO Miniature Through/Ground Terminal Block TOPJOB® S – 2050/2250 Series

## 1 (1.5) mm<sup>2</sup>

Image	Description	Color	With Push-Button Item No.	Without Push-Button Item No.	PU	Dimensions (W x H x D)	Electrical Data
<b>2-conductor through Terminal Block; for DIN-15 rail</b>							
	2-conductor through Terminal Block	○ gray	2250-1201	2050-1201	100	3,5 x 28 x 34 mm / 0.14 x 1.1 x 1.34 inch	500 V / 6 kV / 3 <b>1</b> ; I <sub>N</sub> 13,5 A (17,5 A);
	2-conductor through Terminal Block	● blue	2250-1204 <b>2</b>	2050-1204 <b>2</b>	100		
	2-conductor ground Terminal Block	● green-yellow	2250-1207	2050-1207	100		
	End and intermediate plate; 1 mm thick	○ gray	2050-1291	2050-1291	25	1,1 x 25,2 x 32,5 mm / 0.04 x 0.99 x 1.28 inch	
<b>2-conductor through Terminal Block; with mounting flange; for screw or similar mounting types; 4.2 mm mounting hole diameter</b>							
	2-conductor through Terminal Block	○ gray	2250-301	2050-301	100	3,5 x 27,2 x 33,2 mm / 0.14 x 1.1 x 1.31 inch	500 V / 6 kV / 3 <b>1</b> ; I <sub>N</sub> 13,5 A (17,5 A);
	2-conductor through Terminal Block	● blue	2250-304 <b>2</b>	2050-304 <b>2</b>	100		
	2-conductor ground Terminal Block	● green-yellow	2250-307	2050-307	100		
	End and intermediate plate; 1 mm thick	○ gray	2050-381	2050-381	25	1,3 x 25,2 x 32,1 mm / 0.05 x 0.99 x 1.26 inch	
<b>2-conductor through Terminal Block; with snap-in mounting foot; for 0.6 ... 1.2 mm plate thickness; 3.5 mm mounting hole diameter</b>							
	2-conductor through Terminal Block	○ gray	2250-311	2050-311	100	3,5 x 27,2 x 33,2 mm / 0.14 x 1.1 x 1.31 inch	500 V / 6 kV / 3 <b>1</b> ; I <sub>N</sub> 13,5 A (17,5 A);
	2-conductor through Terminal Block	● blue	2250-314 <b>2</b>	2050-314 <b>2</b>	100		
	2-conductor ground Terminal Block	● green-yellow	2250-317	2050-317	100		
	End and intermediate plate; 1 mm thick	○ gray	2050-391	2050-391	25	3,4 x 25,2 x 32,1 mm / 0.13 x 0.99 x 1.26 inch	
<b>2-conductor through Terminal Block; Center Terminal Block; for 0.6 ... 1.2 mm plate thickness</b>							
	2-conductor through Terminal Block	○ gray	2250-321	2050-321	100	3,5 x 27,2 x 33,2 mm / 0.14 x 1.1 x 1.31 inch	500 V / 6 kV / 3 <b>1</b> ; I <sub>N</sub> 13,5 A (17,5 A);
	2-conductor through Terminal Block	● blue	2250-324 <b>2</b>	2050-324 <b>2</b>	100		
	2-conductor ground Terminal Block	● green-yellow	2250-327	2050-327	100		
	End and intermediate plate; 1 mm thick	○ gray	2050-1291	2050-1291	25	1,1 x 25,2 x 32,5 mm / 0.04 x 0.99 x 1.28 inch	
<b>Accessories</b>							
	Mounting foot; snaps onto Terminal Blocks with snap-in mounting foot; 6.4 mm wide	○ gray	209-120	209-120	25		
	Aluminum DIN-rail; 1000 mm long; 18 mm wide; 7 mm high	○ silver	210-154	210-154	1		

4



Terminal Blocks on a DIN-rail



Terminal Blocks with a mounting flange



Terminal Blocks with snap-in mounting feet

Conductor range: 0.14 ... 1.5 mm<sup>2</sup> "s+f-st"; Push-in termination: 0.5 ... 1.5 mm<sup>2</sup> "s" and 0.5 ... 0.75 mm<sup>2</sup> "insulated ferrules; 10 mm"; 24 ... 16 AWG; Strip length: 9 ... 11 mm / 0.35 ... 0.43 inch




- 1** 500 V = rated voltage  
6 kV = rated impulse voltage  
3 = pollution degree
- 2** suitable for Ex i applications

Accessories: see page 38.  
Marking: WMB/WMB Inline/Marking strips  
Suitable operating tool: see page 39.



# WAGO Luminaire Connectors

## WAGO Luminaire Connectors

			Page
	Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures	267 Series	164
	Connectors for In-Line Mounting of Fluorescent Lighting Fixtures	267 Series	171
	Luminaire Disconnect Connector	873 Series	173

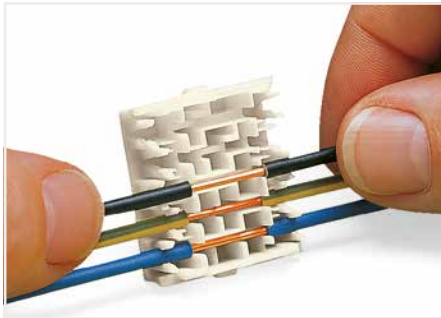
# Pluggable Connection System for Partially Stripped Conductors

## Description and Installation

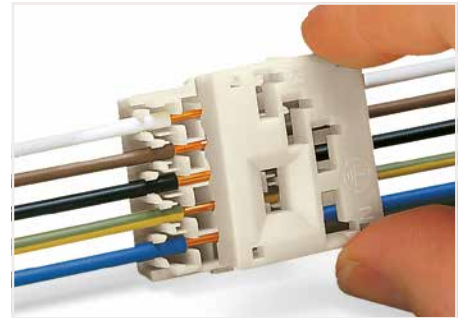
### 267 Series



- ❶ Socket with direct ground contact to lighting fixture panel
- ❷ Socket with PUSH WIRE® connection for ground conductors

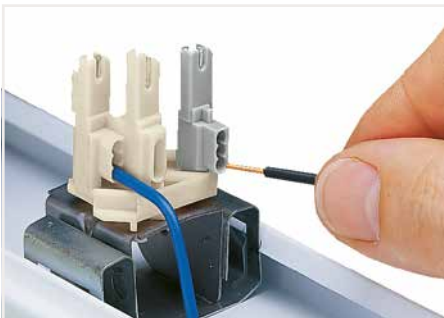


Snapping a partially stripped conductor into the conductor support base. Conductor supports replace standard sockets.

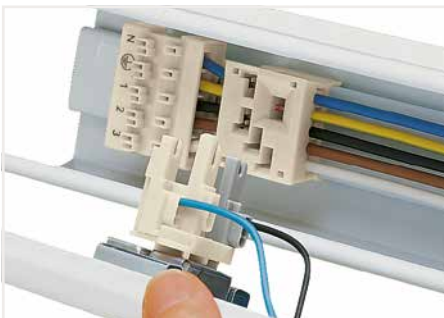


Latching conductor support cover

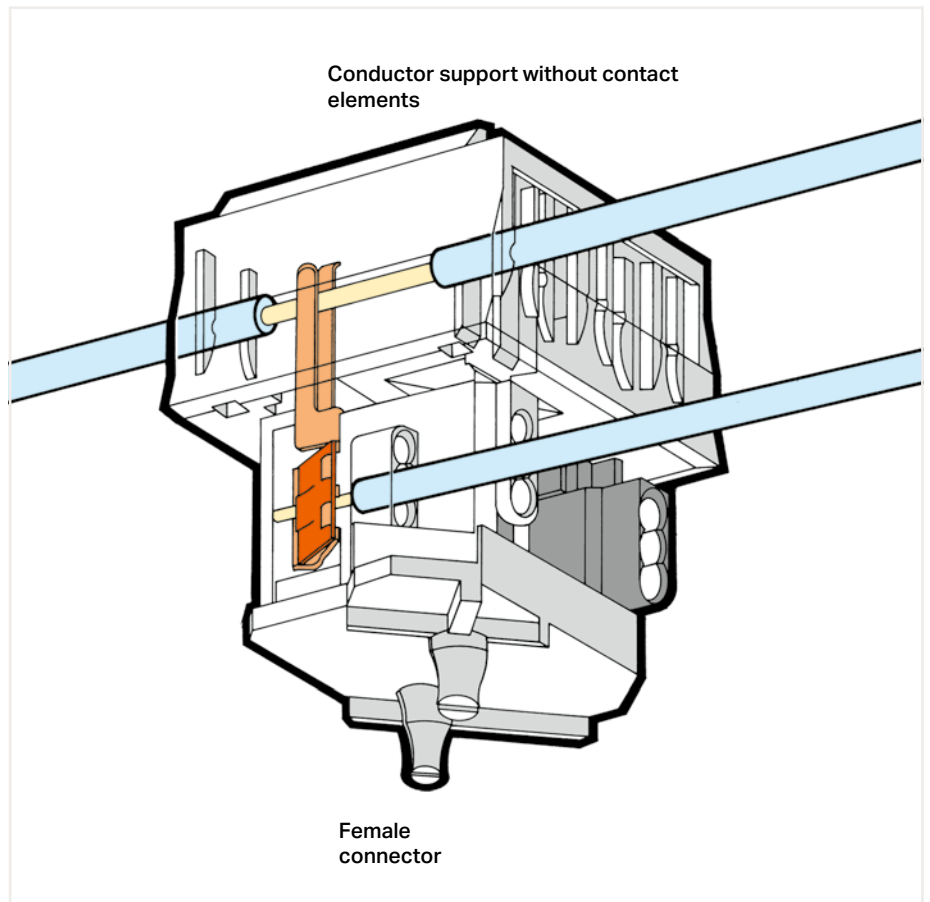
5



Inserting a conductor. Insert the conductor until it hits backstop!



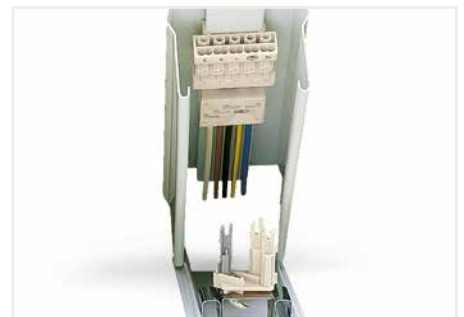
Inserting the socket into the conductor support.



Field-wiring Terminal Block with direct ground contact to lighting fixture panel



Terminal Block matched to the rail profile; shown here with snap-in foot



Fluorescent lighting fixture with pluggable connector and field-wiring Terminal Block

# Pluggable Connection System with Insulation Displacement Connection (IDC)

**PUSH WIRE®**

## Description and Installation

### 267 Series



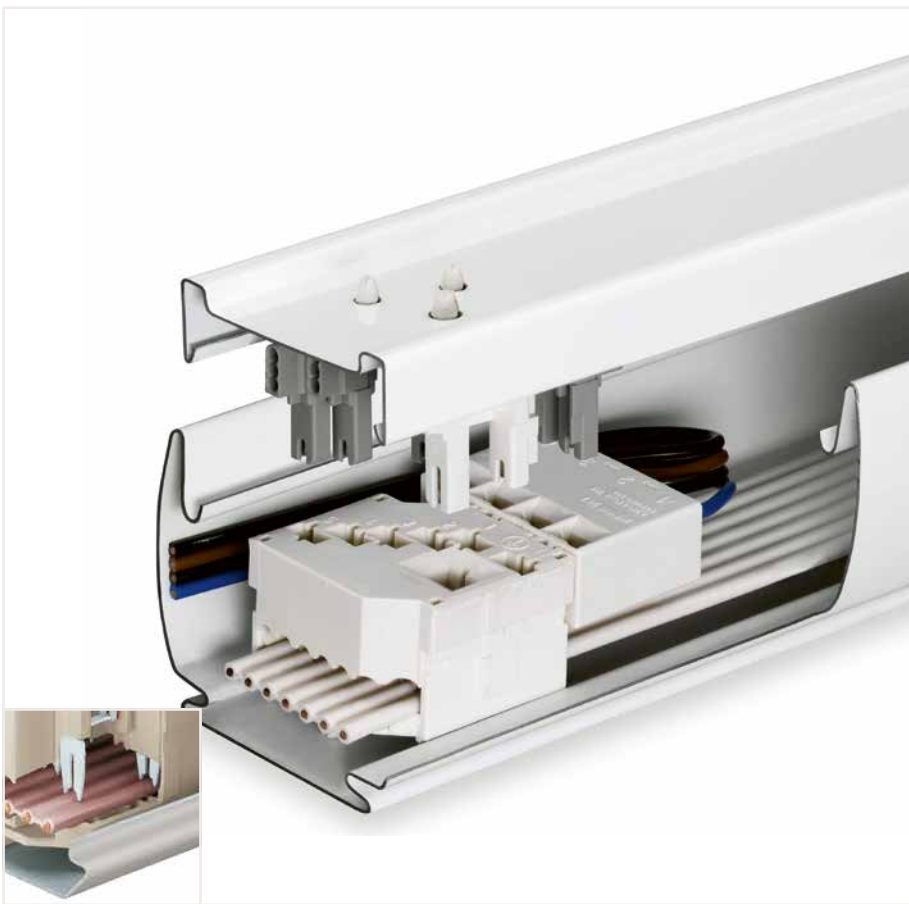
Socket with PUSH WIRE® connection for ground conductors



Snap-on type socket, 2- to 4-pole



Securing the base socket to the snap-on type socket (system expansion: 7 + 4 poles).



Insulation Displacement Connection (IDC)



System expansion assembly: socket and conductor support



System expansion assembly: conductor support

5



Conductor support cover with dovetail mount for snap-on type conductor support



Snap-on type conductor support, 4-pole



Securing the snap-on type conductor support to the cover (system expansion: 7 + 4 poles)

# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures

## Conductor Support

### 267 Series



#### 267 Series for Partially Stripped Conductors:

- Non-contacting conductor support
- Compact design

#### 267 Series with Insulation Displacement Connection (IDC):

- Flexible, modular 5- to 11-pole pluggable connection system
- IDC connection for through-wiring applications
- Future system expansions possible

Electrical Data	PUSH WIRE® Connection (connector for in-line mounting of fluo- rescent lighting fixtures and snap-on type conductor support)	PUSH WIRE® Connection (socket)	IDC (conductor support)
Ratings per	IEC/EN 61984	IEC/EN 61984	IEC/EN 61984
Overvoltage category	II	II	II
Pollution degree	2	2	2
Rated voltage	500 V	500 V	500 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	16 A	6 A	6 A
Approvals per	UL 1977	UL 1977	UL 1977
Rated voltage	600 V	600 V	600 V
Nominal current UL	15 A	6 A	6 A
<b>Material Data</b>			
Material group	I		
Insulation material	Polyamide 6.6 (PA66)		
Flammability class per UL94	V0		
Temperature stability	105 °C		
Clamping spring material	Chrome nickel spring steel (CrNi)		
Contact Material	Electrolytic copper (E <sub>cu</sub> )		
Contact plating	Tin-plated		

# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures

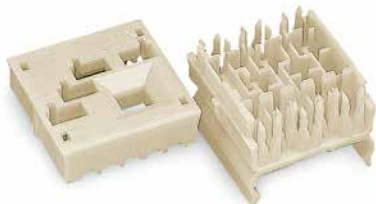
## Conductor Support for Partially Stripped Conductors

### 267 Series

Technical Data	
5 x 1.5 ... 2.5 mm <sup>2</sup> "s"	5 x 16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A

Technical Data	
5 x 1.5 ... 2.5 mm <sup>2</sup> "s"	5 x 16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A

Technical Data	
5 x 1.5 ... 2.5 mm <sup>2</sup> "s"	5 x 16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A



Conductor support with snap-on foot; consisting of base and cover; with molded pole marking on cover (N ⊕ 1 2 3); white

Pole No.	Item No.	Pack. Unit
5	267-140	500
5	267-141	500

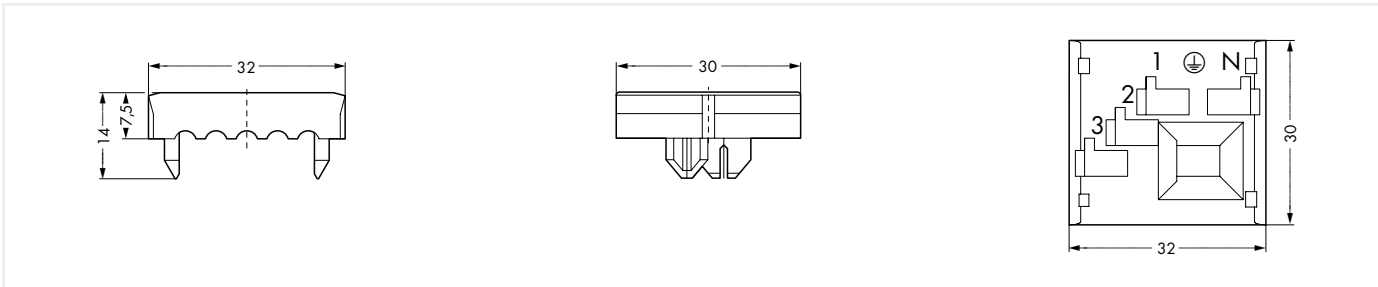
Conductor support with dovetail; consisting of base and cover; with molded pole marking on cover (N ⊕ 1 2 3); white

Pole No.	Item No.	Pack. Unit
5	267-140	500
5	267-143	500

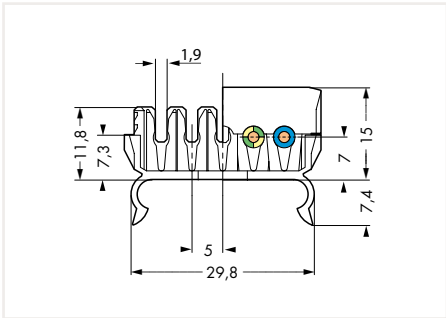
Conductor support with custom foot; consisting of base and cover; with molded pole marking on cover (N ⊕ 1 2 3); white

Pole No.	Item No.	Pack. Unit
5	267-140	500
5	267-xxx ①	500

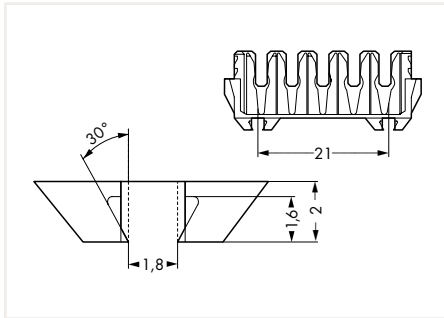
Dimensions (in mm):



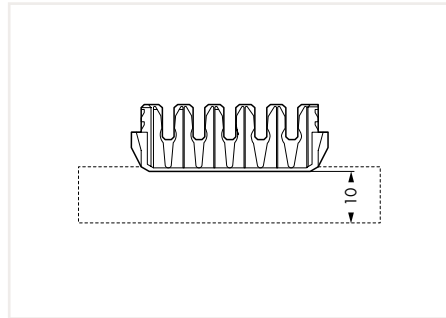
Dimensions (in mm):



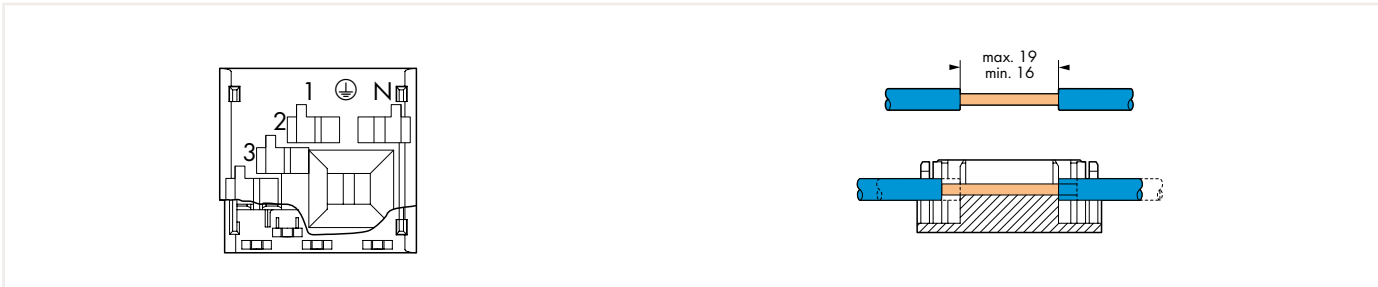
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



① per customer specifications

# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures

## Socket for Partially Stripped Conductors

### 267 Series

#### Technical Data

0.5 ... 1 mm <sup>2</sup> "s"	22 ... 18 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	

#### Technical Data

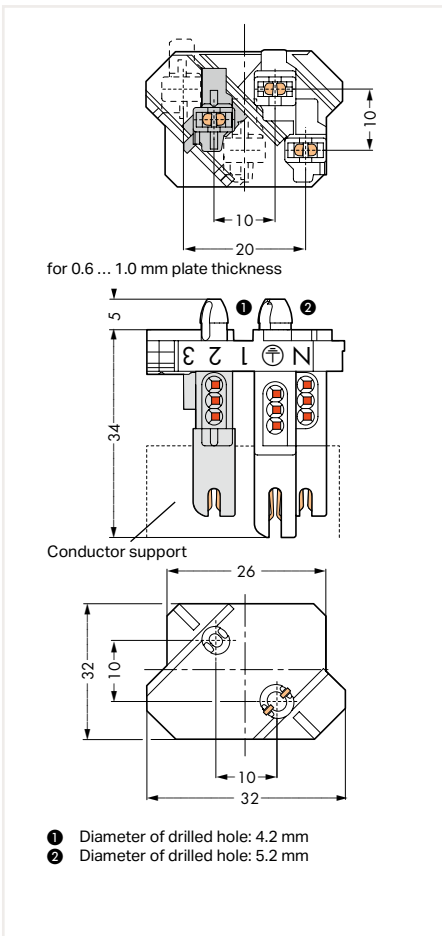
0.5 ... 1 mm <sup>2</sup> "s"	22 ... 18 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	



Socket; with snap-in mounting feet and ground conductor connection; white/gray; with molded pole marking; gray socket for phase selection to 1 – 2 – 3 (not possible with 5-pole sockets)

Pole No.	Item No.	Pack. Unit
3	267-113	500
4	267-114	500
5	267-115	500

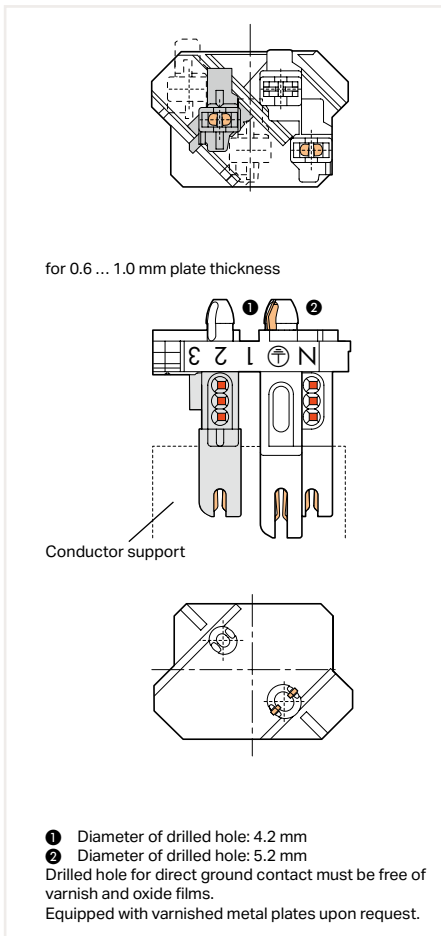
Dimensions (in mm):



Socket; with snap-in mounting feet and direct ground contact; white/gray; with molded pole marking; gray socket for phase selection to 1 – 2 – 3 (not possible with 5-pole sockets)

Pole No.	Item No.	Pack. Unit
3	267-123	500
4	267-124	500
5	267-125	500

Dimensions (in mm):





# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures

## Conductor Support with Field-Wiring Connection

### 267 Series

Technical Data	
5 x 2/1,5 ... 2.5 mm <sup>2</sup> "s"	5 x 16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
11 ... 12 mm / 0.45 inch	

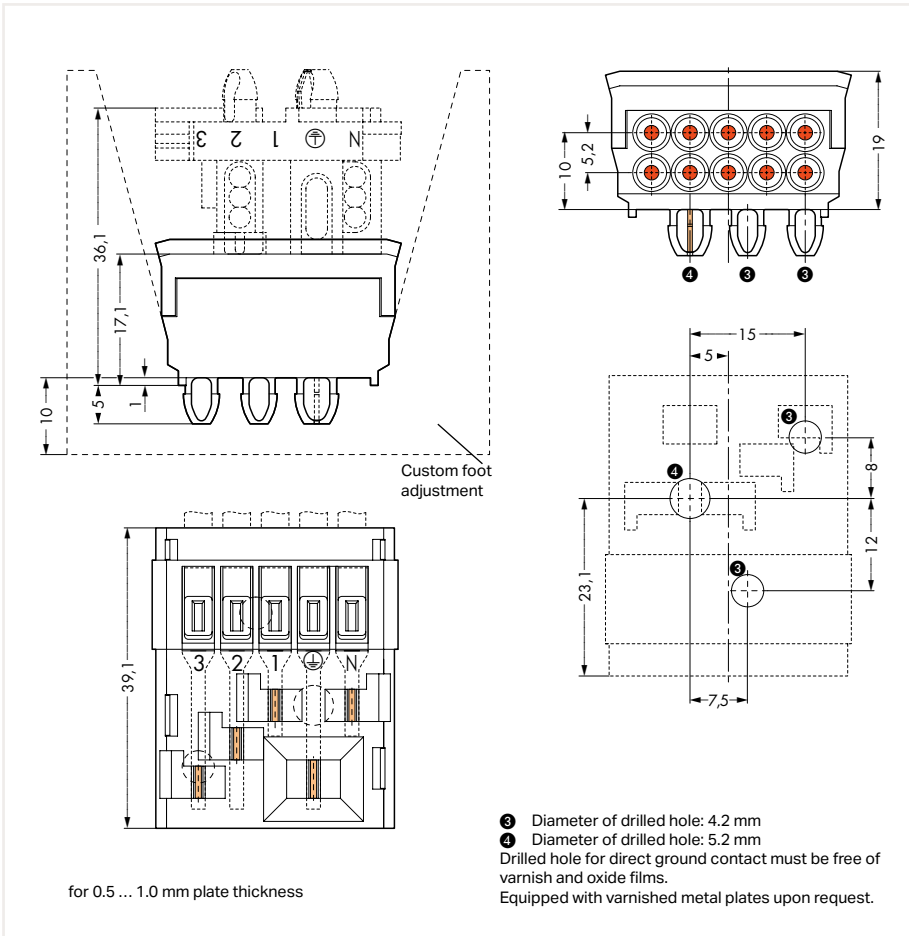
Technical Data	
5 x 2/1,5 ... 2.5 mm <sup>2</sup> "s"	5 x 16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
11 ... 12 mm / 0.45 inch	



Conductor support; with field-wiring connection and snap-in mounting feet; white			
Pole No.	Marking	Item No.	Pack. Unit
3	N, PE, 1	267-313	50
4	N, PE, 1, 2	267-314	50
5	N, PE, 1, 2, 3	267-315	50

Conductor support; with field-wiring connection and snap-in mounting feet; with direct GND contact; white			
Pole No.	Marking	Item No.	Pack. Unit
3	N, PE, 1	267-303	50
4	N, PE, 1, 2	267-304	50
5	N, PE, 1, 2, 3	267-305	50

5




# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures

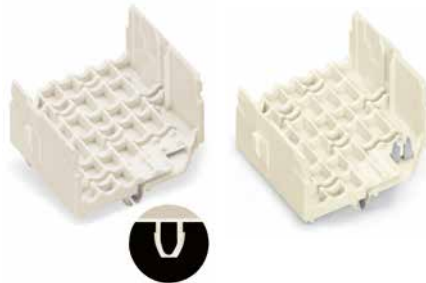
## Conductor Support with Insulation Displacement Connection (IDC)

### 267 Series

Technical Data	
1.5 ... 2.5 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A

Technical Data	
1.5 ... 2.5 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A

Technical Data	
500 V / 4 kV / 16 A	600 V/15 A
 11 ... 12 mm / 0.45 inch	



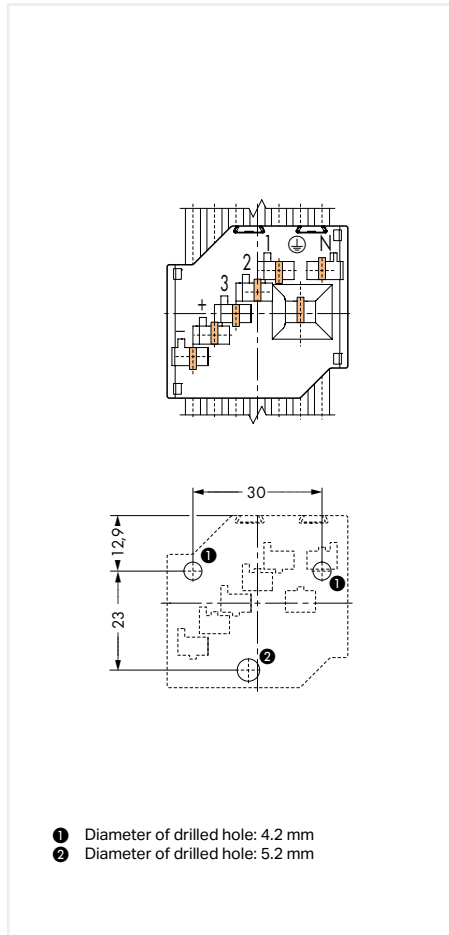
Conductor support cover; with dovetail guide and IDC contacts; with molded pole marking; white			
Pole No.	Marking	Item No.	Pack. Unit
5	N, ⊕, 1, 2, 3	267-435	50
7	N, ⊕, 1, 2, 3, +, -	267-437	50

Conductor support base; with snap-in mounting feet; white		
Description	Item No.	Pack. Unit
Without snap-in GND contact	267-412	250
With snap-in GND contact	267-422	250

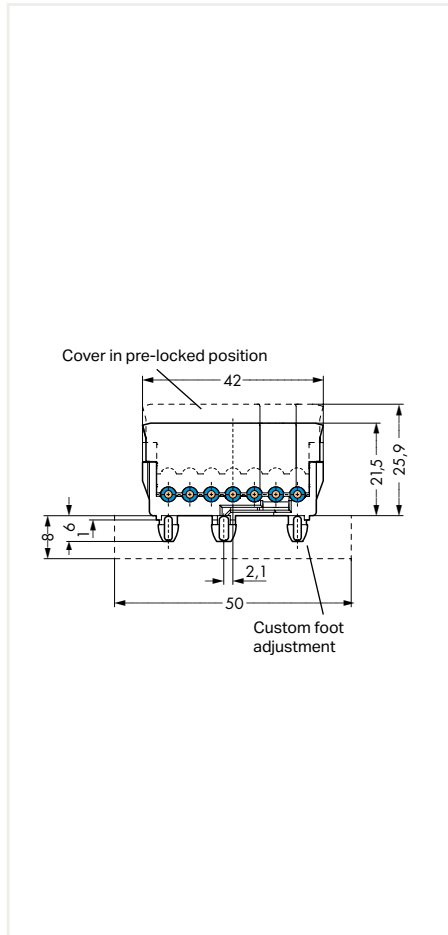
Snap-on type conductor support; 4-pole		
Color	Item No.	Pack. Unit
0.75 ... 1.5 mm <sup>2</sup>		
○ White cover	267-324	500
1.5 ... 2.5 mm <sup>2</sup>		
● Gray cover	267-328	500

5

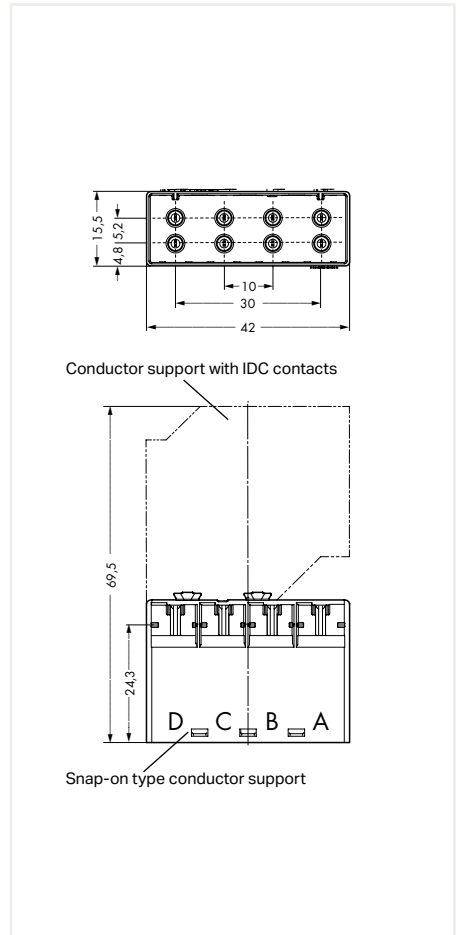
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures Socket for Conductor Support with Insulation Displacement Connection (IDC) 267 Series

Technical Data	
0.5 ... 1 mm <sup>2</sup> "s"	22 ... 18 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	



Technical Data	
0.5 ... 1 mm <sup>2</sup> "s"	22 ... 18 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	



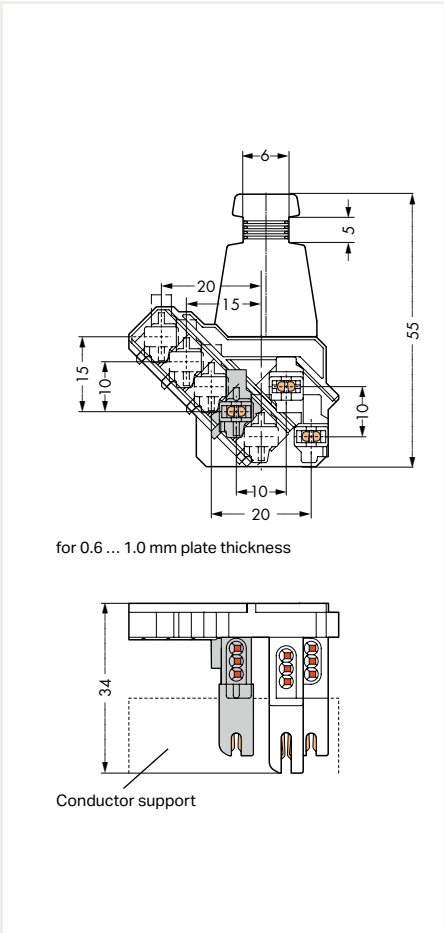
Technical Data	
0.5 ... 1 mm <sup>2</sup> "s"	22 ... 18 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	



Socket; with ground conductor connection and strain relief plate; white/gray

Pole No.	Item No.	Pack. Unit
3	267-223	500
4	267-224	500
5	267-225	500
6	267-226	500
7	267-227	500

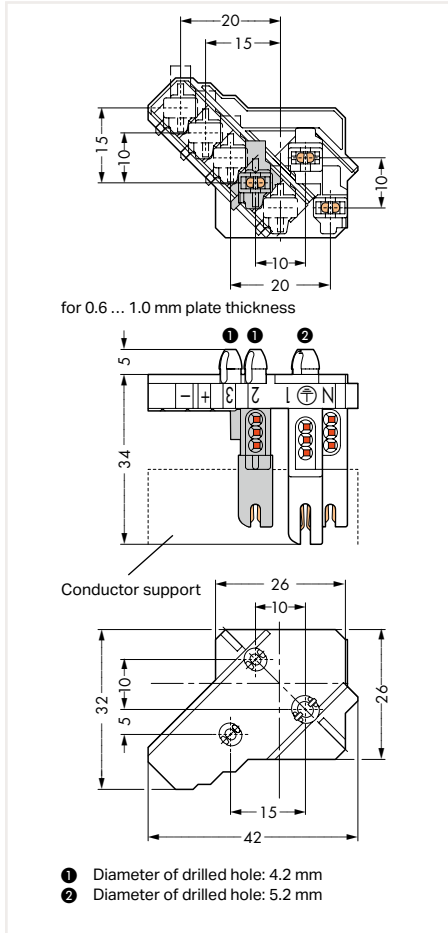
Dimensions (in mm):



Socket; with snap-in mounting feet and ground conductor connection; white/gray; with molded pole marking; gray socket for phase selection to 1, 2, 3, +, - (not possible with 7-pole socket)

Pole No.	Item No.	Pack. Unit
3	267-163	500
4	267-164	500
5	267-165	500
6	267-166	500
7	267-167	500

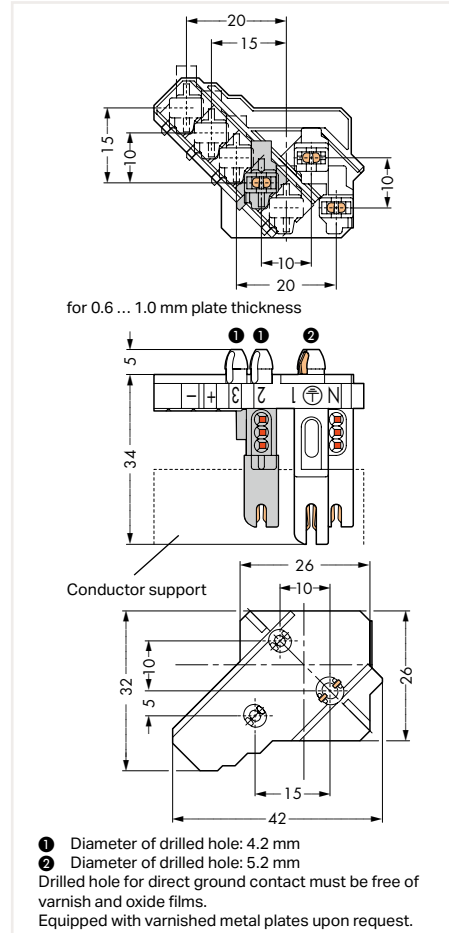
Dimensions (in mm):



Socket; with snap-in mounting feet and direct ground contact; white/gray; with molded pole marking; gray socket for phase selection to 1, 2, 3, +, - (not possible with 7-pole socket)

Pole No.	Item No.	Pack. Unit
3	267-173	500
4	267-174	500
5	267-175	500
6	267-176	500
7	267-177	500

Dimensions (in mm):



5

# Pluggable Connection System with Phase Selection for Fluorescent Lighting Fixtures Socket/Socket Module for Conductor Support with Insulation Displacement Connection (IDC) 267 Series

Technical Data	
0.5 ... 1 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	

Technical Data	
3 x 0.5 ... 1 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 6 A	600 V/6 A
8 mm / 0.31 inch	

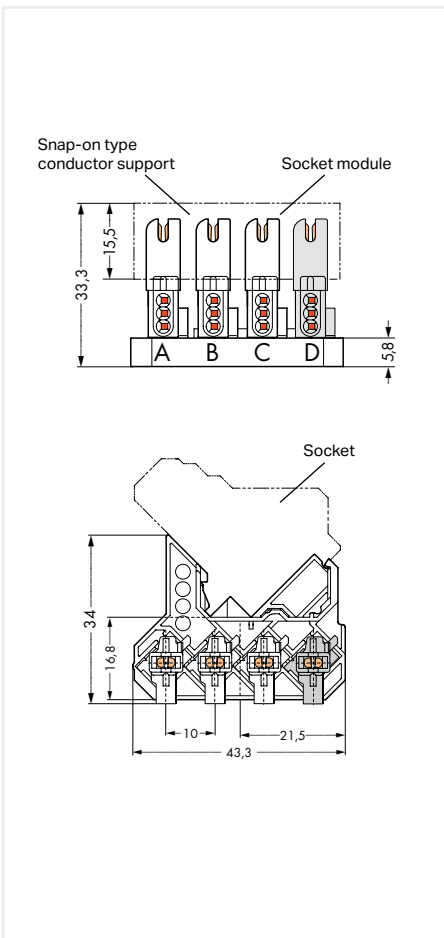


Snap-on type socket		
Pole No.	Item No.	Pack. Unit
2	267-232	500
3	267-233	500
4	267-234	500

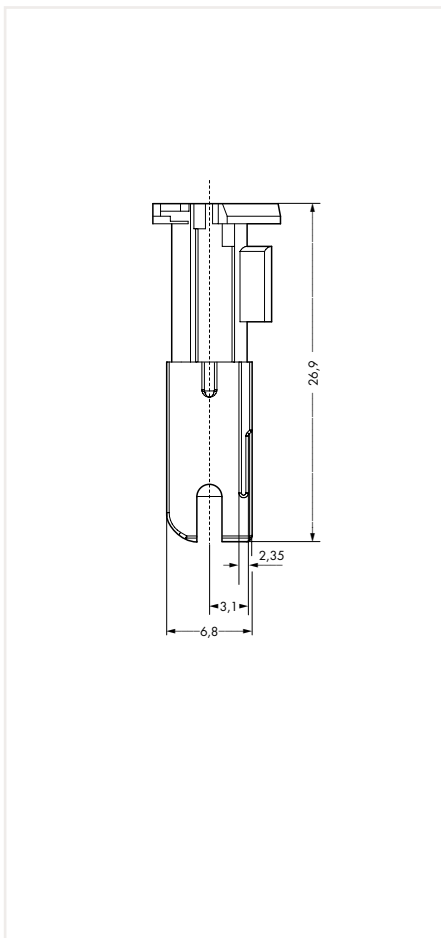
Socket module; 1-pole		
Color	Item No.	Pack. Unit
● black	267-109	500
● gray	267-101	500
● red	267-120	500
● yellow	267-110	500
● violet	267-119	500

5

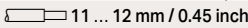
Dimensions (in mm):

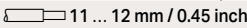


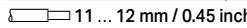
Dimensions (in mm):



# Connectors for In-Line Mounting of Fluorescent Lighting Fixtures 267 Series

Technical Data	
1.5 ... 2.5 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 16 A	600 V/15 A
 11 ... 12 mm / 0.45 inch	

Technical Data	
1.5 ... 2.5 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
500 V / 4 kV / 16 A	600 V/15 A
 11 ... 12 mm / 0.45 inch	

Technical Data	
1.5 ... 2.5 mm <sup>2</sup> "s"	16 ... 14 AWG "sol."
0.75 ... 1.5 mm <sup>2</sup> "s"	18 ... 16 AWG "sol."
500 V / 4 kV / 16 A	600 V/15 A
 11 ... 12 mm / 0.45 inch	



Socket; without ground contact tab; white			
Pole No.	Marking	Item No.	Pack. Unit
7	N, ⊕, 1, 2, 3, +, -	267-501	50
5	N, ⊕, 1, 2, 3	267-502	50

Plug; with connection for ground contact tab; white			
Pole No.	Marking	Item No.	Pack. Unit
7	N, ⊕, 1, 2, 3, +, -	267-510	50
5	N, ⊕, 1, 2, 3	267-519	50

Plug; with connection for ground contact tab; white			
Pole No.	Marking	Item No.	Pack. Unit
7	N, ⊕, 1, 2, 3, +, -	267-521	50

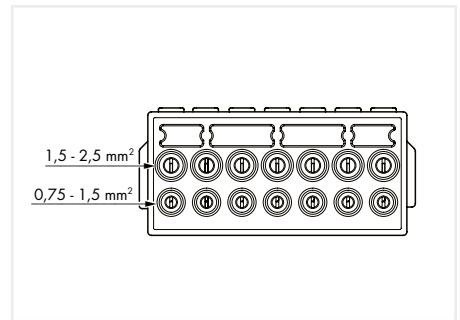
Socket; without ground contact tab; gray			
Pole No.	Marking	Item No.	Pack. Unit
4	A, B, C, D	267-506	50

Plug; with connection for ground contact tab; enhanced locking strength; white			
Pole No.	Marking	Item No.	Pack. Unit
7	N, ⊕, 1, 2, 3, +, -	267-516	50

Socket; without ground contact tab; yellow			
Pole No.	Marking	Item No.	Pack. Unit
4	A, B, C, D	267-507	50

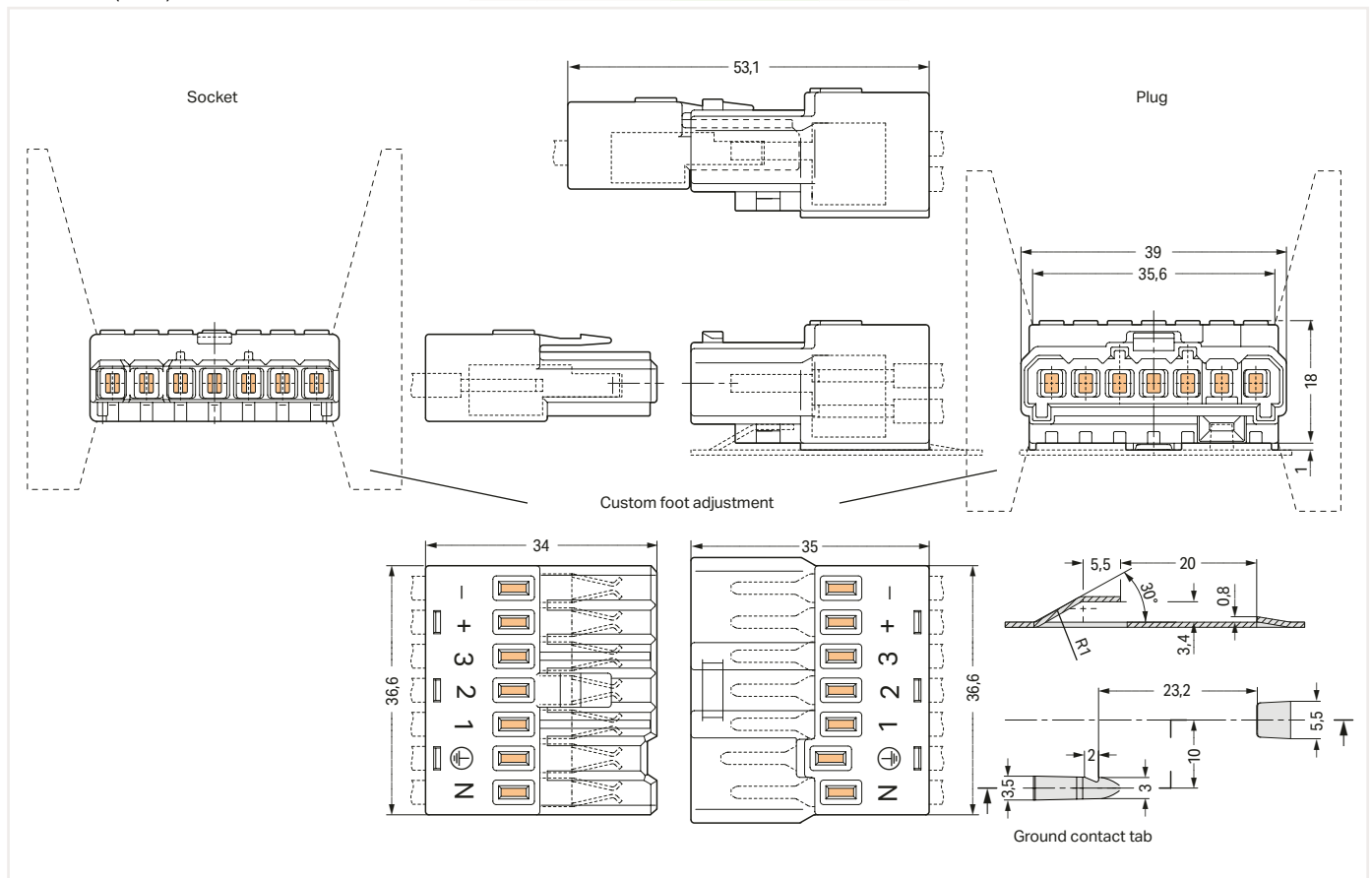
Plug; with connection for ground contact tab; gray			
Pole No.	Marking	Item No.	Pack. Unit
4	A, B, C, D	267-518	50

Plug; with connection for ground contact tab; yellow			
Pole No.	Marking	Item No.	Pack. Unit
4	A, B, C, D	267-520	50



5

Dimensions (in mm):



# Connectors for In-Line Mounting of Fluorescent Lighting Fixtures

## 3-Pole 267 Series

### Technical Data

1,5 ... 2,5 mm <sup>2</sup> „s“	16 ... 14 AWG „sol.“
500 V / 4 kV / 16 A	600 V / 15 A
□ 11 ... 12 mm / 0.45 inch	

### Technical Data

1,5 ... 2,5 mm <sup>2</sup> „s“	16 ... 14 AWG „sol.“
500 V / 4 kV / 16 A	600 V / 15 A
□ 11 ... 12 mm / 0.45 inch	



Similar to illustration

### Socket; without ground contact tab; white

Pole No.	Marking	Item No.	Pack. Unit
3	N, ⊕, L	267-552	50

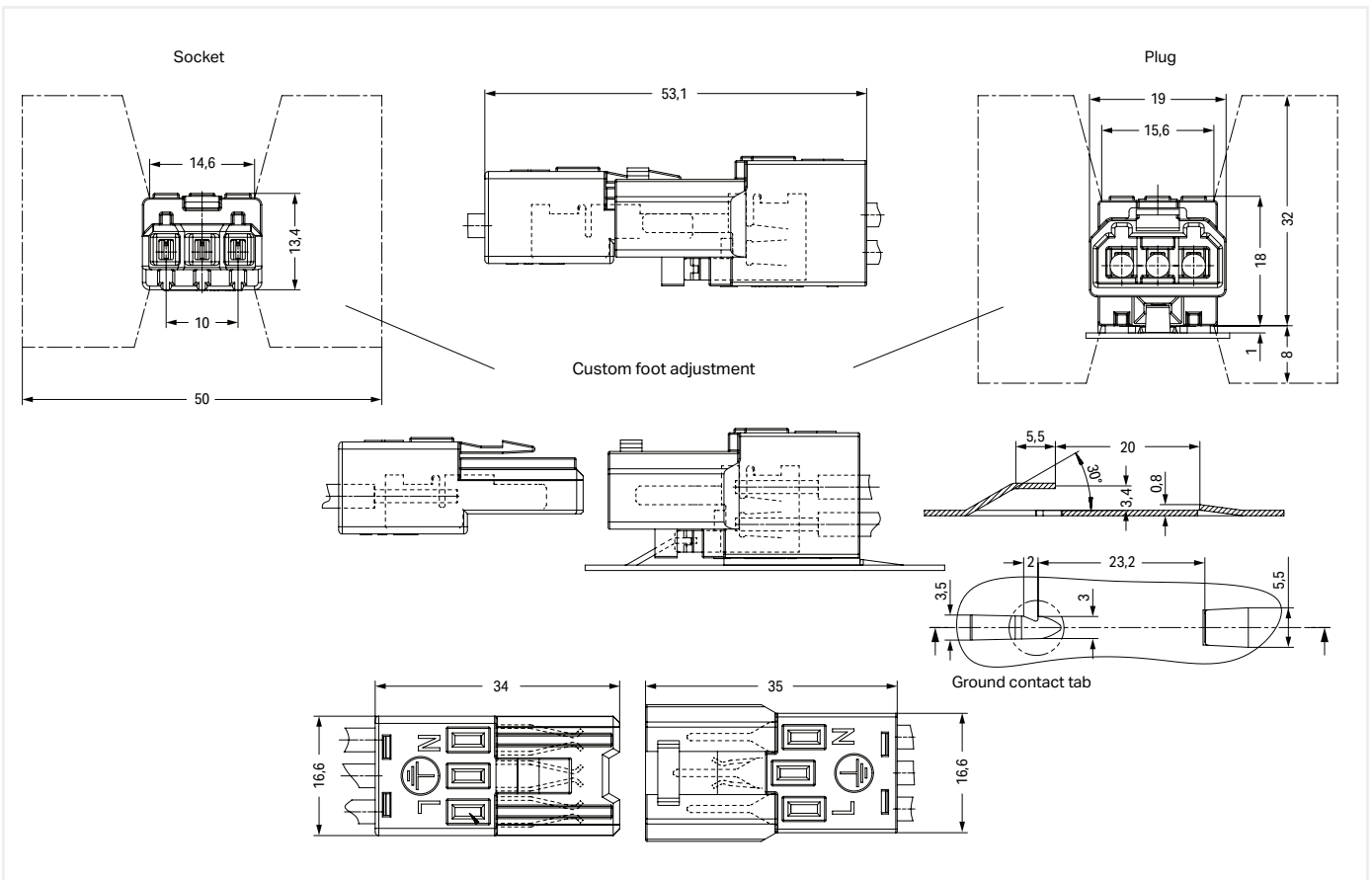
Similar to illustration

### Plug; with connection for ground contact tab; white

Pole No.	Marking	Item No.	Pack. Unit
3	L, ⊕, N	267-563	50

5

Dimensions (in mm):



# Luminaire Disconnect Connector 873 Series

Technical Data	
3-conductor plug ①	1-conductor socket ②
18 ... 12 AWG "s"	18 AWG "s"
16 ... 12 AWG "st"	600 V, 6 A
11 ... 13 mm / 0.47 inch ①	
9 ... 11 mm / 0.39 inch ②	

Technical Data	
3-conductor plug ①	1-conductor socket ②
18 ... 12 AWG "s"	18 AWG "s"
16 ... 12 AWG "st"	600 V, 6 A
11 ... 13 mm / 0.47 inch ①	
9 ... 11 mm / 0.39 inch ②	

Technical Data	
3-conductor plug ①	1-conductor socket ②
18 ... 12 AWG "s"	18 AWG "s"
16 ... 12 AWG "st"	600 V, 6 A
11 ... 13 mm / 0.47 inch ①	
9 ... 11 mm / 0.39 inch ②	



Luminaire Disconnect Connector		
Pole No.	Item No.	Pack. Unit
2	873-902	40

Luminaire Disconnect Connector		
Pole No.	Item No.	Pack. Unit
3	873-903	20

Luminaire Disconnect Connector; preceding ground contact; center position		
Pole No.	Item No.	Pack. Unit
3	873-953	500

Luminaire Disconnect  
Sectionneur du luminaire

Luminaire Disconnect  
Sectionneur du luminaire

18-12 AWG CU, SOL, UL/CSA 0,75...4 mm <sup>2</sup> 16-12 AWG (≤ 19 str.) CU, UL 14-12 AWG (≤ 19 str.) CU, CSA 1,5...4 mm <sup>2</sup> One-time use only – Do not reuse N'utiliser qu'une seule fois	18 AWG CU, SOL, UL/CSA 0,75 mm <sup>2</sup> <del>16-12 AWG (≤ 19 str.) CU, UL</del> <del>14-12 AWG (≤ 19 str.) CU, CSA</del>
0.45 inch / 11 ... 13 mm	0.35 inch / 9 ... 11 mm

**Correct method of solid wire removal**  
Hold wire to be removed in one hand, the connector in the other – twist slightly while pulling the connector.

**Déconnexion correcte du conducteur rigide**  
Tenir d'une main le conducteur à déconnecter et de l'autre main le connecteur – Opérer une légère torsion du conducteur tout en tirant sur le connecteur.

Touchproof connectors are required for ballast supply cables in the USA and Canada. When exchanging a ballast:

1. The touch-proof plug-in connection is disconnected first
2. The ballast is replaced
3. Network connection is restored by plugging the connection. This streamlines ballast replacement while enhancing safety by safeguarding the installer from electric shock. The 873 Series connectors are approved according to UL 2459 and CSA 22.2 for this type of application.

873 Series approvals per EN 60998 and EN 61984:

EN 60998:  
0.75 mm<sup>2</sup> (solid), 6 A for socket  
1.5 ... 4 mm<sup>2</sup> (solid), 32 A for plug

EN 61984:  
0.75 mm<sup>2</sup> (solid), 6 A for socket  
0.75 ... 4 mm<sup>2</sup> (solid), 32 A for plug  
400 V/4 kV/2




» ① 2-conductor plug  
» ② 1-conductor socket



## WAGO Lighting Terminal Blocks and Connectors for Linect®



## WAGO Lighting Terminal Blocks and Connectors for Linect®

			Page
	Lighting Terminal Blocks for Linect®	294 Series	180
	Connectors for Linect® T-Connectors for Linect®	770 Series	188
	WINSTA® Box	899 Series	192

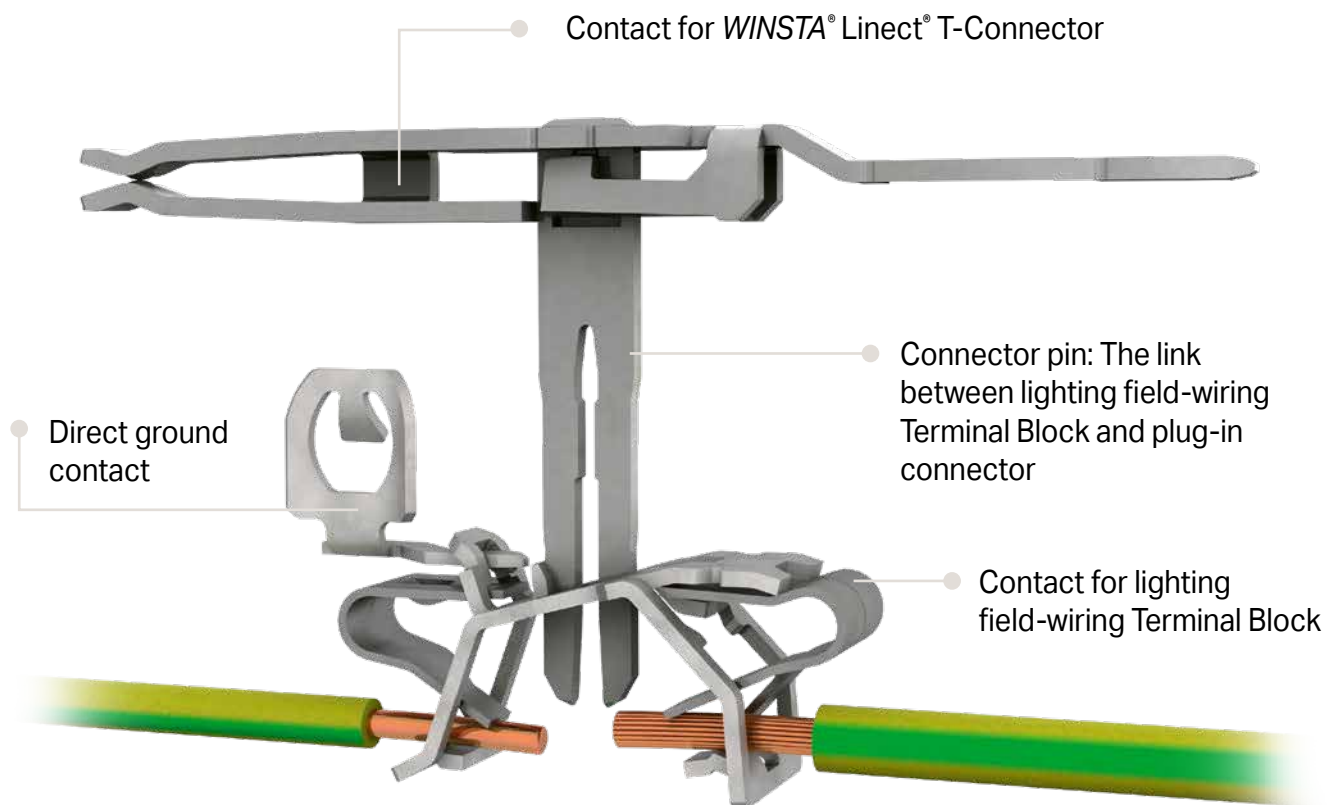
## For Universal Lighting Connections

### Linect® ▶ 294 Series

Lights offered under the Linect® name permit both conventional field-wiring and pluggable connections. Linect®-branded interfaces can be used by any lighting manufacturer worldwide. This enables lights carrying the Linect® logo to be connected to any Linect®-marked connectors – regardless of manufacturer!

### Contact Technology with Linect® Interface:

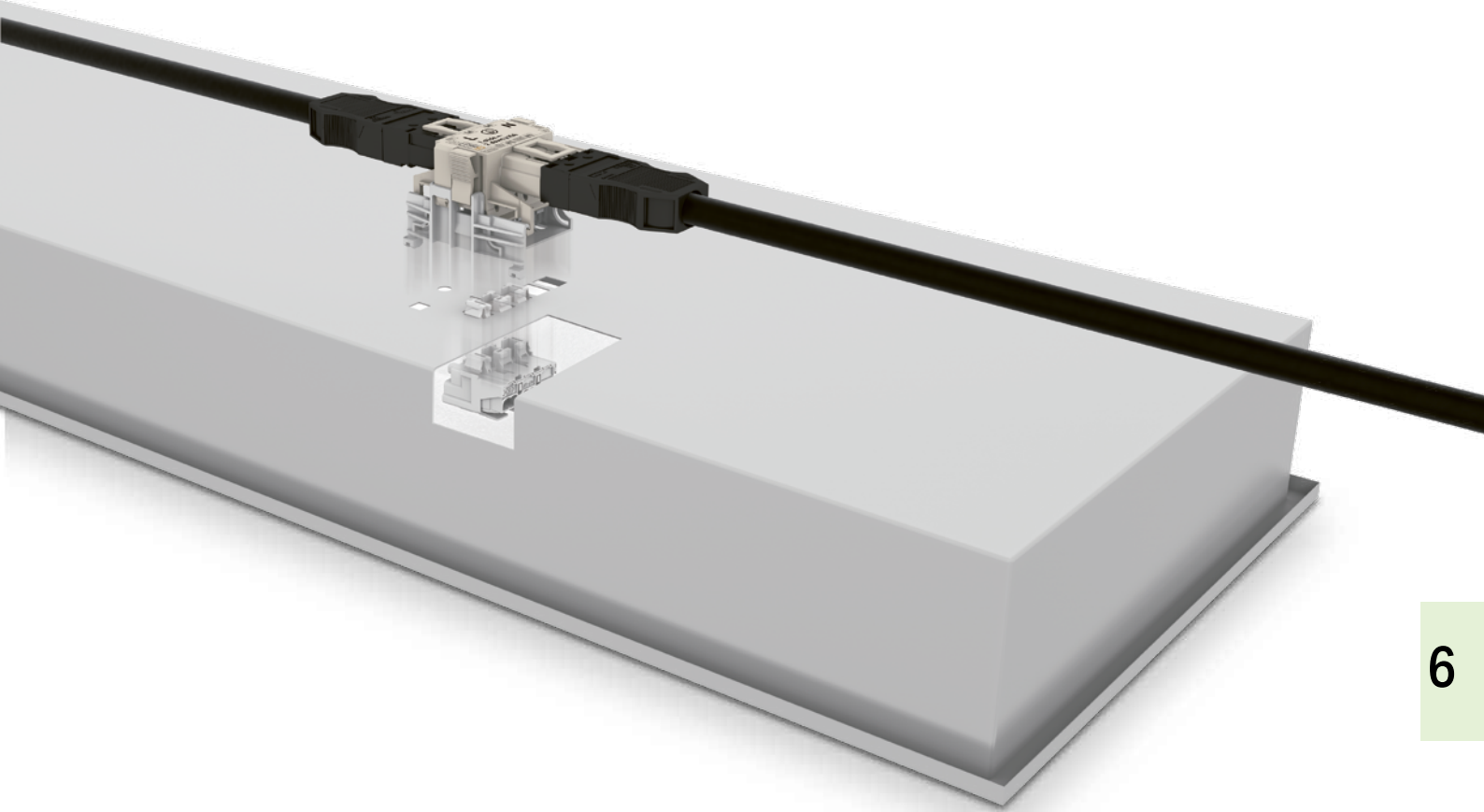
6



**PUSH WIRE®** for internal lighting wiring with solid conductors

**Push-in CAGE CLAMP®** for standard lighting wiring with all conductor types

# PLUGGABLE ELECTRICAL INSTALLATION OR CONVENTIONAL WIRING?



6

## Linect® DOES IT ALL!

### Modern Lights Need Modern, Pluggable Connections

The modern connection system for lighting installation has a name – Linect®. Lights with a Linect® interface provide connections for both conventional field-wiring Terminal Blocks and pluggable connectors – regardless of the manufacturer. Modern, pluggable electrical installation with Linect® enables fast and easy installation of recessed luminaires with various pluggable connector systems.

As lighting manufacturers, planners and electricians, you will benefit from Linect® – the universal light connection system.

# Lighting Terminal Blocks Description and Installation

Linect® ▶ 294 Series



WAGO's 294 Series Lighting Terminal Blocks allow worldwide connection of luminaires via WINSTA® Pluggable Connectors or conventional wiring.

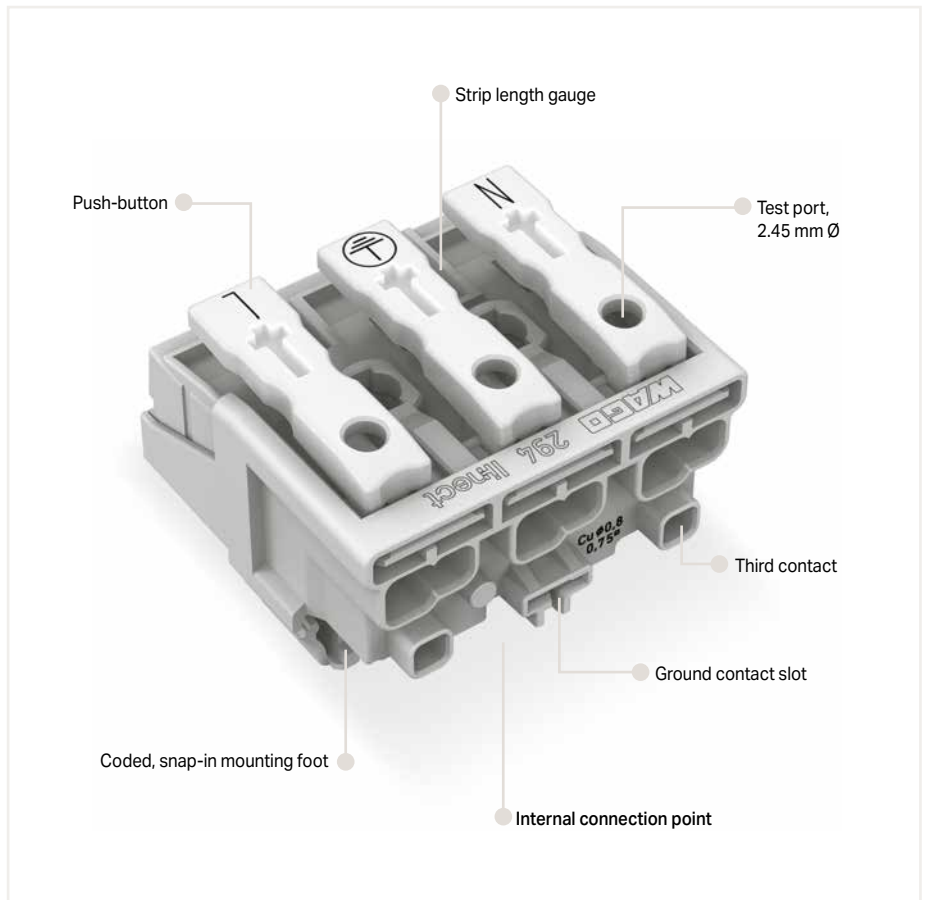


WAGO Linect® Lighting Terminal Blocks are ideal for connecting additional consumers that were not originally planned (e.g., spots). The maximum current between WINSTA® Linect® T-Connector and Lighting Terminal Block is 16 A.

6



Integrated strip length gauge



Position the T-connector within the two square recesses.



Move the T-connector toward the square cutouts until it is locked in position.



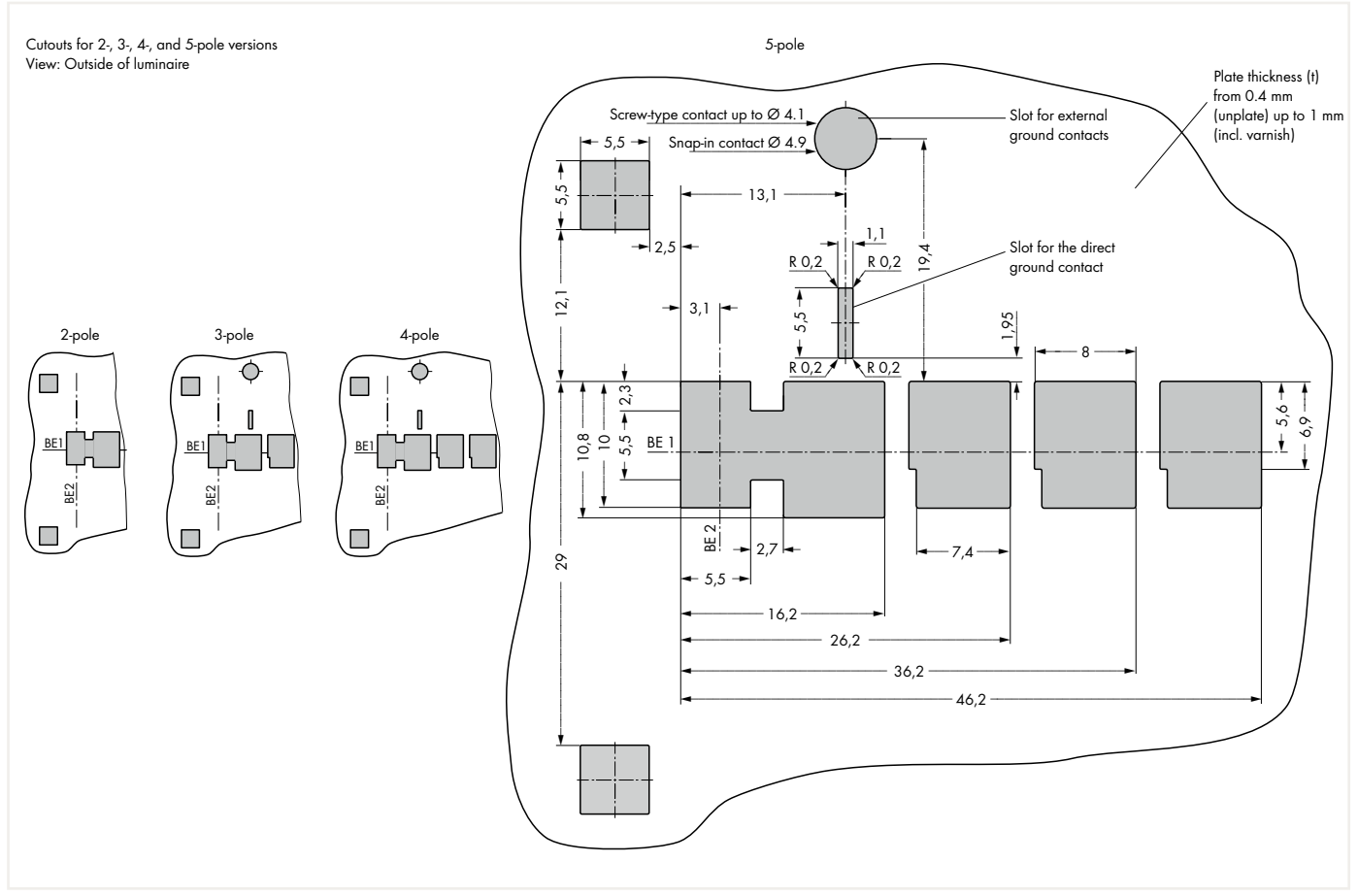
Push connector down until fully engaged – done!

# Description and Installation

## Linect® ▶ 294 Series

Pole No.	Marking	Without GND contact	With direct GND contact	With screw-type GND contact	With snap-in GND contact	With angled snap-in GND contact
2	N' L' DA+ DA-	Item No. 294-8022 294-8032	Item No. -	Item No. -	Item No. -	Item No. -
3	N ⊕ L (mains) N E L	294-8013 294-8093/3025-000	294-8113 -	294-8413 -	294-8213 -	294-8313 -
4	1/L' 2/L ⊕ N 1/L' 2/L E N	294-8024 294-8094/4025-000	294-8124 -	294-8424 -	294-8224 -	294-8324 -
5	DA+ DA- L ⊕ N L' N' L ⊕ N L3 L2 L1 ⊕ N DA+ DA- L E N L3 L2 L1 E N L' N' L E N	294-8035 294-8025 294-8015 294-8095/5025-000 294-8095/5026-000 294-8095/5027-000	294-8135 294-8125 294-8115 - - -	294-8435 294-8425 294-8415 - - -	294-8235 294-8225 294-8215 - - -	294-8335 294-8325 294-8315 - - -

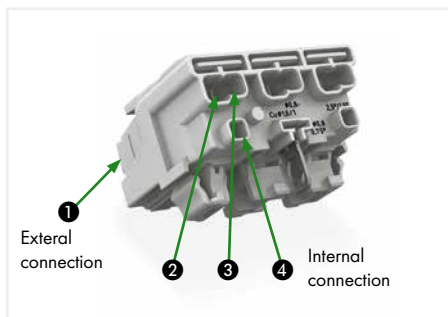
6



## Lighting Terminal Block Linect® ▶ 294 Series



- External connection of solid, stranded and fine-stranded conductors
- Universal conductor termination (AWG, metric)
- Third contact located at the bottom of internal connection end
- Strain relief plate can be retrofitted



Electrical Data	Linect® Connector		
Ratings per	IEC/EN 60998-1	IEC/EN 60998-2-2	IEC/EN 60664-1
Overvoltage category	II	II	II
Pollution degree	2	2	2
Rated voltage	500 V	500 V	500 V
Rated surge voltage	4 kV	4 kV	4 kV
Rated current	24 A	24 A	16 A
Temperature marking	T 85	T 85	
Degree of protection			IP 2 XC
Storage temperature			-35 ... +85 °C
Processing temperature			-5 ... +40 °C

Connection Data for External Connection	
Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor range (conductor termination ❶)	
Solid, stranded or fine-stranded conductor	2 x 0.5 ... 2.5 mm <sup>2</sup>
Solid, stranded or fine-stranded conductor; with ferrule	2 x 0.5 ... 1.5 mm <sup>2</sup>
Solid conductor (AWG)	2 x 18 ... 12
Fine-stranded and stranded conductor (AWG)	2 x 18 ... 14

Connection Data for Internal Connection	
Connection technology	PUSH WIRE®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor range (conductor termination ❷)	
Solid conductor	0.5 ... 2.5 mm <sup>2</sup> / 18 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 1.5 mm <sup>2</sup>
Fine-stranded conductor; with insulated ferrule	0.5 ... 1 mm <sup>2</sup>
Conductor range (conductor termination ❸)	
Solid conductor	0.5 ... 1.5 mm <sup>2</sup> / 18 ... 16 AWG
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with insulated ferrule	0.5 ... 0.75 mm <sup>2</sup>
Conductor range (conductor termination ❹)	
Solid conductor	0.5 ... 0.75 mm <sup>2</sup> / 18 AWG

Material Data	
Material group	IIIa
Insulation material	Polycarbonate (PC)
Flammability class per UL94	V0
Temperature stability	Relative Temperature Index (RTI) of 120°C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

PUSH-IN CAGE CLAMP®

PUSH WIRE®

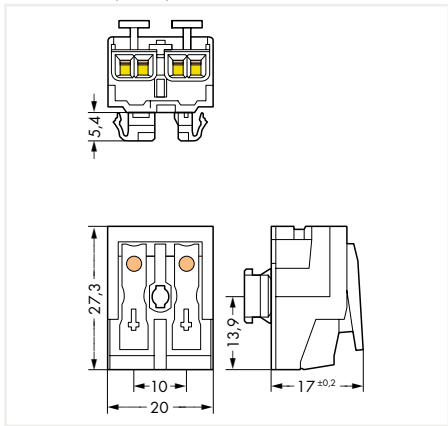
# Lighting Terminal Block ▶ 2-Pole Linect® ▶ 294 Series

Without GND contact



Marking	Item No.	Pack. Unit
N' L'	294-8022	1000
DA+ DA-	294-8032	1000

Dimensions (in mm):



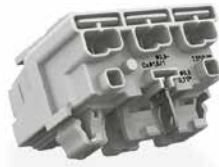
6

# Lighting Terminal Block ▶ 3-Pole Linect® ▶ 294 Series

Without GND contact



With direct GND contact



With screw-type GND contact

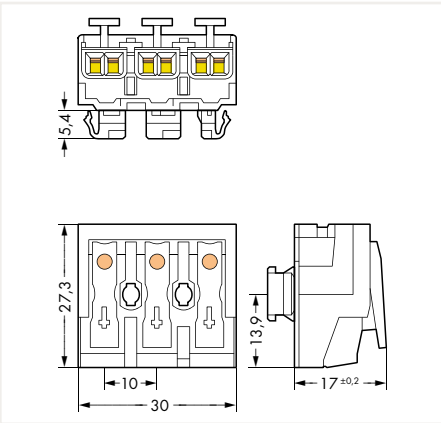


Marking	Item No.	Pack. Unit
N ⊕ L (mains)	294-8013	500
N E L	294-8093/3025-000	500

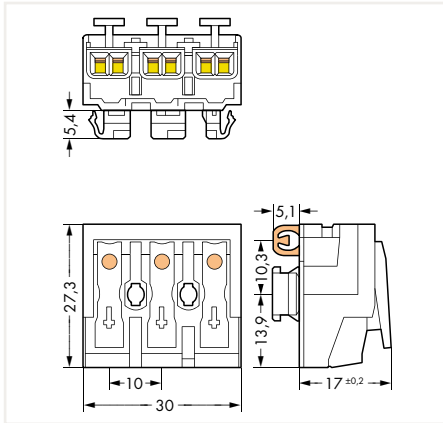
Marking	Item No.	Pack. Unit
N ⊕ L (mains)	294-8113	500

Marking	Item No.	Pack. Unit
N ⊕ L (mains)	294-8413	500

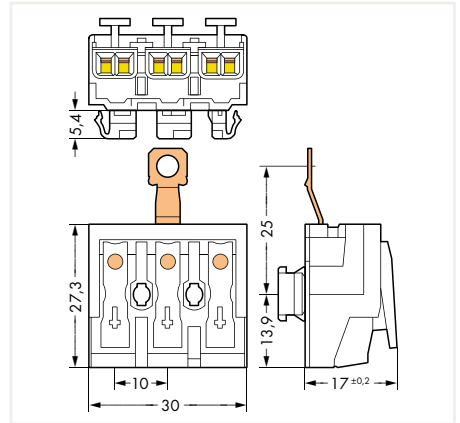
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



6



PUSH-IN CAGE CLAMP®

PUSH WIRE®

# Lighting Terminal Block ▶ 3-Pole Linect® ▶ 294 Series

With snap-in GND contact

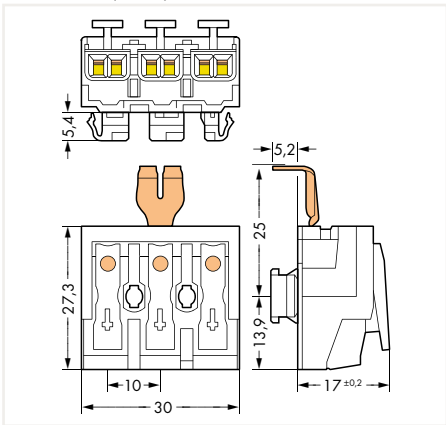
With angled snap-in GND contact



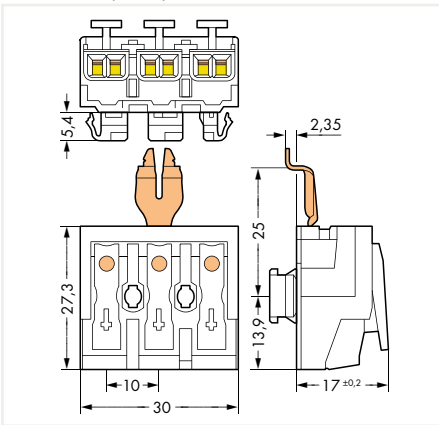
Marking	Item No.	Pack. Unit
N ⊕ L (mains)	294-8213	500

Marking	Item No.	Pack. Unit
N ⊕ L (mains)	294-8313	500

Dimensions (in mm):



Dimensions (in mm):



6

# Lighting Terminal Block ▶ 4-Pole Linect® ▶ 294 Series

Without GND contact



With direct GND contact



With screw-type GND contact

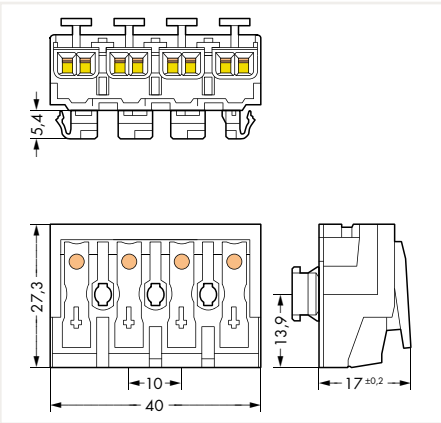


Marking	Item No.	Pack. Unit
1/L' 2/L' ⊕ N	294-8024	500
1/L' 2/L' E N	294-8094/4025-000	500

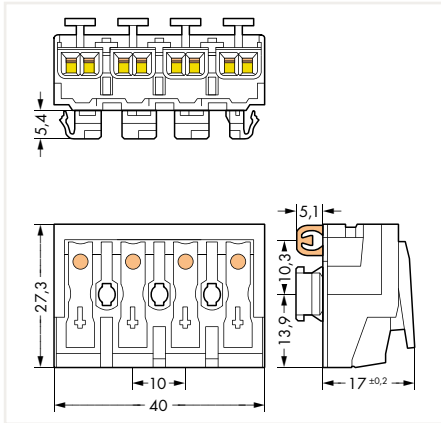
Marking	Item No.	Pack. Unit
1/L' 2/L' ⊕ N	294-8124	500

Marking	Item No.	Pack. Unit
1/L' 2/L' ⊕ N	294-8424	500

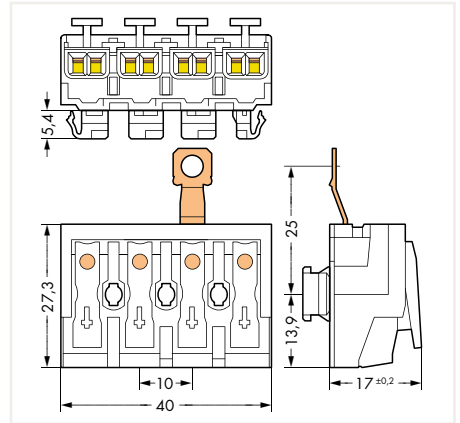
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



6

PUSH-IN CAGE CLAMP®

PUSH WIRE®

# Lighting Terminal Block ▶ 4-Pole Linect® ▶ 294 Series

With snap-in GND contact

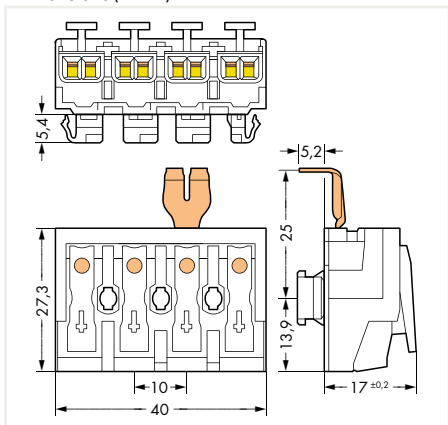
With angled snap-in GND contact



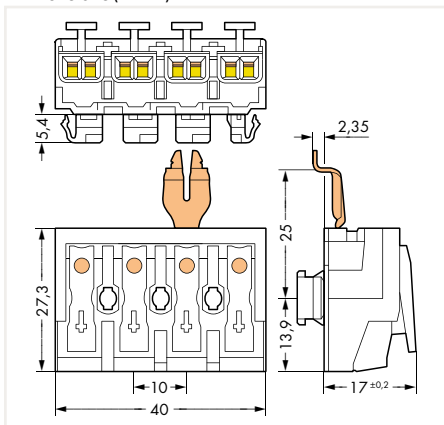
Marking	Item No.	Pack. Unit
1/L' 2/L' ⊕ N	294-8224	500

Marking	Item No.	Pack. Unit
1/L' 2/L' ⊕ N	294-8324	500

Dimensions (in mm):



Dimensions (in mm):



6

## Lighting Terminal Block ▶ 5-Pole Linect® ▶ 294 Series

Without GND contact



With direct GND contact



With screw-type GND contact

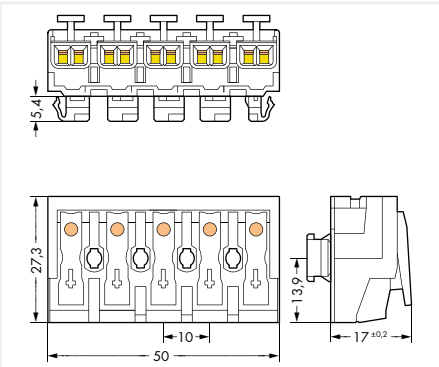


Marking	Item No.	Pack. Unit
DA+ DA- L ⊕ N	294-8035	250
L' N' L ⊕ N	294-8025	250
L3 L2 L1 ⊕ N	294-8015	250
DA+ DA- L E N	294-8095/5025-000	250
L3 L2 L1 E N	294-8095/5026-000	250
L' N' L E N	294-8095/5027-000	250

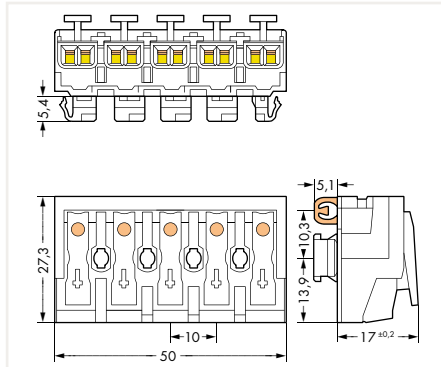
Marking	Item No.	Pack. Unit
DA+ DA- L ⊕ N	294-8135	250
L' N' L ⊕ N	294-8125	250
L3 L2 L1 ⊕ N	294-8115	250

Marking	Item No.	Pack. Unit
DA+ DA- L ⊕ N	294-8435	250
L' N' L ⊕ N	294-8425	250
L3 L2 L1 ⊕ N	294-8415	250

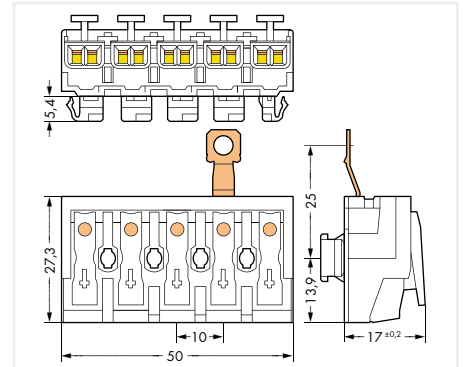
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



6

**PUSH-IN CAGE CLAMP®**

**PUSH WIRE®**

# Lighting Terminal Block ▶ 5-Pole Linect® ▶ 294 Series

With snap-in GND contact

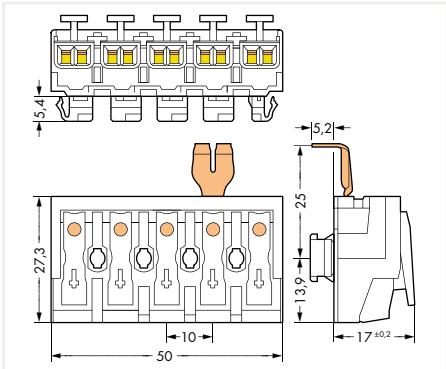
With angled snap-in GND contact



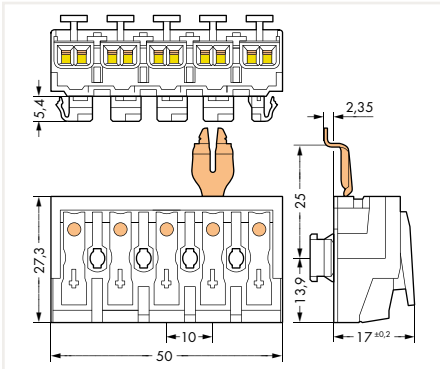
Marking	Item No.	Pack. Unit
DA+ DA- L ⊕ N	294-8235	250
L' N' L ⊕ N	294-8225	250
L3 L2 L1 ⊕ N	294-8215	250

Marking	Item No.	Pack. Unit
DA+ DA- L ⊕ N	294-8335	250
L' N' L ⊕ N	294-8325	250
L3 L2 L1 ⊕ N	294-8315	250

Dimensions (in mm):



Dimensions (in mm):



6


## Linect® Connector for Conventional Wiring ▶ 3-Pole 770 Series



- Linect® Connectors for conventional, external wiring
- Push-in CAGE CLAMP® for all conductor types up to 2.5 mm<sup>2</sup>
- Quick and easy replacement of lights for maintenance or retrofits
- Opening the light is not necessary

Electrical Data	Push-in CAGE CLAMP® connection	Linect® Connector
Ratings per	IEC/EN 61984	IEC/EN 61984
Overtoltage category	II	II
Pollution degree	2	2
Rated voltage	250 V	250 V
Rated surge voltage	4 kV	4 kV
Rated current	24 A	16 A
Degree of protection	IP 2 XC	IP 2 XC
Storage temperature	-35 ... +85 °C -5 ... +40 °C	-35 ... +85 °C -5 ... +40 °C

### Connection Data for External Connection

Connection technology	Push-in CAGE CLAMP®
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Conductor range (conductor termination  )	
Solid, stranded or fine-stranded conductor	2 x 0.5 ... 2.5 mm <sup>2</sup>
Solid, stranded or fine-stranded conductor; with ferrule	2 x 0.5 ... 2.5 mm <sup>2</sup>
Solid conductor (AWG)	2 x 20 ... 12
Fine-stranded and stranded conductor (AWG)	2 x 18 ... 14

### Material Data

Material group	IIIa
Insulation material	Polycarbonate (PC)
Flammability class per UL94	V0
Temperature stability	Relative Temperature Index (RTI) of 120°C
Clamping spring material	Chrome nickel spring steel (CrNi)
Contact Material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated

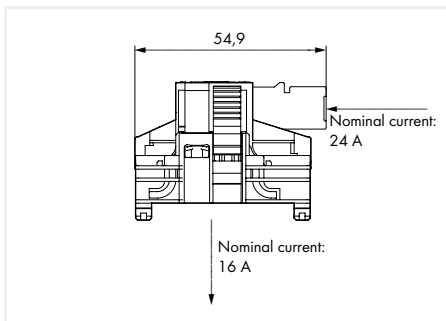
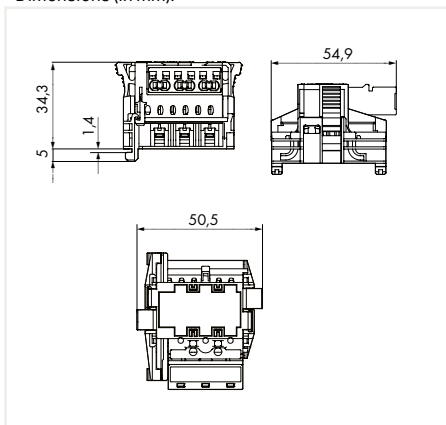
# Linect® Connector for Conventional Wiring ▶ 3-Pole 770 Series

Linect® Connector; 3-pole



Color	Item No.	Pack. Unit
○ white	770-6229	25

Dimensions (in mm):



3-pole		
○ white	A-coding	(L ⊕ N)

Accessories; item-specific

Strain relief housing; for 1 cable; 4.5 ... 8 mm diameter

	black	770-503/023-000	50
	white	770-513/023-000	50

Strain relief housing; for 2 cables; 8 ... 11.5 mm diameter

	black	770-503	50
	white	770-513	50

Strain relief housing; angled; for 2 cables; 8 ... 11.5 mm diameter

	black	770-503/032-000	50
	white	770-513/032-000	50

Strain relief housing; for 4 mm² cables; for 1 cable; 9 ... 13 mm diameter

	black	770-503/021-000	50
	white	770-513/021-000	50

Strain relief housing; for quick assembly; for 1 cable; 7 ... 11 mm diameter

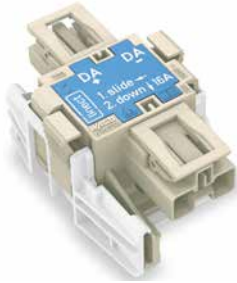
	black	770-503/035-000	50
	white	770-513/035-000	50

# WINSTA® MIDI

## Linect® T-Connector, 2-, 3- and 4-Pole

### 770 Series

Technical Data	
250 V / 4 kV / 3	
$I_N$ 25 A (16 A)	



Technical Data	
250 V / 4 kV / 3	
$I_N$ 25 A (16 A)	



Technical Data	
400 V / 6 kV / 3	
$I_N$ 25 A (16 A)	



Linect® T-Connector; 2-pole; socket – plug; white housing; blue cover; for DALI applications

Color	Item No.	Pack. Unit
● blue	770-7102	25

Linect® T-Connector; 3-pole; socket – plug; white housing; white cover

Color	Item No.	Pack. Unit
○ white	770-6223	25

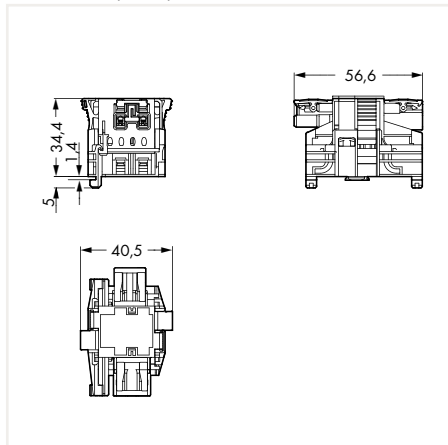
Linect® T-Connector; 4-pole; socket – plug; white housing; white cover

Color	Item No.	Pack. Unit
○ white	770-6224	25

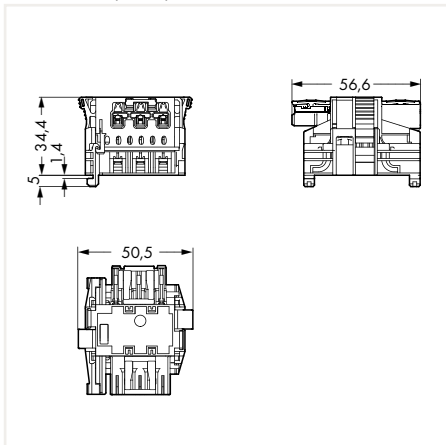
Linect® T-Connector; 2-pole; socket – plug; white housing; dark gray cover; for emergency power

Color	Item No.	Pack. Unit
● dark gray	770-7502	25

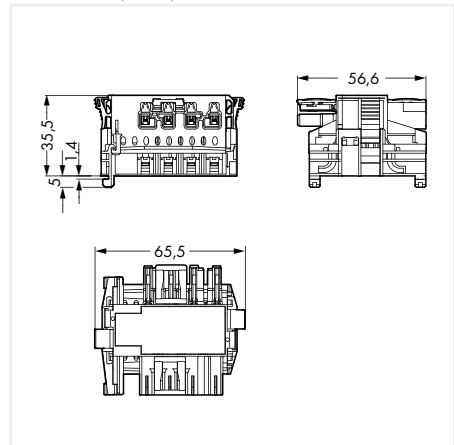
Dimensions (in mm):



Dimensions (in mm):



Dimensions (in mm):



Accessories; item-specific  
Coding pin; for plug (A- and B-coding)

gray	770-401	1000
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Accessories; item-specific  
Coding pin; for plug (A- and B-coding)

gray	770-401	1000
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# WINSTA® MIDI

## Linect® T-Connector, 5-Pole

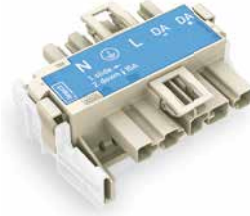
### 770 Series

Technical Data	
400 V / 6 kV / 3	
I <sub>N</sub> 25 A (16 A)	



Linect® T-Connector; 5-pole; socket – plug; white housing; white cover		
Color	Item No.	Pack. Unit
○ white	770-6225	25

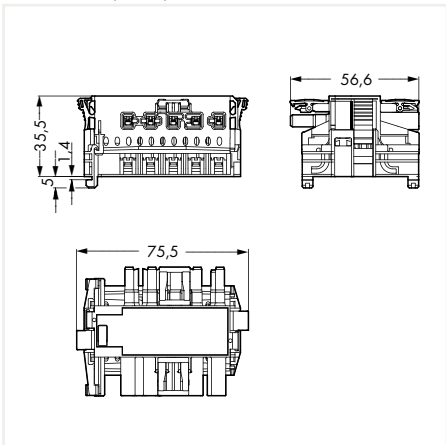
Technical Data	
400 V / 6 kV / 3	
I <sub>N</sub> 25 A (16 A)	



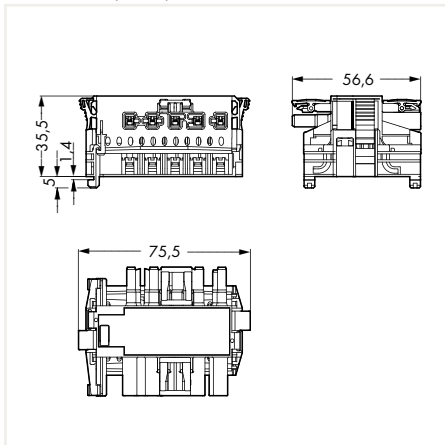
Linect® T-Connector; 5-pole; socket – plug; white housing; blue cover; for DALI applications		
Color	Item No.	Pack. Unit
● blue	770-7105	25

Linect® T-Connector; 5-pole; socket – plug; white housing; dark gray cover; for emergency power		
Color	Item No.	Pack. Unit
● dark gray	770-7505	25

Dimensions (in mm):



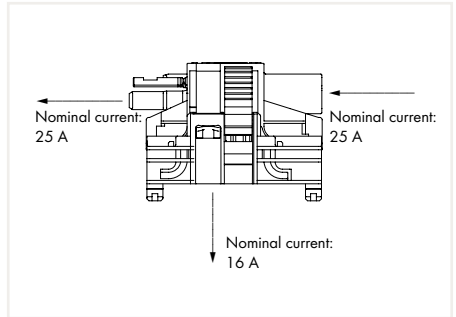
Dimensions (in mm):



2-pole		
● blue	I-coding	(DA+ DA-)
● dark gray	L-coding	(L' N')
3-pole		
○ white	A-coding	(L ⊕ N)
4-pole		
○ white	A-coding	(N ⊕ 2/L 1/L')
5-pole		
○ white	A-coding	(N ⊕ L1 L2 L3)
● blue	I-coding	(N ⊕ L DA- DA+)
● dark gray	L-coding	(N ⊕ L N' L')

Accessories			
Lockout cap; for socket; separable; 12-pole			
	black	770-201	100
	white	770-221	100

Lockout cap; for plug; separable; 5-pole			
	yellow	770-360	100



**WINSTA® Box****Connection Box for Lighting and Electrical Equipment with Linect® Interface; 899 Series****Unlimited Freedom in LED Light Design**

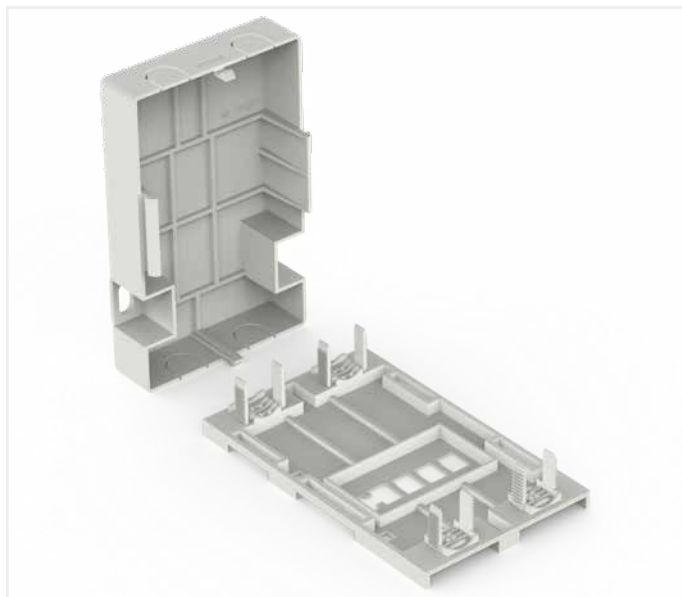
New Lighting Connection Box: A Connection Solution for All Installation Types

Increasing miniaturization and popular flat LED lights requires universal connection options. WAGO's new lighting connection box offers the best solution because it is housed outside the light. This gives lighting manufacturers more design freedom. In addition, no dirt and dust can get into the light during installation because it no longer has to be opened for the connection. The new box has ample installation space and is suitable for a large range of conductor cross-sections up to  $5 \times 2.5 \text{ mm}^2$ . Regardless of how the project is installed, lights with the WAGO Lighting Connection Box fit into every concept – it doesn't matter if you choose a pluggable building installation, such as the WAGO Pluggable Connection System WINSTA® or a conventional installation type. The integrated Linect® interface also contributes to this, for which a connector with a conventional conductor connection is also available in addition to the pluggable version.

**Advantages:**

- Perfect connection technology for very flat lights
- A connection solution, regardless of the installation type
- Perfect connection space for conductor cross sections up to  $5 \times 2.5 \text{ mm}^2$

Connection box for lighting and electrical equipment with Linect® interface  
Item No. 899-8005









# **WINSTA<sup>®</sup> – The Pluggable Connection System**

## WAGO Pluggable Connection System *WINSTA*®

			Page
	<i>WINSTA</i> ® MINI	890 Series	200
	<i>WINSTA</i> ® MIDI	770 Series	216

# THE BUILDINGS OF TOMORROW ARE BUILT USING THE WINSTA® SYSTEM OF TODAY

Perfectly Plugged Electrical Building Installations



# SUCCESS THROUGH EXPERTISE

## Project Planning with WAGO

WAGO offers consulting and project planning services to help devise the best possible solution for your project. Our experienced team of professionals will gladly help you implement your project with our products.

### Installation Examples:



In suspended ceilings



WINSTA® MIDI  
0.5 ... 4 mm<sup>2</sup> / 25 A / 400 V



Power distribution



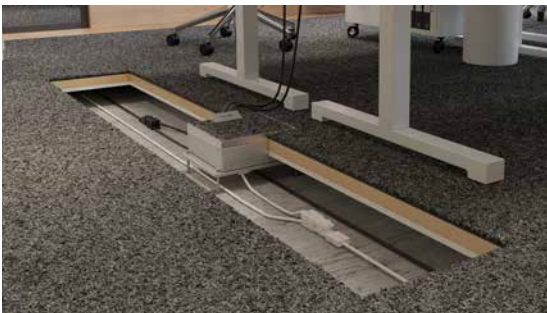
WINSTA® Boxes



WINSTA® MINI  
0.25 ... 1.5 mm<sup>2</sup> / 16 A / 250 V.



WINSTA® MIDI  
0.5 ... 4 mm<sup>2</sup> / 25 A / 400 V



In raised floors



WINSTA® MIDI  
0.5 ... 4 mm<sup>2</sup> / 25 A / 400 V



WINSTA® IDC  
2.5 ... 16 mm<sup>2</sup> / 76 A / 400 V

## WAGO Pluggable Connection System WINSTA®

### WINSTA® MINI

#### For Space-Restricted Applications

- Sensors (switches, push-buttons, window contacts, pressure switches, temperature sensors, etc.)
- Actuators (control valves, magnetic valves, servo motors, blinds/sun protection, etc.)
- Protection class II for halogen lamps and luminaires
- Control signals
- 1.5 mm<sup>2</sup> (16 AWG), 250 V, 16 A
- IP 40

2 ... 5 poles  
890 and 891 Series



### WINSTA® MIDI

#### For Maximum Possibilities

- General building installation, ideal for modern buildings
- Standard lighting fixtures and safety lights
- Tradeshow and shop installation
- Motor homes
- Lab work stations
- Rolling stock
- Marine applications
- 4 mm<sup>2</sup> (12 AWG), 250/400 V, 25 A

2 ... 5 poles  
770 and 771 Series



### WINSTA® MAXI

#### For High-Current Applications

- Power supply via 6 mm<sup>2</sup> (10 AWG) cable for extended cable runs
- 32 A power supply in distribution boxes for high energy requirements
- 6 mm<sup>2</sup> (10 AWG), 250/400 V, 35 A

5 poles  
831 Series



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### WINSTA® MINI

#### For Specialty Applications

2 ... 5 poles  
890 and 891 Series



### WINSTA® MIDI

#### For Specialty Applications

2 ... 5 poles  
770 and 771 Series



### WINSTA® Boxes

#### Distribution Boxes

899 Series



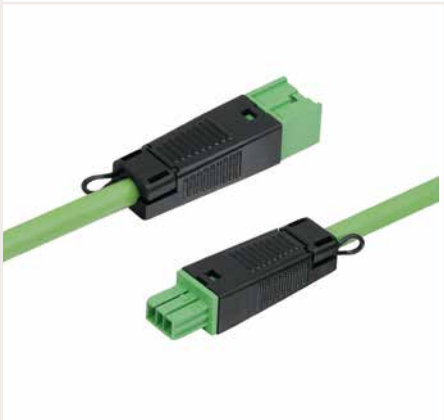


**WINSTA® KNX**

For the Standardized Bus

- KNX/EIB
- Control signals
- Ø 0.8 mm. 50 V, 3 A

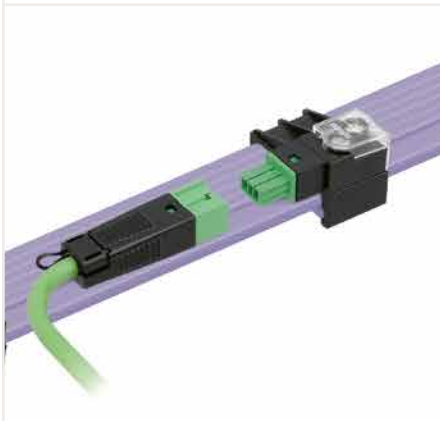
2 poles  
893 and 894 Series

**WINSTA® IDC**

For Maximum Flexibility

- Supply and tap off is possible at any time and at any location along the flat cable. No cutting, no stripping, no dismantling – very user-friendly
- A 120° rotation is all that is required to connect the flat cable
- Space-efficient across the flat cable through longitudinal tap off
- 2.5/4 mm<sup>2</sup> (14/12 AWG), 400 V, 25 A
- 10 mm<sup>2</sup> (8 AWG), 690 V, 57 A
- 16 mm<sup>2</sup> (6 AWG), 690 V, 76 A

2, 3, 5 and 7 poles  
772, 893, 895, 896 and 897 Series

**WINSTA® RD**

For Round Conduits and Ducts

- Outside diameter of 17.5 mm for applications in electrical conduits with an inner diameter > 18 mm
- Prefabricated houses
- Recessed luminaires
- Wall and ceiling cutouts

3 and 4 poles  
774 Series



## Socket and Plug; without Strain Relief Housing

### 2-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data			
Coding	A, I		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	4 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup> / 22 ... 20 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 20 AWG

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 3.8 ... 8.2 mm
Protection type	IP40 (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 2-Pole

### WINSTA® MINI ▶ 890 Series

Socket

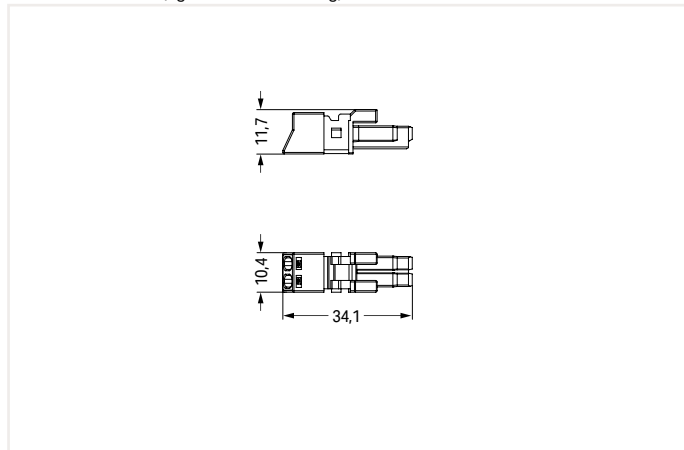
Plug



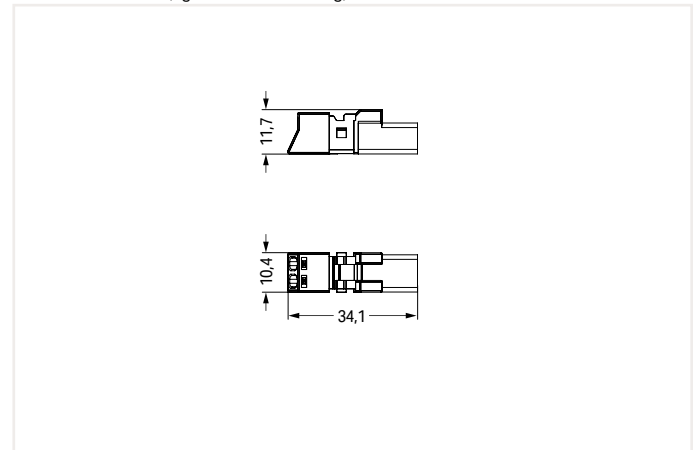
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	890-202	50
○ white	A	L N	890-222	50
● blue	I	+ -	890-1102	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	890-212	50
○ white	A	L N	890-232	50
● blue	I	+ -	890-1112	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Accessories; for all products on this page



Strain relief housing; 3.8 ... 8.2 mm cable diameter; 32 mm strip length

Color	Item No.	Pack. Unit
black	890-502	50
white	890-512	50



Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	890-101	100   50
white	890-121	100   50



Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	890-111	100   50
white	890-131	100   50



Mounting carrier; for 2- to 5-pole flying leads

Color	Item No.	Pack. Unit
black	890-310	100
white	890-311	100



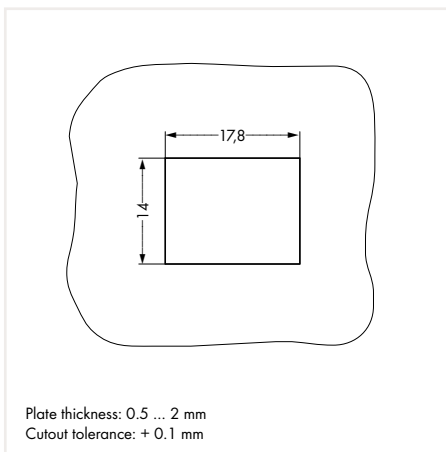
Operating tool with a partially insulated shaft; type 1; (2.5 x 0.4) mm blade

Color	Item No.	Pack. Unit
green	210-719	1

## Snap-In Socket and Plug

### 2-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A, I		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	4 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 3.8 ... 8.2 mm
Protection type	IP40 (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

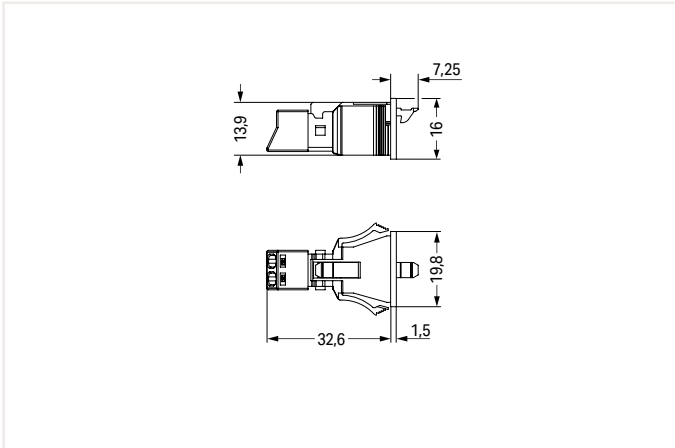
# Snap-In Socket and Plug

## 2-Pole

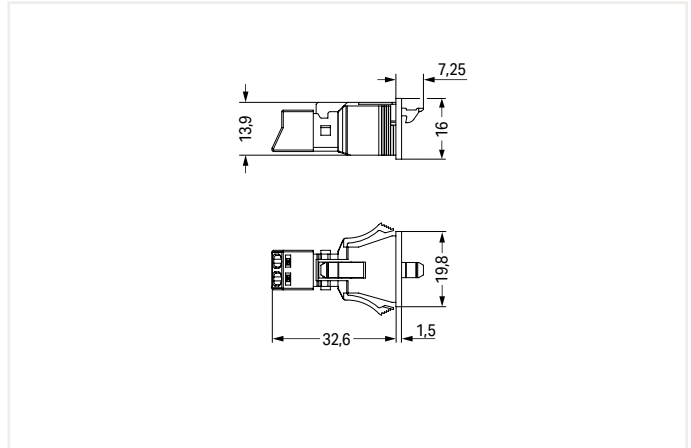
### WINSTA® MINI ▶ 890 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	890-702	50
○ white	A	L N	890-722	50
● blue	I	+ -	890-2102	50

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	890-712	50
○ white	A	L N	890-732	50
● blue	I	+ -	890-2112	50

7

Accessories; for all products on this page



Lockout cap; for cutout; 2-pole			
Color	Item No.	Pack. Unit	
● black	890-642	100	
○ white	890-692	100	



Operating tool; partially insulated; 2-way			
Color	Item No.	Pack. Unit	
● green	770-382	1	

## Socket and Plug ▶ without Strain Relief Housing

### 3-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data			
Coding	A		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	4 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup> / 22 ... 20 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 20 AWG

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 4.5 ... 10 mm
Protection type	IP40 (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 3-Pole

### WINSTA® MINI ▶ 890 Series

Socket

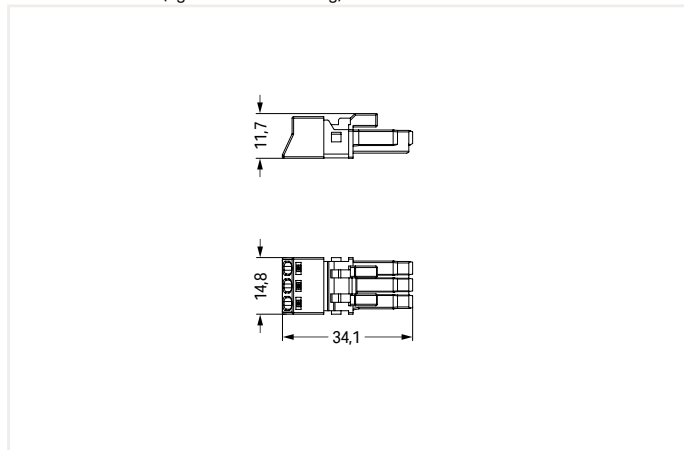
Plug



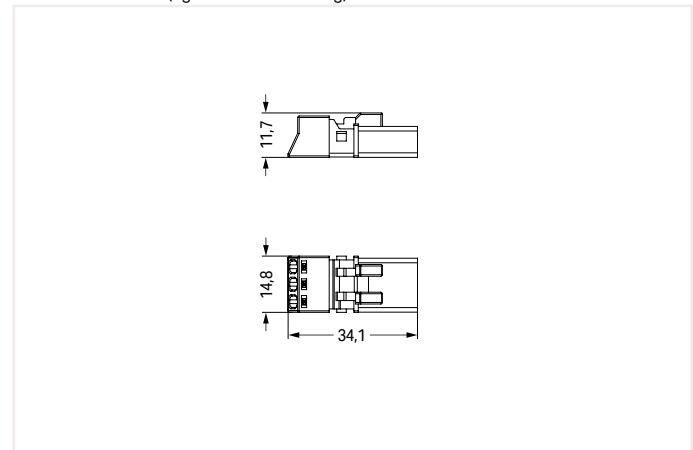
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	890-203	50
○ white	A	L ⊕ N	890-223	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	890-213	50
○ white	A	L ⊕ N	890-233	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



7

Accessories; for all products on this page



Strain relief housing; 4.5 ... 10 mm cable diameter; 40 mm strip length

Color	Item No.	Pack. Unit
black	890-503	50
white	890-513	50



Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	890-101	100   50
white	890-121	100   50



Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	890-111	100   50
white	890-131	100   50



Mounting carrier; for 2- to 5-pole flying leads

Color	Item No.	Pack. Unit
black	890-310	100
white	890-311	100



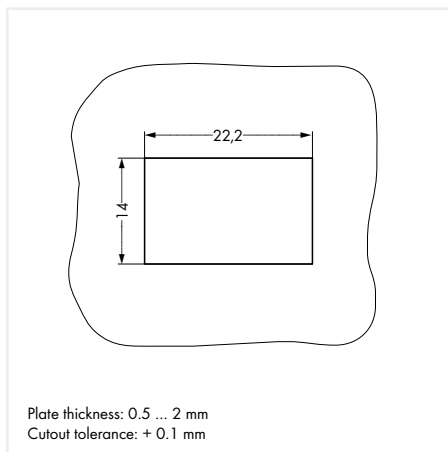
Operating tool with a partially insulated shaft; type 1; (2.5 x 0.4) mm blade

Color	Item No.	Pack. Unit
green	210-719	1

## Snap-In Socket and Plug

### 3-Pole

#### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	4 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 4.5 ... 10 mm
Protection type	IP40 (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.



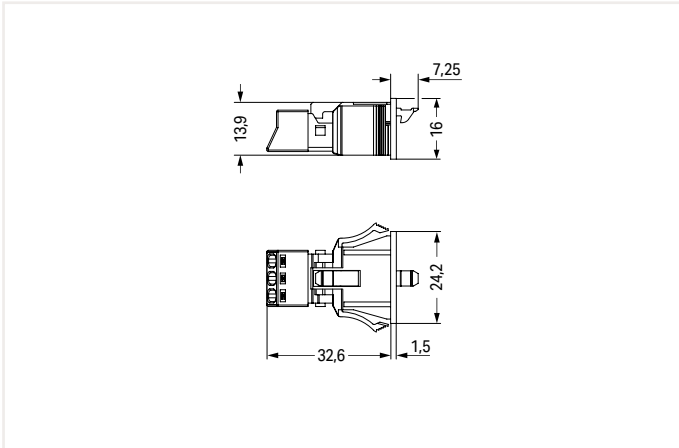
# Snap-In Socket and Plug

## 3-Pole

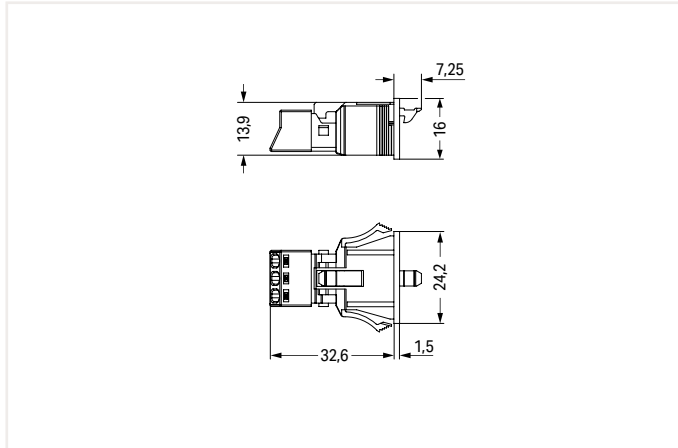
### WINSTA® MINI ▶ 890 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	890-703	50
○ white	A	L ⊕ N	890-723	50

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	890-713	50
○ white	A	L ⊕ N	890-733	50

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Accessories; for all products on this page



Lockout cap; for cutout; 3-pole			
Color	Item No.	Pack. Unit	
● black	770-643	100	
○ white	770-693	100	



Operating tool; partially insulated; 3-way			
Color	Item No.	Pack. Unit	
● green	770-383	1	

## Socket and Plug ▶ without Strain Relief Housing

### 4-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	-	-
Rated surge voltage	6 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	12 A		

Clearances and creepage distances  $\geq 5.5$  mm to exposed surfaces

Contact resistance Approx. 1 m $\Omega$  (approx. 0.25 m $\Omega$  contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup> / 22 ... 20 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 20 AWG

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16$ A, 1.5 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	$\varnothing$ 6.5 ... 10.5 mm
Protection type	IP40 (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 4-Pole

### WINSTA® MINI ▶ 890 Series

Socket



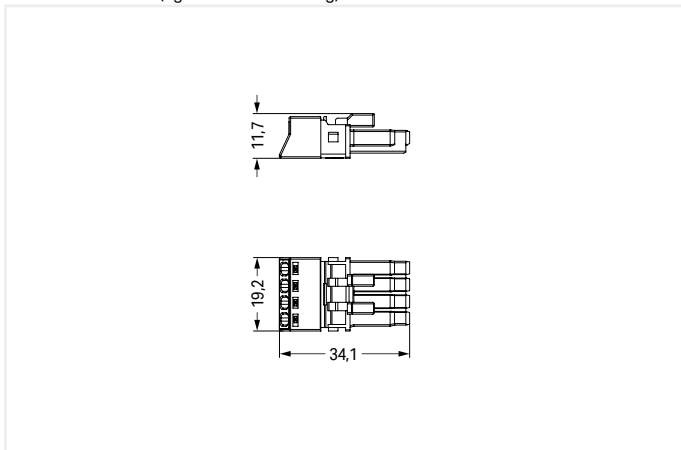
Plug



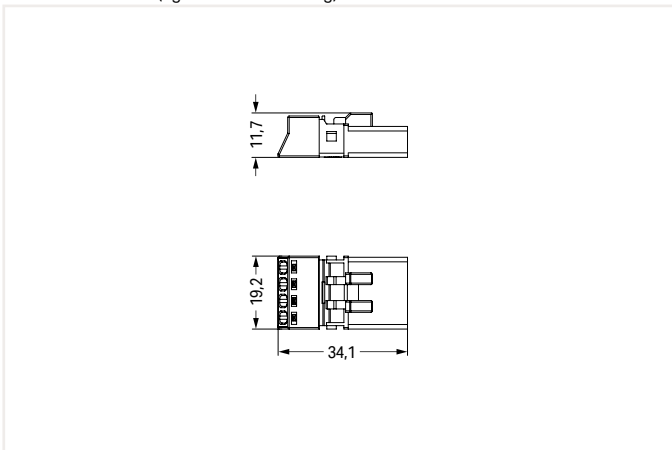
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	890-204	50
○ white	A	N ⊕ 2L 1L	890-224	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	890-214	50
○ white	A	N ⊕ 2L 1L	890-234	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



7

Accessories; for all products on this page



Strain relief housing; 6.5 ... 10.5 mm cable diameter; 45 mm strip length

Color	Item No.	Pack. Unit
black	890-504	50
white	890-514	50



Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	890-101	100   50
white	890-121	100   50



Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	890-111	100   50
white	890-131	100   50



Mounting carrier; for 2- to 5-pole flying leads

Color	Item No.	Pack. Unit
black	890-310	100
white	890-311	100



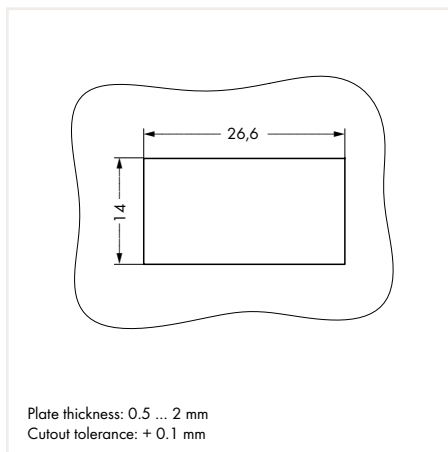
Operating tool with a partially insulated shaft; type 1; (2.5 x 0.4) mm blade

Color	Item No.	Pack. Unit
green	210-719	1

## Snap-In Socket and Plug

### 4-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	-	-
Rated surge voltage	6 kV	-	-
Rated current	16 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 6.5 ... 10.5 mm
Protection type	IP40 (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

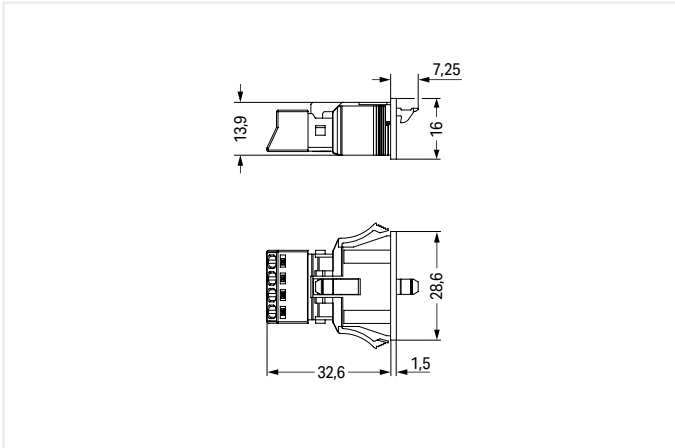
# Snap-In Socket and Plug

## 4-Pole

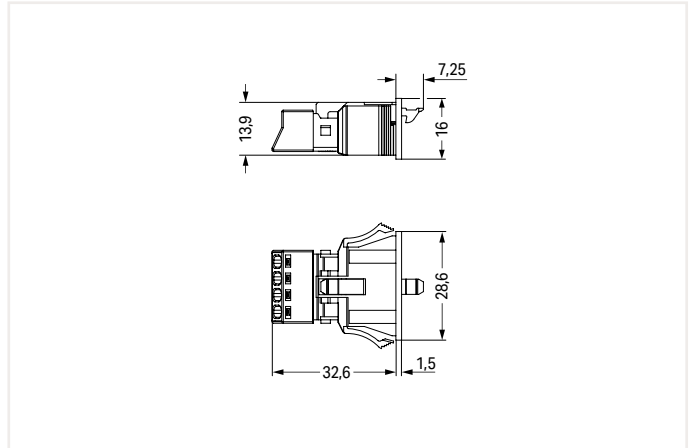
### WINSTA® MINI ▶ 890 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	890-704	50
○ white	A	N ⊕ 2L 1L	890-724	50

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	890-714	50
○ white	A	N ⊕ 2L 1L	890-734	50

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Accessories; for all products on this page



Lockout cap; for cutout; 4-pole			
Color	Item No.	Pack. Unit	
● black	770-644	100	
○ white	770-694	100	



Similar to picture			
Operating tool; partially insulated; 4-way			
Color	Item No.	Pack. Unit	
● green	770-384	1	

## Socket and Plug ▶ without Strain Relief Housing

### 5-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data			
Coding	A, I		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	-	-
Rated surge voltage	6 kV	-	-
Rated current	13 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	12 A		

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 0.75 mm <sup>2</sup> / 22 ... 20 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 20 AWG

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16 A, 1.5 mm^2$ )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 6.5 ... 10.5 mm
Protection type	IP40 (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 5-Pole

### WINSTA® MINI ▶ 890 Series

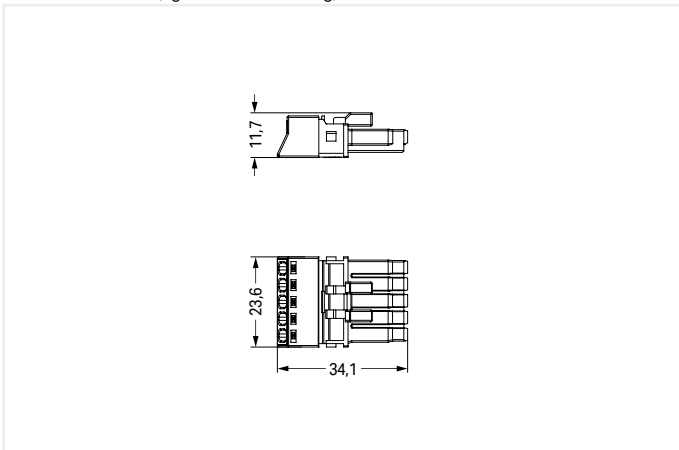
**Socket** **Plug**



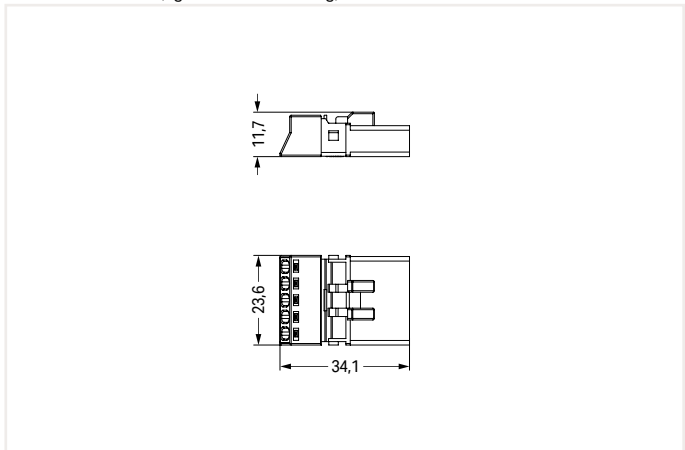
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 1 2 3	890-205	50
○ white	A	N ⊕ 1 2 3	890-225	50
● blue	I	N ⊕ L + -	890-1105	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 1 2 3	890-215	50
○ white	A	N ⊕ 1 2 3	890-235	50
● blue	I	N ⊕ L + -	890-1115	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



7

**Accessories; for all products on this page**



Strain relief housing; 6.5 ... 10.5 mm cable diameter; 45 mm strip length		
Color	Item No.	Pack. Unit
black	890-505	50
white	890-515	50



Locking lever; for flying leads; manually operated		
Color	Item No.	PU   SPU
black	890-101	100   50
white	890-121	100   50



Locking lever; for flying leads; tool operated		
Color	Item No.	PU   SPU
black	890-111	100   50
white	890-131	100   50



Mounting carrier; for 2- to 5-pole flying leads		
Color	Item No.	Pack. Unit
black	890-310	100
white	890-311	100

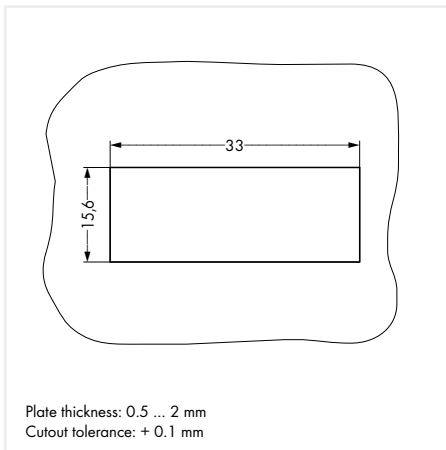


Operating tool; for WINSTA® MINI connectors; No. of poles: 5		
Color	Item No.	Pack. Unit
green	890-385	1

## Snap-In Socket and Plug

### 5-Pole

### WINSTA® MINI ▶ 890 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A, I		
Ratings per	IEC/EN 60664-1		
Overtolerance category	III	III	II
Pollution degree	3	2	2
Rated voltage	400 V	-	-
Rated surge voltage	6 kV	-	-
Rated current	13 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	14 A		

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load I <sub>N</sub> = 16 A, 1.5 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 6.5 ... 10.5 mm
Protection type	IP40 (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.



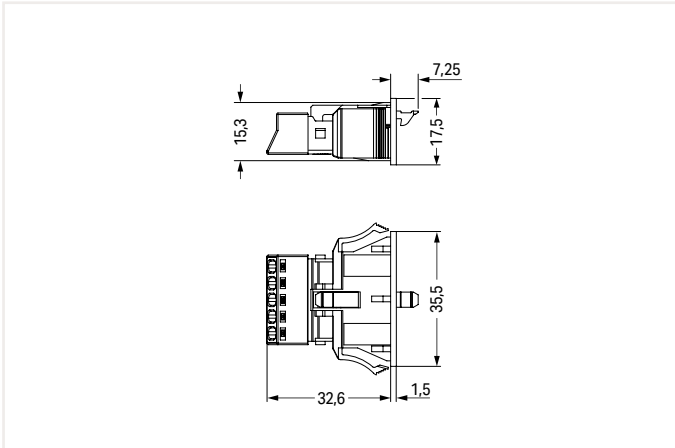
# Snap-In Socket and Plug

## 5-Pole

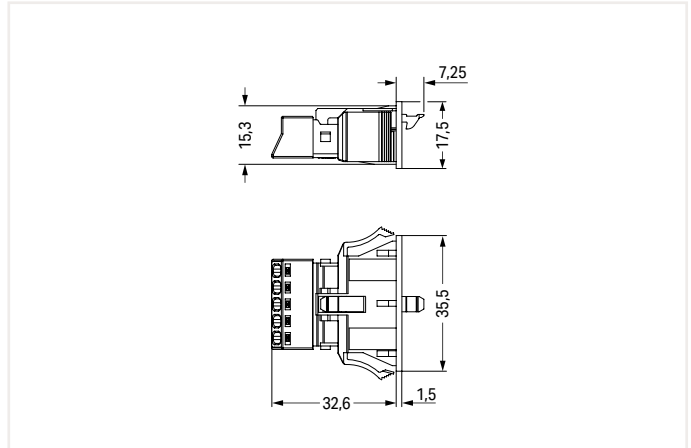
### WINSTA® MINI ▶ 890 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 1 2 3	890-705	50
○ white	A	N ⊕ 1 2 3	890-725	50
● blue	I	N ⊕ L + -	890-2105	50

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 1 2 3	890-715	50
○ white	A	N ⊕ 1 2 3	890-735	50
● blue	I	N ⊕ L + -	890-2115	50

Accessories; for all products on this page



Lockout cap; for cutout; 2-pole		
Color	Item No.	Pack. Unit
● black	770-645	100
○ white	770-695	100



Operating tool; partially insulated; 2-way		
Color	Item No.	Pack. Unit
● green	770-382	1

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## Socket and Plug ▶ without Strain Relief Housing

### 2-Pole

### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data			
Coding	A, I, L		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	4 kV	-	-
Rated current	25 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	23 A		

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Solid conductor; push-in termination	1.5 ... 4 mm <sup>2</sup> / 16 ... 12 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 25$ A, 4 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 7 ... 10.5 mm
Protection type	IP2xC (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>C</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 2-Pole

### WINSTA® MIDI ▶ 770 Series

Socket



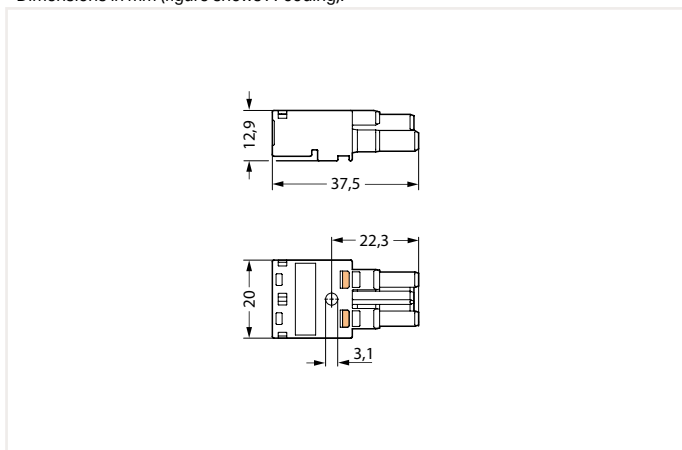
Plug



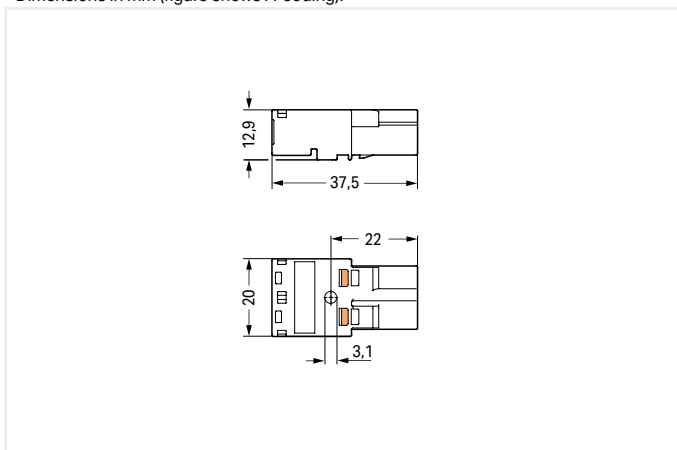
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	770-202	100
○ white	A	L N	770-222	100
● blue	I	DA+ DA-	770-1102	100
● dark gray	L	L' N'	770-1162	100

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L N	770-212	100
○ white	A	L N	770-232	100
● blue	I	DA+ DA-	770-1112	100
● dark gray	L	L' N'	770-1172	100

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



7

Accessories; for all products on this page



Strain relief housing; 7 ... 10.5 mm cable diameter; 35 mm strip length

Color	Item No.	Pack. Unit
black	770-502/041-000	50
white	770-512/041-000	50



Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	770-101	100   25
white	770-121	100   25



Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	770-111	100   25
white	770-131	100   25



Lockout cap; for socket; separable; 12-pole

Color	Item No.	Pack. Unit
black	770-201	100
white	770-221	100



Lockout cap; for plug; separable; 5-pole

Color	Item No.	Pack. Unit
yellow	770-360	100

## Socket and Plug ▶ without Strain Relief Housing

### 3-Pole

### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

	A, P, R, S		
Coding	IEC/EN 60664-1		
Ratings per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	250 V	-	-
Rated surge voltage	6 kV	-	-
Rated current	25 A	-	-
Approvals per	UL 1977		
Rated voltage (UL)	600 V		
Rated current (UL)	23 A		

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Solid conductor; push-in termination	1.5 ... 4 mm <sup>2</sup> / 16 ... 12 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 25$ A, 4 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	Ø 8 ... 11.5 mm
Protection type	IP2xC (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>C</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 3-Pole

### WINSTA® MIDI ▶ 770 Series

Socket

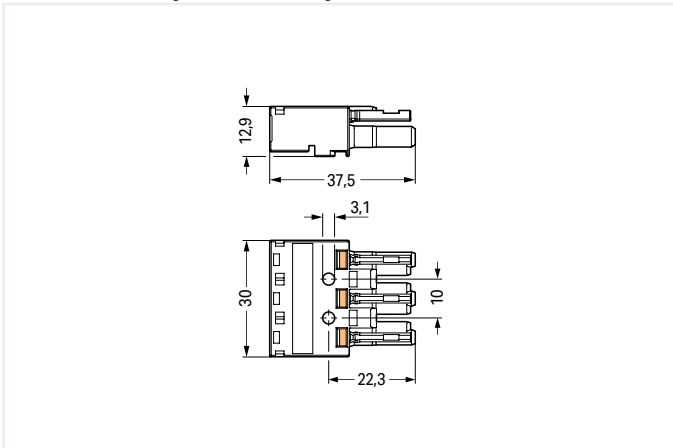
Plug



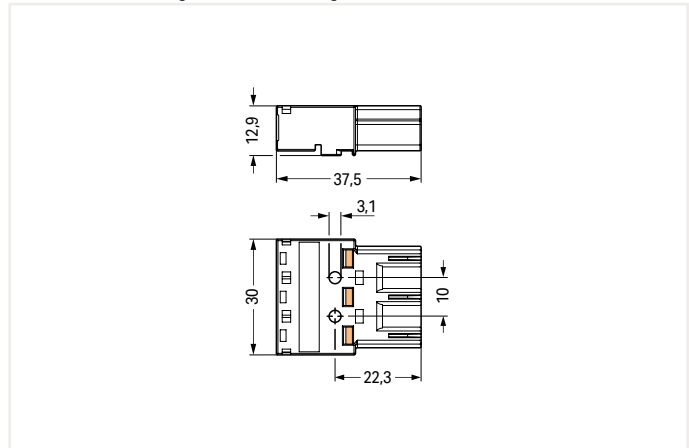
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	770-203	100
○ white	A	L ⊕ N	770-223	100
● red	P	L ⊕ N	770-1303	100
● orange	R	LON LON S	770-1343	100
● brown	S	1 2 S	770-1363	100

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	770-213	50
○ white	A	L ⊕ N	770-233	50
● red	P	L ⊕ N	770-1313	100
● orange	R	LON LON S	770-1353	100
● brown	S	1 2 S	770-1373	100

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Accessories; for all products on this page



Strain relief housing; for two cables; 8 ... 11.5 mm cable diameter; 55 mm strip length

Color	Item No.	Pack. Unit
black	770-503	50
white	770-513	50

Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	770-101	100   25
white	770-121	100   25

Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	770-111	100   25
white	770-131	100   25



Lockout cap; for socket; separable; 12-pole

Color	Item No.	Pack. Unit
black	770-201	100
white	770-221	100

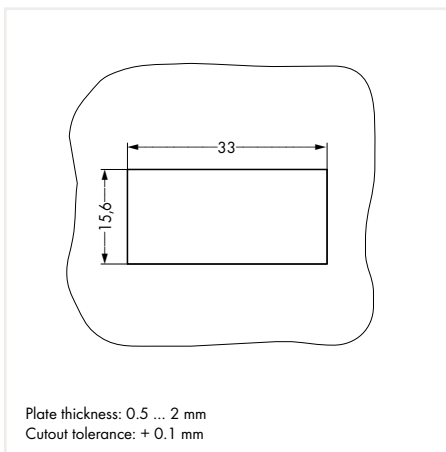
Lockout cap; for plug; separable; 5-pole

Color	Item No.	Pack. Unit
yellow	770-360	100

## Snap-In Socket and Plug

### 3-Pole

#### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

		A, P, R, S		
Coding		IEC/EN 60664-1		
Ratings per		IEC/EN 60664-1		
Overvoltage category		III	III	II
Pollution degree		3	2	2
Rated voltage		250 V	-	-
Rated surge voltage		4 kV	-	-
Rated current		25 A	-	-
Approvals per		UL 1977		
Rated voltage (UL)		600 V		
Rated current (UL)		14 A		

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.25 ... 1 mm <sup>2</sup> / 22 ... 18 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 16$ A, 1.5 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 8 ... 11.5 mm
Protection type	IP2xC (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper ( $E_{Cu}$ )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

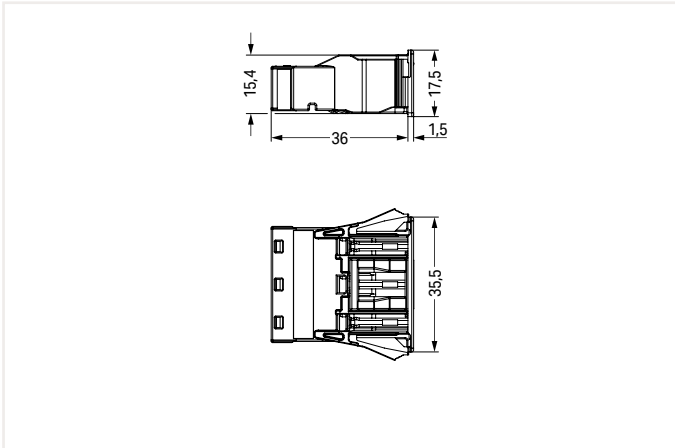
# Snap-In Socket and Plug

## 3-Pole

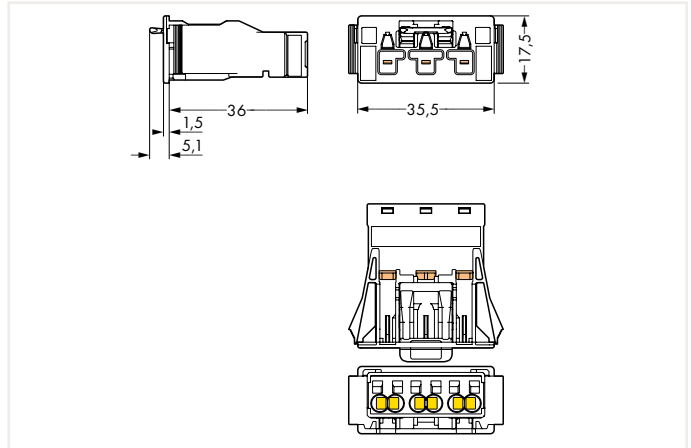
### WINSTA® MIDI ▶ 770 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	770-703	100
○ white	A	L ⊕ N	770-723	100
● red	P	L ⊕ N	770-2303	100
● orange	R	LON LON S	770-2343	100
● brown	S	1 2 L	770-2363	100

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	L ⊕ N	770-713	100
○ white	A	L ⊕ N	770-733	100
● red	P	L ⊕ N	770-2313	100
● orange	R	LON LON S	770-2353	100

Accessories; for all products on this page



Lockout cap; for cutout; 3-pole		
Color	Item No.	Pack. Unit
● black	770-643	100
○ white	770-693	100



Operating tool; partially insulated; 3-way		
Color	Item No.	Pack. Unit
● green	770-383	1

## Socket and Plug ▶ without Strain Relief Housing

### 4-Pole

### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data						
Coding	A			Q		
Ratings per	IEC/EN 60664-1			IEC/EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	400 V	-	-	400 V	-	-
Rated surge voltage	6 kV	-	-	6 kV	-	-
Rated current	25 A	-	-	32 A	-	-
Approvals per	UL 1977					
Rated voltage (UL)	600 V					
Rated current (UL)	23 A					

Clearances and creepage distances	≥ 5.5 mm to exposed surfaces
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Solid conductor; push-in termination	1.5 ... 4 mm <sup>2</sup> / 16 ... 12 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 25$ A, 4 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 9 ... 13 mm
Protection type	IP2xC (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>C</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.



# Socket and Plug

## 4-Pole

### WINSTA® MIDI ▶ 770 Series

Socket



Plug



Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2 <sub>L</sub> 1 <sub>L</sub>	770-204	50
○ white	A	N ⊕ 2 <sub>L</sub> 1 <sub>L</sub>	770-224	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2 <sub>L</sub> 1 <sub>L</sub>	770-214	50
○ white	A	N ⊕ 2 <sub>L</sub> 1 <sub>L</sub>	770-234	50

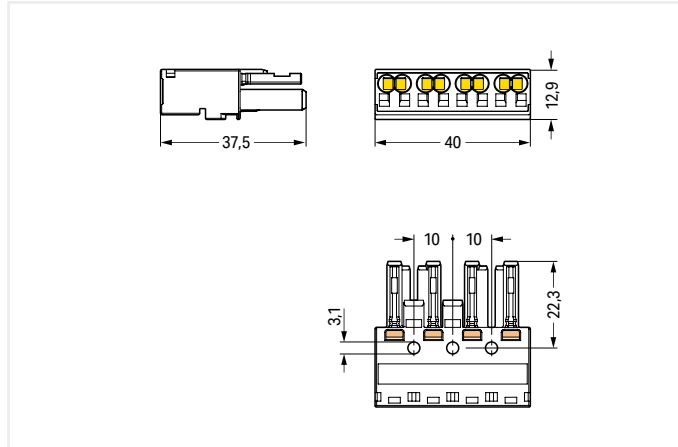
For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 L	770-1324	50

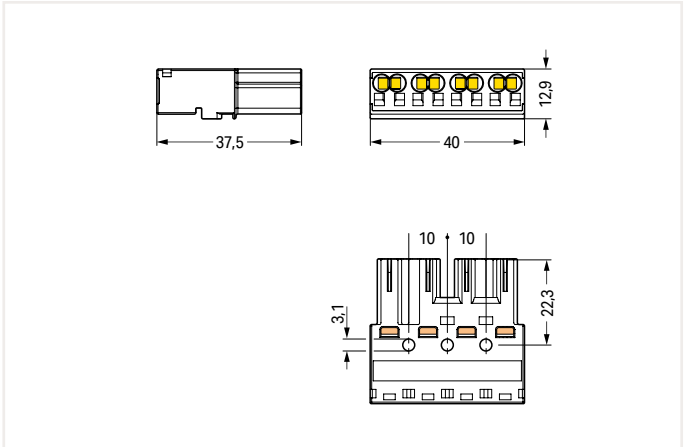
For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 L	770-1334	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Accessories; for all products on this page



Strain relief housing; for two cables; 9 ... 13 mm cable diameter; 55 mm strip length		
Color	Item No.	Pack. Unit
black	770-504	50
white	770-514	50



Locking lever; for flying leads; manually operated		
Color	Item No.	PU   SPU
black	770-101	100   25
white	770-121	100   25



Locking lever; for flying leads; tool operated		
Color	Item No.	PU   SPU
black	770-111	100   25
white	770-131	100   25

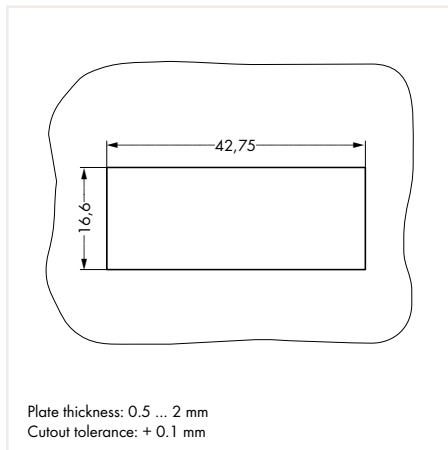


Lockout cap; for socket; separable; 12-pole		
Color	Item No.	Pack. Unit
black	770-201	100
white	770-221	100



Lockout cap; for plug; separable; 5-pole		
Color	Item No.	Pack. Unit
yellow	770-360	100

## Snap-In Socket and Plug 4-Pole WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

Electrical Data						
Coding	A			Q		
Ratings per	IEC/EN 60664-1			IEC/EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	400 V	-	-	400 V	-	-
Rated surge voltage	4 kV	-	-	6 kV	-	-
Rated current	25 A	-	-	32 A	-	-
Approvals per	UL 1977					
Rated voltage (UL)	600 V					
Rated current (UL)	14 A					

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

Connection Data	
Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

Mechanical Data	
Mating cycles	200 (without resistive load) 100 (with resistive load I <sub>N</sub> = 16 A, 1.5 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 9 ... 13 mm
Protection type	IP2xC (with strain relief housing)

Material Data	
Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

Environmental Requirements	
Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

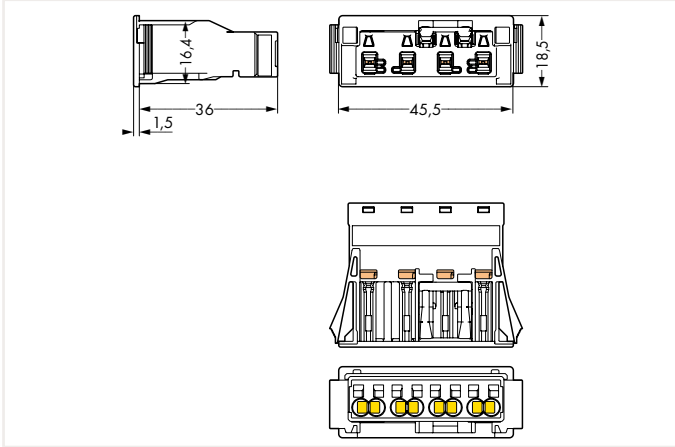
# Snap-In Socket and Plug

## 4-Pole

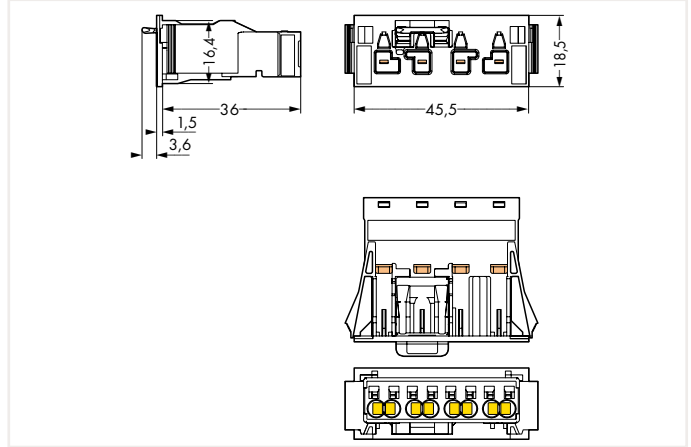
### WINSTA® MIDI ▶ 770 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



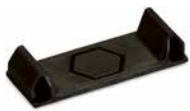
Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	770-704	100
○ white	A	N ⊕ 2L 1L	770-724	100

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ 2L 1L	770-714	100
○ white	A	N ⊕ 2L 1L	770-734	100

For "Clean Earth" applications; rated up to 32 A				
Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 L	770-2324	100

For "Clean Earth" applications; rated up to 32 A				
Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 L	770-2334	100

Accessories; for all products on this page



Lockout cap; for cutout; 4-pole		
Color	Item No.	Pack. Unit
● black	770-644	100
○ white	770-694	100



Operating tool with a partially insulated shaft; type 1; (2.5 x 0.4) mm blade		
Color	Item No.	Pack. Unit
● green	210-719	1

## Socket and Plug ▶ without Strain Relief Housing

### 5-Pole

### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A, I, L, P			Q		
	IEC/EN 60664-1			IEC/EN 60664-1		
Ratings per	III	III	II	III	III	II
Overvoltage category	3	2	2	3	2	2
Pollution degree	400 V	-	-	400 V	-	-
Rated voltage	6 kV	-	-	6 kV	-	-
Rated surge voltage	25 A	-	-	32 A	-	-
Rated current	UL 1977					
Approvals per	600 V					
Rated voltage (UL)	23 A					
Rated current (UL)						

Clearances and creepage distances

≥ 5.5 mm to exposed surfaces

Contact resistance

Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Solid conductor; push-in termination	1.5 ... 4 mm <sup>2</sup> / 16 ... 12 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.5 ... 4 mm <sup>2</sup> / 20 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load $I_N = 25$ A, 4 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 9 ... 13 mm
Protection type	IP2xC (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>C</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

# Socket and Plug

## 5-Pole

### WINSTA® MIDI ▶ 770 Series

**Socket**

**Plug**



Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ L1 L2 L3	770-205	50
○ white	A	N ⊕ L1 L2 L3	770-225	50
● blue	I	N ⊕ L DA- DA+	770-1105	50
● dark gray	L	N ⊕ L N' L'	770-1165	50
● red	P	N ⊕ L1 L2 L3	770-1305	50

Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ L1 L2 L3	770-215	50
○ white	A	N ⊕ L1 L2 L3	770-235	50
● blue	I	N ⊕ L DA- DA+	770-1115	50
● dark gray	L	N ⊕ L N' L'	770-1175	50
● red	P	N ⊕ L1 L2 L3	770-1315	50

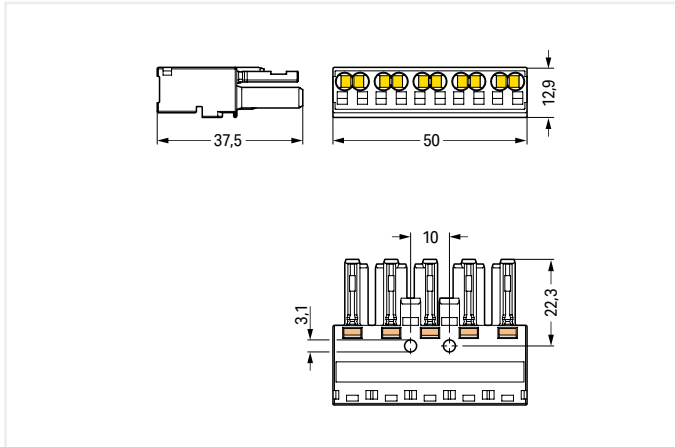
For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 PE3 L	770-1325	50

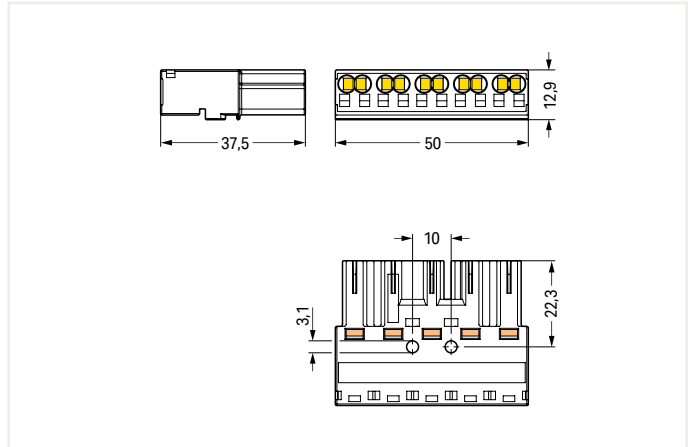
For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 PE3 L	770-1335	50

Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Accessories; for all products on this page



Strain relief housing; for two cables; 9 ... 13 mm cable diameter; 55 mm strip length

Color	Item No.	Pack. Unit
black	770-505	25
white	770-515	25



Locking lever; for flying leads; manually operated

Color	Item No.	PU   SPU
black	770-101	100   25
white	770-121	100   25



Locking lever; for flying leads; tool operated

Color	Item No.	PU   SPU
black	770-111	100   25
white	770-131	100   25



Lockout cap; for socket; separable; 12-pole

Color	Item No.	Pack. Unit
black	770-201	100
white	770-221	100



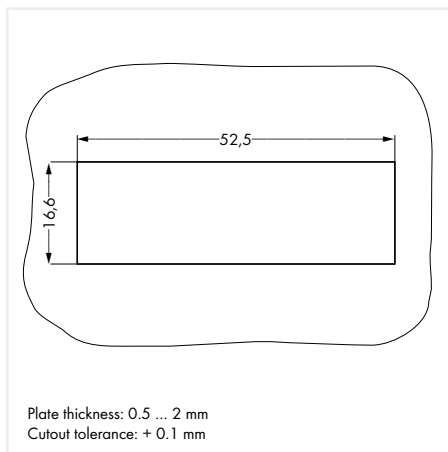
Lockout cap; for plug; separable; 5-pole

Color	Item No.	Pack. Unit
yellow	770-360	100

## Snap-In Socket and Plug

### 5-Pole

### WINSTA® MIDI ▶ 770 Series



- Installation connectors are designed for connection and disconnection while not under load.
- There is no hazard-inducing interchangeability with systems based on IEC 60309, IEC 60320, IEC 60906 and with national connector and socket systems.
- Compliance with the standards (IEC 61535) does not guarantee hazard-preventing, non-interchangeability with installation connector systems from various manufacturers.
- Installation connector systems are not a substitute for residential connector/socket systems.

#### Electrical Data

Coding	A, I, P			Q		
	IEC/EN 60664-1			IEC/EN 60664-1		
Ratings per	III	III	II	III	III	II
Overvoltage category	3	2	2	3	2	2
Pollution degree	400 V	-	-	400 V	-	-
Rated voltage	4 kV	-	-	6 kV	-	-
Rated surge voltage	25 A	-	-	32 A	-	-
Rated current	UL 1977					
Approvals per	600 V					
Rated voltage (UL)	14 A					
Rated current (UL)						

Clearances and creepage distances	≥ 5.5 mm (with strain relief ≥ 6.5 mm to exposed surfaces – protection class II)
Contact resistance	Approx. 1 mΩ (approx. 0.25 mΩ contact transition socket – plug)

#### Connection Data

Connection technology	Push-in CAGE CLAMP®
Strip length	9 mm / 0.35 inch
Conductor range	
Solid conductor	0.5 ... 4 mm <sup>2</sup> / 22 ... 12 AWG
Solid conductor; push-in termination	0.75 ... 1.5 mm <sup>2</sup> / 20 ... 16 AWG
Stranded conductor	0.5 ... 2.5 mm <sup>2</sup> / 20 ... 14 AWG
Fine-stranded conductor	0.25 ... 1.5 mm <sup>2</sup> / 22 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 mm <sup>2</sup>

#### Mechanical Data

Mating cycles	200 (without resistive load) 100 (with resistive load I <sub>N</sub> = 16 A, 1.5 mm <sup>2</sup> )
Mating forces	20 ... 70 Nm (depending on pole number)
Unmating forces	20 ... 70 Nm (depending on pole number); when unlocked
Retention forces	> 80 Nm; unlocked
Cable diameter	∅ 3.8 ... 8.2 mm
Protection type	IP2xC (with strain relief housing)

#### Material Data

Insulation material	Polyamide 66 (PA 66)
Contact material	Electrolytic copper (E <sub>cu</sub> )
Contact plating	Tin-plated
Clamping spring material	Chrome nickel spring steel (CrNi)

#### Environmental Requirements

Processing temperature	-5 ... +40 °C
Continuous operating temperature:	-35 ... +85 °C

#### Note:

- All connectors for mounted installations (snap-in versions, pluggable PCB connectors, distribution connectors) are factory-equipped with locking levers to ensure plugs and sockets are securely locked. Additional locking levers are only required for "flying leads" (plug/socket).
- Codings feature a mechanical protection against mismatching.

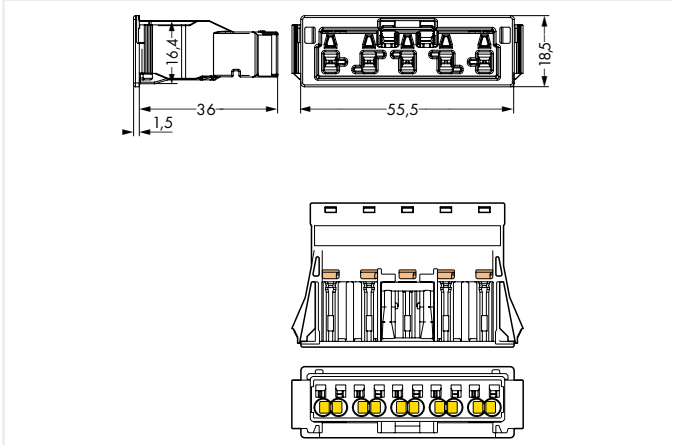
# Snap-In Socket and Plug

## 5-Pole

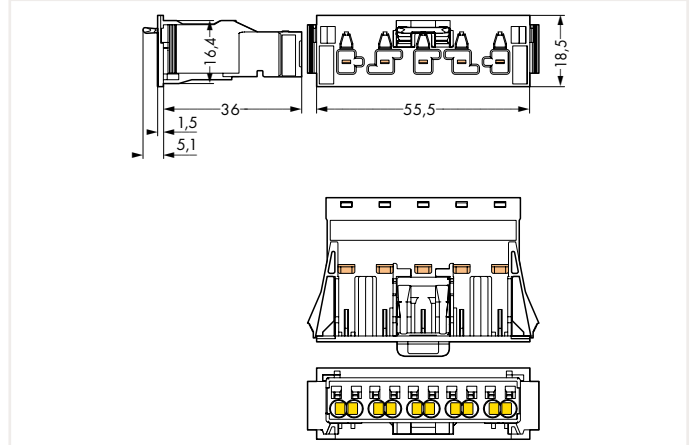
### WINSTA® MIDI ▶ 770 Series



Dimensions in mm (figure shows A-coding):



Dimensions in mm (figure shows A-coding):



Socket				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ L1 L2 L3	770-705	50
○ white	A	N ⊕ L1 L2 L3	770-725	50
● blue	I	N ⊕ L DA- DA+	770-2105	50
● red	P	N ⊕ L1 L2 L3	770-2305	50

Plug				
Color	Coding	Marking	Item No.	Pack. Unit
● black	A	N ⊕ L1 L2 L3	770-715	50
○ white	A	N ⊕ L1 L2 L3	770-735	50
● blue	I	N ⊕ L DA- DA+	770-2115	50
● red	P	N ⊕ L1 L2 L3	770-2315	50

For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 PE3 L	770-2325	50

For "Clean Earth" applications; rated up to 32 A

Color	Coding	Marking	Item No.	Pack. Unit
● green	Q	N PE1 PE2 PE3 L	770-2335	50

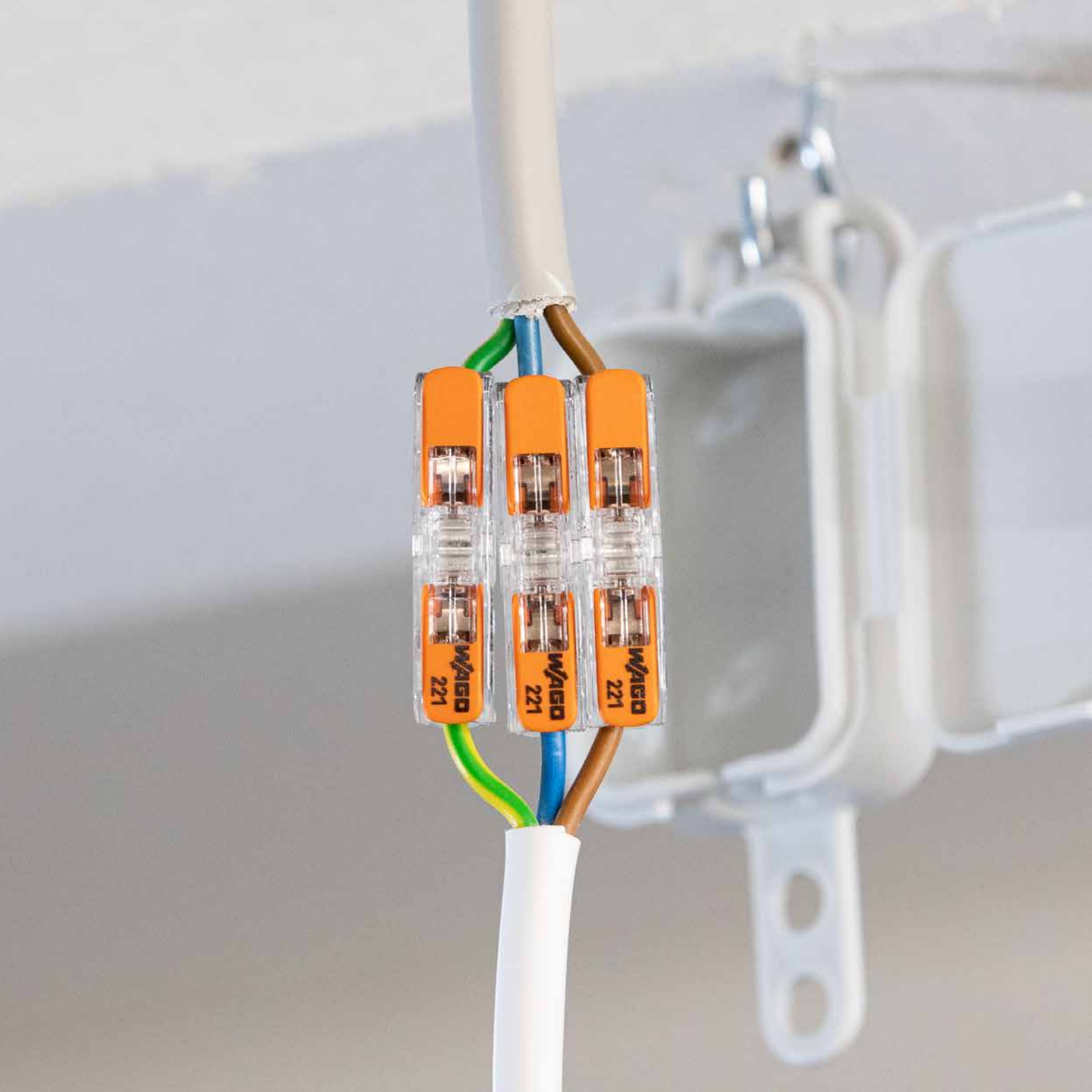
Accessories; for all products on this page



Lockout cap; for cutout; 5-pole		
Color	Item No.	Pack. Unit
● black	770-645	100
○ white	770-695	100











Operating tool with a partially insulated shaft; type 1; (2.5 x 0.4) mm blade		
Color	Item No.	Pack. Unit
● green	210-719	1



# WAGO Installation Connectors



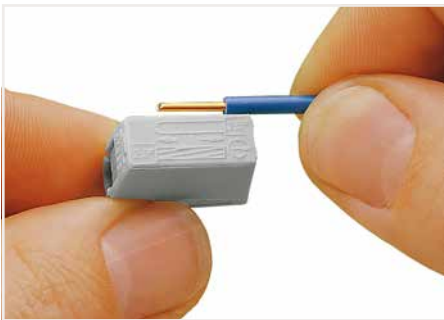
## WAGO Installation Connectors

			Page
	Lighting Connectors Service Connectors	224 Series	233
	COMPACT PUSH WIRE® Junction Box Connectors for Solid Conductors 2.5 mm <sup>2</sup>	2273 Series	235
	COMPACT PUSH WIRE® Junction Box Connectors for Solid and Stranded Conductors 4 mm <sup>2</sup>	2773 Series	237
	PUSH WIRE® Junction Box Connectors for Solid Conductors 6 mm <sup>2</sup> Ex PUSH WIRE® Junction Box Connectors	773 Series	239
	COMPACT Splicing Connectors for all Conductor Types	221 Series	241
	Mounting Carriers for Single Connectors	221 Series	243
	Ex COMPACT Splicing Connectors for all Conductor Types	221 Series	245
	Inline Splicing Connector	221 Series	247
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	WAGO Gelbox; Moisture Protection for Splicing Connectors	207 Series	250
	MICRO PUSH WIRE® Junction Box Connectors	243 Series	251

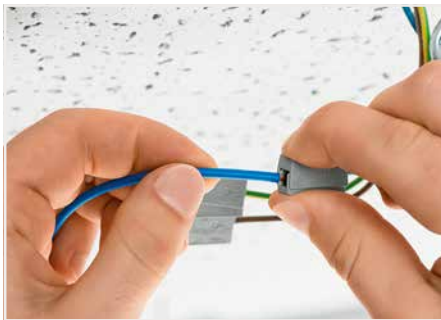
# Lighting Connectors and Service Connectors

## Description and Installation

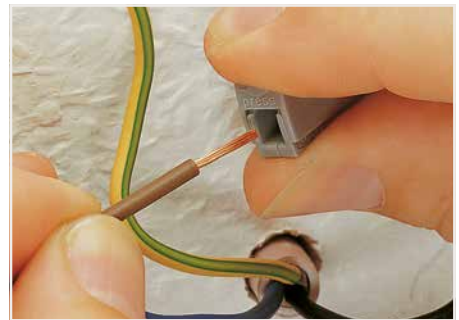
### 224 Series



Strip conductor to 9 ... 11 mm (0.35 ... 0.43 inch).



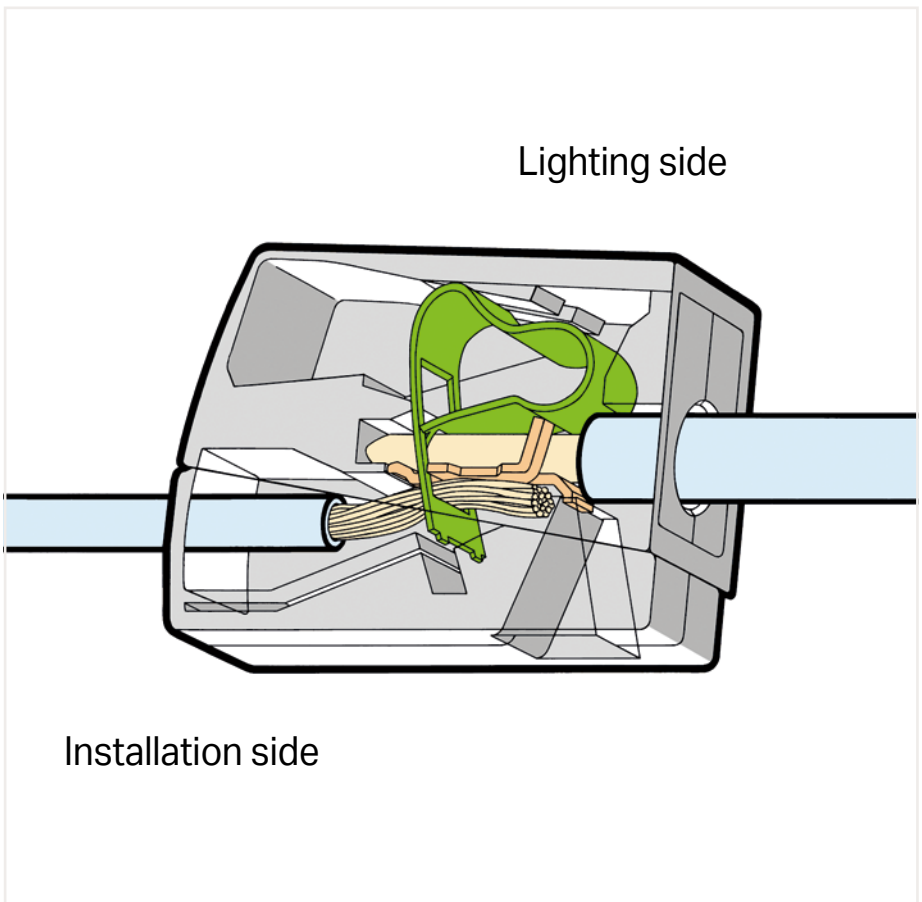
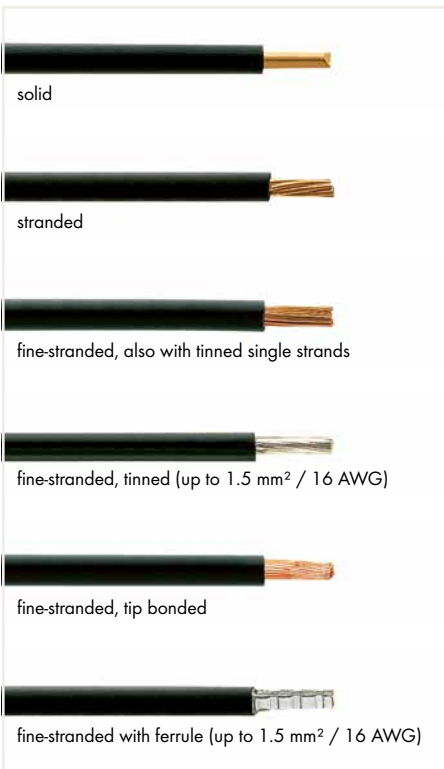
To connect: Press button fully, insert stripped conductor into square entry and release.



To remove: Press button and withdraw conductor.

Lighting side

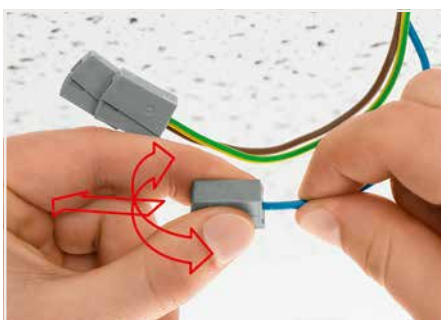
**CAGE CLAMP®**  
terminates the following  
copper conductors:



8



To connect: Insert stripped solid conductor into circular entry and push until it hits the backstop.



To remove: Hold conductor to be removed and twist alternately left and right while slightly pulling the connector.



Testing via separate test ports.



Installation side

**PUSH WIRE®**  
terminates the following copper conductors:  
solid

# Lighting Connector ▶ Service Connector

## 224 Series

Technical Data	
Installation side	
1 ... 2.5 mm <sup>2</sup> "s"	14 ... 12 AWG
Lighting side	
0.5 ... 2.5 mm <sup>2</sup> "s+f-st"	20 ... 16 AWG
400 V / 4 kV / 2 ①; I <sub>N</sub> 24 A	300 V / 20 A ②③
9 ... 11 mm / 0.35 ... 0.39 inch	



Lighting connector; standard version; approved continuous operating temperature: 105°C; ambient temperature (max.): 60°C

Color	Item No.	Pack. Unit
○ gray	224-101	1000 (10x100)

Lighting connector; version for increased continuous operating temperature of 120°C; ambient temperature (max.): 75°C

Color	Item No.	Pack. Unit
● black	224-104	1000 (10x100)

Technical Data	
Installation side	
2 x 1 ... 2.5 mm <sup>2</sup> "s"	14 ... 12 AWG
Lighting side	
0.5 ... 2.5 mm <sup>2</sup> "s+f-st"	20 ... 16 AWG
400 V / 4 kV / 2 ①; I <sub>N</sub> 24 A	300 V / 20 A ②③
9 ... 11 mm / 0.35 ... 0.39 inch	



2-conductor lighting connector; for looping through on the installation side; approved continuous operating temperature: 105°C; ambient temperature (max.): 60°C

Color	Item No.	Pack. Unit
○ white	224-112	1000 (10x100)

2-conductor lighting connector; for looping through on the installation side; version for increased continuous operating temperature of 120°C; ambient temperature (max.): 75°C

Color	Item No.	Pack. Unit
● black	224-114	1000 (10x100)

Technical Data	
0.5 ... 2.5 mm <sup>2</sup> "s+f-st"	20 ... 16 AWG
400 V / 4 kV / 2 ①; I <sub>N</sub> 24 A	
300 V / 20 A ②	
9 ... 11 mm / 0.35 ... 0.39 inch	



Service connector; approved continuous operating temperature: 105°C

Color	Item No.	Pack. Unit
○ gray	224-201	50

WAGO's lighting connectors ideally connect solid conductors with fine-stranded conductors. Tested and approved as isolated splicing connectors per EN 60998, WAGO's 224 Series Lighting Connectors can also be used in applications requiring a connection between solid and fine-stranded conductors. For example, 224 Series connects:

- Blinds, sliding shutters or awning motors
- Window or bathroom fans
- Circulation pumps
- Furnace control systems
- Electrical devices via permanent flexible cables

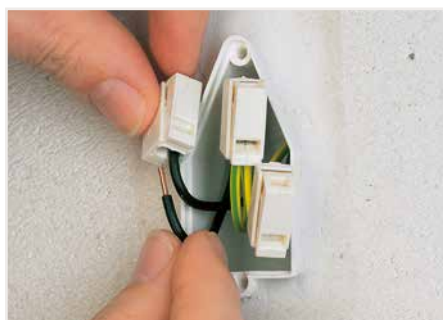
- ① In grounded power lines  
400 V = rated voltage
- » 4 kV = rated surge voltage  
2/3 = pollution degree

### 224 Series Accessories



Syringe; contains 20 ml "Alu-Plus" contact paste

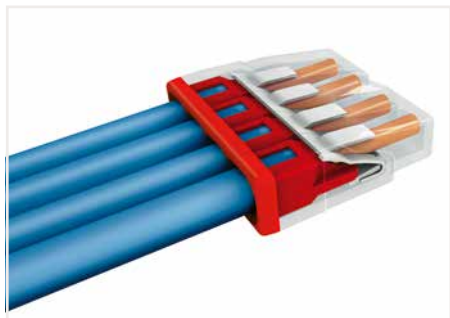
Item No.	Pack. Unit
249-130	20



# WAGO COMPACT PUSH WIRE® Connectors for Junction Boxes

## Description and Installation

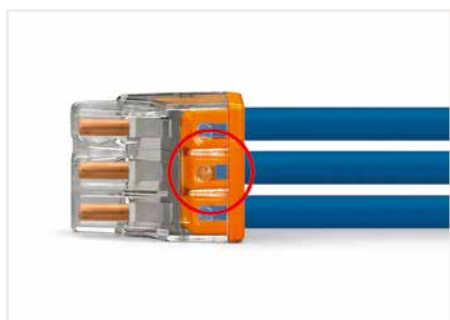
### 2273 Series



Strip solid conductor to 11 mm/0.43 inch (see marking).



Termination: Insert the stripped solid conductor until it hits the backstop.



The transparent housing shows if conductors are fully inserted; within the colored base, a clear port shows if the conductor's strip length is correct. Conductors are correctly stripped if the clear port shows no bare conductor on the unprinted connector side. Picture shows center conductor with exceeded strip length.



Removal: Hold conductor to be removed and twist alternately left and right while pulling the connector.



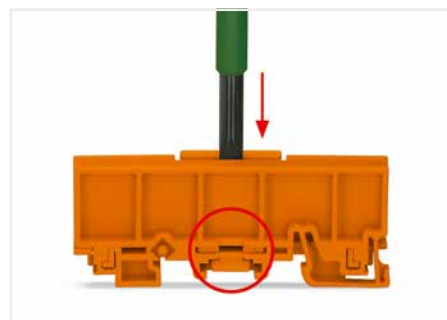
Testing via test port opposite to conductor entry.

8

One single carrier can hold up to 24 clamping units in a very narrow space. Previously, this was only possible using rail-mount Terminal Blocks.

**Advantages:**

- Mount carrier onto DIN-35 rail or via screws – easily and quickly
- Accommodate three 2.5 mm<sup>2</sup> (12 AWG) 2273 Series Connectors in a single carrier
- Easily exchange connectors
- Large marking area for self-adhesive marking strips or for direct marking with permanent felt-tip pen



To adjust the mounting carrier, unlock the latch via operating tool (5.5 mm blade) and move the clamping slide to the required width by rotating the tool.



The mounting carrier is suitable for both connector widths.







**PUSH WIRE® Connectors in Distribution Boxes**

During distribution box retrofits or expansions, conductors often require extensions or additional clamping points. Individual PUSH WIRE® connectors (e.g., 2273 Series) are approved as interconnect components for building wiring applications per EN 60998. Application standards for building installation (e.g., Parts 510 and 520 from DIN VDE 0100) also place the following requirements on junction box connectors:

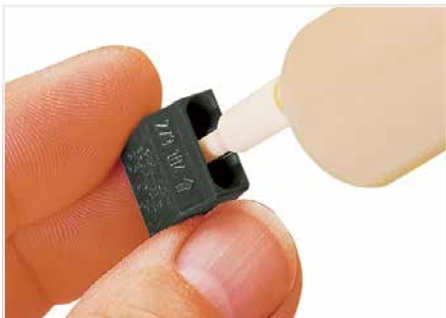
- They must be arranged so that operation, inspection, maintenance and access to the removable connectors is simplified.
- It must be possible to test them.
- Conductors connected from outside must be clearly and permanently assigned to their associated circuits.

These requirements cannot be met with PUSH WIRE® Connectors alone. However, when combined with WAGO's Mounting Carriers, the PUSH WIRE® Connectors clearly meet these requirements, making them comparable to rail-mount Terminal Blocks. Using PUSH WIRE® Connectors with mounting carriers in distribution boxes is accepted by testing authorities.

## WAGO COMPACT PUSH WIRE® Junction Box Connector for Solid Conductors – 2.5 mm<sup>2</sup> ▶ 2273 Series

Image	Description	Color	Item No.	PU	Dimensions (W x H x D)	Electrical Data
<b>2-wire connector</b>						
	Transparent housing; white cover	○ white	2273-202	1000	10 x 5.8 x 16.7 / 0.39 x 0.23 x 0.66 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 24 A
<b>3-wire connector</b>						
	Transparent housing; orange cover	● orange	2273-203	1000	14 x 5.8 x 16.7 / 0.55 x 0.23 x 0.66 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 24 A
<b>4-wire connector</b>						
	Transparent housing; red cover	● red	2273-204	1000	18 x 5.8 x 16.7 / 0.71 x 0.23 x 0.66 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 24 A
<b>5-wire connector</b>						
	Transparent housing; yellow cover	● yellow	2273-205	1000	22 x 5.8 x 16.7 / 0.87 x 0.23 x 0.66 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 24 A
<b>8-wire connector</b>						
	Transparent housing; light gray cover	○ light gray	2273-208	500	18 x 10.4 x 16.7 / 0.71 x 0.41 x 0.66 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 24 A
<b>Mounting carrier</b>						
	for single and double-row connectors	● orange	2273-500	10	18.5 x 21.5 x 72.5 mm / 0.73 x 0.85 x 2.85 inch	
<b>Accessories</b>						
	Syringe; contains 20 ml "Alu-Plus" Contact Paste		249-130	5		

8



Push nozzle of the "Alu-Plus" syringe first into the circular entry and then into the square conductor entry hole of the WAGO Lighting Connector.



Press the plunger down until "Alu-Plus" has filled both entry holes.

**Note:** Not suitable for higher temperature applications!

Conductor range: 0.5 ... 2.5 mm<sup>2</sup> "s"; 20 ... 14 AWG;  
Strip length: 11 mm / 0.43 inch

① 450 V = rated voltage  
4 kV = rated impulse voltage  
2 = pollution degree

Continuous operating temperature (max.): 105 °C  
Surrounding air temperature (max.): 60 °C

# WAGO COMPACT PUSH WIRE® Connectors for Junction Boxes

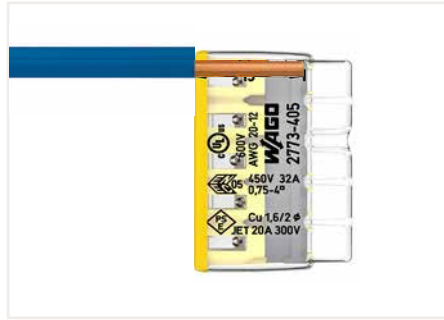
## Description and Installation

### 2773 Series



**Advantages:**

- Convenient wiring via extremely compact design
- Push-in termination of up to eight solid and stranded conductors
- Conductor range: 0.75 ... 4 mm<sup>2</sup> "s" and 1.5 ... 4 mm<sup>2</sup> "st"
- Any combination of conductor sizes is possible
- PUSH WIRE® connection terminates solid ("s") copper conductors



Strip solid or stranded conductor to 13 mm (0.51 inch).



Termination: Insert the stripped conductor until it hits the backstop.



The transparent housing shows if conductors are fully inserted; within the colored base, a clear port shows if the conductor's strip length is correct. Conductors are correctly stripped if the clear port shows no bare conductor on the unprinted connector side. Picture shows center conductor with exceeded strip length.

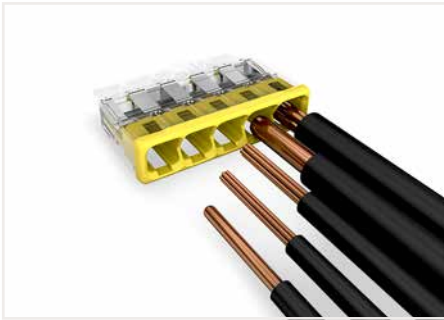


Removal: Hold solid conductor to be removed and twist alternately left and right while pulling the connector.



Testing via test port opposite to conductor entry.

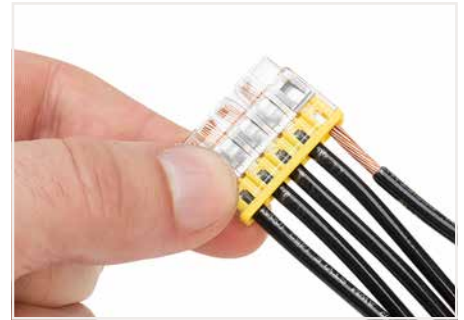
8



Solid and stranded conductors of different cross-sections can be securely connected.



Solid conductors are inserted into the connector by simply pushing them in.



Stranded conductors are inserted into the connector by simply pushing them in.



Thanks to their flat and compact design, these connectors are ideal for wiring in flush-mount switch boxes.





With six variants, always have the right connector.



The mounting carrier is suitable for both connector widths.

## WAGO COMPACT PUSH WIRE® Connectors for Junction Boxes

### 4 mm<sup>2</sup> ▶ 2773 Series

Image	Description	Color	Item No.	PU	Dimensions (W x H x D)	Electrical Data
<b>2-wire connector</b>						
	Transparent housing; white cover	○ white	2773-402	1200	11.6 x 6.3 x 18.6 mm/ 0.46 x 0.25 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>3-wire connector</b>						
	Transparent housing; orange cover	● orange	2773-403	1000	16.4 x 6.3 x 18.6 mm/ 0.65 x 0.25 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>4-wire connector</b>						
	Transparent housing; red cover	● red	2773-404	800	21.2 x 6.3 x 18.6 mm/ 0.84 x 0.25 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>5-wire connector</b>						
	Transparent housing; yellow cover	● yellow	2773-405	600	26 x 6.3 x 18.6 mm/ 1.02 x 0.25 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>6-wire connector</b>						
	Transparent housing; gray cover	○ gray	2773-406	500	16.4 x 11.3 x 18.6 mm/ 0.65 x 0.45 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>8-wire connector</b>						
	Transparent housing; light gray cover	○ light gray	2773-408	400	21.2 x 11.3 x 18.6 mm/ 0.84 x 0.45 x 0.73 inch	450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A; 600 V, 20 A ②
<b>Mounting carrier</b>						
	Mounting carrier; for single- and double-row connectors	● orange	2773-500	10	18 x 23 x 84 mm/ 0.71 x 0.91 x 3.31 inch	

These COMPACT PUSH WIRE® Connectors for Junction Boxes are only available for the following countries: Australia, China, Japan, Norway, Sweden, South Africa, Taiwan, United Kingdom, USA

Conductor range: 0.75 ... 4 mm<sup>2</sup> "s"; 20 ... 12 AWG "s";  
1.6 ... 2 mm Ø "s"; 1.5 ... 4 mm<sup>2</sup> "st"; 18 ... 12 AWG "st";  
Strip length: 13 mm / 0.51 inch

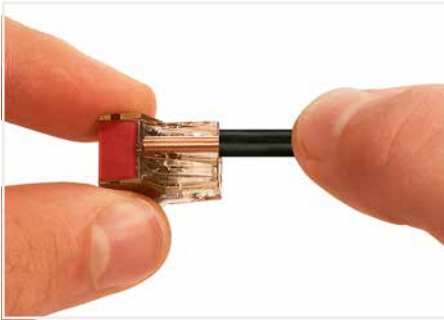
Continuous operating temperature (max.): 150 °C  
Surrounding air temperature (max.): 85 °C

① 450 V = rated voltage  
4 kV = rated impulse voltage  
2 = pollution degree

## WAGO PUSH WIRE® Connectors for Junction Boxes

### Description and Installation

#### 773 Series



Strip a solid conductor to 12 mm (0.47 inch).



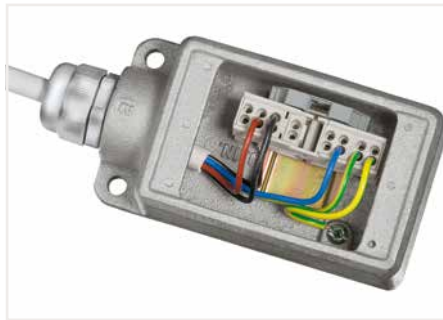
Termination: Insert stripped solid conductor until it hits the backstop.



Removal: Hold conductor to be removed and twist alternately left and right while pulling the connector.



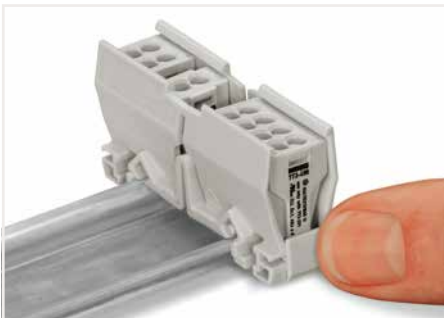
Testing



Wiring example in an Ex junction box



Wiring example in an Ex junction box



Use the cover as an end plate.



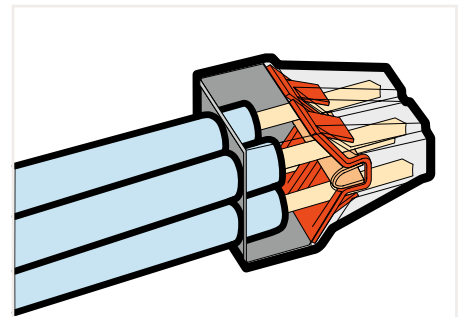
Snap the mounting carrier onto the DIN-rail.



Remove the mounting carrier from the DIN-rail.



A mounting carrier (see accessories) suits applications where the connectors must be marked and secured in position. The DIN-35 rail-mount carrier fits up to six connectors and can also be mounted on a flat surface using two screws. Using this connector carrier, a large range of wiring applications can be executed in distribution or junction boxes. To mention just a few: potential multiplication and changing from or to 6 mm<sup>2</sup> (10 AWG) conductor size.





## WAGO PUSH WIRE® Connector for Junction Boxes ▶ for solid and stranded conductors 2.5 / 4 / 6 mm<sup>2</sup> ▶ 773 Series

Image	Description	Color	Item No.	PU	Dimensions (W x H x D)	Electrical Data
<b>PUSH WIRE® connector for junction boxes; for solid and stranded conductors; max. 2.5 mm<sup>2</sup> ①</b>						
	2 conductors; transparent housing; yellow cover	● yellow	773-102	1000	9.2 x 13.1 x 19.5 mm / 0.36 x 0.52 x 0.77 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 24 A
	2 conductors; light gray housing; light gray cover	○ light gray ⑤	773-492 ⑤ ⑥ ⑦	1000		
	4 conductors; transparent housing; orange cover	● orange	773-104	1000	13 x 13.1 x 19.5 mm / 0.51 x 0.52 x 0.79 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 24 A
	4 conductors; black housing; black cover	● black	773-504	1000		
	4 conductors; light gray housing; light gray cover	○ light gray ⑤	773-494 ⑤ ⑥ ⑦	1000		
	6 conductors; transparent housing; violet cover	● violet	773-106	500	18.8 x 13.1 x 19.5 mm / 0.74 x 0.52 x 0.77 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 32 A
	6 conductors; light gray housing; light gray cover	○ light gray ⑤	773-496 ⑤ ⑥ ⑦	500		
	8 conductors; transparent housing; black cover	● black	773-108	500	24 x 13.1 x 19.5 mm / 0.95 x 0.52 x 0.77 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 24 A
	8 conductors; light gray housing; light gray cover	○ light gray ⑤	773-498 ⑤ ⑥ ⑦	500		
<b>PUSH WIRE® connector for junction boxes; for solid conductors; max. 4 mm<sup>2</sup> ②</b>						
	2 conductors; transparent brown housing; white cover	○ white	773-602	1000	9.2 x 13.1 x 19.5 mm / 0.36 x 0.52 x 0.77 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 32 A
	4 conductors; transparent brown housing; red cover	● red	773-604	1000	13 x 13.1 x 19.5 mm / 0.51 x 0.52 x 0.79 inch	
	6 conductors; transparent brown housing; brown cover	● brown	773-606	500	18.8 x 13.1 x 19.5 mm / 0.74 x 0.52 x 0.77 inch	
<b>PUSH WIRE® connector for junction boxes; for solid and stranded conductors; max. 6 mm<sup>2</sup> ③</b>						
	3 conductors; transparent housing; red cover	● red	773-173	500	25.6 x 14.2 x 20.1 mm / 1 x 0.56 x 0.79 inch	400 V / 4 kV / 2 ④; I <sub>N</sub> 41 A
	3 conductors; light gray housing; light gray cover	○ light gray ⑤	773-493 ⑤ ⑥ ⑦	500		
<b>Mounting carrier</b>						
	Mounting carrier; for all 773 Series PUSH WIRE® Connectors for Junction Boxes	● orange	773-332	10	18 x 26 x 61 mm / 0.71 x 1.02 x 2.4 inch	
	Mounting carrier; for Ex PUSH WIRE® junction box connectors	○ light gray ⑤	773-331	10	18 x 26 x 61 mm / 0.71 x 1.02 x 2.4 inch	
<b>Accessories</b>						
	Syringe; contains 20 ml "Alu-Plus" Contact Paste		249-130	5		

8

① Conductor range: 0.75 ... 2.5 mm<sup>2</sup> "s"; 18 ... 12 AWG "s"; 1.5 ... 2.5 mm<sup>2</sup> "st"; 16 ... 12 AWG "st"; Strip length: 12 mm / 0.47 inch

② Conductor range: 1.5 ... 4 mm<sup>2</sup> "s"; Strip length: 12 mm / 0.47 inch

③ Conductor range: 2.5 ... 6 mm<sup>2</sup> "s+st"; 14 ... 10 AWG "s+st"; Strip length: 12 ... 13 mm / 0.47 ... 0.51 inch

④ 400 V = rated voltage  
4 kV = rated impulse voltage  
2 = pollution degree

⑤ Suitable for Ex e II applications

⑥ 275 V at a distance < 10 mm to parts of other potentials

⑦ To be used only in conjunction with a mounting carrier (773-331)

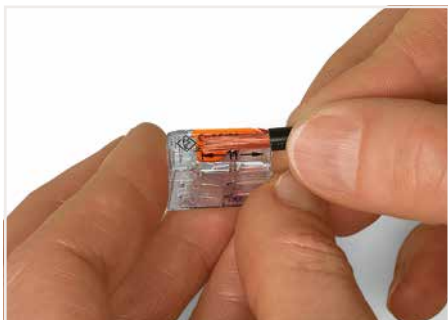
Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

Continuous operating temperature (max.): 105 °C  
Surrounding air temperature (max.): 60 °C

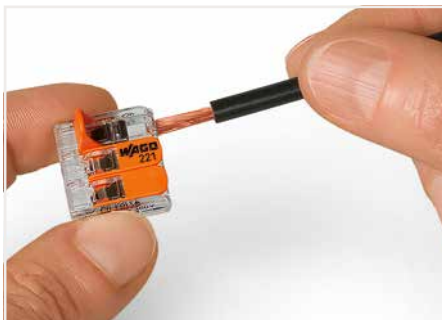
# COMPACT Splicing Connectors for All Conductor Types

## Description and Installation

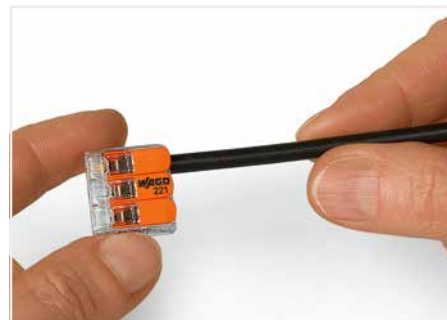
### 221 Series



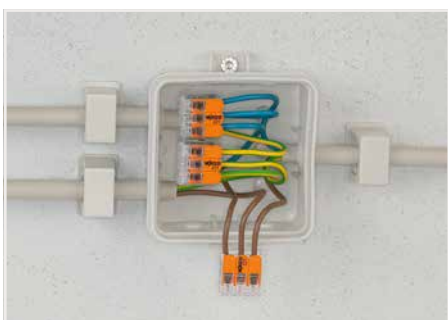
Stripping a conductor.



Termination: Lift the lever to open the clamping unit and insert a stripped conductor.



Then, lower the lever to close the clamp.



Wiring fine-stranded conductors in a junction box



8



Custom low-voltage lighting systems



Wiring fine-stranded conductors in a junction box



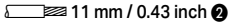
Lighting distribution in a ceiling canopy



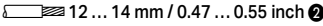
Pendant light connection in a suspended ceiling

# COMPACT Splicing Connector for All Conductor Types

## 4 mm<sup>2</sup> / 6 mm<sup>2</sup> ▶ 221 Series

Technical Data	
0.2 ... 4 mm <sup>2</sup> "s+str"	24 ... 12 AWG
0.14 ... 4 mm <sup>2</sup> "f-st"	
450 V / 4 kV / 2 ①; I <sub>N</sub> 32 A	
	



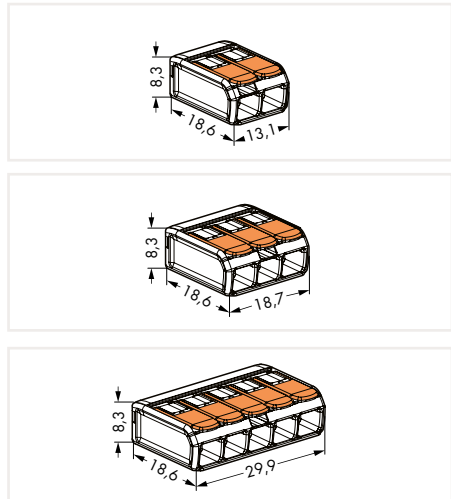
Technical Data	
0.5 ... 6 mm <sup>2</sup>	20 ... 10 AWG
450 V / 4 kV / 2 ①; I <sub>N</sub> 41 A	
	



COMPACT splicing connector for all conductor types; max. 4 mm<sup>2</sup>; with levers; Continuous operating temperature (max.): 105 °C; Surrounding air temperature: 85 °C

	Item No.	Pack. Unit
2-conductor	221-412	1000 (10x100)
3-conductor	221-413	500 (10x50)
5-conductor	221-415	250 (10x25)

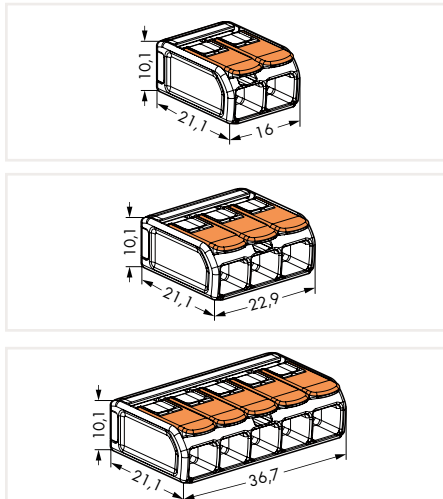
Dimensions in mm



COMPACT splicing connector for all conductor types; max. 6 mm<sup>2</sup>; with levers; Continuous operating temperature (max.): 105 °C; Surrounding air temperature: 85 °C


	Item No.	Pack. Unit
2-conductor	221-612	500 (10x50)
3-conductor	221-613	300 (10x30)
5-conductor	221-615	150 (10x15)

Dimensions in mm




**Item-Specific Accessories**


Mounting carrier; for 2-, 3- and 5-wire connectors; carrier width: 17.5 mm

	orange	221-500	50
	dark gray/yellow	221-500/000-053	50
	blue	221-500/000-006	50


Angled DIN-rail adapter; in combination with mounting carrier for DIN-35 rail mounting; Carrier width: 18.5 mm

	gray	222-510	50
---	------	---------	----

Strain relief plate; for mounting carrier (221-500 and 222-505); 4 mm thick


	orange	222-505	50
---	--------	---------	----

Self-adhesive marking strip; plain; 5 mm high; 48 self-adhesive strips per card


	white	210-334	1
---	-------	---------	---

**Item-Specific Accessories**


Mounting carrier; for 2-, 3- and 5-wire connectors; carrier width: 19.3 mm

	orange	221-510	50
	dark gray/yellow	221-510/000-053	50
	blue	221-510/000-006	50


Angled DIN-rail adapter; in combination with mounting carrier for DIN-35 rail mounting; Carrier width: 18.5 mm

	gray	222-510	50
---	------	---------	----

Strain relief plate; for mounting carrier (221-500 and 222-505); 4 mm thick

	orange	222-505	50
---	--------	---------	----

Self-adhesive marking strip; plain; 5 mm high; 48 self-adhesive strips per card

	white	210-334	1
---	-------	---------	---

**COMPACT Splicing Connectors; 4 mm<sup>2</sup>**  
They connect up to five stripped, fine-stranded conductors from 0.14 to 4 mm<sup>2</sup>, as well as solid or stranded conductors from 0.2 to 4 mm<sup>2</sup> (24–12 AWG) – without tools!

**COMPACT Splicing Connectors; 6 mm<sup>2</sup>**  
Connect up to five stripped conductors from 0.5 to 6 mm<sup>2</sup> (20 ... 10 AWG) – without tools!

**How they work:**  
Pull up an orange lever to open the clamping unit.  
Then insert the conductor and push the lever back down, flush with the connector housing.

**Safety:**  
The lever's specially designed rest position reliably prevents accidental unclamping of a connected conductor.  
Application safety, for any type of conductor (solid, stranded, fine-stranded), is confirmed by approvals like ENEC or UL.

» ENEC is the European mark for electrical products that demonstrates compliance with European safety standards. The ENEC mark is subjected to the same EN standards as the VDE mark.  
While the VDE mark is only permitted in Germany, the ENEC mark is accepted in more than 20 European countries.

① In grounded power lines  
450 V = rated voltage  
4 kV = rated surge voltage  
2 = pollution degree

» ② Strip length, see packaging or instructions



Strain relief via cable ties on the mounting carrier (transverse to the connectors' wiring direction) – clamping units labeled via marking strips (210-334)



Vertical mounting with strain relief plate on DIN-35 rail



Horizontal mounting on DIN-35 rail using an angled DIN-rail adapter

# Mounting Carriers for Single Connectors

## Installation

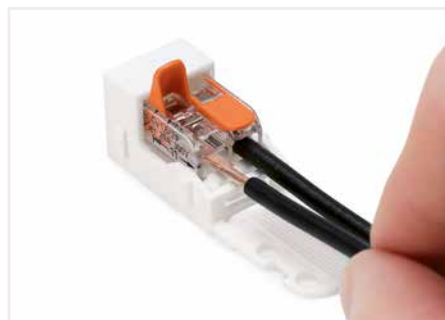
### 221 Series



Inserting a connector into the mounting carrier.



Removing a connector from the mounting carrier.



Inserting a conductor.



Use a cable tie to secure the conductors to the strain relief plate.



Labeling



Testing a connector mounted on the carrier via test slot.

8



The strain relief plate can be removed.



Horizontal screw mounting



Vertical screw mounting



Horizontal mounting via snap-in foot



Vertical mounting via snap-in foot



Connecting a light to the mains.

# Mounting Carriers for Single Connectors 221 Series

For 2-wire connectors up to 4 mm<sup>2</sup>



For screw mounting; dimensions from the surface (mm)  
W x H x D: 18.1 x 16.9 x 52.8

Color	Item No.	Pack. Unit
○ white	221-502	50 (5x10)
● black	221-502/000-004	50 (5x10)

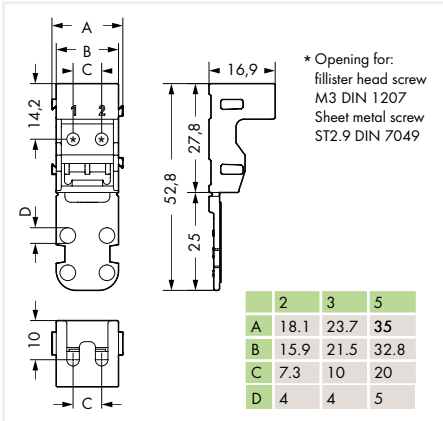
With snap-in mounting foot for horizontal mounting;  
dimensions from the surface (mm) W x H x D:  
18.1 x 16.9 (+4.5 snap-in mounting foot)x 52.8

Color	Item No.	Pack. Unit
○ white	221-512	50 (5x10)
● black	221-512/000-004	50 (5x10)

With snap-in mounting foot for vertical mounting; dimen-  
sions from the surface (mm) W x H x D:  
18.1 x 52.8 (+4.5 snap-in mounting foot)x 16.9

Color	Item No.	Pack. Unit
○ white	221-522	50 (5x10)
● black	221-522/000-004	50 (5x10)

Dimensions (in mm):



For 3-wire connectors up to 4 mm<sup>2</sup>



For screw mounting; dimensions from the surface (mm)  
W x H x D: 23.7 x 16.9 x 52.8

Color	Item No.	Pack. Unit
○ white	221-503	50 (5x10)
● black	221-503/000-004	50 (5x10)

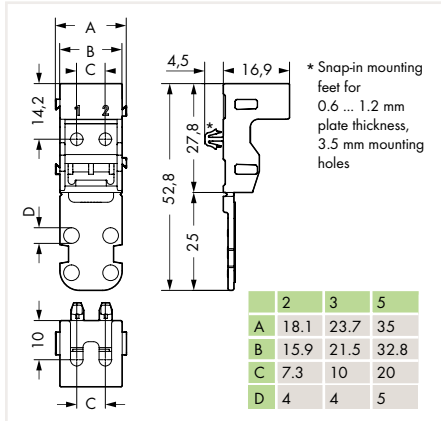
With snap-in mounting foot for horizontal mounting;  
dimensions from the surface (mm) W x H x D:  
23.7 x 16.9 (+4.5 snap-in mounting foot)x 52.8

Color	Item No.	Pack. Unit
○ white	221-513	50 (5x10)
● black	221-513/000-004	50 (5x10)

With snap-in mounting foot for vertical mounting; dimen-  
sions from the surface (mm) W x H x D:  
23.7 x 52.8 (+4.5 snap-in mounting foot)x 16.9

Color	Item No.	Pack. Unit
○ white	221-523	50 (5x10)
● black	221-523/000-004	50 (5x10)

Dimensions (in mm):



For 5-wire connectors up to 4 mm<sup>2</sup>



For screw mounting; dimensions from the surface (mm)  
W x H x D: 35 x 16.9 x 52.8

Color	Item No.	Pack. Unit
○ white	221-505	50 (5x10)
● black	221-505/000-004	50 (5x10)

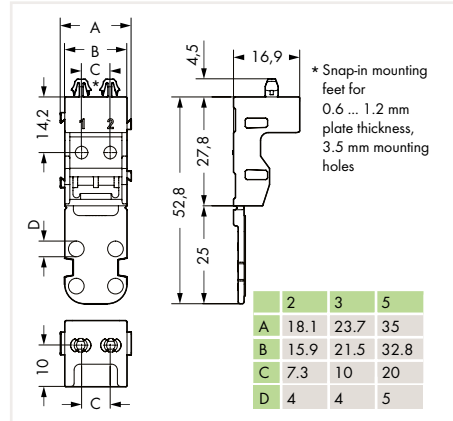
With snap-in mounting foot for horizontal mounting;  
dimensions from the surface (mm) W x H x D:  
35 x 16.9 (+4.5 snap-in mounting foot)x 52.8

Color	Item No.	Pack. Unit
○ white	221-515	50 (5x10)
● black	221-515/000-004	50 (5x10)

With snap-in mounting foot for vertical mounting; dimen-  
sions from the surface (mm) W x H x D:  
35 x 52.8 (+4.5 snap-in mounting foot)x 16.9

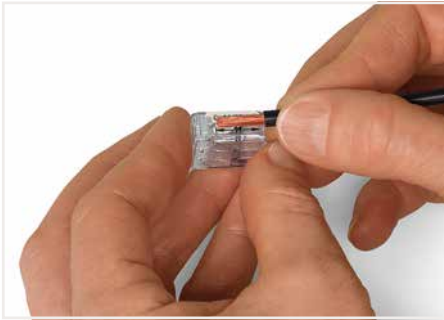
Color	Item No.	Pack. Unit
○ white	221-525	50 (5x10)
● black	221-525/000-004	50 (5x10)

Dimensions (in mm):

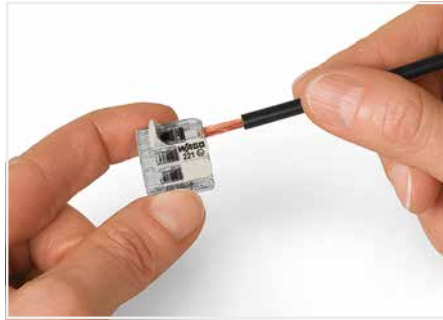


# COMPACT Splicing Connectors for All Conductor Types and Mounting Carrier for Ex Splicing Connectors ▶ for Ex eb Applications ▶ Description and Installation

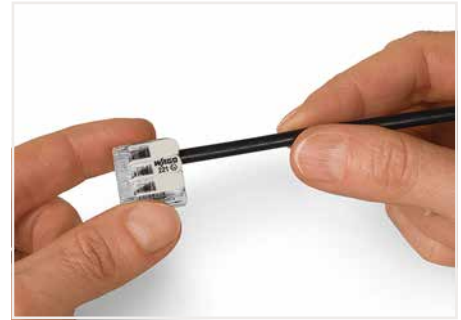
221 Series CAGE CLAMP®



Strip conductor to 11 mm (0.43 inch).



Termination: Lift the lever to open the clamping unit and insert a stripped conductor.



Then, lower the lever to close the clamp.



Inserting a connector into the mounting carrier.

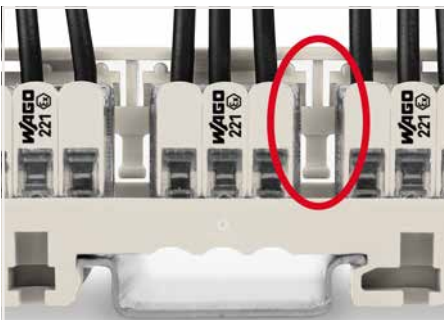


Removing a connector from the mounting carrier.



Removing a conductor.

8



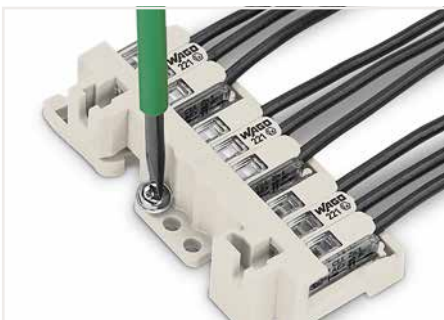
Mounting type (440 V)  
A spacer integrated in the adapter can be seen between two connectors.



Mounting type (440 V)  
Vertical mounting on DIN-35 rail



Mounting type (275 V)  
A spacer integrated in the adapter **cannot** be seen between two connectors; the connector housings are close together.



Mounting type (440 V)  
Horizontal screw mounting on a flat surface



Mounting type (440 V)  
Mounting the carrier via non-conductive screws.



Mounting type (275 V)  
Mounting the carrier using conductive screws.

# COMPACT Splicing Connector for All Conductor Types and Mounting Carrier ▶ for Ex eb Applications 4 mm<sup>2</sup> / 6 mm<sup>2</sup> ▶ 221 Series

Technical Data	
IEC / EN 60079-7	UL 60079-7
Ⓔ IECEX Ex eb IIC Gb	Ⓔ Cl. I, Zn. 1, AEx eb IIC CNR Ex eb IIC U
0.2 ... 4 mm <sup>2</sup> "s+str"	24 ... 12 AWG "s+st"
0.14 ... 4 mm <sup>2</sup> "f-st"	24 ... 12 AWG "f-st"
440 V (275 V) ①	440 V (275 V), 20 A, Ⓔ ①
I <sub>N</sub> 24,5 A ① / I <sub>N</sub> 32 A ②	
Operating temperature: -55 ... +105 °C	
11 mm / 0.43 inch	

Technical Data	
IEC / EN 60079-7	UL 60079-7
Ⓔ IECEX Ex eb IIC Gb	Ⓔ Cl. I, Zn. 1, AEx eb IIC CNR Ex eb IIC U
0.5 ... 6 mm <sup>2</sup>	20 ... 10 AWG
440 V (275 V) ①	440 V (275 V), 20 A, Ⓔ ①
I <sub>N</sub> 37 A	
Operating temperature: -55 ... +105 °C	
12 ... 14 mm / 0.47 ... 0.55 inch	



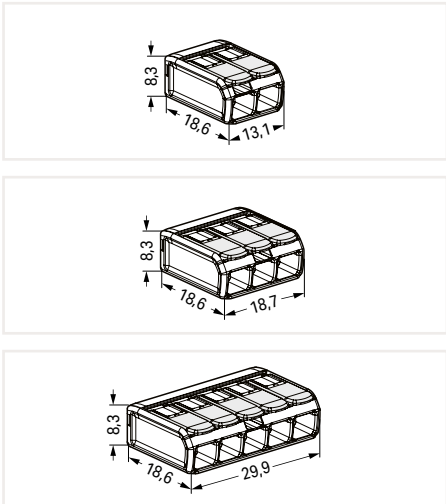
COMPACT splicing connector for all conductor types; for Ex eb applications; max. 4 mm<sup>2</sup>; with levers; Transparent housing; Light gray lever; Operating temperature (max.): 105 °C

	Item No.	Pack. Unit
2-conductor	221-482 ② ①	1000 (100)
3-conductor	221-483 ② ②	500 (50)
5-conductor	221-485 ② ②	250 (25)

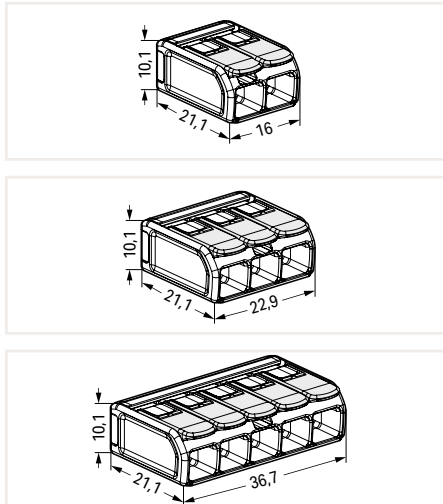
COMPACT splicing connectors for all conductor types; for Ex eb applications; max. 6 mm<sup>2</sup>; with levers; Transparent housing; Light gray lever; Operating temperature (max.): 105 °C

	Item No.	Pack. Unit
2-conductor	221-682 ②	500 (50)
3-conductor	221-683 ②	300 (30)
5-conductor	221-685 ②	150 (15)

Dimensions in mm



Dimensions in mm



Item-Specific Accessories			
Mounting carrier; for 2-, 3- and 5-wire Ex splicing connectors (4 mm <sup>2</sup> ); 17.5 mm wide			
	light gray	221-501	50 (10)
	blue	221-500/000-006 ③	50 (10)
Self-adhesive marking strip; plain; 5 mm high; 48 self-adhesive strips per card			
	white	210-334	1

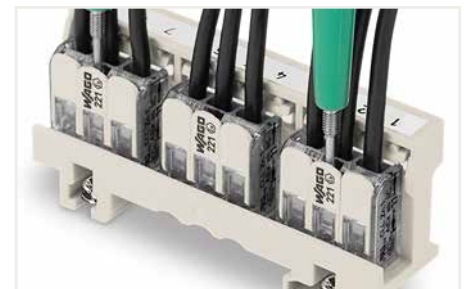
Item-Specific Accessories			
Mounting carrier; for 2-, 3- and 5-wire Ex splicing connectors (6 mm <sup>2</sup> ); 19.3 mm wide			
	light gray	221-511	50 (10)
	blue	221-510/000-006 ③	50 (10)
Self-adhesive marking strip; plain; 5 mm high; 48 self-adhesive strips per card			
	white	210-334	1

① The permissible operating voltage of the connector with carrier (440 V or 275 V) depends on the mounting type.  
The mounting types for both 440 V and 275 V are shown on the "Description and Installation" page. If a mounting type for 275 V is used, this is the permissible working voltage.

② Only approved in conjunction with a mounting carrier (221-511). Other carriers are possible, see certificate (UL).  
The connectors must be installed in an enclosure meeting the requirements of a recognized protection type per EN 60079-0, Section 1 or EN 60079-31. When installing the connectors in an enclosure of protection type "eb" (increased safety) per EN 60079-7, the clearances and creepage distances of Table 2 for this standard must be observed (for the use of accessories see point 1).  
The connectors can be used both in Group II and Group I, as the standard requirements are identical in this case.  
The use of these components requires a new assessment by an authorized certification agency.

③ Carriers with a blue insulated housing are suitable for Ex i applications. Both clearances and creepage distances for the protection type "intrinsic safety Ex i" must be observed.

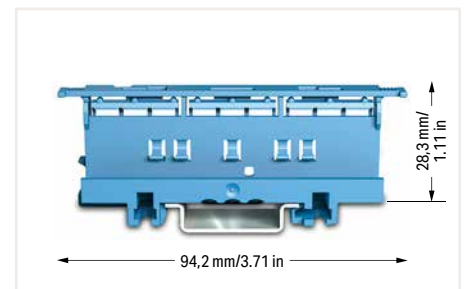
» Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)



Easily test inserted connectors in the carrier – however they are mounted.



Wiring example in an Ex e junction box  
Labeling is performed via marking strips (210-334) and pen or continuous labels (210-834), which is printed via Smart Printer (258-5000).



Carriers with a blue insulated housing are suitable for Ex i applications. Both clearances and creepage distances for the protection type "intrinsic safety Ex i" must be observed.

# Inline Splicing Connectors Installation 221 Series



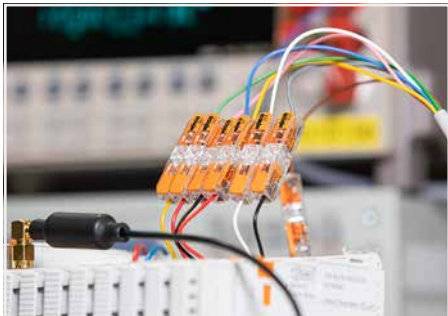
Push up the lever to open the clamping unit and insert the conductor.



Push the lever back down.

**Your Benefits:**

- Inline connection of solid, stranded and fine-stranded conductors from 0.2 to 4 mm<sup>2</sup>
- Slim design needs minimum space in tight areas
- Tool-free connection and disconnection thanks to convenient lever technology
- Use a mounting carrier for fixed and multi-pole wiring



Perfect for test setups

8



Simple extension of lines



Lighting connection in suspended ceilings



Multi-pole, fixed lighting fixture wiring

CAGE CLAMP® terminates the following copper conductors:  
solid "s"                      stranded "st"

fine-stranded "f-st", also with tinned single strands

fine-stranded, tip-bonded

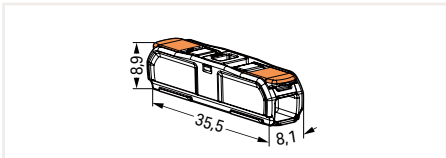


## Inline Splicing Connector 221 Series

Technical Data	
0.2 ... 4 mm <sup>2</sup> "s"	20 ... 14 AWG "s"
0.2 ... 2.5 mm <sup>2</sup> "st"	18 ... 14 AWG "st"
0.2 ... 4 mm <sup>2</sup> "f-st"	18 ... 14 AWG "f-st"
450 V / 4 kV / 2 ①	600 V, 20 A ②
I <sub>N</sub> 32 A	
11 mm / 0.43 inch	



Dimensions in mm

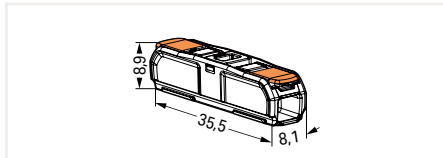


Inline splicing connector with levers; transparent housing; transparent cover		
	Item No.	Pack. Unit
	221-2411	600 (60)

Technical Data	
0.2 ... 4 mm <sup>2</sup> "s"	20 ... 12 AWG "s"
0.2 ... 2.5 mm <sup>2</sup> "st"	18 ... 12 AWG "st"
0.34 ... 4 mm <sup>2</sup> "f-st"	18 ... 12 AWG "f-st"
450 V / 4 kV / 2 ①	600 V, 20 A ②
I <sub>N</sub> 32 A	
11 mm / 0.43 inch	



Dimensions in mm



Inline splicing connector with levers; transparent housing; white cover		
	Item No.	Pack. Unit
	221-2401	600 (60)

- ① 450 V = rated voltage  
4 kV = rated impulse voltage  
2 = pollution degree  
(see Section 14)

Approvals and corresponding ratings, visit [www.wago.com](http://www.wago.com)

## Mounting Carrier ▶ for Inline Splicing Connectors Installation 221 Series



Place the inline splicing connector on the carrier in front of the mounting position.



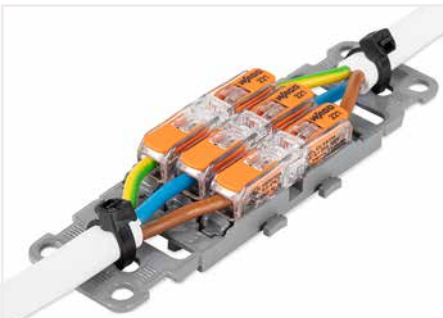
Push the connector to the center position until it snaps into place.



Conductor wiring can also be performed in fixed position.



Various combinations of 1- to 5-connector mounting carriers are possible via side-by-side latching mechanism.



3-pole mounting carrier with strain relief

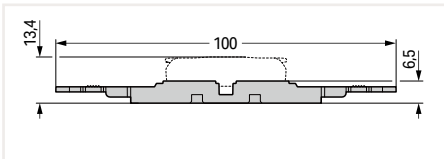


Mounting carrier without strain relief – snapped onto DIN-rail

# Mounting Carrier ▶ for Inline Splicing Connectors 221 Series



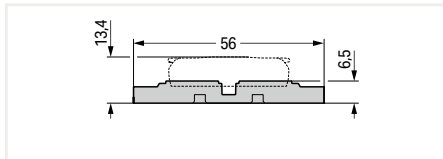
Dimensions in mm



Mounting carrier with strain relief; for inline splicing connector with levers; for screw mounting; gray

	Item No.	Pack. Unit
○ 1x	221-2501	25 (5)
○ 2x	221-2502	25 (5)
○ 3x	221-2503	25 (5)
○ 4x	221-2504	25 (5)
○ 5x	221-2505	25 (5)

Dimensions in mm



Mounting carrier; for inline splicing connector with levers; for screw mounting; gray

	Item No.	Pack. Unit
○ 1x	221-2521	25 (5)
○ 2x	221-2522	25 (5)
○ 3x	221-2523	25 (5)
○ 4x	221-2524	25 (5)
○ 5x	221-2525	25 (5)

### Accessories; 221 Series

Appropriate marking systems:  
WMB/WMB Inline/Marking strips

Mounting foot; can be screwed on Terminal Blocks with mounting flange; for DIN-15 rail; 6.4 mm wide



gray 209-1116 25

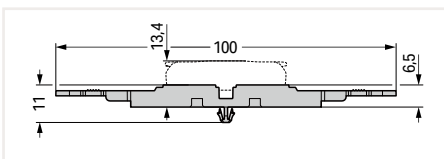
Marking strip; as DIN A4 sheet; 5 mm high; 182 mm long; plain; self-adhesive



white 210-334 100



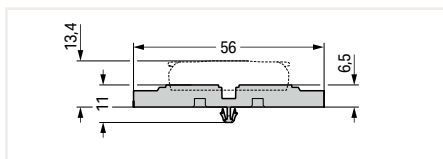
Dimensions in mm



Mounting carrier with strain relief; for inline splicing connector with levers; with snap-in mounting foot; gray

	Item No.	Pack. Unit
○ 1x	221-2511	25 (5)
○ 2x	221-2512	25 (5)
○ 3x	221-2513	25 (5)
○ 4x	221-2514	25 (5)
○ 5x	221-2515	25 (5)

Dimensions in mm



Mounting carrier; for inline splicing connector with levers; with snap-in mounting foot; gray

	Item No.	Pack. Unit
○ 1x	221-2531	25 (5)
○ 2x	221-2532	25 (5)
○ 3x	221-2533	25 (5)
○ 4x	221-2534	25 (5)
○ 5x	221-2535	25 (5)

### Accessories; 221 Series

Appropriate marking system: Marking strips

Mounting foot; snaps onto Terminal Blocks with snap-in mounting foot; for DIN-35 rail; 6.4 mm wide



gray 209-120 25

Mounting foot with screw; can be screwed on Terminal Blocks with mounting flange; for DIN-35 rail; 6.4 mm wide



gray 209-123 25

Mounting screw; for mounting foot (209-120)

209-119 500 (50)



Mounting foot; snaps onto Terminal Blocks with snap-in mounting foot; for DIN-15 rail; 6.4 mm wide



gray 209-1115 25

## Gelbox ▶ Moisture Protection for Splicing Connectors

### 207 Series

Image	Description	Color	Item No.	PU
	Gelbox; IPX8; 221 / 2273 / 2773 Series; max. 4 mm <sup>2</sup> connectors; size 1	gray	207-1331	4
	Gelbox; IPX8; 221 / 2273 / 2773 Series; max. 4 mm <sup>2</sup> connectors; size 2	gray	207-1332	4
	Gelbox; IPX8; 221 / 2273 / 2773 Series; max. 4 mm <sup>2</sup> connectors; size 3	gray	207-1333	3
	Gelbox; IPX8; 221 Series; max. 6 mm <sup>2</sup> connectors; size 1	gray	207-1431	4
	Gelbox; IPX8; 221 Series; max. 6 mm <sup>2</sup> connectors; size 2	gray	207-1432	3
	Gelbox; IPX8; 221 Series; max. 6 mm <sup>2</sup> connectors; size 3	gray	207-1433	2

#### Permitted combinations of splicing connectors and Gelbox:

Item No.	221-412	221-413	221-415	221-612	221-613	221-615	2273-202	2273-203	2273-204	2273-208	2273-402	2273-403	2273-404	2273-405	2273-406	2273-408
207-1331	1x	1x	-	-	-	-	2x	-	1x	1x	-	1x	1x	-	-	-
207-1332	2x	-	1x	-	-	-	3x	2x	-	1x	3x	2x	-	1x	1x	1x
207-1333	3x	2x	-	-	-	-	4x	-	2x	2x	3x	2x	-	-	-	1x
207-1431	-	-	-	1x	1x	-	-	-	-	-	-	-	-	-	-	-
207-1432	-	-	-	2x	-	1x	-	-	-	-	-	-	-	-	-	-
207-1433	-	-	-	3x	2x	-	-	-	-	-	-	-	-	-	-	-

For other connectors/combinations, please contact factory.



Open the Gelbox.



Place the wired connector in the Gelbox.



Application example



Close latch securely.



Re-accessible: Open the Gelbox, remove the gel and re-wire with new components.



Application example

#### Application Notes:

- Low voltage: For low-voltage applications (e.g., 230 V), double insulation of the entire system – especially of the conductors – must be ensured. This can be achieved, for example, by installing the Gelboxes in a housing/junction box according to EN 60670.
- Extra-low voltage: For extra-low voltage applications (e.g., SELV), basic insulation of the electrical cable is sufficient. However, the basic insulation of the cable must be suitable for the application.
- Re-accessibility: The Gelboxes and connectors can be accessed again.
- Reusability: Both Gelboxes and connectors must not be reused, as their watertight nature cannot be guaranteed if used again. After opening, connect new components to the cable.

#### Technical Data:

- Voltage range: see connector voltage
- Rated current: see connector current
- Rated surge voltage: 2.5 kV

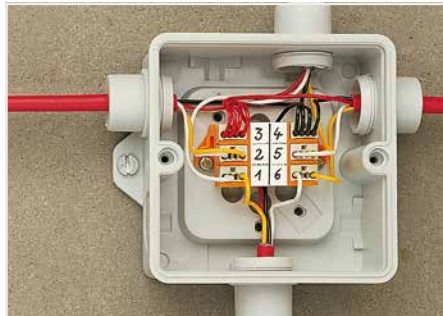
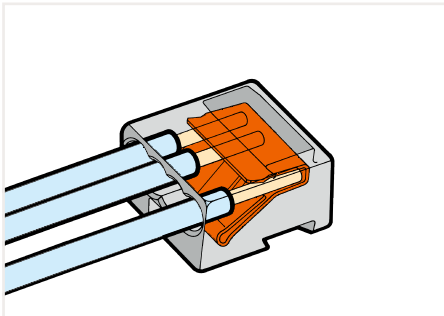
- Insulation resistance: 5 MΩ
- Continuous operating temperature (max.): 105 °C
- Ambient air temperature (max.): 85 °C

- Protection class: IPX8
- Suitable for indefinite storage because the gel is free of hazardous substance according to CLP

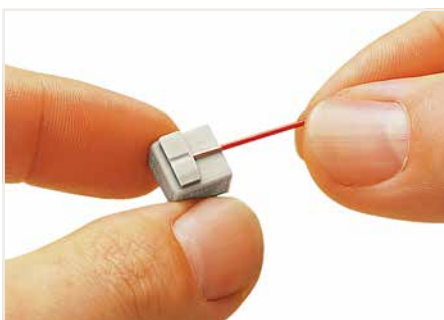
# MICRO PUSH WIRE® Connector for Junction Boxes

## Ø 0.8 mm; 243 Series

Image	Description	Color	Item No.	PU	Dimensions (W x H x D)	Electrical Data
<b>4-wire connector</b>						
	MICRO PUSH WIRE® connector for junction boxes; 4 wires ①	● dark gray	243-204	1000	10 x 5.8 x 10 mm / 0.394 x 0.23 x 0.394 inch	100 V / 1.5 kV / 2 ①; I <sub>N</sub> 6 A; 150 V, 7 A ②; 150 V, 7 A ③
	MICRO PUSH WIRE® connector for junction boxes; 4 wires ①	● red	243-804	1000		
	MICRO PUSH WIRE® connector for junction boxes; 4 wires ①	○ light gray	243-304	1000		
	MICRO PUSH WIRE® connector for junction boxes; 4 wires ①	● yellow	243-504	1000		
	MICRO PUSH WIRE® connector for junction boxes; 4 wires ②	○ transparent	243-144	1000		
<b>8-wire connector</b>						
	MICRO PUSH WIRE® connector for junction boxes; 8 wires ①	● dark gray	243-208	500	18.4 x 5.8 x 10 mm / 0.71 x 0.23 x 0.394 inch	100 V / 1.5 kV / 2 ①; I <sub>N</sub> 6 A; 150 V, 7 A ②; 150 V, 7 A ③
	MICRO PUSH WIRE® connector for junction boxes; 8 wires ①	● red	243-808	500		
	MICRO PUSH WIRE® connector for junction boxes; 8 wires ①	○ light gray	243-308	500		
	MICRO PUSH WIRE® connector for junction boxes; 8 wires ①	● yellow	243-508	500		
<b>Modular PCB connector</b>						
	4-conductor modular PCB connector; for individual solder pins	● dark gray	243-211	500	10 x 11.5 x 10 mm / 0.4 x 4.5 x 0.4 inch	100 V ≈; I <sub>N</sub> 6 A
	4-conductor modular PCB connector; for individual solder pins	● red	243-212	500		
<b>Mounting carrier</b>						
	for 4 connectors	● orange	243-112	10		
	for 8 connectors	● orange	243-113	10		



Typical application in a terminal box for burglar alarm – screw mount



Strip solid conductors to 5 ... 6 mm (0.19 ... 0.23 inch).



DIN-35 rail-mount application (residential door bell)



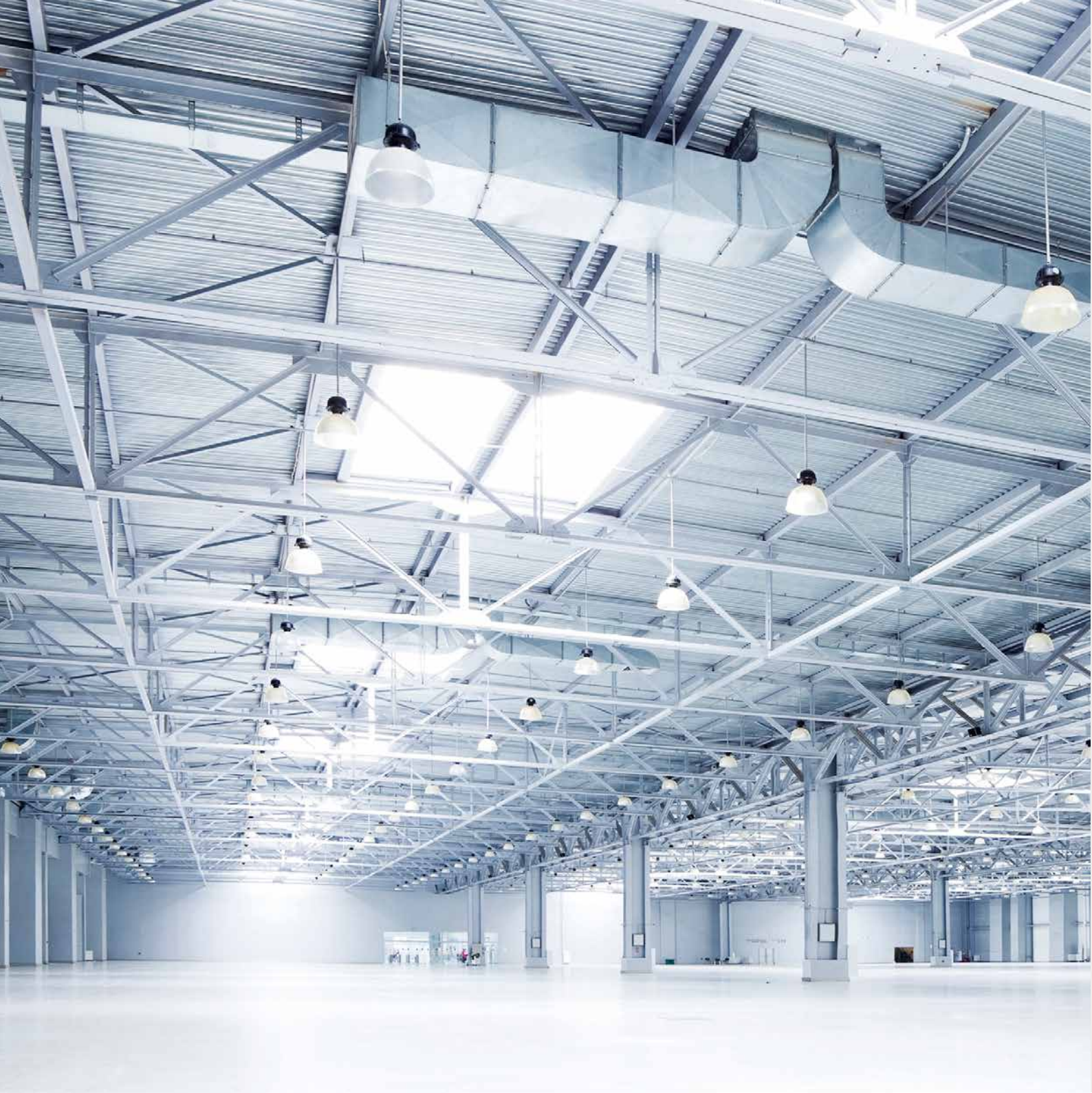
Example of a residential intercom application

8

① Conductor range: Ø 0.6 ... 0.8 mm "s"; 22 ... 20 AWG; When using conductors of the same diameter, 0.5 mm (24 AWG) or 1 mm (18 AWG) diameters are also possible; Strip length: 5 ... 6 mm / 0.2 ... 0.24 inch

② Conductor range: Ø 0.4 ... 0.5 mm "s"; 26 ... 24 AWG  
③ 800 V = rated voltage  
8 kV = rated impulse voltage  
3 = pollution degree

Continuous operating temperature (max.): 105 °C  
Surrounding air temperature (max.): 60 °C



# WAGO Lighting Management

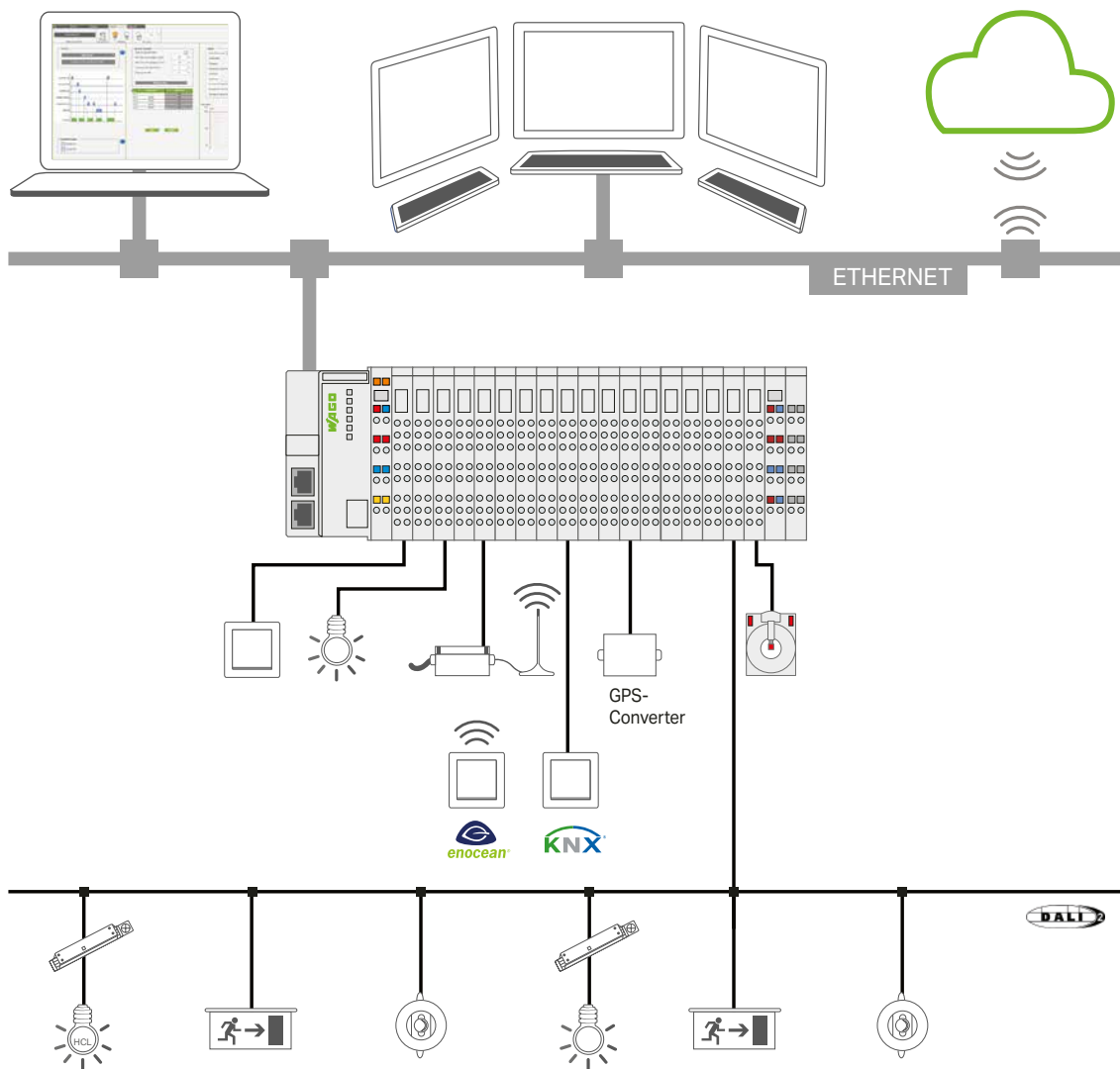
## WAGO Lighting Management

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# WAGO Lighting Management



## 9

WAGO Lighting Management is the right solution for convenient lighting control in larger spaces. Following the principle of “configuration instead of programming,” users can deploy the entire lighting system easily and efficiently. This update to our successful solution includes a new look and feel for configuration and visualization. For example, the Web user interface now allows importing of graphics, such as floor plans; you can freely position widgets on them for operation and status visualization. Additional color settings and new graphics objects also help make operation easy. Furthermore, a large number of digital inputs and outputs supports more DALI push-button couplers. This offers users the option of connecting even more control elements or actuators to WAGO Lighting Management. Uniform MQTT-based communication improves compatibility for data exchange with other solutions.





## WAGO Lighting Management

Stay on top of things with cloud connectivity – at any time, from any place, for any system.

Today, central monitoring of distributed installations becomes more and more important. To react quickly to malfunctions or plan maintenance, it must be possible to record current system values and any malfunctions in widespread installations. They must also be monitored in a decentralized manner, visualized at a central location and evaluated by the system operator or commissioned service personnel. WAGO Lighting Management can be connected to a cloud, thus enabling centralized and location-independent access to system values of individual buildings or even distributed building complexes. WAGO Lighting Management provides operating data, such as fault messages and energy consumption values, to the WAGO Cloud. This data can be evaluated there, visualized and further analyzed and processed in reports or diagrams.

OPC UA – for communication to higher-level control systems










“Open Platform Communications Unified Architecture” (OPC UA) is an established data exchange standard that is becoming increasingly important in building automation. This technology is vendor-independent and includes numerous security mechanisms. WAGO Lighting Management supports data exchange via OPC UA and transmits data such as status messages, operating values, and fault messages to a higher-level management station. It is also possible to write values such as switching commands or dimming values from a management station via OPC UA to the lighting management system.

WAGO Lighting Management			
	Components	Item No.	Note
Base Unit	Controller PFC200 G2 2ETH RS	750-8212	The PFC200 Controller is a compact PLC for the modular WAGO I/O System. Besides network and fieldbus interfaces, the controller supports all analog/digital input modules and analog/digital output modules, as well as specialty modules of the 750/753 Series. The controllers can communicate with each other.
	License for the Lighting Management Application	2759-204/261-1000	Application available at <a href="http://www.wago.com">www.wago.com</a>
	DALI Multi-Master	753-647	In addition to 64 DALI actuators (ECGs), a DALI Multi-Master Module supports up to 16 DALI Multi-sensors (max. 64 sensor addresses); max. 10 DALI modules per base package.
	End Module	750-600	An end module must be snapped onto the assembly at the end of a fieldbus node.
	Power Supply to I/O Node	787-1012	24 VDC power supply to controllers and additional modules
	Power Supply for DALI Multi-Master	787-1007	Supplies a maximum of five DALI Multi-Master modules
Expansion for Visualization	Licenses for Lighting Management Visualization	2759-2101/271-1000	Visualization – S
		2759-2102/271-1000	Visualization – M
		2759-2103/271-1000	Visualization – L
Extension for Inputs/Buttons	16-Channel Digital Input; 24 VDC; 3 ms	750-1405	For 1 ... 16 light button/switch inputs; max. 4 extensions per base package
Extension for Outputs/Actuators	16-Channel Digital Output; 24 VDC; 0.5 A	750-1504	For 1 ... 16 actuators/lamps/relays/ECG control; max. 2 extensions per base package
	Socket with Relay and Status Indicator; 1 Make Contact; 24 VDC	788-357	Light switching via relay
Extension for EnOcean® Radio	Serial Interface RS-232/485	750-652	Serial interface connects to STC65-RS-485 EVC EnOcean® Radio Transmitter/Receiver
	EnOcean® Receiver/Transmitter	2852-7101	Receives EnOcean radio signals and transmits them to the I/O node
	EnOcean® Repeater	2852-7102	Extends the transmission range (for more planning information, visit the EnOcean website)
	Radio Transmitter; EnOcean® easyfit PTM 250; 2-channel lighting controller	758-940/001-000	1 ... 2 or 1 ... 4 signals; range of 30 meters from the radio receiver in buildings
	Radio Transmitter; EnOcean® easyfit PTM 250; 4-channel lighting controller	758-940/003-000	1 ... 2 or 1 ... 4 signals; range of 30 meters from the radio receiver in buildings
Extension for External Time Request	Real-Time Clock Module	750-640	Time synchronization module, if no time server connection is possible
	GPS DCF Converter	2852-7901	Converter/external receiver for time synchronization
Extension for Energy Data Measurement	3-Phase Power Measurement; 690 VAC	750-495/xxx-xxx	
	Current and Voltage Connections	2007-8874; 2007-8877	Pre-assembled terminal block assemblies for easy connection and short-circuiting of current transformers (for current transformers, see section 6)
Extension for KNX Buttons	KNX/EIB/TP1 Interface	753-646	Connects KNX buttons to the I/O node; max. 1 module per base package
DALI-2 Sensors	DALI Sensor; PD11-BMS-FLAT	2852-7210	LOW BAY Sensor for offices (2 ... 5 m)
	DALI Sensor; PD4-BMS-GH	2852-7213	HIGH BAY Sensor for warehouses (5 ... 16 m)
	DALI Sensor; PD4N-BMS	2852-7214	MID BAY Sensor for open-plan offices, underground garages, entrance halls, production facilities (2 ... 10 m)
	Adapter; AP Assembly Kit IP54; Accessories for 2852-7214	2852-7215	Accessories for surface mounting of the PD4N-BMS (B.E.G.)
	DALI Sensor; MSensor G3 SRC 30 PIR 5DPI WH	2852-7220	LOW BAY Sensor for offices (up to 5 m)
	DALI Sensor; MSensor G3 SSM 30 10DPI WH	2852-7221	MID BAY sensor for high-ceiling rooms, e.g., production facilities, underground garages (installation height: 5 ... 10 m)
	DALI Sensor; MSensor G3 SSM 30 5DPI WH	2852-7223	LOW BAY Sensor for offices (up to 5 m)
	DALI Sensor; IR Quattro HD DALI-2	2852-7230	LOW/MID BAY Sensor for offices (2.5 ... 10 m)
	DALI Sensor; IR Quattro SLIM XS DALI-2	2852-7231	LOW BAY Sensor for offices, slim design (2.5 ... 4 m)
	DALI Sensor; IS3360 MX HIGH BAY DALI-2	2852-7232	HIGH BAY Sensor for industrial buildings, circular detection range (4 ... 14 m)
	DALI Sensor; IS345 MX HIGH BAY DALI-2	2852-7233	HIGH BAY Sensor for industrial buildings, rectangular detection range (4 ... 14 m)
	DALI XC G3 (DALI-2)	2852-7225	Push-button coupler connects 4 conventional push-buttons to DALI



# WAGO Accessories and Tools

## WAGO Accessories and Tools

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# Operating Tool 210 Series



Operating tool; type 1; (2.5 x 0.4) mm blade; with partially insulated shaft

Item No.	Pack. Unit
210-719	50 (1)

Operating tool set (210-719, 210-720, 210-721)

Item No.	Pack. Unit
210-722	1

Operating tool; type 1; short; (2.5 x 0.4) mm straight blade; with a partially insulated shaft

Item No.	Pack. Unit
210-647	50 (1)

Operating tool; type 2; (3.5 x 0.5) mm blade; with partially insulated shaft

Item No.	Pack. Unit
210-720	50 (1)

Operating tool; type 2; short; (3.5 x 0.5) mm straight blade; with a partially insulated shaft

Item No.	Pack. Unit
210-657	50 (1)

Operating tool; type 3; (5.5 x 0.8) mm blade; with partially insulated shaft

Item No.	Pack. Unit
210-721	25 (1)

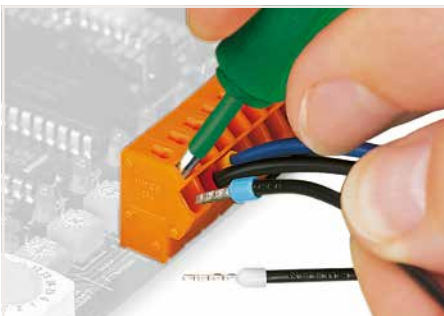
Operating tool; type 1; short; (2.5 x 0.4) mm angled blade; with a partially insulated shaft

Item No.	Pack. Unit
210-648	50 (1)

Operating tool; type 2; short; (3.5 x 0.5) mm angled blade; with a partially insulated shaft

Item No.	Pack. Unit
210-658	50 (1)

## 10



The blade dimensions of the above-listed operating tools are ideal for operating both PCB Terminal Blocks and MCS connectors.



The above-listed operating tools with blade dimensions per DIN 5624 are ideal for operating PCB Terminal Blocks.

# Operating Tool

## 233, 236, 206 Series



Operating tool; for factory wiring of PCB terminal strips; metal, partially insulated

Color	Item No.	Pack. Unit
● green	233-335	50

Operating tool; for factory wiring of PCB terminal strips; insulated

Color	Item No.	Pack. Unit
● green	236-332	400

Operating tool; for factory wiring of PCB terminal strips; insulated

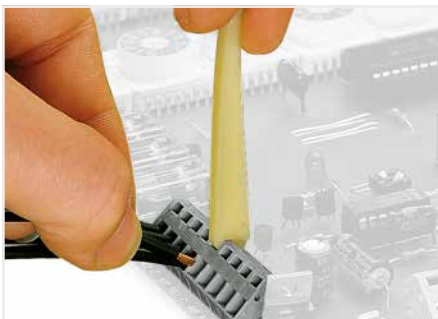
Color	Item No.	Pack. Unit
● natural	233-332	500

Operating tool; for factory wiring of PCB terminal strips; metal

Color	Item No.	Pack. Unit
● green	236-335	500

Operating tool; for factory wiring of PCB terminal strips; insulated

Color	Item No.	Pack. Unit
● yellow	233-331	500



Compared to standard screwdrivers, these operating tools are far more convenient for wiring PCB terminal strips at factory.

## Operating Tool

### 209, 280 Series



Operating tool; insulated; 5/5.08 mm pin spacing; operation parallel to conductor entry; for male and female connectors with CAGE CLAMP® connection

	Item No.	Pack. Unit
1-way	209-130	100
2-way	280-432	100
3-way	280-433	100
4-way	280-434	40
5-way	280-435	40
6-way	280-436	40
7-way	280-437	40
8-way	280-438	30
9-way	280-439	30
10-way	280-440	30

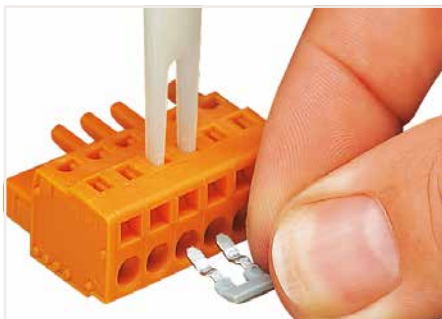
Operating tool; insulated; 5/5.08 mm pin spacing; operation perpendicular to conductor entry; for male and female connectors with CAGE CLAMP® connection

	Item No.	Pack. Unit
2-way	209-132	40

10



Inserting a male connector with long contact pins into a front-entry rail-mount Terminal Block via 6-pole operating tool.



Commoning a female connector with comb-style jumper bar (231-902) via 2-pole operating tool.

## Operating Tool

206, 2059, 2060, 2061 ▶ 2065; 2070 Series



Operating tool; for 2059 Series PCB Terminal Blocks		
Item No.	Pack. Unit	
206-859	5	

Operating tool; for 2059 Series PCB Terminal Blocks; insulated		
Item No.	Pack. Unit	
2059-189	600	

Operating tool; for 2065 Series PCB Terminal Blocks; insulated		
Item No.	Pack. Unit	
2065-189	600	

Operating tool; for 2060 Series PCB Terminal Blocks		
Item No.	Pack. Unit	
206-860	5	

Operating tool; for 2060 Series PCB Terminal Blocks; insulated		
Item No.	Pack. Unit	
2060-189	300	

Operating tool; for 2061 Series PCB Terminal Blocks		
Item No.	Pack. Unit	
206-866	5	

Operating tool; for 2061 Series PCB Terminal Blocks; insulated		
Item No.	Pack. Unit	
2061-190	300	



Operating tool; for 2070 Series PCB Terminal Blocks; insulated		
Item No.	Pack. Unit	
2070-400	100	



Inserting/removing fine-stranded conductors by lightly pressing on a push-button.

## WINSTA® Operating Tool

### 890, 770 Series



Operating tool; 2-pole; for WINSTA® MINI Connectors		
Color	Item No.	Pack. Unit
● green	890-382	1



Operating tool; 3-pole; for WINSTA® MINI Connectors		
Color	Item No.	Pack. Unit
● green	890-383	1



Operating tool; 4-pole; for WINSTA® MINI Connectors		
Color	Item No.	Pack. Unit
● green	890-384	1



Operating tool; 5-pole; for WINSTA® MINI Connectors		
Color	Item No.	Pack. Unit
● green	890-385	1



Operating tool; 2-pole; for WINSTA® MIDI Connectors		
Color	Item No.	Pack. Unit
● green	770-382	1



Operating tool; 3-pole; for WINSTA® MIDI Connectors		
Color	Item No.	Pack. Unit
● green	770-383	1



## Disconnection Tool 206 Series

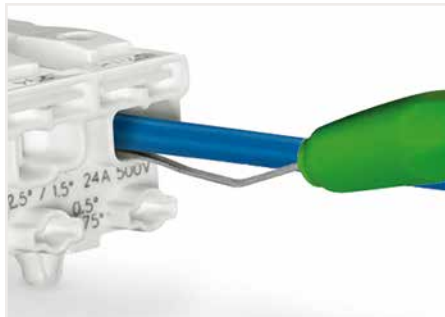


Disconnection tool; removes conductors from 744 Series PUSH WIRE® connections		
	Item No.	Pack. Unit
	206-841	50

Disconnection tool; removes conductors from 294 Series PUSH WIRE® connections		
	Item No.	Pack. Unit
	206-294	1



Remove the conductor by inserting a disconnection tool into the operating slot and pull it out.



Conductor removal: Slide disconnection tool beneath the conductor and pull conductor out.

# Cable Knife



Cable knife; for Ø 8 ... 28 mm / 0.31 ... 1.10 inch; with a unique, changeable cable bracket system; including cable bracket

Item No.	Pack. Unit
206-1403	1

Cable knife set; for Ø 4 ... 70 mm / 0.16 ... 2.75 inch; including all cable brackets in a Sortimo® Box

Item No.	Pack. Unit
206-1400	1

Never use this tool on or near live electrical circuits!



To replace the cable bracket, use the new bracket as an operating tool and pull it upwards.

### Item-Specific Accessories

Cable bracket; for Ø 4 ... 16 mm / 0.16 ... 0.63 inch

	206-1411	1
--	----------	---

Cable bracket; for Ø 8 ... 28 mm / 0.31 ... 1.10 inch

	206-1412	1
--	----------	---

Cable bracket; for Ø 27 ... 35 mm / 1.06 ... 1.38 inch

	206-1413	1
--	----------	---

Cable bracket; for Ø 35 ... 50 mm / 1.38 ... 1.97 inch

	206-1414	1
--	----------	---

Cable bracket; for Ø 50 ... 70 mm / 1.97 ... 2.75 inch

	206-1415	1
--	----------	---

### Accessories

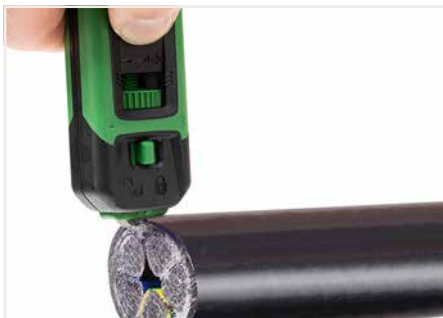
Spare inside blade	206-1418	3	Spare hook blade	206-1419	1
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The cutting depth of the hook blade can be adjusted with the slider.



The cutting depth of the inner knife can be adjusted with the screw.



Strip large cross sections with the hook blade.



Release the fuse before using the hook blade.

# Cable Stripper



In-socket cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

Item No.	Pack. Unit
206-1441	1



Universal cable stripper; for Ø 8 ... 13 mm / 5/16 ... 1/2 inch

Item No.	Pack. Unit
206-1442	1



Data cable stripper; for Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch

Item No.	Pack. Unit
206-1451	1



**Product features:**

- Extra long design and improved force transmission simplifies stripping in deep device connection sockets
- Special four-blade design for an even more precise round cut
- No cutting depth adjustment required
- TiN-coated blades, TÜV/GS tested
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch
- Strips all standard round cables, including NYM 3 x 1.5 mm<sup>2</sup>/16 AWG ... 5 x 2.5 mm<sup>2</sup>/14 AWG



**Sheath stripping: longitudinal cut**

**Product features:**

- Secure grip achieved with soft padding for non-slip grips
- Technically improved functionality
- New locking mechanism prevents the unwanted opening of the tool
- Absolutely straightforward, quick and easy longitudinal cuts – with innovative internal cable duct
- Redesigned blade layout and intake to stop cable waste from jamming the tool
- Durable and ergonomically designed pocket clip
- Ø 8 ... 13 mm / 5/16 ... 1/2 inch



**Product features:**

- Strip outer insulation and foil sheathing with one tool
- Ideal for stripping PVC-insulated data cables with thin insulation (e.g., Cat. 5, Cat. 6, Cat. 7, twisted pair cable)
- TiN-coated blades
- Ø 4.5 ... 10 mm / 3/16 ... 3/8 inch



Stripping a cable sheath.



Built-in handy knife



Stripping a wire insulation.

# Stripping Pliers



Never use this tool on or near live electrical circuits!

The stripping pliers for sensor cables have a blade geometry specially designed for sensor cables with a smaller cross section and a working range from Ø 3.2 mm / 0.13 inch (for stranded cables and round cables with Ø 3.2 mm ... 4.4 mm / 0.13 ... 0.17 inch).

The stripping pliers for control cables are designed for stronger cables from Ø 4.4 mm / 0.17 inch (for stranded cables and round cables with Ø 4.4 mm ... 7 mm / 0.17 ... 0.27 inch).

These stripping pliers quickly and safely strip cables for connecting, e.g., sensor/actuator distribution boxes, bus couplers and pluggable connectors.

Stripping pliers; for sensor cables; for Ø 3.2 ... 4.4 mm / 0.13 ... 0.17 inch

Item No.	Pack. Unit
206-1481	1

Stripping pliers; for control cables; for Ø 4.4 ... 7 mm / 0.17 ... 0.27 inch

Item No.	Pack. Unit
206-1482	1

**Item-Specific Accessories**

Replacement blade set; for Ø 3.2 ... 4.4 mm / 0.13 ... 0.17 inch

206-1491	1
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**Item-Specific Accessories**

Replacement blade set; for Ø 4.4 ... 7 mm / 0.17 ... 0.27 inch

206-1492	1
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Suitable for:

- Halogen-free PUR sensor/actuator cables
- Highly flexible TPE-U cables
- Control cables
- PUR cables
- PUR/PVC cables
- PVC cables
- Multi-core cables
- Shielded and unshielded cables



## Wire Stripper



Wire stripper "Quickstrip Vario"; 0.03 ... 16 mm<sup>2</sup> / 34 ... 6 AWG; with wire cutter

	Item No.	Pack. Unit
	206-1125	1

### Accessories

Blade set; Standard; 0.03 ... 16 mm<sup>2</sup> / 34 ... 6 AWG

206-1126 1



Blade set; V-blade; 0.14 ... 4 mm<sup>2</sup> / 24 ... 12 AWG

206-1127 1



Blade set; Oval blade; 10 ... 16 mm<sup>2</sup> / 8 ... 6 AWG

206-1128 1



Spare stripping stop

206-1129 1



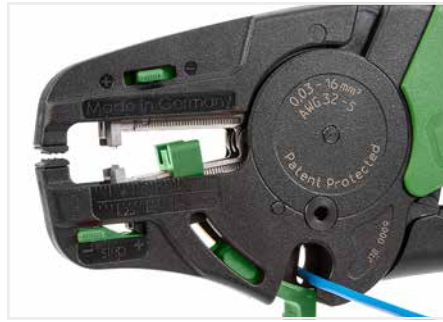
Spare cut protector

206-1131 1



Spare clamping jaws

206-1132 1



Cutting a conductor.



Partially stripping a conductor.

### Wire Stripper:

- Automatically adjust to conductor size
- Stripping blades cause no damage to conductor strands
- Gripping pressure of jaws adjusts automatically to conductor insulation diameter
- Clamping jaws and stripping blades automatically open once the stripping process is completed – no splaying of the conductor strands
- Exact strip length may be set by sliding black setting stop
- Stripping blades can be replaced
- Self-sharpening, fully protected cutter (replaceable)
- Entire body made of glass-fiber-reinforced polyamide
- Cutting capacity of the wire cutter of fine-stranded conductors up to 16 mm<sup>2</sup> (6 AWG)

# Crimping Tool




Crimping tool "Variocrimp 4"; for insulated and uninsulated ferrules; Crimping range: 0.25 ... 4 mm<sup>2</sup> (24 ... 12 AWG)

Item No.	Pack. Unit
206-1204	1


Crimping tool "Variocrimp 16"; for insulated and uninsulated ferrules; Crimping range: 6 mm<sup>2</sup> (10 AWG), 10 mm<sup>2</sup> (8 AWG) and 16 mm<sup>2</sup> (6 AWG)

Item No.	Pack. Unit
206-1216	1


Spring clamp; large

	206-1205	1
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Spring clamp; small

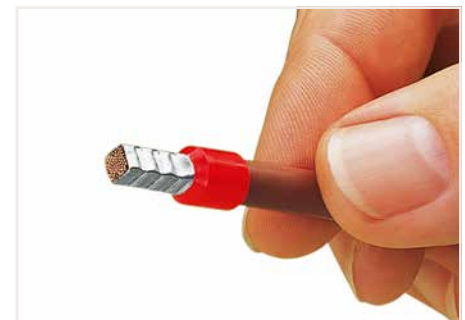
	206-1206	1
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Spring clamp; small

	206-1206	1
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**Application notes:**

- The built-in crimping pressure control of "Variocrimp 4" automatically adjusts the crimping force to the conductor cross section. Select the wire gauge on "Variocrimp 16" before crimping.
- Only one crimping station is needed to handle the specified conductor range.
- Uniform, compact crimping on all four sides for high conductor retention.
- No need to center the ferrules into the Terminal Blocks.
- Crimping can be performed from either side (for left- or right-handed users).
- Built-in ratchet mechanism ensures gas-tight crimp connection.
- Crimping tools open automatically after crimping operation is complete.
- Ergonomically designed handles.



A perfect gas-tight crimp – both electrically and mechanically reliable



Insert the ferruled conductor into the crimping station.



Squeeze handles until ratchet mechanism is released.



Only for "Variocrimp 16":  
Adjust conductor cross section with crimping tool in open position.

# Ferrule 206 Series

Sleeve for mm <sup>2</sup>	AWG	Color Code	Strip Length mm	L	L1	D	D1	D2	Item No.	Pack. Unit
Ferrule; insulated; extra long for TOBJOB® S Terminal Blocks										
0.5	22	○	12	16	10	3.1	2.6	1	216-241	1000
0.75	20	○	12	16	10	3.3	2.8	1.2	216-242	1000
0.75	20	○	14	18	12	3.3	2.8	1.2	216-262	1000
1	18	●	12	16	10	3.5	3	1.4	216-243	1000
1	18	●	14	18	12	3.5	3	1.4	216-263	1000
1.5	16	●	12	16	10	4	3.5	1.7	216-244	1000
1.5	16	●	14	18	12	4	3.5	1.7	216-264	1000
1.5	16	●	20	24	18	4	3.5	1.7	216-284	1000
2.5	14	●	12	17	10	4.7	4.2	2.2	216-246	1000
2.5	14	●	14	19	12	4.7	4.2	2.2	216-266	1000
2.5	14	●	20	25	18	4.7	4.2	2.2	216-286	1000
4	12	○	14	20	12	5.4	4.8	2.8	216-267	1000
4	12	○	20	26	18	5.4	4.8	2.8	216-287	500
6	10	●	14	20	12	6.9	6.3	3.5	216-208	1000
6	10	●	20	26	18	6.9	6.3	3.5	216-288	500
10	8	●	20	28	18	8.4	7.6	4.5	216-289	500
16	6	●	23	28	18	9.6	8.8	5.8	216-210	500

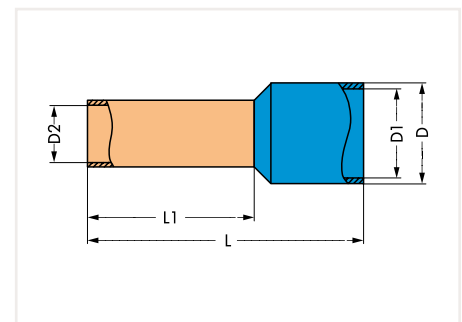
Ferrule; insulated; in standard length										
0.25	24	●	7.5	10.5	6	2.5	2	0.8	216-321	1000
0.25	24	●	9.5	12.5	8	2.5	2	0.8	216-301	1000
0.35	24	●	7.5	10.5	6	2.5	2	0.8	216-322	1000
0.34	24	●	9.5	12.5	8	2.5	2	0.8	216-302	1000
0.5	22	○	7.5	11.5	6	3	2.5	1.1	216-221	1000
0.5	22	○	9.5	13.5	8	3	2.5	1.1	216-201	1000
0.75	20	○	8	12	6	3.3	2.8	1.3	216-222	1000
0.75	20	○	10	14	8	3.3	2.8	1.3	216-202	1000
1	18	●	8	12	6	3.6	3	1.5	216-223	1000
1	18	●	10	14	8	3.6	3	1.5	216-203	1000
1.5	16	●	8	12	6	4	3.4	1.8	216-224	1000
1.5	16	●	10	14	8	4	3.4	1.8	216-204	1000
2.08	14	●	10	14.5	8	4.2	3.6	2.05	216-205	1000
2.5	14	●	10	15	8	4.8	4.2	2.3	216-206	1000
4	12	○	12	16.8	9.5	5.4	4.8	2.9	216-207	1000
6	10	●	14	20	12	6.8	6.2	3.5	216-208	1000
10	8	●	16	21	12	8.1	7.5	4.6	216-209	1000
16	6	●	23	28	18	9.6	8.8	5.8	216-210	500

Twin ferrule; insulated; extra long for TOBJOB® S Terminal Blocks										
2 x 1.0	2 x 18	●	12	19.2	12	5.8 x 3.2	5.2 x 2.6	2	216-542	500
2 x 2.5	2 x 14	●	12	21	12	8.0 x 4.5	7.2 x 3.7	2.8	216-545	100
2 x 4.0	2 x 12	○	12	22	12	9.0 x 5.2	8.0 x 4.2	3.5	216-546	200
2 x 6.0	2 x 10	●	12	23	12	11.4 x 6.2	10.4 x 5.2	4.5	216-547	1

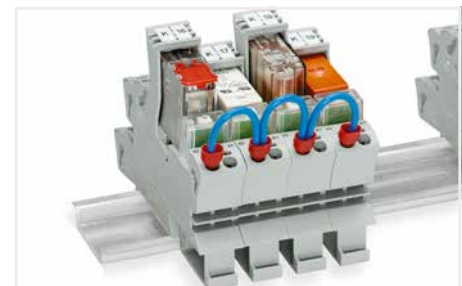
Ferrule; uninsulated; in standard length										
0.25	24		5	5		1.7		0.75	216-151	5000
0.25	24		7	7		1.7		0.75	216-131	5000
0.34	24		5	5		1.7		0.85	216-152	5000
0.34	24		7	7		1.7		0.85	216-132	5000
0.5	22		6	6		2.1		1	216-121	5000
0.5	22		8	8		2.1		1	216-101	5000
0.75	20		6	6		2.3		1.2	216-122	5000
0.75	20		8	8		2.3		1.2	216-102	5000
1	18		6	6		2.5		1.4	216-123	5000
1	18		8	8		2.5		1.4	216-103	5000
1.5	16		6	6		2.8		1.7	216-124	5000
1.5	16		8	8		2.8		1.7	216-104	5000
2.5	14		10	10		3.4		2.2	216-106	5000
4	12		10	10		4		2.8	216-107	5000
6	10		12	12		4.7		3.5	216-108	1000
10	8		12	12		5.8		4.5	216-109	1000
16	6		12	15		7.5		5.8	216-110	500



Insulated ferrules



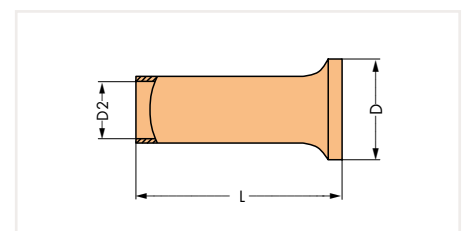
Insulated ferrule  
For letters with the corresponding dimensions, see table opposite.



Wire bridge with twin ferrules



Uninsulated ferrules



Uninsulated ferrule

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## Test and Measurement Device ▶ Test Plug; Test Pin

### 206, 210, 735 Series



Testboy; non-contact voltage tester; with integrated flashlight; voltage range: 12 ... 1000 VAC

Item No.	Pack. Unit
206-804	1



Test plug; with 500 mm cable; 2 mm Ø; max. 42 V

Color	Item No.	Pack. Unit
● red	210-136	50 (1)



Test pin; 30 V AC / 60 V DC; CAT0; 6 mm uninsulated; Test lead for soldering up to 0,5 mm<sup>2</sup>

Ø	Item No.	Pack. Unit
1 mm	735-500	1



Test Probes; 1000 V; CAT IV; 10 A

Ø	Item No.	Pack. Unit
2 mm	206-912	1



Test pin; 30 V AC / 60 V DC; CAT0; 10 mm uninsulated; Test lead for soldering up to 0,5 mm<sup>2</sup>

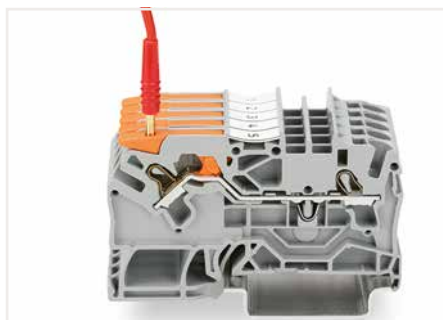
Ø	Item No.	Pack. Unit
1 mm	859-500	1

10



A device that will reliably detect AC voltage in cables, sockets, fuses, switches, outlets and other installations. Testboy can detect the following:

- Live conductors
- Cable breaks
- Blown fuses (in cartridges or holders)
- Defective switches
- Defective lamps in strings of lights



Testing with a 2 mm Ø test plug (max. 42 V).



Testing with a 1 mm Ø test pin – touch contact.

- Test pin
- Miniature test pin for sampling extremely small measuring points
  - Shatter-proof grip, may be unscrewed
  - The stainless steel tip easily penetrates insulation and oxide layers
  - Solder connection up to 0.5 mm<sup>2</sup>



# "Alu-Plus" Contact Paste 249 Series



"Alu-Plus" syringe; contains 20 ml "Alu-Plus" contact paste; for reliable connection of solid aluminum conductors\* up to 4 mm<sup>2</sup> in WAGO spring clamp Terminal Blocks

Item No.	Pack. Unit
249-130	20 (4 x 5)

### "Alu-Plus" Contact Paste

- Prevents fresh oxidation at the clamping point.
- » • Prevents electrolytic corrosion between aluminum and copper conductors.
- Provides long-term protection against corrosion.

\* Aluminum conductors per IEC 61545 standard,  
» Class B, "Alloy 1370" with 90–180 N/mm<sup>2</sup> tensile strength and 1–4 % elongation.

Use "Alu-Plus" contact paste when terminating solid  
» aluminum conductors in WAGO spring clamp Terminal Blocks.

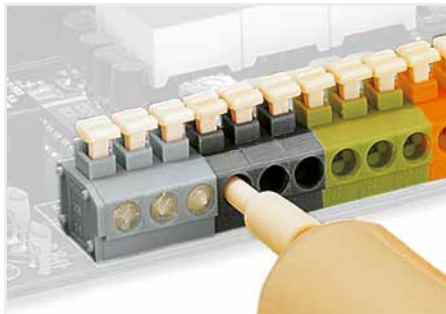
"Alu-Plus" contact paste also allows WAGO spring  
» clamp Terminal Blocks to properly terminate solid aluminum conductors up to 4 mm<sup>2</sup>/12 AWG.

Using Terminal Blocks with CAGE CLAMP® Spring Pressure Connection Technology, aluminum conductors must first be cleaned and then immediately be inserted into the clamping Units filled with "Alu-Plus" contact paste.

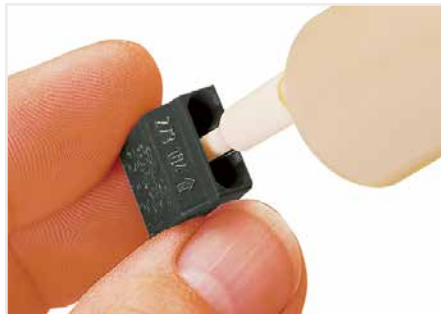
It is also possible to apply WAGO "Alu-Plus" additionally  
» on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:  
»

2.5 mm<sup>2</sup> (14 AWG) = 16 A  
4 mm<sup>2</sup> (12 AWG) = 22 A



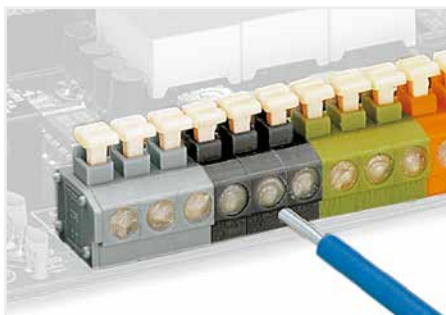
Push nozzle of the "Alu-Plus" syringe into every open conductor entry hole (one after the other).



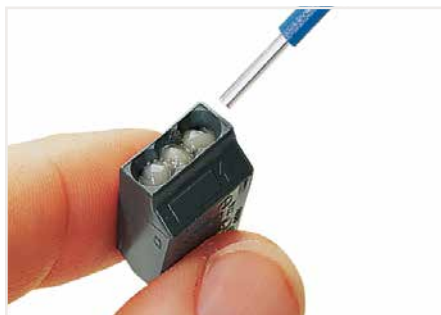
WAGO Junction Box Connectors  
Push nozzle of the "Alu-Plus" syringe into the center conductor entry hole of the WAGO junction box connector.



WAGO Lighting Connectors  
Push nozzle of the "Alu-Plus" syringe first into the circular and then into the square conductor entry hole of the WAGO lighting connector.



Press plunger down until "Alu-Plus" has filled all conductor entry holes.



Press plunger down until "Alu-Plus" is visible in the other holes.

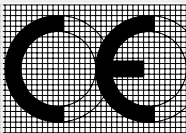

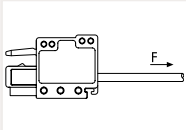







Press plunger down until the "Alu-Plus" has filled both entry holes.



# Technical Section

## Technical Section

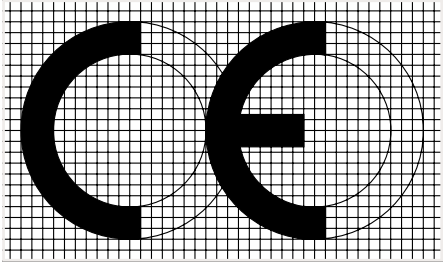
	Page
	CE Marking and EC Directives IEC/EN Specifications
	Tests and Testing Procedures per IEC/EN Standards – Mechanical Tests – Electrical Tests – Material Tests – Environmental Tests
	UL Specifications – Underwriters Laboratories, USA – Tests and Testing Procedures per UL Standards
	Terminating Aluminum Conductors
	Processing Information and Material Specifications – Soldering Information – Insulation Materials – Contact Materials, Contact Plating, Clamping Spring Material
	General Technical Information on Electrical Equipment Used in Hazardous Areas – “Increased Safety Ex e” Requirements – “Intrinsic Safety Ex i” Requirements
	Electrical Engineering Laboratory
	Environmental Protection at WAGO

11

## CE Marking and EC Directives

### CE Conformity Marking:

The CE conformity marking consists of the characters "CE" with the following script:



Communauté Européenne  
(European Community)

**EC directives** are legally binding specifications for the European Union. Their goal is aligning legal and administrative specifications in the various EU member countries, in order to prevent trading hindrances arising from different national specifications.

In order to launch a product on the market, it must comply with the relevant directives. Several directives may apply for one single product, for example, EMC and low voltage directives.

The following EC directives apply to WAGO products:

#### 2014/35/EU – Low Voltage Directive (LVD)

The LVD covers all electrical equipment operating with a voltage between 50 and 1000 VAC and between 75 and 1500 VDC.

This directive applies to products, such as rail-mount Terminal Blocks, splicing connectors, modular Terminal Blocks, terminal strips, etc., which comply with the specifications of the coordinated European standards and their specific parts (e.g., EN 60947 for rail-mount Terminal Blocks and EN 60998 for splicing connectors). The CE conformity marking must be applied to all electrical equipment; should on-unit marking not be possible, mark the smallest packing unit. With this marking, manufacturers attest conformity of their products to relevant directives.

In addition to the CE marking, manufacturers provide an EC "Declaration of Conformity" for their products. This declaration of con-

formity must be retained and submitted to a national surveillance authority upon request.

#### 2014/30/EU – EMC Directive

This directive applies to any devices, equipment and systems containing electric or electronic components. The German Federal Office for Post and Telecommunications (Bundesamt für Post und Telekommunikation, BAPT) is authorized to draw a distinction between elementary and complex components. Elementary components, such as resistors, transformers, ICs, relays, etc., are not provided with marking. For complex components, such as electro-motors, electronic cards, thermostats, etc., the EMC directives apply only if these components are sold directly to the end user.

All products subject to the application scope of the EMC directive must display the CE marking on their housing. This marking proves conformity with the corresponding standards.

#### 2006/42/EC – Machinery Directive

This directive applies to complete machines or equipment.

The manufacturers of machines or equipment are, however, obliged to use components which meet the corresponding EC directives (e.g., Low Voltage or EMC Directives).

Fulfillment and conformity with these directives is required for the free exchange of goods within Europe.

#### 2014/34/EU – ATEX Directive

Explosion-proof devices – General Technical Information on Electrical Equipment Used in Hazardous Areas

## IEC/EN Specifications

The following standards apply to the design and application of the Terminal Blocks and connectors contained in this catalog:

IEC 60364-1 HD 60364-1 VDE 0100-100 / Low-voltage electrical installations - Part 1: Fundamental principles, assessment of general characteristics, definitions	IEC 60079-7 EN 60079-7 VDE 0170-6 / Explosive atmospheres – - Part 7: Equipment protection by increased safety "e"	EN 61439-3 VDE 0660-600-3 /- Low-voltage switchgear and controlgear assemblies - Part 3: Distribution boards intended to be operated by ordinary persons (DBO)
IEC 61140 EN 61140 VDE 0140-1 / Protection against electric shock - Common aspects for installation and equipment	IEC 60079-11 EN 60079-11 VDE 0170-7 / Explosive atmospheres – - Part 11: Equipment protection by intrinsic safety "i"	IEC 61643-11 EN 61643-11 VDE 0675-6-11 / Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
IEC 60364-7-710 HD 60364-7-710 VDE 0100-710 - Part 7-710: Requirements for special installations or locations - Medically used areas	IEC 60079-14 EN 60079-14 VDE 0165-1 / Explosive atmospheres – - Part 14: Electrical installations design, selection and erection	IEC 60335-1 EN 60335-1 VDE 0700-1 / Safety of household and similar electrical appliances - Part 1: General requirements
IEC 60364-7-718 HD 60364-7-718 VDE 0100-718 - Part 7-718: Requirements for special installations or locations - Communal facilities and workplaces	IEC 60079-15 EN 60079-15 VDE 0170-16 / Explosive atmospheres – - Part 15: Equipment protection by type of protection "n"	IEC 60598-1 EN 60598-1 VDE 0711-1 / Lighting fixtures - Part 1: General requirements and tests
EN 50110-1 VDE 0105-1 / Operation of electrical installations - Part 1: General requirements	IEC 60038 EN 60038 VDE 0175-1 / IEC CENELEC standard voltages	IEC 60715 EN 60715 / Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations
IEC 60664-1 EN 60664-1 VDE 0110-1 / Insulation coordination for equipment with in low-voltage systems - Part 1: Principles, requirements and tests	VDE 0298-4 / Application of cables and flexible cords in power installations - Part 4: Recommended values for current carrying capacities of cables for fixed installation and for flexible cables	IEC 60999-1 EN 60999-1 VDE 0609-1 / Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm <sup>2</sup> up to 35 mm <sup>2</sup> (included)
IEC 60204-1 EN 60204-1 VDE 0113-1 / Electrical equipment for machinery - Part 1: General requirements	IEC 60112 EN 60112 VDE 0303-11 / Method for determining the comparative and the proof tracking indices of solid insulating materials	IEC 60999-2 EN 60999-2 VDE 0609-101 - Part 2: General requirements and particular requirements for clamping units for conductors from 35 mm <sup>2</sup> up to 300 mm <sup>2</sup> (included)
IEC 60079-0 EN 60079-0 VDE 0170-1 / Explosive atmospheres Part 0: Equipment - General requirements	IEC 60529 EN 60529 VDE 0470-1 / Degrees of protection provided by enclosures (IP code) - Testing equipment and testing method	
	IEC 61439-1 EN 61439-1 VDE 0660-600-1 / Low-voltage switchgear and control-gear assemblies - Part 1: General rules IEC 61439-3	

IEC 60998-1 EN 60998-1 E VDE 0613-1 / Connecting devices for low-voltage circuits for household and similar purposes - Part 1: General requirements	IEC 61984 EN 61984 VDE 0627 / Connectors - Safety requirements and tests	IEC 60352-7 EN 60352-7 - Part 7: Spring clamp connections - General requirements, test methods and practical guidance
IEC 60998-2-1 EN 60998-2-1 VDE 0613-2-1 - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type clamping units	IEC 60512-1 EN 60512-1 / Connectors for electronic equipment – Tests and measurements - Part 1: General	
IEC 60998-2-2 EN 60998-2-2 VDE 0613-2-2 - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type clamping units	IEC 60320-1 EN 60320-1 VDE 0625-1 / Appliance couplers for household and similar general purposes - Part 1: General requirements	
IEC 60998-2-3 EN 60998-2-3 VDE 0613-2-3, - Part 2-3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units	IEC 60352-1 EN 60352-1 / Solderless connections; - Part 1: Wrapped connections - General requirements, test methods and practical guidance	
IEC 60947-1 EN 60947-1 VDE 0660-100 / Low-voltage switchgear and controlgear - Part 1: General rules	IEC 60352-2 EN 60352-2 / Solderless connections; - Part 2: Crimped connections - General requirements, test methods and practical guidance	
IEC 60947-7-1 EN 60947-7-1 VDE 0611-1 - Part 7-1: Ancillary equipment Terminal Blocks for copper conductors	IEC 60352-3 EN 60352-3 - Part 3: Solderless accessible insulation displacement connections - General requirements, test methods and practical guidance	
IEC 60947-7-2 EN 60947-7-2 VDE 0611-3 - Part 7-2: Ancillary equipment Protective conductor Terminal Blocks for copper conductors	IEC 60352-4 EN 60352-4 - Part 4: Solderless non-accessible insulation displacement connections - General requirements, test methods and practical guidance	
IEC 60947-7-3 EN 60947-7-3 VDE 0611-6 - Part 7-3: Ancillary equipment Safety requirements for fuse Terminal Blocks	IEC 60352-5 EN 60352-5 - Part 5: Press-in connections - General requirements, test methods and practical guidance	
IEC 60947-7-4 EN 60947-7-4 VDE 0611-4 - Part 7-4: Ancillary equipment – PCB Terminal Blocks for copper conductors	IEC 60352-6 EN 60352-6 Part 6: Insulation piercing connections - General requirements, test methods and practical guidance	

## Tests and Testing Procedures per IEC/EN Standards

Products such as connecting devices, rail-mount Terminal Blocks and connectors, etc., have their own product-specific test specifications. The following sections describe the most important tests and are limited to a description of the test procedures and an explanation of the test purpose. The data shown (e.g., voltages, temperatures, forces) only serve as illustration and may differ depending on the test.

### Mechanical Tests

All WAGO products meet requirements for the following mechanical tests:

- Termination Requirements

#### Conductor Termination

Two WAGO connection systems are proven in the field of Spring Pressure Connection Technology:

The PUSH WIRE® connection for applications requiring solid conductors ranging from 0.2 ... 4 mm<sup>2</sup> / 0.28 ... 4 AWG (e.g., for lighting and building wiring, telecommunications, house communication or alarm systems).

The universal CAGE CLAMP® spring pressure connection for solid, stranded and fine-stranded conductors ranging from 0.08 to 35 mm<sup>2</sup> (28 ... 2 AWG) and designed for a variety of industrial, electrical and electronic applications (e.g., fine-stranded conductors in the elevator industry, in power stations, in the chemical and automotive

industry, and aboard ships).

The Push-in CAGE CLAMP® connection takes universal CAGE CLAMP® connections further by allowing the termination of 0.2 to 16 mm<sup>2</sup> (24 ... 6 AWG) solid, stranded and fine-stranded conductors (25 mm<sup>2</sup>/4 AWG only "f-st") and offering all the benefits and safety of the original CAGE CLAMP®. Furthermore, the Push-in CAGE CLAMP® connection technology allows solid and stranded conductors from 0.5 to 16 mm<sup>2</sup> (20 ... 6 AWG), as well as 0.5 to 16 mm<sup>2</sup> (20 ... 6 AWG) ferruled stranded conductors to be terminated by simply pushing them in. Fine-stranded conductors of small or very small size are highly flexible, and deform when pushed against the conductor stop in Terminal Blocks. As a result, the conductor

insulation – not the copper conductor – may be clamped, causing intermittent contact or no contact at all.

In order to prevent conductor insulation from being inserted into the clamp, insulation stops are available, even providing protection for 0.08 mm<sup>2</sup> (28 AWG) conductors.

### Rated Cross-Sections and Connectable Conductors

I. Per IEC 60999-1 / EN 60999-1 / VDE 0609, Part 1, Table 1:

Rated Cross-Section	Theoretical Largest Conductor Diameter							Connectable Conductor	
	Metric			AWG				Rigid	Flexible
	Rigid		Flexible	Rigid		Flexible			
	Solid	Stranded			b) Solid	b) Class B Stranded	c) Class I, K, M Stranded		
mm <sup>2</sup>	mm	mm	mm	Conductor Size	mm	mm	mm		
0.2	0.51	0.53	0.61	24	0.54	0.61	0.64	To be defined in the corresponding product standard	
0.34	0.63	0.66	0.8	22	0.68	0.71	0.8		
0.5	0.9	1.1	1.1	20	0.85	0.97	1.02		
0.75	1.0	1.2	1.3	18	1.07	1.23	1.28		
1.0	1.2	1.4	1.5	–	–	–	–		
1.5	1.5	1.7	1.8	16	1.35	1.55	1.6		
2.5	1.9	2.2	2.3 <sup>a)</sup>	14	1.71	1.95	2.08		
4.0	2.4	2.7	2.9 <sup>a)</sup>	12	2.15	2.45	2.7		
6.0	2.9	3.3	3.9 <sup>a)</sup>	10	2.72	3.09	3.36		
10.0	3.7	4.2	5.1	8	3.34	3.89	4.32		
16.0	4.6	5.3	6.3	6	4.32	4.91	5.73		
25.0	–	6.6	7.8	4	5.45	6.18	7.26		
35.0	–	7.9	9.2	2	6.87	7.78	9.02		

NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 of IEC 60228 A/IEC 60344 and on ASTM B172-71 [4], IECA Publication S-19-81 [5], IECA Publication S-66-524 [6], as well as IECA Publication S-66-516 [7] for AWG conductors.

a) Dimensions for Class 5 flexible conductors only (IEC 60228 A)

b) Nominal diameter + 5%

c) Largest diameter for conductors of classes I, K, M + 5%

**In practical use, the conductor cross-sections are approximately 5% below the values stated in the table!**



The IEC 60999-1/EN 60999-1/VDE 0609 Specification (Part 1, Section 7.1) requires that:

**Clamping units must be able to connect unprepared conductors.**

Under normal operating conditions, direct clamping (i.e., directly connecting a conductor to the Terminal Block's current bar) provides optimal contact quality, because all risk factors arising from anti-splaying methods are prevented. Occasionally, conductor anti-splaying protection may be required, including various methods (see illustrations below).

Special requirements apply only in special application areas exposed to extremely corrosive atmospheres.

In this case, we recommend using either solid copper conductors or fine-stranded copper conductors with properly crimped, tin-coated copper ferrules or copper pin terminals.

As with solid copper conductors, the fine strands are crimped to a dense inner core. This prevents ingress of aggressive atmospheres (depending on the ppm concentration), which can diffuse into the conductor bundle along the individual strands and

cause corrosion deposits between individual strands and the clamping point.

**One Conductor per Clamping unit**

A number of VDE specifications specify that **only one conductor must be connected per clamping unit** (e.g., DIN VDE 0611, Part 4, 02.91, Section 3.1.9). The same applies to the recommendations of the German Automotive Industry Association (VDA) "Supply specification for the electrical equipment of machines, mechanical installations and buildings in the automotive industry" according to Section 15.1.1.3; Draft 8.93.

Other VDE and EN specifications also recommend the connection of **only one conductor per clamping unit**, unless the clamping unit is specifically tested and approved for the connection of several conductors, for example:

- VDE 0609-1, 12.00/
- EN 60999-1:2000, Section 7.1
- VDE 0660, Part 600, 06.12
- EN 61439-1:2011, Section 8.6.3
- VDE 0113-1, 06.07/
- EN 60204-1:2006, Section 13.1.1

One conductor per clamping unit is therefore recommended to meet the safety requirements of these relevant specifications. This WAGO principle is the basis for a number of other technical and economic advantages:


- Each conductor may be terminated or removed without affecting previously connected conductors.
- Where re-wiring is required, only the conductor to be changed is removed from the clamping point, all other conductors remain safely clamped.
- Each conductor is clamped independently.
- Any conductor size combination can be connected.

II. Per IEC 60999-2 / EN 60999-2 / VDE 0609, Part 101, Table 1:


Rated Cross-Section	Theoretical Largest Conductor Diameter					Connectable Conductor	
	Metric		AWG/Kcmil				
	Rigid	Fine-Stranded <sup>a)</sup>	Gauge	Rigid	Fine-Stranded	Rigid	Flexible
Stranded		Stranded					
mm <sup>2</sup>	mm	mm		mm	mm		
50	9,1	11	0	9.64	12.08	To be defined in the corresponding product standard	
70	11	13.1	00	11.17	13.54		
95	12.9	15.1	000	12.54	15.33		
-	-	-	0000	14.08	17.22		
120	14.5	17	250	15.34	19.01		
150	16.2	19	300	16.8	20.48		
185	18.0	21	350	18.16	22.05		
-	-	-	400	19.42	24.05		
240	20.6	24	500	21.68	26.57		
300	23.1	27	600	23.82	30.03		

a) Dimensions for Class 5 flexible conductors only (IEC 60228A)


NOTE: The diameters of the largest rigid and flexible conductors are based on Table 1 and Table 3 of IEC 60228 and on ASTM B172-71 [1], IECA Publication S-19-81 [2], IECA Publication S-66-524 [3], as well as IECA Publication S-66-516 [7] for AWG conductors.




Tip-bonded conductor



Tin-plated copper ferrule (gas-tight crimped)



Ultronically bonded conductor



Crimped pin terminal (gas-tight), preferably made of copper with a tin-plated surface

Anti-splaying methods require a Terminal Block one size larger than the nominal cross-section of the conductor to be terminated.

**Ferruled conductor cross-sections specified for individual products are based on WAGO's Variocrimp square crimping technology.**

Gas-tight, crimped twin ferrules may be used, provided the ferrule is inserted all the way into the clamping unit and that there is a sufficient clearance and creepage distance between adjacent potentials.

WAGO provides 2-conductor Terminal Blocks and connectors to increase the number of clamping units.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Mechanical Tests (continued)

- Pull-Out Test per IEC/EN 60947-7-1, IEC/EN 60998-2-2, IEC/EN 60999-1

The pull-out test simulates the mechanical stress on the clamping unit when, for example, the installer pushes the conductor aside to better access/operate the adjacent clamping unit, or verifies if the conductor is connected properly by briefly pulling on it.

During the test, a pulling force is applied without jerking, for one minute, to the connected conductor. The pulling force is selected according to the cross-sectional area. The larger the cross-section of the conductor, the higher the pull-out force that is selected. For example, the pulling force is 40 N for a conductor having a cross-section of 1.5 mm<sup>2</sup> (16 AWG) and 100 N for a conductor with a cross-section of 16 mm<sup>2</sup> (6 AWG). The values specified by these standards are the same for both screw clamp and spring clamp Terminal Blocks. During the test, the conductor must neither slip out of the clamping unit, nor break near the clamping unit.

#### Conductor Pull-Out Forces

The clamping units of screwless Terminal Blocks must withstand the pull-out forces as follows:

IEC 60947-1/EN 60947-1/VDE 0660-100, Table 5:

Low-voltage switchgear and controlgear – General rules

IEC 60947-7-1/EN 60947-7-1/

VDE 0611-1, rail-mount Terminal Blocks for copper conductors

IEC 60998-2-1/EN 60998-2-1/

VDE 0613-2-1, Table 104

IEC 60998-2-2/ EN 60998-2-2/VDE

0613-2-2, Table 103:

Connecting devices for low-voltage circuits for household and similar purposes

Particular requirements for connecting devices as separate entities with screw clamp or screwless Terminal Blocks

IEC 60999-1/EN 60999-1/VDE 0609-1,

Table 3:

IEC 60999-2/EN 60999-2, /VDE 0609-101,

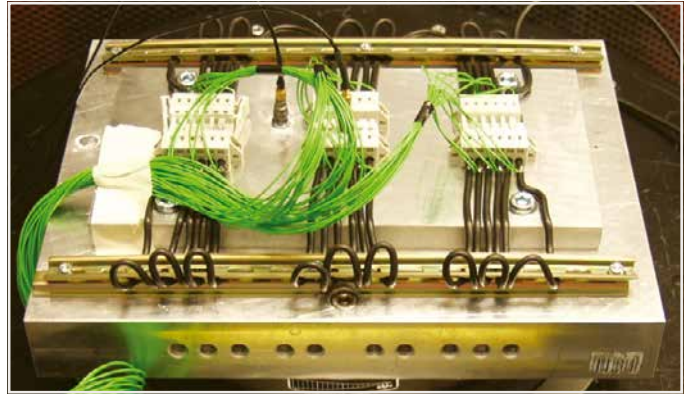
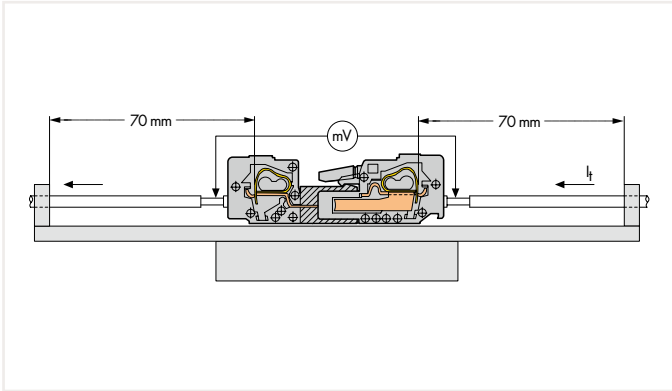
Table 2:

Safety requirements for screw-clamp and screwless clamping units for electrical copper conductors

Rated Cross-Section		Pull-Out Forces per IEC/EN		
mm <sup>2</sup>	AWG/kcmil	60947-7-1 N	60998-2-2 N	60999-1/-2 N
0.2	24	10	10	10
0.34	22	15	15	15
0.5	20	20	20	20
0.75	18	30	30	30
1.0	–	35	35	35
1.5	16	40	40	40
2.5	14	50	50	50
4.0	12	60	60	60
6.0	10	80	80	80
10	8	90	90	90
16	6	100	100	100
25	4	135	135	135
–	3	156		
35	2	190	190	190
–	1	236		
50	0	236		236
70	00	285		285
95	000	351		351
–	0000	427		427
120	250	427		427
150	300	427		427
185	350	503		503
–	400	503		503
240	500	578		578
300	600	578		578

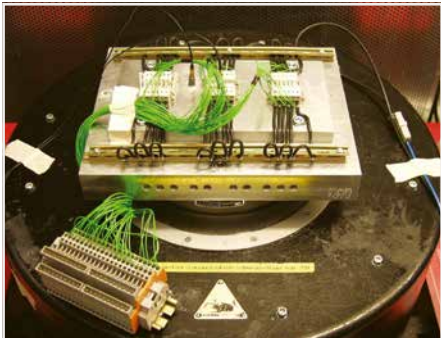
- Shock/Vibration Test per IEC/EN 60068-2-6; DNV GL, LR (Marine Applications); IEC/EN 61373 (Railway Applications)

The vibration test determines whether vibrations, such as those produced in the vicinity of machines or in vehicles, will permanently affect the electrical connection, or if contact breaks will occur during vibrations. Using a vibration table, the test specimen is subjected to vibration in each of the X, Y and Z axes (see pictures). The amplitude, acceleration and in particular the frequency of the vibration must vary during the test.

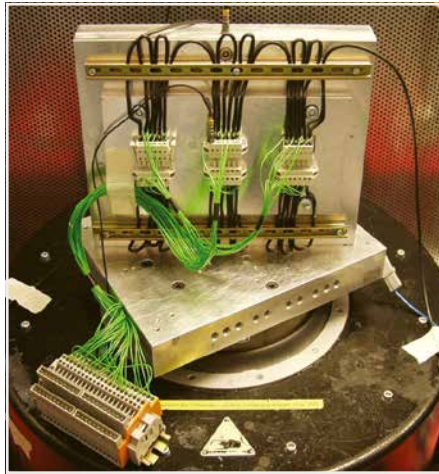


The "open length" of the conductor up to the point where the conductor is attached in the application must be kept as short as possible (length = 70 mm in this example).

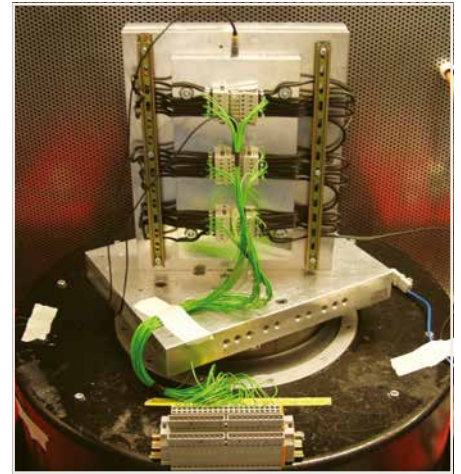
1st Axis



2nd Axis



3rd Axis



The exact test procedure may vary considerably, depending on how the product will be used.

Application Examples per IEC/EN 60068-2-6	Associated Test Levels	
Devices attached to heavy, rotating machines	1 ... 35 Hz,	50 m/s <sup>2</sup> (5g) or 100 m/s <sup>2</sup> (10g)
Devices designed for use in large-scale power plants and general industrial applications	10 ... 55 Hz,	20 m/s <sup>2</sup> (2g) 50 m/s <sup>2</sup> (5g)
Devices designed for use in large-scale power plants and general industrial applications if it has been determined that detectable vibration components greater than 55 Hz exist	10 ... 150 Hz,	20 m/s <sup>2</sup> (2g) 50 m/s <sup>2</sup> (5g)

Some test specifications require the determination of possible resonant frequencies, i.e., determining if resonance occurs within the frequency spectrum to be passed through. Analyzing the specimen behavior under the influence of resonant frequencies is performed using a special testing procedure.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Mechanical Tests (continued)

Beyond these standard procedures, each market segment performs additional testing. Examples include railway authorities testing rolling electrical equipment, or the testing performed multiple marine agencies (e.g., DNV GL Group, Lloyd's Register of Shipping). Though the requirements of such testing procedures are particularly demanding, test arrangements are identical for all of them. During vibrations, possible contact breaks are monitored on an oscilloscope. Voltage drop is measured before and after the test to detect permanent failures, i.e., checking if electrical resistance at the clamping unit has not increased beyond the permissible limit. The smaller this value is, the smaller the contact resistance of the clamping unit.

The test is passed if:

- the conductor has neither slipped out of the Terminal Block nor been damaged,
- the maximum permissible voltage drop has not been exceeded
- and neither contact breaks have occurred nor a defined break time has been exceeded.

The test specimen must not be damaged in any way that might affect future use.

Since their inception, both CAGE CLAMP® and Push-in CAGE CLAMP® connections have been routinely tested for their resistance to shock/vibration in connection with approval tests.

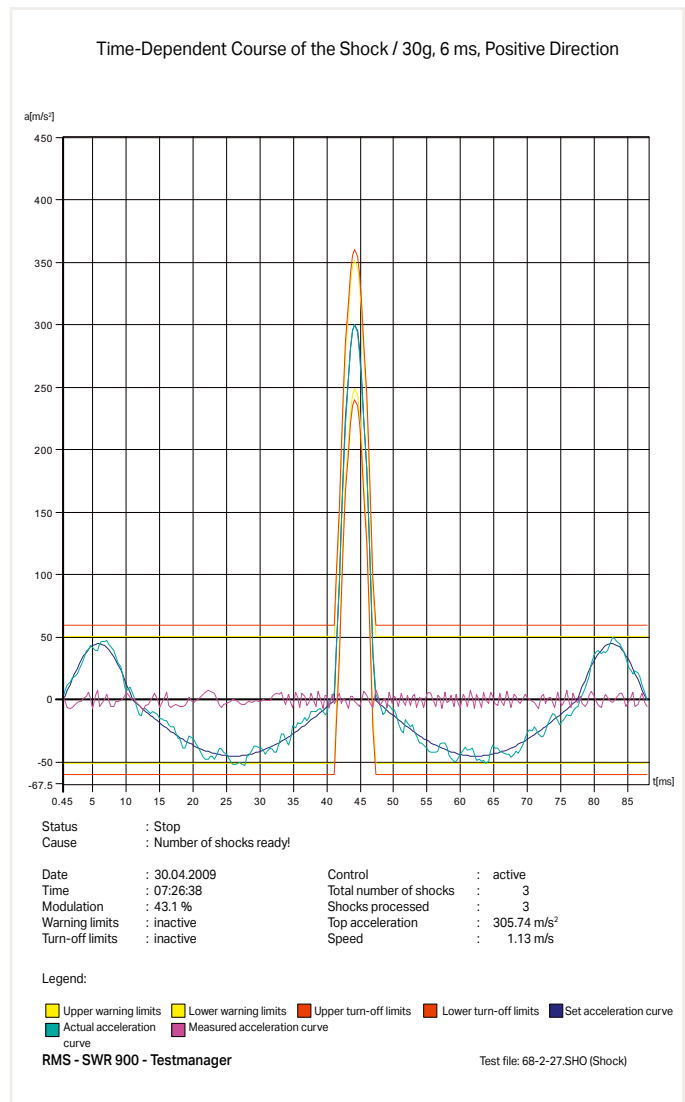
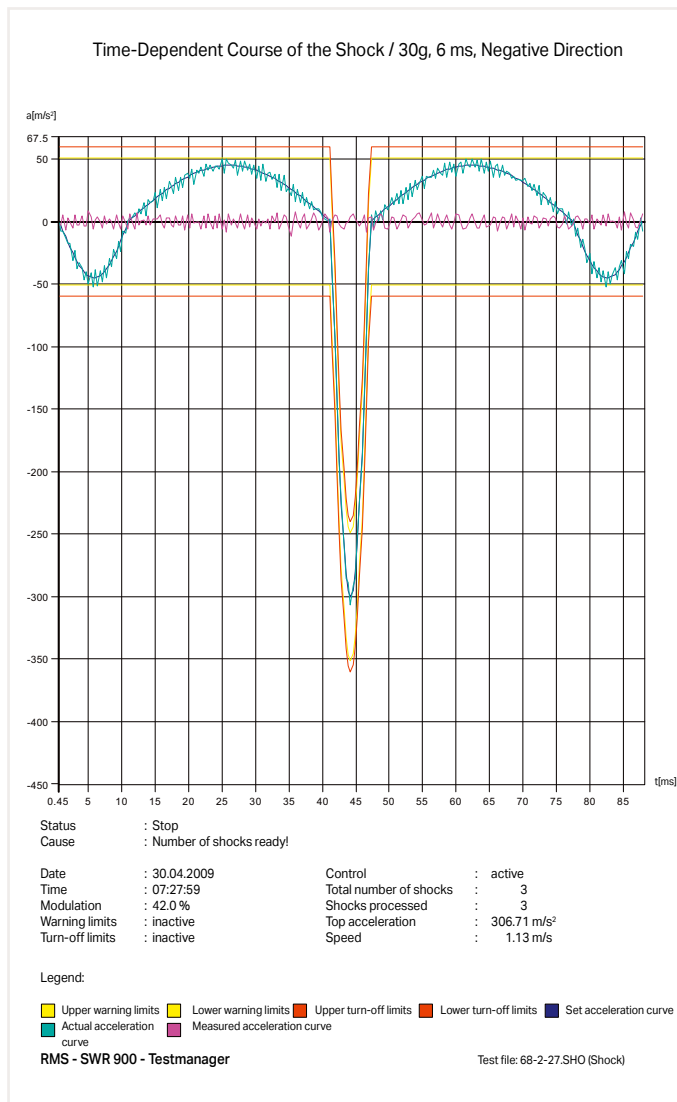
Notes:

These test results are based solely on tests conducted under "laboratory conditions." Connector usage in actual applications must be evaluated by the user.

• Shock Test per IEC/EN 60068-2-27; IEC/EN 61373 (Railway Applications)

The shock test is similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the specimen. Shock tests are usually performed with an acceleration of 15g, for example, over a period of 11 ms. Tests for special requirements often call for much higher values. Like the vibration tests, shock tests are primarily used to test the voltage drop variation or contact breaks, etc.

**E.g.: Shock requirement**  
 per IEC/EN 60068-2-27 (half-sine shock)  
 30g acceleration, 6 ms duration  
 Shock direction: 3 axes (3 shocks each in positive and negative direction)



## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests

All WAGO products meet requirements for the following electrical tests:

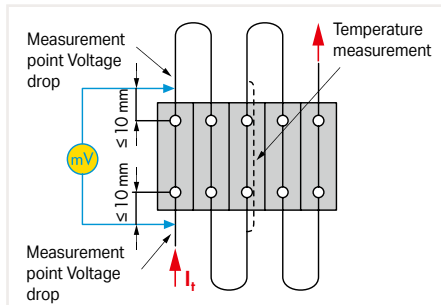
- Temperature-Rise Test per IEC/EN 61984, IEC/EN 60947-7-1, IEC/EN 60998-1

The temperature-rise test examines the clamping unit – including the surrounding insulation – at rated current, over-current and short-circuit current levels.

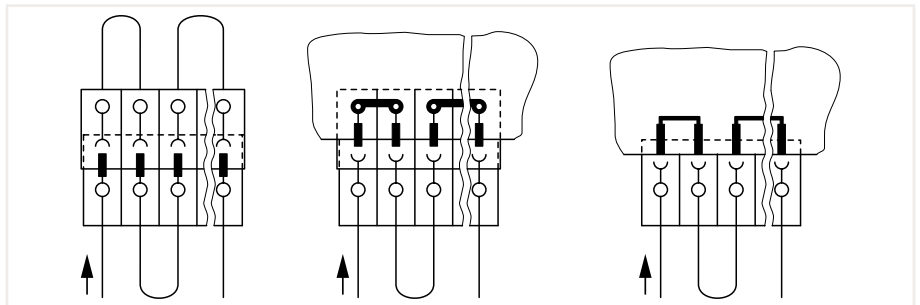
Unless otherwise specified in the related equipment specification, e.g., by specifying the nominal currents of the equipment, Terminal Blocks and connectors are tested with current loads as specified in the respective construction specification.

For rail-mount Terminal Blocks complying with IEC 60947-7-1/EN 60947-7-1/VDE 0611-1, or Terminal Blocks complying with IEC 60998-1/EN 60998-1/VDE 0613-1, the temperature rise must not exceed 45 Kelvin.

Connectors must withstand the upper and lower values of the temperature range as specified in the detail or manufacturer’s specification. The sum of the ambient operating temperature and the temperature rise of a connector must not exceed the upper temperature limit.



Test arrangement: “Temperature-Rise Test” per IEC/EN 60947-7-1



Test arrangement: “Temperature-Rise Test” per IEC/EN 61984

Rated Cross-Section	Test Current per IEC/EN		Conductor Size	Test Current per IEC/EN 60947-7-1 Table 5
	60947-7-1 Table 4	60998-1 Table 2		
mm <sup>2</sup>	A	A	AWG/kcmil	A
0.2	4.0	4.0	24	4
0.34	5.0	5.0	22	6
0.5	6.0	6.0	20	8
	9.0	9.0		10
1.0	13.5	13.5	16	16
	17.5	17.5		22
2.5	24	24	12	29
	32	32		38
6.0	41	41	10	50
	57	57		67
16	76	76	6	90
	101	101		121
35	125	125	2	139
	-	-		162
50	150	-	0	185
	192	-		217
95	232	-	000	242
	-	-		271
120	269	-	250 kcmil	309
	309	-		353
185	353	-	350 kcmil	415
	415	-		520
300	520	-	600 kcmil	520

- Current-Carrying Capacity Curve (Derating Curve) per EN 60512-5-2

Both the design requirements (e.g., dimensions) and the current-carrying capacity of a connector must be checked by the user when selecting connectors.

This information depends on the following factors: conductor size, ambient operating temperature, number of simultaneously loaded poles, internal resistance of the connector, PCB layout, width and thickness of the printed circuits and connector materials.

A current-carrying capacity curve (basic curve) is determined based on the EN 60512-5-2 standard, accounting for the upper temperature limit.

The relationship between current, ambient operating temperature and temperature rise up to the connector's upper temperature limit is illustrated via current-carrying capacity curve (derating curve, reduction factor: 0.8).

The connector must only be operated up to this temperature limit (sum of the self-generated heat and the ambient operating temperature) without being damaged or destroyed during operation.

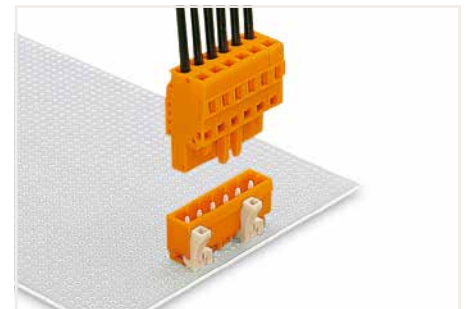
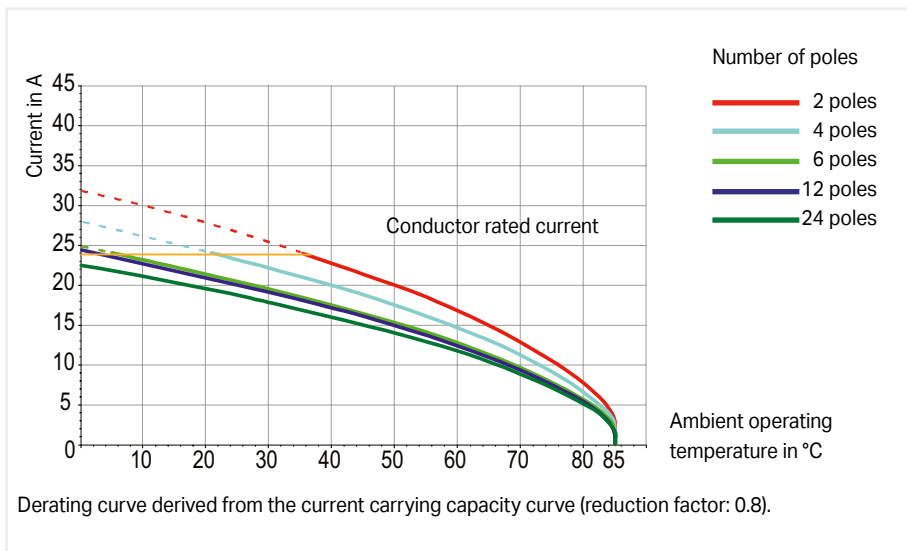
**The nominal current figures given for the WAGO PCB Connectors are based on the maximum number of poles, the maximum conductor cross-section and a maximum temperature rise of 45 K.**

Note: Current-carrying capacity curves merely document the self-generated heat of the connectors and Terminal Blocks under defined test conditions (conductor length, commoning of solder pins).

Usability of the components in actual applications must be investigated by the user.

Functioning of a current-carrying capacity curve (derating curve) per EN 60512-5-2 is shown by an application using a derating curve for the **MULTI CONNECTION SYSTEM**:

This application requires each pole of a 4-pole connector be subjected to a load of 20 A. Based on the derating curve determined for this pole number with a conductor cross-section of 2.5 mm<sup>2</sup>, it has been determined the maximum ambient operating temperature is 39°C (102.2°F). The current must be reduced at higher ambient operating temperatures, e.g., to 11 A at an ambient operating temperature of 70°C (158°F).



Male header with straight solder pins and female connector with CAGE CLAMP® connection

The non-reduced current-carrying capacity curves (basic curves, reduction factor: 1) can be used when selecting WAGO's PCB Terminal Blocks!

The nominal current values given are based on a 4-pole PCB terminal strip with a temperature rise of 45 K.



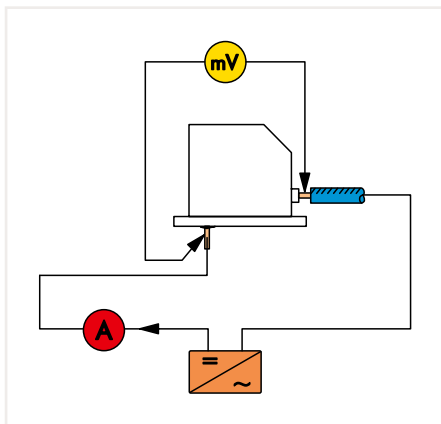
E.g.: 4-pole 2706 Series PCB Terminal Strip

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

- Voltage Drop Test per IEC/EN 60947-7-1, IEC/EN 60999-1

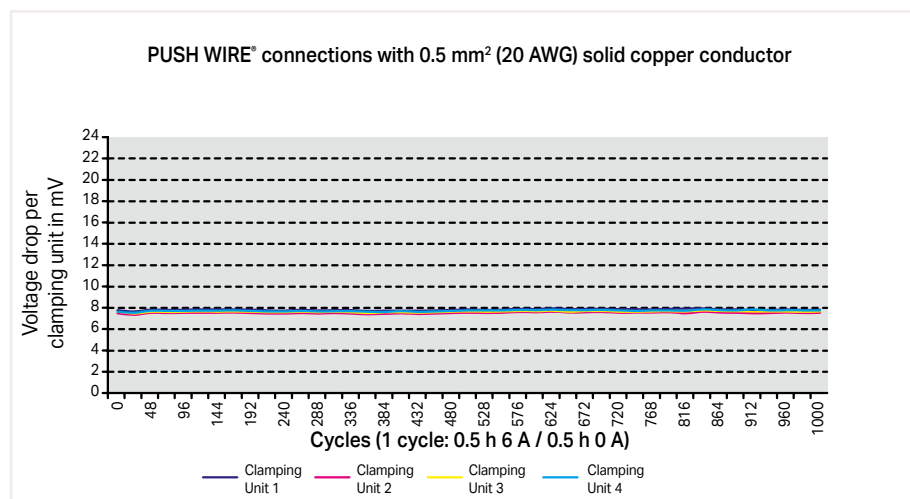
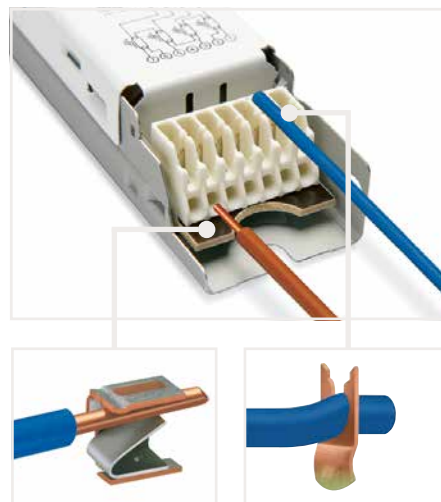
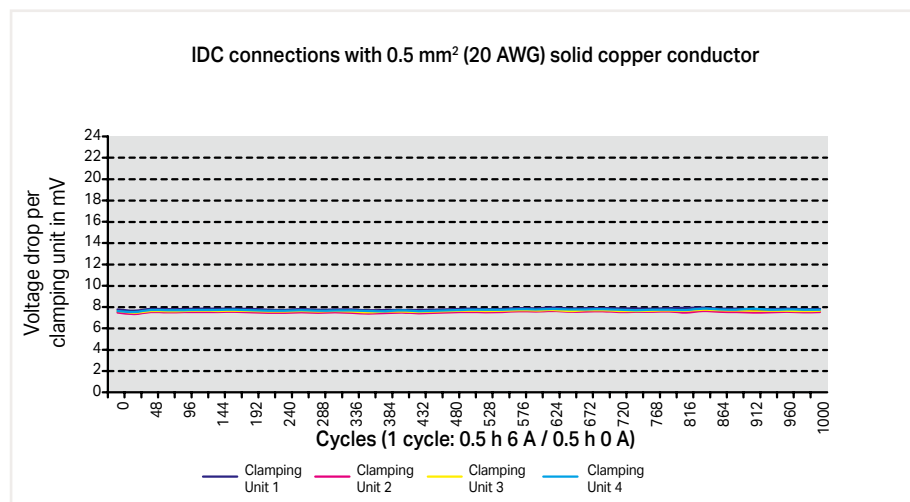
The voltage drop test evaluates clamping point quality under stress such as vibration, temperature change, industrial climate and salt spray, in order to verify that the contact point is gas-tight.



Test arrangement: "Voltage Drop Test"

Example: Current load cycling test result for Combi PCB Terminal Blocks with IDC and PUSH WIRE® connections

Voltage drop variation over longer periods under current load cycling conditions is shown for 251-3xx Combi PCB Terminal Blocks using solid copper conductors. The diagram shows that the voltage drop is constant, far beyond the 192 cycles required in IEC/EN 60998-2-2.



(The voltage drop was determined at rated current.)



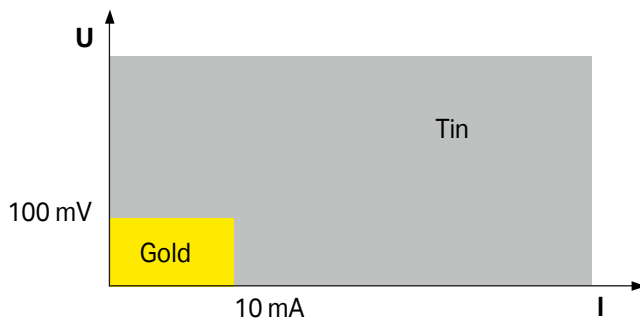
#### • Minimum Current / Specialty Connector Applications

The contact surfaces of WAGO connectors are tin-plated. This surface exhibits excellent conductivity, along with outstanding protection against corrosion. Pollution layer deposits may penetrate this pure tin coating when the contacts are connected, lowering contact resistance.

The following information regarding proper selection of suitable WAGO components should be considered for applications in which connectors are used with minimal current and voltage levels and under special conditions, involving, for example, temperature, aggressive gases, vibration, shock, etc.

Signal corruption may occur in applications with minimal current and voltage levels under the special conditions cited above. In such cases, we recommend using gold-plated contacts. Here, the user must always examine the suitability of the connectors for the application at hand.

The diagram below is based on practical experience.



WAGO also offers connectors with gold-plated contacts upon request.

Fig.: Selection of surface properties for special conditions

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

#### • Insulation Parameters per IEC/EN 60664-1

#### Clearances and Creepage Distances

The following generally applies:

The equipment specification contains data for the measurement of clearances and creepage distances, or refers to the data contained in the new revised edition of the basic standard DIN EN 60664-1/VDE 0110-1.

This standard contains new clearances and creepage distances in compliance with insulation coordination requirements. That is, the insulation parameters of equipment are assigned to:

- the anticipated surge voltages,
- the parameters of the protection device against surge voltage and
- the anticipated environmental conditions and the protection measures against pollution.

This standard is based on IEC 60604-1.

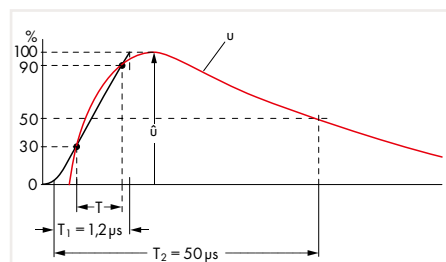
#### Clearances, Rated Surge Voltages, Overvoltage Categories, Pollution Degrees

Surge voltages (Table 1) are a decisive factor in determining clearances.

The basis forms the **overvoltage category**, i.e., the allocation of the equipment to the expected overvoltage, and the **conductor-ground voltage derived from the rated line voltage in installations with a grounded Y (star) point**.

In ungrounded installations, or installations where the conductor is not grounded, the voltage between conductors is applicable in the same way as conductor voltage to ground.

- ① Voltage pulse: 1.2/50  $\mu$ s



per DIN EN 60060-1/VDE 0432-1

#### Overvoltage Categories for Electrical Equipment:

A specific overvoltage category must be defined on the basis of the following, general description:

- Equipment in overvoltage category I is intended to be connected to the fixed electrical installations of a building. Protective means are taken outside the equipment – either in the fixed installation or between the fixed installation and the equipment – to limit transient overvoltages to the specific level.
- Equipment in overvoltage category II is to be connected to the fixed electrical installations of a building.  
Note: Examples of such equipment are household appliances, portable tools and similar loads.
- Equipment in overvoltage category III is part of the fixed electrical installations and other equipment where a higher degree of availability is expected.  
Note: Examples of such equipment are distribution boards, circuit breakers, wiring systems (IEV 826-16-08, including cables, bus bars, junction boxes, switches, socket outlets) in the fixed installation and equipment for industrial use and other equipment, e.g., stationary motors with permanent connection to the fixed installation.
- Equipment in overvoltage category IV is for use in or near the feed-in in electrical building installations upstream of the main distribution board in the direction of the network.  
Note: Examples include electricity meters, primary overcurrent protection devices and ripple control units.

The rated impulse voltage must be selected from Table 1 corresponding to the overvoltage category specified and to the rated voltage of the equipment.

Table F.1: Rated surge voltage for equipment energized directly from the low-voltage mains (DIN EN 60664-1/VDE 0110-1)

- ① Voltage curve: 1.2/50  $\mu$ s per DIN EN 60060-1/VDE 0432-1

Nominal voltage of the supply system <sup>1)</sup> (mains) per IEC 60038 <sup>3)</sup>		Conductor-to-neutral voltage, derived from the nominal AC or DC voltage up to and including: V	Rated surge voltage <sup>2)</sup>			
			Overvoltage category <sup>4)</sup>			
Three-phase V	Single-phase V		I V	II V	III V	IV V
		50	330	500	800	1500
		100	500	800	1500	2500
	120 ... 240	150 <sup>5)</sup>	800	1500	2500	4000
230/400 277/480		300	1500	2500	4000	6000
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

<sup>1)</sup> See Annex B for application to existing different low-voltage mains and their nominal voltages.

<sup>2)</sup> Equipment with these rated impulse voltage levels can be used in installations complying with IEC 60364-4-443.

<sup>3)</sup> The / mark indicates a three-phase, 4-wire system. The lower value is the conductor-to-neutral voltage, while the higher value is the conductor-to-conductor voltage. Where only one value is indicated, it refers to three-phase, 3-conductor systems and specifies the conductor-to-conductor voltage.

<sup>4)</sup> See 4.3.3.2.2 for an explanation of the overvoltage categories.

<sup>5)</sup> The nominal voltages for single-phase systems in Japan are 100 V or 100 ... 200 V. The value for the rated impulse voltage is, however, derived from the voltage gaps conductor-to-neutral for a voltage level of 150 V (see Annex B).

The nominal supply voltage and the corresponding rated impulse voltage values apply for grounded and ungrounded circuits.

• Insulation Parameters per IEC/EN 60664-1 (continued)

### Pollution Degrees

Pollution factors are all solid, liquid or gaseous foreign matter which may reduce the dielectric strength or the specific surface resistance. Factors are divided into four classes based on expected environmental conditions:

		Examples of pollution degrees for assigned areas:
Pollution degree 1:	No pollution, or only dry, non-conductive pollution occurs. Pollution has no influence.	Open, unprotected insulated equipment in air-conditioned or clean, dry rooms
Pollution degree 2:	Only non-conductive pollution occurs. Occasional, temporary conductivity caused by condensation can also be expected.	Open, unprotected insulated equipment in occupied areas, shops, laboratories, mechanical workshops and medical rooms.
Pollution degree 3:	Conductive pollution occurs, or dry, non-conductive pollution occurs which will become conductive due to condensation.	Open, unprotected insulated equipment in industrial, business and farming areas ( e.g., unheated rooms, workshops and boiler rooms)
Pollution degree 4:	The pollution generates persistent conductivity caused by conductive dust, rain or wet conditions.	Open, unprotected insulated equipment for outdoor use

### Dimensioning Clearances

See Table F.2 for specifications per DIN EN 60664-1/ VDE 0110, Part 1. Select the minimum clearances in accordance with the rated surge voltages and pollution degrees. To maximize the operating life of the equipment, do not go below these minimum clearances.

Table F.2 contains a list of information for Case A, the inhomogeneous field and for Case B, the homogeneous field. This involves an electric field with essentially constant (Case B) or non-constant (Case A) voltage gradients between the electrodes.

**Equipment with a clearance that is dimensioned per Case A, in other words rated for the most unfavorable case, requires no verification by the impulse voltage test.**

Equipment with a clearance that is dimensioned per Case B, or between A and B, requires verification by the impulse voltage test.

The clearances shown in Table F.2 are applicable for an installation height of up to 2000 m above sea level.

Values for clearances above 2000 m must be multiplied by a high correction factor in accordance with Table A.2.

**Table F.2: Clearances to Withstand Transient Overvoltages**  
DIN EN 60664-1 / VDE 0110-1

Required impulse withstand voltage <sup>1)5)</sup> kV	Minimum clearances in air up to 2000 m above sea level					
	Case A (inhomogeneous field, see 3.15)			Case B (homogeneous field, see 3.14)		
	Pollution degree <sup>6)</sup>			Pollution degree <sup>6)</sup>		
	1 mm	2 mm	3 mm	1 mm	2 mm	3 mm
0.33 <sup>2)</sup>	0.01	0.2 <sup>3)4)</sup>	0.8 <sup>4)</sup>	0.01	0.2 <sup>3)4)</sup>	0.8 <sup>4)</sup>
0.40	0.02			0.02		
0.50 <sup>2)</sup>	0.04			0.04		
0.60	0.06			0.06		
0.80 <sup>2)</sup>	0.10			0.10		
1.0	0.15			0.15		
1.2	0.25	0.25	0.2	0.3		
1.5 <sup>2)</sup>	0.5	0.5	0.3	0.45	0.45	
2.0	1.0	1.0	0.45	0.60	0.60	
2.5 <sup>2)</sup>	1.5	1.5	0.60	0.80	0.80	
3.0	2.0	2.0	0.80	1.2	1.2	1.2
4.0 <sup>2)</sup>	3.0	3.0	1.2	1.5	1.5	1.5
5.0	4.0	4.0	1.5	2.0	2.0	2.0
6.0 <sup>2)</sup>	5.5	5.5	2.0	3.0	3.0	3.0
8.0 <sup>2)</sup>	8.0	8.0	3.0	3.5	3.5	3.5
10	11	11	3.5	4.5	4.5	4.5
12 <sup>2)</sup>	14	14	4.5	5.5	5.5	5.5
15	18	18	5.5	8.0	8.0	8.0
20	25	25	8.0	10	10	10
25	33	33	10	12.5	12.5	12.5
30	40	40	12.5	17	17	17
40	60	60	17	22	22	22
50	75	75	22	27	27	27
60	90	90	27	35	35	35
80	130	130	35	45	45	45
100	170	170	45			

<sup>1)</sup> This voltage is

- Functional insulation: the maximum impulse voltage expected to occur across the clearance (see 5.1.5)
- Basic insulation directly exposed to or significantly influenced by transient overvoltages from the low-voltage mains (see 4.3.3.3, 4.3.3.4.1 and 5.1.6): the rated impulse voltage for the equipment;
- Other basic insulation (see 4.3.3.4.2): the highest impulse voltage that can occur in the circuit For reinforced insulation, see 5.1.6.

<sup>2)</sup> Preferred values specified in 4.2.3

<sup>3)</sup> For printed wiring material, the values for pollution degree 1 apply, except that the value must not be less than 0.04 mm, as specified in Table F.4.

<sup>4)</sup> The minimum clearances given for pollution degree 2 and 3 are based on the reduced withstand characteristics of the associated creepage distance under humidity conditions (see IEC 60664-5).

<sup>5)</sup> For parts or circuit within equipment subject to surge voltages based on 4.3.3.4.2, interpolation of values is allowed. However, standardization is achieved by using the preferred series of impulse voltage values based on 4.2.3.

<sup>6)</sup> The dimensions for pollution degree 4 are as specified for pollution degree 3, except that the minimum clearance is 1.6 mm.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

**Table A.2:**  
Altitude Correction Factors  
(DIN EN 60664-1/VDE 0110-1)

Altitude m	Standard air pressure kPa	Multiplier for clearances
2000	80	1
3000	70	1.14
4000	62	1.29
5000	54	1.48
6000	47	1.7
7000	41	1.95
8000	35.5	2.25
9000	30.5	2.62
10000	26.5	3.02
15000	12	6.67
20000	5.5	14.5



### Creepage Distances, Rated Voltages, Material Groups

Criteria for dimensioning creepage distances are the rated voltages, pollution degrees and material groups.

The pollution degrees specified for the clearances, and its quoted allocation to locations, is also applicable for creepage distances.

Tables F.3 a and F.3 b of DIN EN 60664-1/VDE 0110-1 contain the rated voltages that have to be considered for dimensioning the minimum creepage distances.

**Table F.3a: Single-Phase, 3- or 2-Wire, AC or DC Systems**

Nominal voltage of the power supply system (mains)*  V	Voltages for Table F.4	
	For insulation conductor-to-conductor <sup>1)</sup>	For insulation conductor-to-ground <sup>1)</sup>
	All systems  V	Three-conductor systems, center-point grounded  V
12.5	12.5	
24 25	25	
30	32	
42 48 50**	50	
60	63	
30 ... 60	63	32
100**	100	
110 120	125	
150**	160	
200	200	
110 ... 200	200	100
220	250	
110 ... 220 120 ... 240	250	
300**	320	
220 ... 440	500	250
600**	630	
480 ... 960	1000	500
1000**	1000	


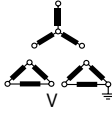
<sup>1)</sup> Conductor-to-ground insulation level for non-grounded or impedance-grounded systems equals that for conductor-to-conductor, as the operating voltage to ground of any line can, in practice, approach full conductor-to-conductor voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each conductor to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full conductor-to-conductor voltage to ground.

\*For the relationship to rated voltage, see 4.3.2.

\*\*These values correspond to the values given in Table F.1.

• Insulation Parameters per IEC/EN 60664-1 (continued)

Table F.3b: Single-Phase, 4- or 3-Conductor AC Systems

Nominal voltage of the power supply system (mains)*	Voltages for Table F.4		
	For insulation conductor-to-conductor1)	For insulation conductor-to-ground1)	
	All systems	Three-phase, 4-conductor systems with grounded neutral conductor <sup>2)</sup>	Three-phase, 3-conductor systems, non-grounded <sup>1)</sup> or grounded conductor
V	V	 V	 V
60	63	32	63
110 120 127	125	80	125
150**	160		160
200	200		200
208	200	125	200
220 230 240	250	160	250
300**	320		320
380 400 415	400	250	400
440	500	250	500
480 500	500	320	500
575	630	400	630
600**	630		630
660 690	630	400	630
720 830	800	500	800
960	1000	630	1000
1000**	1000		1000

<sup>1)</sup> Conductor-to-ground insulation level for non-grounded or impedance-grounded systems equals that for conductor-to-conductor, as the operating voltage to ground of any line can, in practice, approach full conductor-to-conductor voltage. This is because the actual voltage to ground is determined by the insulation resistance and capacitive reactance of each conductor to ground; thus, low (but acceptable) insulation resistance of one line can in effect ground it and raise the other two to full conductor-to-conductor voltage to ground.

<sup>2)</sup> For equipment used on both three-phase, 4-conductor and three-phase, 3-conductor systems, grounded and non-grounded, use only the values for 3-conductor systems.

\*For the relationship to rated voltage, see 4.3.2.

\*\*These values correspond to the values given in Table F.1.

### Material Groups

Insulation materials are classified into four groups according to their Comparative Tracking Index (CTI) as follows:

- Material group I:  $600 \leq \text{CTI}$
- Material group II:  $400 \leq \text{CTI} < 600$
- Material group III a:  $175 \leq \text{CTI} < 400$
- Material group III b:  $100 \leq \text{CTI} < 175$

The CTI values above refer to values obtained in accordance with DIN EN 60664-1/VDE 0110-1 on samples specially made for this purpose and tested with Solution A.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

Table F.4: Creepage Distances to Avoid Failure due to Tracking (Excerpt)

DIN EN 60664-1 / VDE 0110-1

Voltage <sup>1)</sup> (RMS)  V	Minimum Creepage Distances								
	Printed Circuits		Pollution Degree						
	Pollution Degree		1	2	2	2	3	3	3
	1 All Material Groups	2 All Mat. Gr. except IIIb	1 All Material Groups	2 Material Group I	2 Material Group II	2 Material Group III	3 Material Group I	3 Material Group II	3 Material Group III <sup>2)</sup>
mm	mm	mm	mm	mm	mm	mm	mm	mm	
10	0.025	0.040	0.080	0.400	0.400	0.400	1.000	1.000	1.000
12.5	0.025	0.040	0.090	0.420	0.420	0.420	1.050	1.050	1.050
16	0.025	0.040	0.100	0.450	0.450	0.450	1.100	1.100	1.100
20	0.025	0.040	0.110	0.480	0.480	0.480	1.200	1.200	1.200
25	0.025	0.040	0.125	0.500	0.500	0.500	1.250	1.250	1.250
32	0.025	0.040	0.14	0.53	0.53	0.53	1.30	1.30	1.30
40	0.025	0.040	0.16	0.56	0.80	1.10	1.40	1.60	1.80
50	0.025	0.040	0.18	0.60	0.85	1.20	1.50	1.70	1.90
63	0.040	0.063	0.20	0.63	0.90	1.25	1.60	1.80	2.00
80	0.063	0.100	0.22	0.67	0.95	1.30	1.70	1.90	2.10
100	0.100	0.160	0.25	0.71	1.00	1.40	1.80	2.00	2.20
125	0.160	0.250	0.28	0.75	1.05	1.50	1.90	2.10	2.40
160	0.250	0.400	0.32	0.80	1.10	1.60	2.00	2.20	2.50
200	0.400	0.630	0.42	1.00	1.40	2.00	2.50	2.80	3.20
250	0.560	1.00	0.56	1.25	1.80	2.50	3.20	3.60	4.00
320	0.75	1.60	0.75	1.60	2.20	3.20	4.00	4.50	5.00
400	1.0	2.0	1.0	2.0	2.8	4.0	5.0	5.6	6.3
500	1.3	2.5	1.3	2.5	3.6	5.0	6.3	7.1	8.0 (7.9) <sup>4)</sup>
630	1.8	3.2	1.8	3.2	4.5	6.3	8.0 (7.9) <sup>4)</sup>	9.0 (8.4) <sup>4)</sup>	10.0 (9.0) <sup>4)</sup>
800	2.4	4.0	2.4	4.0	5.6	8.0	10.0 (9.0) <sup>4)</sup>	11.0 (9.6) <sup>4)</sup>	12.5 (10.2) <sup>4)</sup>
1000	3.2	5.0	3.2	5.0	7.1	10.0	12.5 (10.2) <sup>4)</sup>	14.0 (11.2) <sup>4)</sup>	16.0 (12.8) <sup>4)</sup>
1250			4.2	6.3	9.0	12.5	16.0 (12.8) <sup>4)</sup>	18.0 (14.4) <sup>4)</sup>	20.0 (16.0) <sup>4)</sup>
1600			5.6	8.0	11.0	16.0	20.0 (16.0) <sup>4)</sup>	22.0 (17.6) <sup>4)</sup>	25.0 (20.0) <sup>4)</sup>
2000			7.5	10.0	14.0	20.0	25.0 (20.0) <sup>4)</sup>	28.0 (22.4) <sup>4)</sup>	32.0 (25.6) <sup>4)</sup>
2500			10.0	12.5	18.0	25.0	32.0 (25.6) <sup>4)</sup>	36.0 (28.8) <sup>4)</sup>	40.0 (32.0) <sup>4)</sup>
3200			12.5	16.0	22.0	32.0	40.0 (32.0) <sup>4)</sup>	45.0 (36.0) <sup>4)</sup>	50.0 (40.0) <sup>4)</sup>
4000			16.0	20.0	28.0	40.0	50.0 (40.0) <sup>4)</sup>	56.0 (44.8) <sup>4)</sup>	63.0 (50.4) <sup>4)</sup>
5000			20.0	25.0	36.0	50.0	63.0 (50.4) <sup>4)</sup>	71.0 (56.8) <sup>4)</sup>	80.0 (64.0) <sup>4)</sup>
6300			25.0	32.0	45.0	63.0	80.0 (64.0) <sup>4)</sup>	90.0 (72.0) <sup>4)</sup>	100.0 (80.0) <sup>4)</sup>
8000			32.0	40.0	56.0	80.0	100.0 (80) <sup>4)</sup>	110.0 (88.0) <sup>4)</sup>	125.0 (100.0) <sup>4)</sup>
10000			40.0	50.0	71.0	100.0	125.0 (100.0) <sup>4)</sup>	140.0 (112.0) <sup>4)</sup>	160.0 (128.0) <sup>4)</sup>
12500			50.0 <sup>3)</sup>	63.0 <sup>3)</sup>	90.0 <sup>3)</sup>	125.0 <sup>3)</sup>			
16000			63.0 <sup>3)</sup>	80.0 <sup>3)</sup>	110.0 <sup>3)</sup>	160.0 <sup>3)</sup>			
20000			80.0 <sup>3)</sup>	100.0 <sup>3)</sup>	140.0 <sup>3)</sup>	200.0 <sup>3)</sup>			
25000			100.0 <sup>3)</sup>	125.0 <sup>3)</sup>	180.0 <sup>3)</sup>	250.0 <sup>3)</sup>			
32000			125.0 <sup>3)</sup>	160.0 <sup>3)</sup>	220.0 <sup>3)</sup>	320.0 <sup>3)</sup>			
40000			160.0 <sup>3)</sup>	200.0 <sup>3)</sup>	280.0 <sup>3)</sup>	400.0 <sup>3)</sup>			
50000			200.0 <sup>3)</sup>	250.0 <sup>3)</sup>	360.0 <sup>3)</sup>	500.0 <sup>3)</sup>			
63000			250.0 <sup>3)</sup>	320.0 <sup>3)</sup>	450.0 <sup>3)</sup>	600.0 <sup>3)</sup>			

<sup>1)</sup> This voltage is for:

– functional insulation: the working voltage

– Basic and supplementary insulation of the circuit energized directly from the mains (see 4.3.2.2.1): for the voltage rationalized through Table F.3a or F.3b, based on the rated voltage of the equipment, or the rated insulation voltage

– Basic and supplementary insulation of systems, equipment and internal circuits not energized directly from the mains (see 4.3.2.2.2): the highest rms voltage which can occur in the system, equipment or internal circuit when supplied at rated voltage and under the most taxing combination of operation conditions within equipment rating

<sup>2)</sup> Material group IIIb is not recommended for applications in pollution degree 3 above 630 V.<sup>3)</sup> Provisional data based on extrapolation. Technical committees who have other information based on experience may use their dimensions.<sup>4)</sup> The values in brackets must only be applied for reducing creepage distances if a rib is used (see 5.2.5).

The high degree of accuracy of the creepage distances given in the table does not imply that the measuring accuracy must be of the same quality.

- Insulation Parameters per IEC/EN 60664-1 (continued)

Depending on the intended use, WAGO's Terminal Blocks, splicing and pluggable connectors are suitable for pollution degrees 2 or 3 and for overvoltage categories II or III. The rated voltages of WAGO's PCB Terminal Blocks and connectors are based on pollution degree 2 and overvoltage category III in per IEC/EN 60664-1 (insulation parameters).

Example:

**WAGO PCB Terminal Strips, 236 Series**  
(Pin spacing 5/5.08 mm / 0.197/0.2 in.)

320 V / 4kV / 2

Rated voltage	320 V
Rated surge voltage	4kV
Pollution degree	2
Overvoltage category	III

The specific values for pollution degree 3 and overvoltage category II are also given in the technical data.

The clearances and creepage distances required for defined voltage values in Table 3 of IEC/EN 60998-1 deviate somewhat from the requirements specified in the insulation parameters.

**Table 3: Clearances and Creepage Distances**  
(IEC/EN 60998-1)

Rated Insulation Voltage V	Creepage Distances, Clearances mm
≤ 130	1.5
> 130 and ≤ 250	3.0
> 250 and ≤ 450	4.0
> 450 and ≤ 750	6.0
> 750	8.0

It must be determined in the end application which clearance and creepage distance requirements are to be observed for approval.

## Tests and Testing Procedures per IEC/EN Standards (continued)

### Electrical Tests (continued)

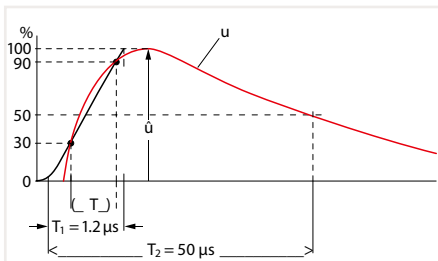
#### • Power-Frequency Withstand Voltage Test per IEC/EN 60998-1

This testing procedure verifies creepage distances. Creepage distances, i.e., the distances of creeping currents, are caused by conductive impurities on the surface of the insulation housing. Apart from the amount of impurities to which a Terminal Block is subjected, for example, the plastic material and housing design are also involved in generating creeping currents. The insulation material of the housing may be carbonized by a creeping current, which increases conductivity even more.

The specimen is tested using a power-frequency withstand voltage for a short time. For example, a PCB Terminal Block designed to operate at 320 V nominal voltage is usually tested using 2500 V alternating voltage for one minute. The test is passed if no flashovers or breakdowns have occurred.

#### • Rated Impulse Withstand Voltage Test per IEC/EN 60664-1

This test verifies the clearances of a product. In simplified terms, a clearance is the distance between two poles of a Terminal Block. If this distance is too small, voltage peaks may cause flashovers or breakdowns. The arrangement of the rated impulse withstand voltage test is identical to that of the power frequency withstand voltage test; the test voltages, however, are comparatively higher and the testing times shorter, e.g., 7.385 kV over 50  $\mu$ s (see figure).



Voltage pulse: measurement curve (red) and auxiliary curve (black) for calculating the rate of rise of the pulse and the resulting (virtual) peak of the curve.

- T Time interval for calculating the rate of rise
- T1 Front time (duration between start of impulse and reaching the peak)
- T2 Total pulse duration

The test values are the values at sea level as specified in the relevant test specification.

The values indicated in the catalog correspond to an altitude of 2000 m.

The test is passed if no flashovers or breakdowns have occurred.

#### • IP Ratings for Electrical Equipment per IEC/EN 60529

Alphanumeric Nomenclature for Type of Protection			
Code letters IP	Protection against accidental contact and against the penetration of foreign objects or water	IP (Ingress Protection) = International degree of protection	
First code number 0 to 6	Indicates the degree of protection against accidental contact and the penetration of foreign objects.	If indicating the degree of protection requires only one digit, the other (second) digit must be substituted for with an X.	
Second code number 0 to 8	Indicates the degree of protection against water penetration.		
First code number:		Second code number:	
IP0X	No protection against accidental contact or the penetration of foreign objects	IPX0	No protection against water
IP1X	Protection against foreign objects > 50 mm	IPX1	Protection against vertically falling water
IP2X	Protection against foreign objects > 12 mm (e.g., finger)	IPX2	Protection against diagonally dripping water (15° angle)
IP3X	Protection against foreign objects > 2.5 mm	IPX3	Protection against water spray
IP4X	Protection against foreign objects > 1 mm	IPX4	Protection against water spray
IP5X	Protection against damaging dust deposits	IPX5	Protection against water jet, e.g., from a nozzle
IP6X	Protection against dust penetration	IPX6	Protection against flooding
		IPX7	Protection against temporary immersion
		IPX8	Protection against continuous immersion
		IPX9	Protection against high-pressure and high-temperature water jets

IP vs. NEMA	
IP Code	NEMA
10	1
11	2
54	3
14	3R
54	3S
55	4&4x
52	5
67	6&6P
52	12&12K
54	13

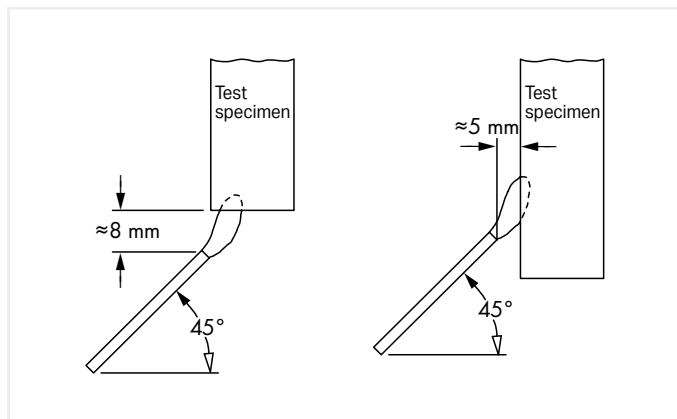


## Material Tests

All WAGO products meet requirements for the following material tests:

- Needle Flame Test per IEC/EN 60695-11-5

This test simulates flames that may arise under certain conditions (e.g. fault current over a creepage distance, overloading of parts or components). Nearby parts can also be affected by such flames. Not only the ignition of the test specimen resulting from an intrinsic defect is tested, but also its behavior when other parts ignite.



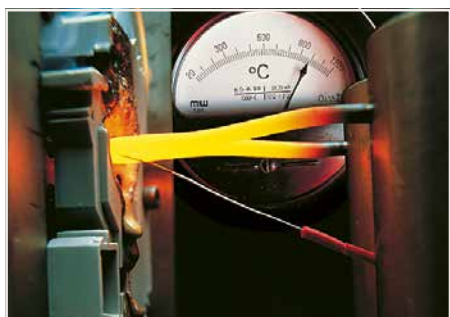
Test arrangement I

Test arrangement II

Flames must not be fuelled by the insulation materials used, thus creating a larger fire. The test specimen is exposed to a standard gas flame during a defined time period (e.g., ten seconds). After the test flame has been removed, the specimen must self-extinguish within 30 seconds. Furthermore, a layer of tissue paper located beneath the specimen must not be ignited by glowing particles falling from the specimen.

- Glow-Wire Test per IEC/EN 60998-1, IEC/EN 60695-2-11

In the event of failure, a high current may cause a conductor to glow.



However, the glowing conductor must not cause ignition of the product involved (e.g., a rail-mount Terminal Block). For the glow-wire test, the tip of the glow-wire is pressed against a surface of the test specimen (see picture). The position of the test specimen, surface to be tested, test duration and glow-wire temperature (e.g., 960°C/1760°F over 30 seconds, or 850°C/1562°F over 5 seconds) are specified in the standards.

The specimen must be positioned such that the tip of the glow-wire acts on the surface section of the specimen (vertical surface of the specimen) that is most likely to be exposed to thermal loading during normal use.

As the highest temperature in the event of a fault is anticipated at the contact insert/wire connection, the tip of the glow-wire must act upon the section of the insulation housing that is the closest to this contact point. The test is passed if there are no visible flames or permanent glowing, or if flames or glowing extinguish within 30 seconds after removal of the glow-wire. Furthermore, a layer of tissue paper located beneath the specimen must not be ignited by glowing particles falling from the specimen.

## Tests and Testing Procedures per IEC/EN Standards (continued)

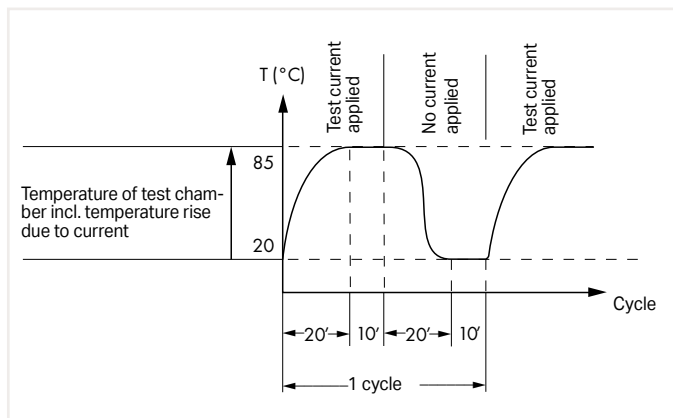
### Environmental Tests

The following tests show how a product reacts when exposed to an aggressive environment. Climatic chambers simulate standard atmospheres that could impact long-term constancy of clamping units.

All WAGO products meet requirements for the following environmental tests:

- Temperature Cycling Test per IEC/EN 60947-7-1, IEC/EN 60998-2-2

This test shows the change of voltage drop over longer periods under temperature cycling conditions. The test procedure usually consists of 192 temperature cycles, for example, each cycle having a duration of 60 minutes (see diagram).



The rated current is applied to the test specimen during temperature rise and when the temperature has reached its maximum value; during the second half of the cycle, the current is zero. Voltage drop is measured every 24 cycles and must not exceed a maximum value or vary greatly. The voltage drop measured at the end of the 192nd cycle must not exceed 1.5 times the value measured after the 24th cycle. After the test, an inspection must show no changes that would impair further use of the product.

- Industrial Atmospheres per EN ISO 6988, IEC/EN 60068-2-42, IEC/EN 60068-2-60

Sulphur and its combustion products are particularly aggressive pollutants commonly found in industrial environments. A test procedure simulating such corrosive conditions consists of exposing a test specimen to water condensation in variable atmospheres containing sulphur dioxide.



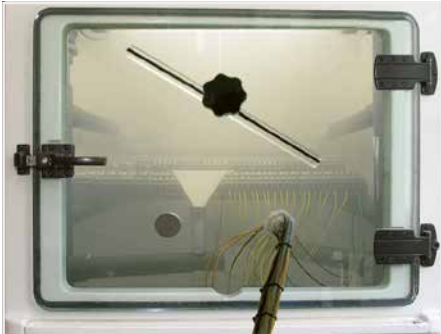
A saturated atmosphere is first created in a climatic chamber by heating an aqueous sulphur dioxide solution. After less than half an hour, the test specimen is fully saturated by the condensing vapors and exposed to this atmosphere for eight hours.

After exposure to a humid atmosphere, the test specimen is subjected to dry and cooler conditions at room temperature for 16 hours. Depending on the test severity, the specimen is exposed to both these conditions several times. The gas-tightness of the clamping unit is verified by a voltage drop test.

In other test procedures, products are exposed to a dry corrosive gas atmosphere containing sulfide, nitrogen and sulfur oxides or chloride gas. These tests can be performed over a period of four to 21 days.

• Salt Spray Test per IEC/EN 60068-2-11; DNV GL, LR (Marine Applications)

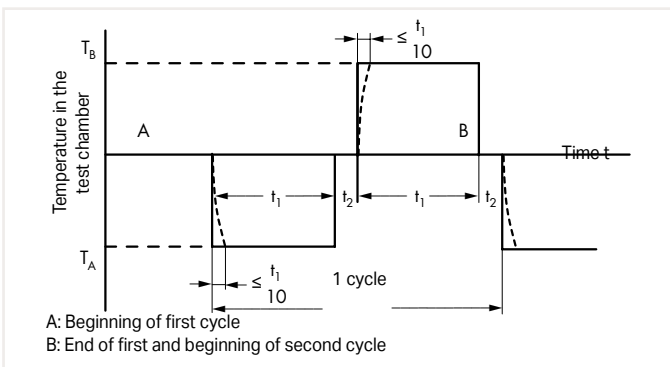
This test is similar to the test performed in water condensation alternating atmospheres, except that instead of industrial atmospheres, salt mist conditions will be simulated in a heated test chamber (see picture).



Depending on the test procedure being used, the test specimen is sprayed with salt mist for 16 hours up to 672 hours (4 weeks). Salt spray tests are widely used, especially for marine approvals. However, this test is performed differently than the test procedures described previously for general applications: During a typical test, the test specimen is sprayed with a salt solution for two hours and is then stored for seven days in an atmosphere with a relative humidity between 90 and 95%. This procedure is repeated four times. Voltage drop measurements are used as an evaluation criterion.

• Quick Change of Temperature per IEC/EN 60068-2-14

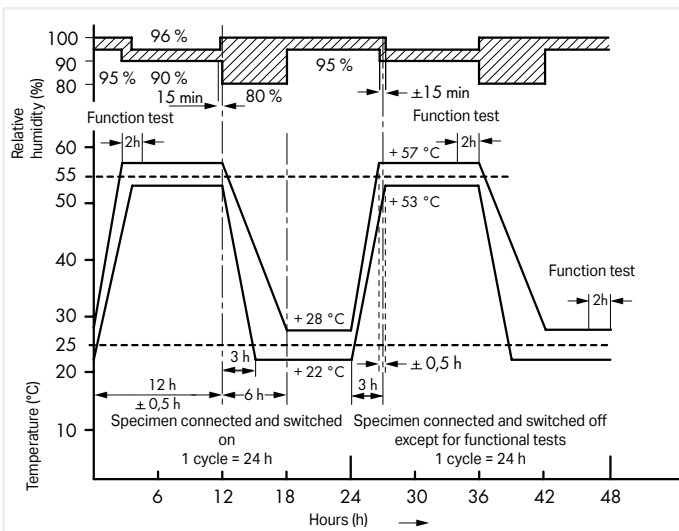
Without air-conditioning, distribution panels and terminal boxes are exposed to seasonal (and ever-changing) temperature extremes – especially on the open field side. In process technology, for example, a Terminal Block is exposed to even quicker changes in temperature.



To simulate such conditions, the test specimen is exposed to repeated temperature changes, for example, between  $T_A - 40^{\circ}\text{C}$  ( $-104^{\circ}\text{F}$ ) and  $T_B + 70^{\circ}\text{C}$  ( $+158^{\circ}\text{F}$ ). The dwell time  $t_1$  depends on the thermal capacity of the test specimen and should be between maximum of 3 hours and minimum of 10 minutes and the transition time  $t_2$  2 ... 3 min., 20 ... 30 sec. or less than 10 seconds. The mechanical and electrical properties of the product are checked at the end of the test.

• Damp Heat, Cyclic (12 + 12 Hour Cycle) per IEC/EN 60068-2-30, DNV GL, LR (Marine Applications)

This test determines the suitability of electrical equipment for use and storage under conditions of high relative humidity when combined with cyclic temperature changes and, in general, producing condensation on the surface of the specimen.



In addition to the salt spray tests, the damp heat test is also used for marine approvals. For this test, the specimens are subjected to temperatures varying cyclically between  $+25^{\circ}\text{C}$  ( $+77^{\circ}\text{F}$ ) and  $+55^{\circ}\text{C}$  ( $+131^{\circ}\text{F}$ ) with a relative humidity of 95% (for tolerances see figure). Functional tests are performed at defined times during the storage period. The mechanical and electrical properties of the product are checked at the end of the test.

## UL Specifications – Underwriters Laboratories, USA

WAGO Terminal Blocks and connectors are tested by Underwriters Laboratories Inc. according to one or more of the relevant following UL standards:

- PCB terminal strips (e.g., 236, 745 Series) are approved as non-stand-alone components per UL 1059 in connection with UL 486E.

UL 1059 Standard for Terminal Blocks  
UL 486 E Equipment wiring terminals for use with aluminum and/or copper conductors
- The *MULTI CONNECTION SYSTEM "MCS-MIDI"* is approved as Terminal Blocks per UL 1059 standard in connection with UL 486 E. It is therefore defined for "field and factory wiring" at 300 V.
- It is also approved as connectors for use in data, signal, control and power applications per UL 1977 for factory wiring at 600 V (i.e., the clamping unit must be wired under controlled manufacturing conditions).

UL 1977 Component connectors for use in data, signal, control and power applications
- Für Klemmen Ex e II trifft UL 60079-7 zu.
- Insulation materials are tested for flammability and performance in accordance with UL 94.

UL 60079-7 Electrical apparatus for explosive gas atmospheres – Part 7: Increased safety

UL 94 Tests for flammability of plastic materials for parts in devices and appliances

### Tests and Testing Procedures per UL Standards

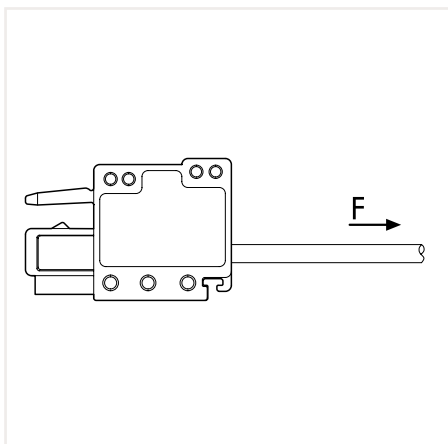
All WAGO products meet requirements for the following tests:

- Pull-Out Test per UL 1059, UL 486 E

In this test, the connected conductors are subjected to the appropriate pull-out forces specified in the following table without jerking for a period of one minute.

Conductor Size		Pull-Out Force, Pounds (N)			
AWG or kcmil	(mm <sup>2</sup> )	UL 486 E, Table 22			
		Copper		Aluminum	
30	(0.05)	0.5	(2.2)	-	-
28	(0.08)	1	(4.5)	-	-
26	(0.13)	2	(8.9)	-	-
24	(0.20)	3	(13.4)	-	-
22	(0.32)	4.5	(20)	-	-
20	(0.52)	6.75	(30)	-	-
18	(0.82)	6.75	(30)	-	-
16	(1.3)	9	(40)	-	-
14	(2.1)	11.5	(50)	-	-
12	(3.3)	13.5	(60)	10	(44)
10	(5.3)	18	(80)	10	(44)
8	(8.4)	20.5	(90)	10	(44)
6	(13.3)	21	(94)	28	(124)
4	(21.2)	30	(133)	36	(160)
3	(26.7)	35	(156)	42	(187)
2	(33.6)	42	(186)	50	(222)
1	(42.4)	53	(236)	61	(271)
1/0	(53.5)	64	(285)	72	(320)
2/0	(67.4)	64	(285)	78	(347)
3/0	(85.0)	79	(351)	97	(432)
4/0	(107)	96	(427)	116	(516)
250	(127)	96	(427)	116	(516)
300	(156)	99	(441)	116	(516)

Test Arrangement per  
UL 1059, UL 486 E:



## UL Specifications – Underwriters Laboratories, USA (continued)

### Tests and Testing Procedures per UL Standards (continued)

- Heat Cycling Test per UL 1059, UL 486 E

Tests performed:  
**UL 1059**

Test performed with maximum rated cross-section  
Test current: 150% of maximum rated current

84 cycles of: 3 1/2 h ON / 1/2 h OFF

The temperature rise is measured after the first and the 84th cycle.

The temperature rise must not exceed 5°C (41°F) after the 84th cycle, compared to the temperature measured after the first cycle.

per **UL 486 E** (equipment wiring terminals)

Test performed with maximum rated cross-section  
Test current: Increased test current per UL 486 E, Table 4

500 cycles of: 1 h ON / 1 h OFF  
1 1/2 h ON / 1 1/2 h OFF  
(from 4/0 AWG up to 400 kcmil per UL 486 E)

The temperature rises at the Terminal Blocks and control conductors are measured and recorded after: 1, 25, 50, 75, 100, 125, 175, 225, 275, 350, 425 and 500 cycles.

The temperature rise must not exceed 125°C (257°F) and the stability factor "S" must not exceed ± 10.

Conductor Size		Test Current for Copper Conductors in A			
		UL 486 E, Table 4			
AWG or kcmil	(mm <sup>2</sup> )	Assigned		Heat Cycling	
		max. Ampere Rating <sup>b</sup>	Static Heating <sup>a,c,g</sup>	Temperature Rating <sup>a</sup>	
				75 °C <sup>d,g</sup>	90 °C <sup>e,g</sup>
30	(0.05)	-	3	3.5	4
28	(0.08)	-	3.5	4	5
26	(0.13)	-	5.5	6	8
24	(0.20)	-	7	8	10
22	(0.32)	-	9	12	13
20	(0.52)	-	12	16	17
18	(0.82)	-	17	19	24
16	(1.3)	-	18	20	31
14	(2.1)	15	[20] 30	[22] 33	[27] 40
12	(3.3)	20	[25] 35	[28] 39	[40] 54
10	(5.3)	30	[40] 50	[45] 56	[60] 75
8	(8.4)	50	70	80	100
6	(13.3)	65	95	105	131
4	(21.2)	85	125	140	175
3	(26.7)	100	145	165	205
2	(33.6)	115	170	190	240
1	(42.4)	130	195	220	275
1/0	(53.5)	150	230	255	320
2/0	(67.4)	175	265	300	370
3/0	(85.0)	200	310	345	435
4/0	(107)	230	360	405	505
250	(127)	255	405	445	565
300	(152)	285	445	500	625

<sup>a</sup> See Section 7.2, 8.2 and 9.2 (UL 486 E)

<sup>b</sup> Values are for 75°C (167°F), not more than 3 conductors in raceway or cable ampacities, National Electric Code, ANSI/NFPA 70.

<sup>c</sup> Values are for 75°C (167°F) single conductors in free air ampacities, National Electric Code, ANSI/NFPA 70.

<sup>d</sup> Values are approximately 112% of the static heating test currents.

<sup>e</sup> Values for 8 AWG and larger conductors are approximately 140% of the static heating test currents.

<sup>f</sup> See Section 9.2.4

<sup>g</sup> Values in parentheses apply to connectors with assigned ampere ratings.

- Conditioning – Temperature-Rise Rest per UL 1059

Tests performed:  
**UL 1059** (Terminal Blocks)

Conditioning:

The clamping units are pre-wired/pre-inserted nine times using a conductor with maximum rated cross-section. On the 10th time, a new conductor is connected.  
After this, a static heating test is performed.

Static Heating Test:  
Test current: Terminal Block rated current  
Test duration: 30 days  
Max. permissible  
temperature rise: 30 °C

## UL Specifications – Underwriters Laboratories, USA (continued)

### Tests and Testing Procedures per UL Standards (continued)

#### • Insulation Parameters per UL 1059

The table below shows the potential involved and the corresponding clearances and creepage distances required in different applications.

#### Minimum Acceptable Spacing for Terminal Blocks, UL Standard 1059, Table 8.1:

Use group	Application	Potential Involved in Volts	Spacing in inches (mm) between uninsulated live parts of opposite polarity, uninsulated live parts and uninsulated grounded parts other than the enclosure			
			Through Air		Over Surfaces	
S.	Dead-front switchboards, panelboards, service equipment and similar applications	51 ... 150	1/2	(12.7)	3/4	(19.1)
		151 ... 300	3/4	(19.1)	1...1/4	(31.8)
		301 ... 600	1	(25.4)	2	(50.8)
B.	Commercial appliances, including business equipment, electronic data processing equipment and similar applications	51 ... 150	1/16 <sup>a</sup>	(1.6) <sup>a</sup>	1/16 <sup>a</sup>	(1.6) <sup>a</sup>
		151 ... 300	3/32 <sup>a</sup>	(2.4) <sup>a</sup>	3/32 <sup>a</sup>	(2.4) <sup>a</sup>
		301 ... 600	3/8	(9.5)	1/2	(12.7)
C.	Industrial, general	51 ... 150	1/8 <sup>a</sup>	(3.2) <sup>a</sup>	1/4	(6.4)
		151 ... 300	1/4	(6.4)	3/8	(9.5)
		301 ... 600	3/8	(9.5)	1/2	(12.7)
D.	Industrial, devices having limited ratings <sup>b</sup>	51 ... 300	1/16 <sup>a</sup>	(1.6) <sup>a</sup>	1/8 <sup>a</sup>	(3.2) <sup>a</sup>
		301 ... 600	3/16 <sup>a</sup>	(4.8) <sup>a</sup>	3/8	(9.5)
E.	Terminal Blocks rated 601 ... 1500 V <sup>c</sup>	601 ... 1000	0,55	(14.0)	0,85	(21.6)
		1001 ... 1500	0,70	(17.8)	1,20	(30.5)

#### Notes

1 A slot, groove, or similar, 0.013 inch (0.33 mm) wide or less in the contour of the insulating material is to be disregarded.

2 Air space of 0.33 mm or less between a live part and an insulating surface is to be disregarded for the purpose of measuring over surface spacing.

<sup>a</sup> The spacing between Terminal Blocks of opposite polarity and the spacing between a Terminal Block and a grounded dead metal part shall not be less than 1/4 inch (6.4 mm) if short-circuiting or grounding of such Terminal Blocks may result from protruding wire strands.

<sup>b</sup> See Section 8.5 (UL 1059)  
The spacing values indicated in sub-paragraph D in Table 8.1 are applicable to a Terminal Block for use only in or with industrial control equipment where the load on any single circuit of the Terminal Block does not exceed 15 A at 51 ... 150 V, 10 A at 151 ... 300 V, 5 A at 301 ... 600 V or the maximum ampere rating, whichever is less.

<sup>c</sup> Applies only to Terminal Blocks investigated to Part II of this standard. See Section 22.1 (UL 1059).

#### • Flammability Test per UL 94

This test provides an indication of the material's ability to extinguish a flame, once ignited.

Several ratings can be applied, based on the rated of burning, time to extinguish, ability to resist dripping, and after-glow extinguishing time. Each material tested may receive several ratings, depending on the wall thickness.

UL 94 rating categories:

#### V2

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- Flaming drips allowed
- After-glow extinguishes within 60 seconds max.

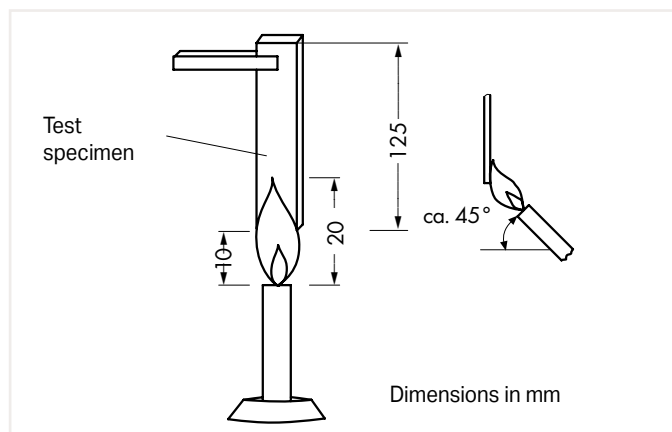
#### V1

- Specimen mounted vertically
- Burning stops within 30 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within 60 seconds max.

#### V0

- Specimen mounted vertically
- Burning stops within 10 seconds after the flame is removed
- No flaming drips allowed
- After-glow extinguishes within 30 seconds max.

During the test, a 3/4 inch (20 ± 1 mm) flame is applied for two 10-second intervals to the specified bar specimen held vertically.





## Terminating Aluminum Conductors

WAGO "Alu-Plus" Contact Paste also allows WAGO spring clamp Terminal Blocks to properly terminate solid aluminum conductors up to 4 mm<sup>2</sup>/12 AWG. ❶

"Alu-Plus" Contact Paste:

- Prevents fresh oxidation at the clamping point.
- Prevents electrolytic corrosion between aluminum and copper conductors.
- Provides long-term protection against corrosion.

Using Terminal Blocks with CAGE CLAMP® Spring Pressure Connection Technology, aluminum conductors must first be cleaned and then immediately be inserted into the clamping units filled with WAGO "Alu-Plus" Contact Paste.

It is also possible to apply WAGO "Alu-Plus" additionally on the whole surface of the aluminum conductor before termination.

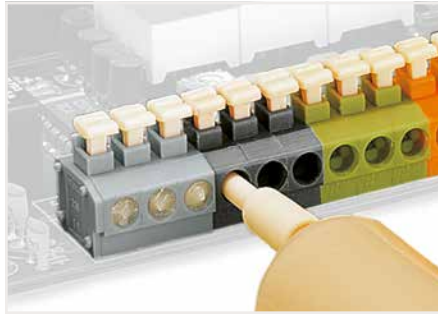
Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:

2.5 mm<sup>2</sup> (14 AWG) = 16 A  
4 mm<sup>2</sup> (12 AWG) = 22 A

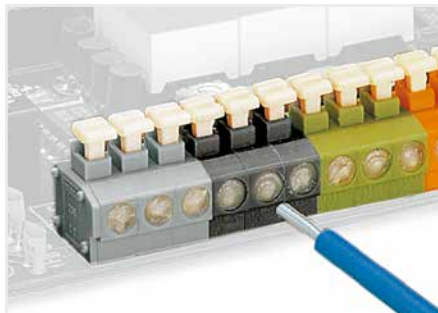
❶ Aluminum conductors per IEC 61545 standard, Class B, "Alloy 1370" with 90 ... 180 N/mm<sup>2</sup> tensile strength and 1 ... 4 % elongation.  
Standard values: 90 ... 180 MPa tensile strength,  
1 ... 4 % elongation (per EN 615.4.1)

WAGO "Alu-Plus" in the syringe offers a higher degree of reliability and cleanness when terminating solid aluminum conductors.

Filling is, for example, quickly performed on WAGO PCB terminal trips:



1. Push nozzle of the "Alu-Plus" syringe into every open conductor entry hole (one after the other).



2. Press plunger down until "Alu-Plus" has filled all conductor entry holes.

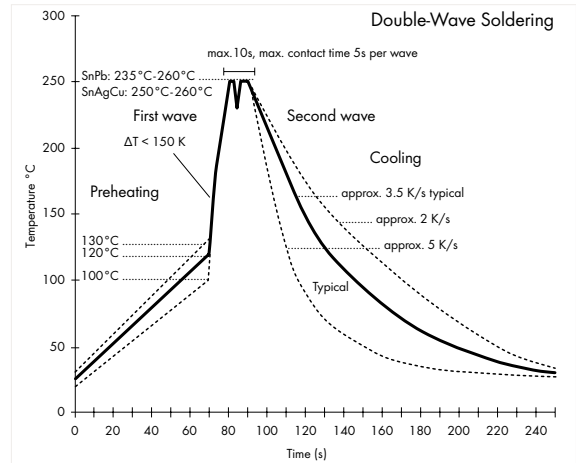
# Processing Information and Material Specifications

## • Soldering Information

### Wave Soldering:

WAGO's PCB Terminal Blocks and connectors comply with the 2011/65/EU Directive of June 08, 2011 and display the "RoHS compliant" logo on their packaging.

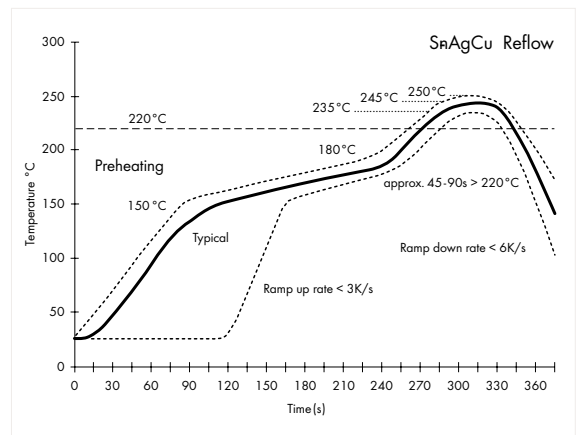
In accordance with IEC 61760-1, the maximum double-wave soldering temperature is 260°C for a maximum 10 seconds or 5 seconds per wave.



### Reflow Soldering:

WAGO's THR and SMD PCB Terminal Blocks and connectors have high-temperature-resistant insulated housings and reflow solder contacts.

In accordance with IEC 61760-1 or IEC 60068-2-58, the maximum soldering temperature is 260°C (peak temperature). Due to customer-specific variables (e.g., component configuration and orientation, type of soldering machine, solder paste), trial runs are recommended to ensure product and process compatibility under actual manufacturing conditions.



## • Insulation Materials

WAGO primarily uses polyamide (PA 66 and PA 46) for housing current-conducting parts, as well as polyphthalamide (PPA) and polycarbonate (PC) for insulation material (see table). For more than 50 years, these materials have proven themselves in WAGO products and all are approved by certified, third-party agencies. All listed halogen-free and flame-retardant polymer materials do not contain any heavy metals, silicone, asbestos, or formaldehyde as formulation components.

Table: Standard Insulation Materials

Material	PA 66	PA 66 GF	PPA GF	PA 46	PC	PC
Flammability UL 94 flammability test ratings	V0	V0	V0	V2	V2	V0
Oxygen Index (OI) per EN ISO 4589-2	> 32 %	> 33 %	> 37 %	> 27 %	> 26 %	> 35 %
Glow-wire test per IEC 60695-2-12 GWF1* IEC 60695-2-13 GWIT*	850 °C 775 °C	850 °C 775 °C	850 °C 775 °C	750 °C 725 °C	800 °C 850 °C	960 °C 850 °C
Comparative Tracking Index (CTI) per IEC 60112	600 V	600 V	600 V	375 V	225 V	225 V
Temperature of the ball indentation hardness test per EN ISO 2039-1 IEC 60695-10-2	≥ 125 °C	≥ 175 °C	≥ 225 °C	n.s.**	≥ 125 °C	≥ 125 °C
RTI impact per UL 746B	105 °C	100 °C	115 °C	115 °C	125 °C	120 °C
Heat deflection temperature (HDT/B) per ISO 75 (at 0.45 MPa bending stress)	215 °C	235 °C	285 °C	280 °C	130 °C (1.8 MPa)	130 °C (1.8 MPa)
Surface resistivity per IEC 60093	10 <sup>12</sup> Ω	10 <sup>12</sup> Ω	10 <sup>15</sup> Ω	10 <sup>13</sup> Ω	10 <sup>15</sup> Ω	10 <sup>15</sup> Ω
Specific contact resistance per IEC 60093	10 <sup>15</sup> Ω/cm	10 <sup>15</sup> Ω/cm	10 <sup>13</sup> Ω/cm	10 <sup>13</sup> Ω/cm	10 <sup>11</sup> Ω/cm	10 <sup>13</sup> Ω/cm
Dielectric strength per IEC 60243-1	30 kV/mm	40 kV/mm	25 kV/mm	25 kV/mm	25 kV/mm	29 kV/mm

\*Value depends on wall thickness, EN 60335 compliance upon request; \*\*n.s. = not specified

**Polyamide (PA 66)**

WAGO uses modified, halogen-free, flame-retardant polyamides. These materials do not corrode, are difficult to ignite and feature self-extinguishing properties (V0 rating per UL 94). Adhering to UL 746C, the polyamides used at WAGO have a continuous operating temperature of 105°C (221°F) based on the relative temperature index with impact load (RTIimp). This ensures that the necessary electrical and mechanical insulating properties are maintained at a sufficiently guaranteed level over a long period of time. The short-term upper temperature limit is 200°C (392°F). In lower temperature ranges, it has been determined that no damage to the insulation material occurs during usage down to -35°C (-31°F). After installation and wiring, WAGO products can even be used at temperatures down to -60°C (-76°F). Environmental humidity (up to 2.5% in a standard atmosphere) is absorbed, providing the polyamides with optimum elasticity, strength and durability. In practical use, basic stabilization of WAGO's polyamides has been proven over many years as sufficient to prevent damage caused by ozone or UV radiation exposure in intended applications. Polyamides have excellent resilience against the most demanding climates and have proven themselves in tropical applications worldwide. Insulation parts made of polyamide are resistant to insects. The material does not provide oxygen or other biogenic elements to microorganisms. The presence of anaerobic earth bacteria, mold, fungus and enzymes does not degrade the material. Polyamides are resistant to most fuels, greases, and oils, as well as the most commonly used cleaners, such as alcohol, Freon, Frigen, and carbon tetrachloride. Acid resistance depends on the acid type and concentration, as well as the exposure time. The use of insulation materials during in-house production at WAGO only occurs after acceptance of factory test certificates and specified material tests.

**Glass Fiber-Reinforced Polyamide (PA 66 GF)**

WAGO uses glass-fiber-reinforced polyamides for components with increased mechanical demands, such as levers, push-buttons or housings exposed to high stresses, because glass-reinforced polyamides have significantly higher characteristic properties than non-reinforced polyamides. In general, materials are used that have excellent creepage current resistance, flammability ratings and high temperature resistance. More data can be found in the table.

**Polyphthalamide (PPA GF)**

Glass-fiber-reinforced, high-performance polyamides are ideal for high-temperature applications, due to the material's high level of thermal dimensional stability, its low dependence on ambient conditions and its excellent strength properties. The material's outstanding tracking resistance permits short creepage distances to be incorporated into miniature components. Fire protection equipment enables placement into flammability class V0 per UL 94 – even for extremely thin walls. PPA GF absorbs minute amounts of moisture from the ambient air, making it ideal for reflow soldering applications and for thin-walled, dimensionally stable components. More data can be found in the table.

**Polyamide (PA 46)**

In comparison with PA 66, PA 46 has substantially higher dimensional stability under heat. The relative temperature index with impact load (RTIimp) is 115°C (239°F) for PA 4.6. The reliable short-term temperature for the type used by WAGO is 280°C (536°F). More data can be found in the table.

**Polycarbonate (PC)**

Polycarbonate has excellent dimensional stability under heat. The electrical and mechanical properties remain intact at extremely high temperatures up to approximately 120°C (248°F) per UL Yellow Card. Its excellent electrical insulating properties and dimensional stability are virtually independent of environmental conditions, such as humidity and temperature. Highly precise components can be created due to the low shrinkage of the material during injection molding. Polycarbonate has excellent weather resistance and is also highly resistant to high-energy radiation. If the PC is not colored, then the components are glass-clear. Thanks to its desirable properties (e.g., dimensional stability, heat resistance, non-flammability, durability and transparency), PC is a proven and widely used material in the electrical industry. Depending on the demands placed on the finished product, WAGO uses polycarbonates that carry flammability classifications V2 and V0 per UL 94. Medium-viscosity PC is used that features excellent chemical resistance.

## Material Specifications (continued)

### Contact Materials

Hard and extra-hard electrolytic copper (ECu), as well as extra-hard copper alloys are the standard materials used for the current-carrying parts of all WAGO products.

These materials combine excellent conductivity and good chemical resistance without the risk of stress-induced cracking.

### Contact Plating

The special tin layer, which is the standard layer for all current-carrying parts in WAGO products, ensures perfect long-term protection against corrosive substances. Furthermore, these layers provide a gas-tight contact that ensures a durable transition resistance.

At the clamping unit, the conductor is embedded into the soft tin layer via high contact pressure. This protects the contact area against corrosion.

The thick tin layer also ensures good solderability of both PCB Terminal Block and connector solder pins.

### Clamping Spring Material

Every WAGO clamping spring is made of high-quality, accurately tested austenitic chrome nickel steel (CrNi) with high tensile strength, which boasts proven corrosion resistance through long-term usage.

It is resistant to sea spray, city pollutants and industrial emissions (e.g., sulfur dioxide, hydrogen sulfide).

At room temperatures of approximately 20°C (68°F), the material is resistant to salt solutions up to 30 % and dilute phosphoric acids up to 30%.

Even after decades of use, no galvanic corrosion between the chrome nickel spring steel (in connection with the contact materials used by WAGO) and the connected copper conductors has been detected.

The relaxation of the material as a function of time and surrounding temperatures up to 105°C (221°F) can be ignored. Samples loaded with 500 N/mm<sup>2</sup> at a temperature of 250°C (482°F) showed a relaxation of only 1.5%.

In certain product lines, the clamping springs are thermally treated at temperatures between 350°C (662°F) and 420°C (788°F) after production.

This treatment reduces internal stress due to the material's mechanical deformation, which may result in a slight brown discoloration of the spring surface.

WAGO only accepts deliveries of chrome nickel spring steel against certificates of conformity and after select material tests have been performed.

## General Technical Information on Electrical Equipment Used in Hazardous Areas

A prerequisite for a potentially explosive hazard is the formation of an explosive atmosphere. Such an atmosphere can be produced at any location where flammable gases or liquids are manufactured, processed, transported and/or stored.

Such **hazardous areas** can be found in a wide range of industries, including chemical plants, refineries, power plants, paint producing facilities, painting shops, filling stations, vehicles, sewage treatment plants, airports, grain mills or harbor facilities.

### THE FOLLOWING APPLIES AS A GUIDELINE FOR THE UNDERLYING PRINCIPLE FOR EXPLOSION PROTECTION:

#### General Requirements

The European EN 60079-0 Standard – VDE 0170-1 Classification – contains general requirements for the design and testing of electrical equipment to be used in hazardous areas. This ensures this equipment does not cause an explosion in the surrounding atmosphere.

#### Electrical Equipment

Electrical equipment includes all items used in whole or in part with electricity. This includes items for generation, transport, distribution, storage, measurement, control, conversion and consumption of electrical power, as well as telecommunications.

#### Ex Components

Ex components are elements of electrical equipment for hazardous areas that are marked with the "U" letter. These components must not be used on their own in such areas and require an additional certificate when used in such areas when installed in the electrical equipment.

#### Ignition Protection Categories

Only explosion-proof (protected) equipment must be used in areas in which an explosive atmosphere may still be expected despite the implementation of prevention measures. Explosion-protected electrical equipment can have various types of protection in accordance with the EN 60079 standard requirements.

Protection used by the manufacturer essentially depends on the type and function of the apparatus. From a safety point of view, all standardized types of protection should be viewed as equal.

The ignition protection category "n" exclusively describes the use of explosion-protected electrical components in Zone 2. This zone includes areas in which hazardous, potentially explosive atmospheres are likely to occur rarely or short-term. This represents a transition between Zone 1, in which explosion protection is required, and the safe area in which, for example, welding may be performed at any time. Regulations covering these electrical components are being prepared worldwide. Organizations such as KEMA in the Netherlands, or PTB in Germany certify that the devices meet the requirements of the EN 60079-15 standard. Ignition protection category "n" also requires that electrical equipment be provided with additional ID markings as follows:

A – non-sparking (function modules without relays/switches)

AC – sparking, contacts protected with seals (function modules with relays/without switches)

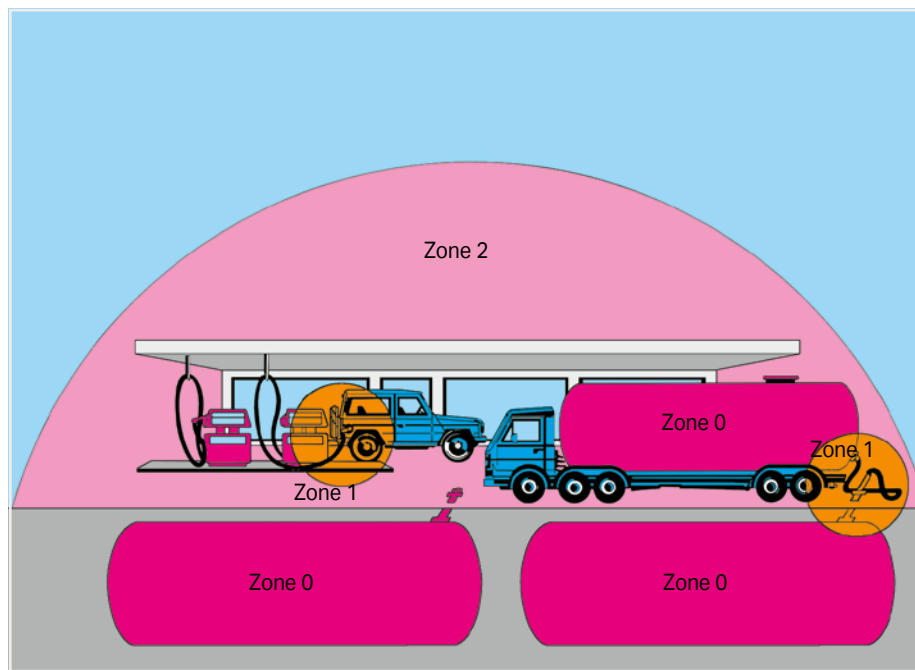
L – limited power (function modules with switches)

## General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

Hazardous areas are zones in which the atmosphere may become explosive. An explosive atmosphere is a mixture of flammable substances in the form of gases, vapors or mixtures with air under atmospheric conditions in critically mixed ratios such that

excessive high temperature, arcs or sparks may cause an explosion.

DIN EN 1127-1 and all other related standards that are well-known divide up hazardous areas according to the likelihood of the occurrence of an explosive atmosphere into the following zones:



- ❶ Hazardous areas due to explosive gases, vapors and mists

### Zone 0:

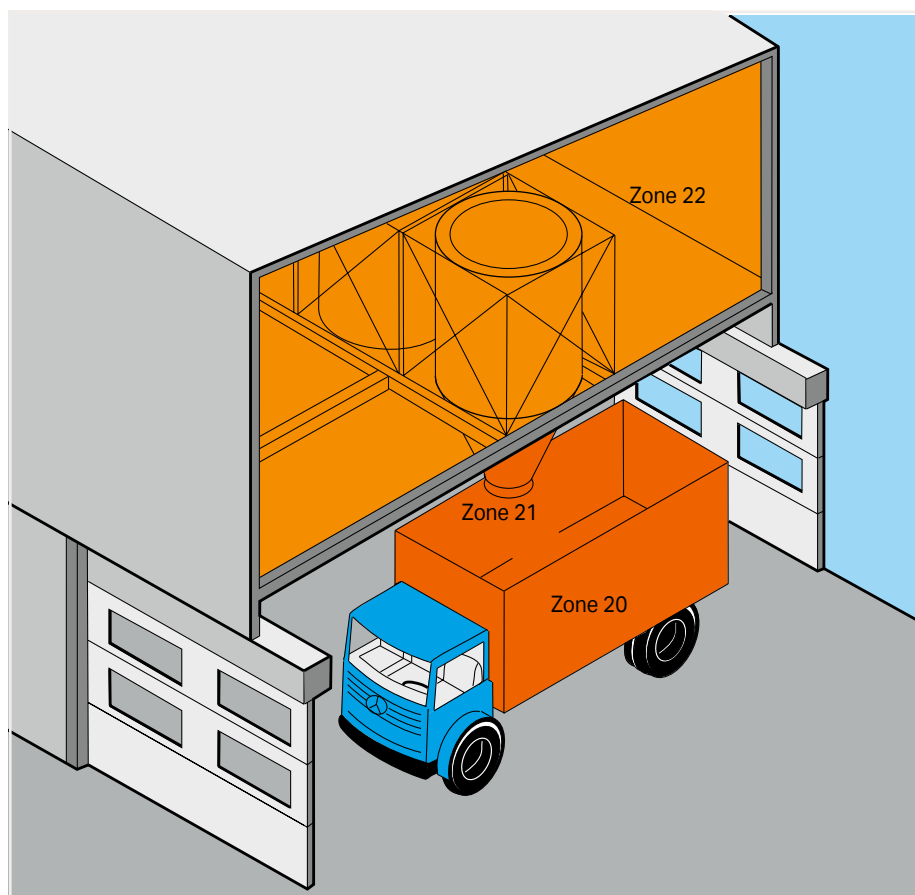
Areas in which an explosive atmosphere is present continuously, for long periods or frequently.

### Zone 1:

Areas in which an explosive atmosphere is likely to occur occasionally during normal operation.

### Zone 2:

Areas in which an explosive atmosphere is likely to occur rarely or only for a short period during normal operation.



- ❷ Hazardous areas due to explosive dust/air mixtures

### Zone 20:

Areas in which an explosive atmosphere due to dust/air mixtures is present continuously, for long periods or frequently and in which dust deposits of known or excessive thickness may form. Dust deposits alone do not constitute a Zone 20.

### Zone 21:

Areas in which the occurrence of an explosive atmosphere due to dust/air mixtures is to be expected occasionally and in which deposits or layers of combustible dust can generally be present.

### Zone 22:

Areas in which an explosive atmosphere due to dust/air mixtures is not likely to occur during normal operation and, if it occurs, will only exist for a short period, or in which accumulations or layers of combustible dust are present.

EN 60079-0 also classifies electrical equipment for use in hazardous areas into two groups:

**Group I:**

Electrical equipment for mines susceptible to firedamp

**Group II:**

Electrical equipment for hazardous areas, except for mines susceptible to firedamp. As this broad application range encompasses a large number of potentially flammable gases, Group II is broken down into sub-groups IIA, IIB and IIC. This breakdown is based on different gases/materials exhibiting differing ignition power levels as parameters. Therefore, representative gases have been allocated to these three sub-groups:

- IIA – Propane
- IIB – Ethylene
- IIC – Hydrogen

This information is also given under Item 12 in the EC Prototype Test Certificates, based on which the Terminal Blocks have been approved for Group I and Group II.

Temperature Category	Maximum Surface Temperature °C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Depending on the maximum surface temperature, electrical equipment in Group II are classified in temperature categories T1 to T6 for all protection types. The ambient temperature, which must be accounted for in dimensioning, is defined as 40°C/104°F (deviations are acceptable under some conditions).

Terminal Blocks for "e" (increased safety) protection type are generally assigned to temperature category T 6. When Terminal Blocks are used in equipment of temperature categories T1 to T5, ensure that the highest temperature on the insulating parts does not exceed 85°C (185°F). The highest measured surface temperature rise must not exceed 40 K.

Thermal resistance of the insulation material must be at least 20°C (68°F) greater than the highest operating temperature. Low temperature stability is considered to be sufficient when the insulation material can withstand 24-hour storage at a temperature of -60°C (-76°F) without nullifying the type of protection.

**Special Requirements  
Increased safety Ex e**

The European EN 60079-7 Standard – VDE 0170-6 Classification – contains special requirements for the design and testing of electrical equipment with "e" (increased safety) protection type for use in hazardous areas.

This standard is a supplement to EN 60079-0 and applies to equipment or parts thereof that neither generate sparks or arcing under normal operating conditions, nor exhibit hazardous temperatures.

This standard describes special measures, which have to be observed to obtain a safety degree according to the "e" (increased safety) protection type.

Ex components such as PCB Terminal Blocks are covered by Section 4.2 "Terminal Blocks for External Conductors."

The following are the most important design requirements for Terminal Blocks for external supply conductors to electrical equipment:

These must:

- be sufficiently large to permit reliable connection of external supply conductors with cross-section of at least the size required by the nominal current of the equipment
- be protected against self-loosening and designed such that the supply conductors cannot slip out of their clamping units
- be designed such that adequate contact pressure is ensured without damaging the conductors
- be designed such that their contact pressure does not change with temperature cycling
- be equipped with a spring connecting link for the connection of stranded conductors
- be designed so as to allow secure connection of smaller conductors for Terminal Blocks up to 4 mm<sup>2</sup> (12 AWG).

Publication of the WBK Mining Authority dated March 1989.  
Quote: "... Terminal Blocks that have been certified for the type of protection Ex e II will also be accepted, for example, for Group I – equipment with "e" (increased safety) protection type."

**Minimum Ignition Power of Typical Gases:**

Explosion Group	I	IIA	IIB	IIC
Gas	Methane	Propane	Ethylene	Hydrogen
Ignition Power	280	250	82	16

The following table shows a comparison between the current practice based on ElexV, DIN VDE 0165: 1991 and the new EN 1127-1:

Device Group II				
Category	Protection degree	Adequate safety for	Comparable to current practice	New, based on EN 1127
1 Ex atmosphere is very probable, swirled dust	Highest	Two protective measures Two faults	Group II, Zone 0 Zone 10	Zone 0 Zone 20
2 Occasional Ex atmosphere	Increased	Equipment failure or fault	Group II, Zone 1	Zone 1 Zone 21
3 Low probability of Ex atmosphere, settled dust	Normal	Fault-free operation	Group II, Zone 2 Zone 11	Zone 2 Zone 22

## General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

It is expressly prohibited to use insulating parts for transferring contact forces. Terminal Blocks with sharp edges which could damage supply lines and those types that can be rotated, turned or permanently deformed when fixed in place are not permitted for use. Terminal Blocks for internal connections in electrical equipment must not be subjected to excessive mechanical stress. These items must fulfill the requirements for Terminal Blocks used for external supply conductors.

Clearances between conductive parts having different potentials must be at least 3 mm for external connections, as specified in Table 1. The value of the creepage distances depends on the working voltage, surface geometry of the insulating parts and tracking resistance of the insulation material.

Grooves on the surface may only be considered if they are at least 2.5 mm deep and wide; ribs on the surface only if their height is at least 2.5 mm and their width corresponds to the mechanical strength of the material, however not smaller than 1 mm.

**Table 1: Creepage Distances and Clearances**

Voltage <sup>1)</sup> RMS Value for AC or DC Voltage	Minimum Creepage Distance mm			Minimum Clearance  mm
	Material Group			
	I	II	III a	
V				
10 <sup>2)</sup>	1.6	1.6	1.6	1.6
12.5	1.6	1.6	1.6	1.6
16	1.6	1.6	1.6	1.6
20	1.6	1.6	1.6	1.6
25	1.7	1.7	1.7	1.7
32	1.8	1.8	1.8	1.8
40	1.9	2.4	3	1.9
50	2.1	2.6	3.4	2.1
63	2.1	2.6	3.4	2.1
80	2.2	2.8	3.6	2.2
100	2.4	3	3.8	2.4
125	2.5	3.2	4	2.5
160	3.2	4	5	3.2
200	4	5	6.3	4
250	5	6.3	8	5
320	6.3	8	10	6
400 (440) <sup>*)</sup>	8	10	12.5	6
500 (550) <sup>*)</sup>	10	12.5	16	8
630 (690) <sup>*)</sup>	12	16	20	10
800	16	20	25	12
1000	20	25	32	14
1250	22	26	32	18
1600	23	27	32	20
2000	25	28	32	23
2500	32	36	40	29
3200	40	45	50	36
4000	50	56	63	44
5000	63	71	80	50
6300	80	90	100	60
8000	100	110	125	80
10000	125	140	160	100

1) The listed voltages are taken from IEC 60664-1. The working voltage \*) may exceed the voltage indicated in the table by 10%. This is based on the simplification of the supply voltages in accordance with Table 3b for IEC 60664-1. The listed values for creepage distances and clearances are based on a maximum limit deviation for supply voltage of  $\pm 10\%$ .

2) CTI values are not applicable for voltages of 10 V or less. Materials that do not meet the requirements of material group III a can be used.

Classification of insulation materials according to their tracking resistance is based on their Comparative Tracking Index (CTI) and is defined in Table 2 as follows:

This classification applies to insulating parts without ribs or grooves.

If the insulating parts have ribs or grooves sufficiently large to be considered, the minimum creepage distances must be set according to values for the insulation materials in the next-higher level (e.g., Group I, instead of Group II).

Accounting for the ambient operating temperature of 40°C (104°F) specified for electrical equipment, the current-carrying capacity of rubber-insulated conductors is reduced to 82%, based on DIN VDE 0298-4:2013-06, Table 12 and to 87% for PVC-insulated conductors for the current-carrying capacity defined for 30°C (86°F) in accordance with Item 4.3.3 in DIN VDE 0298-4:2013-06.

**Table 2:  
Tracking Resistance for  
Insulation Materials**

Material Group	Comparative Tracking Index
I	$600 \leq \text{CTI}$
II	$400 \leq \text{CTI} < 600$
III a	$175 \leq \text{CTI} < 400$

### Conductor Types and Conductor Preparation

In accordance with EN 60079-14/DIN VDE 0165-1, the ends of stranded and fine-stranded conductors must be protected against splaying (e.g., via cable lugs or ferrules) or by the type of Terminal Blocks used. Soldering alone is not sufficient. The conductor entry funnels of WAGO PCB Terminal Blocks fulfill this requirement.

According to EN 60069-7/DIN VDE 0170, Part 6, connecting electrical equipment to Terminal Blocks having an "e" (increased safety) protection type must not lead to a reduction of the clearances and creepage distances.

Based on experience through the application of Terminal Blocks in aggressive atmospheres in the chemical industry, WAGO recommends gas-tight tinned copper ferrules or tinned copper pin terminals when connecting fine-stranded conductors to Terminal Blocks in corrosive atmospheres.



**Approvals**

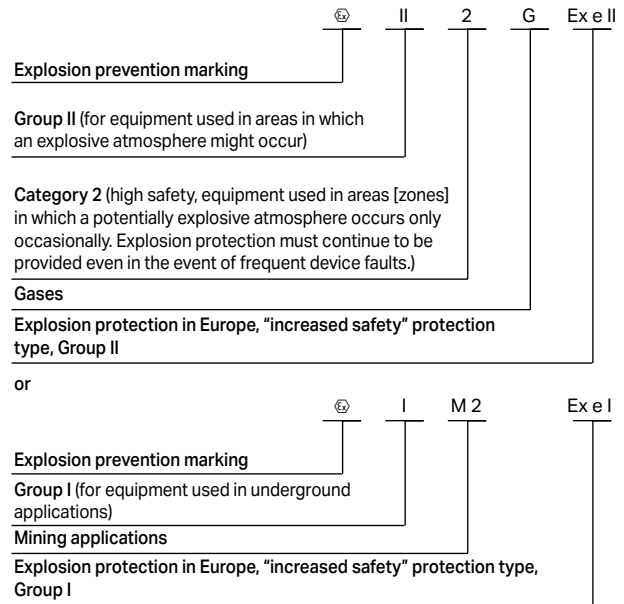
Terminal Blocks may be used in Zones 1 and 2, provided that the Terminal Blocks are accommodated in an enclosure that has a minimum IP54 protection and an Ex e certification.

Terminal Blocks are considered to be Ex components, because they are a part of the equipment. Part certificates provided by Ex Certification Agencies serve as a basis for issuing the complete conformity declaration for the unit.

An EC-type examination certificate is issued in accordance with the 2014/34/EU ATEX Directive.

In addition, an IEXEx certificate may also be obtained from an appropriate, recognized certification agency in accordance with the IECEx Certification Agreement that is accepted throughout Europe and also in countries such as Canada, China and Australia. These certificates can also be viewed at: [www.iecex.com](http://www.iecex.com)

**Terminal Block marking per 2014/34/EU ATEX Directive:**

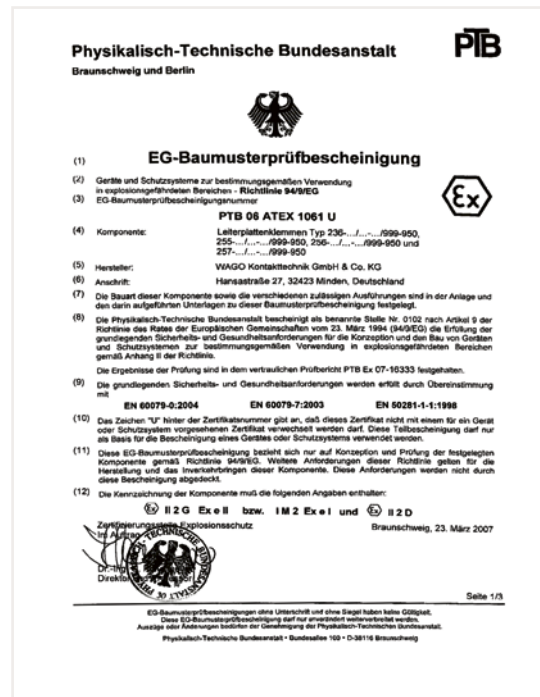
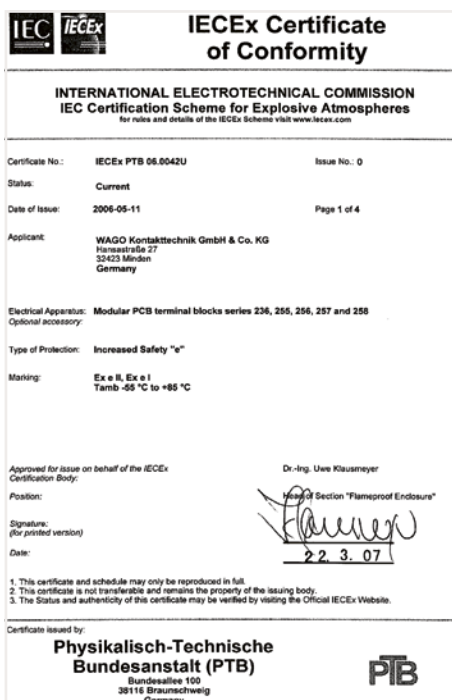


Marking only with the Ex code 4 is also adequate as an alternative.

EC-type examination certificates have been granted to all WAGO Terminal Blocks listed in this catalog. WAGO Terminal Blocks approved for use in Ex e II areas are manufactured of flame-resistant, self-extinguishing Polyamide 66. The same applies to the Terminal Blocks used in

non-hazardous areas. Tracking resistance with a CTI value of 600 as per IEC 60112 and a constant operating temperature of 105°C (22°F) in accordance with IEC 60216-1 and -2 are provided. Factory part quality tests are performed on all PCB Terminal Blocks with Ex e II approval

to monitor and ensure the quality features described above.



## General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)

### Special Requirements "Intrinsic safety Ex i"

The European EN 60079-11 Standard – DIN EN 60079-11 Classification (VDE 0170-7) – contains special requirements for the design and testing of electrical equipment with "i" (intrinsic safety) protection type for use in hazardous areas.

A circuit is "intrinsically safe" when, under normal operating conditions and in the event of specific fault conditions, no sparks or thermal effects can occur and cause the ignition of a certain explosive atmosphere.

A distinction is made here between:

- intrinsically safe electrical equipment when all circuits are intrinsically safe and
- associated electrical equipment including both intrinsically and non-intrinsically safe circuits, and being designed such that the non-intrinsically safe circuits cannot affect the intrinsically safe ones.

Intrinsically safe electrical equipment and intrinsically safe parts of associated electrical equipment are classified at "ia" or "ib" protection level. Electrical equipment classified Ex "ia" must not ignite when current is applied in the following cases:

- a) During fault-free operation, with those non-discreet faults present that result in the most adverse condition;
- b) During fault-free operation and with a discreet fault,

plus those non-discreet faults that result in unfavorable conditions.

- c) During fault-free operation with two discreet faults, plus those non-discreet faults that result in the most adverse conditions.

Electrical equipment classified Ex "ib" must not ignite when current is applied in the following cases:

- a) During fault-free operation, with those non-discreet faults present that result in the most adverse condition;
- b) During fault-free operation and with a discreet fault, plus those non-discreet faults that result in unfavorable conditions.

**No special approval is required for Terminal Blocks used as simple electrical equipment for "Ex i" protection type, as they do not contain a voltage source and precise information is available concerning electrical data and temperature rise performance.**

The Terminal Blocks must be identifiable, for example by their type designation, and the following design requirements must also be upheld:

- The clearance between bare, conducting parts of Terminal Blocks of different intrinsically safe circuits has to be equal or higher than the values specified in the standard. In addition, clearances between the Terminal Blocks must be so that the clearances between the bare, conductive parts of the connected external conductors is at least 6 mm when measured. Each possible motion of metallic parts that are not rigidly secured must be considered.
- When a possible connection has not been considered during safety analysis, the minimum clearance between grounded metallic or other conducting parts and the uninsulated conducting parts of the conductors that are connected to the Terminal Blocks must be 3 mm.

**Terminal Block marking must be unique and clearly visible. If a color is used for this, the color must be light blue (similar to RAL 5015).**

Note also when using Terminal Blocks: Terminal Blocks used for intrinsically safe circuits must be isolated from those used in non-intrinsically safe circuits. This is accomplished by several accepted methods. First, intrinsically safe circuits are separated by at least 50 mm of air space from non-intrinsically safe circuits. Second, intrinsically safe circuits are housed in a separate enclosure. Third, intrinsically safe Terminal Blocks are separated from non-intrinsically safe Terminal Blocks by either an insulated partition or grounded metal partition. The partition size must allow for either 1.5 mm or less distance from the sides of the housing or provide at least 50 mm of creepage distance between the intrinsically and non-intrinsically safe circuits in all directions.

Requirements pertaining to the necessary distances as appropriate for use of the Terminal Blocks in the area DIN EN 60079-11 (VDE 0170-7) "Explosive atmosphere – Part 11: Device protection by intrinsically safe features "i" (IEC 60079-11)" are defined under Section 6.2 "Connecting point for external circuits," Section 6.2.1 "Terminal Blocks." In general, the following can be stated for Terminal Blocks based on figure 1: "Example of isolation of intrinsically safe Terminal Blocks with partition" in conjunction with figure 2: "Example of isolation of conductive parts," considering Table 5 – "Clearances, Creepage and Isolation Distances."

#### Outside:

a) Isolated intrinsically safe circuits: at least 6 mm

**All PCB Terminal Blocks listed on the ordering pages as suitable for Ex "i" applications fulfill these requirements.**

b) Intrinsically safe circuits and normal circuits (non-intrinsically safe):  $\geq 50$  mm

#### Inside:

a) Ex "i" to Ex "i"

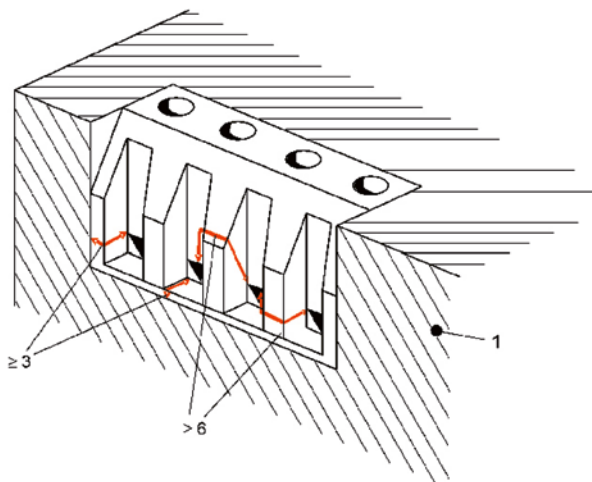
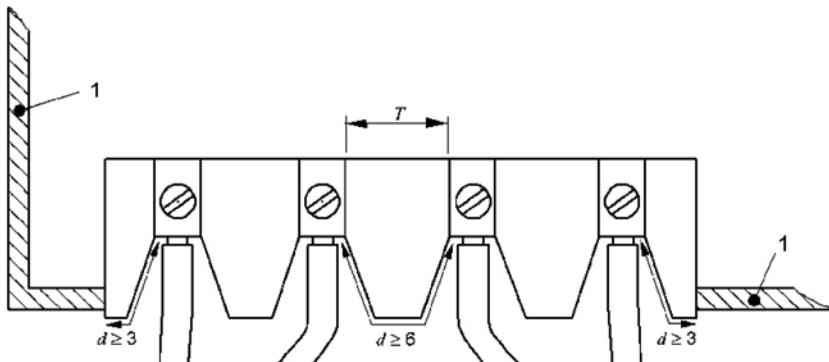
b) Ex "i" to normal circuits

c) Ex "i" to ground

Based on Figure 2 and Table 5 (see next page) in accordance with the selected protection level and the special requirements for isolation distances as described in Sections 6.3.1 to 6.3.13, or in accordance with the alternative procedure for dimensioning of isolation distances given in Annex F.

Terminal Blocks with smaller pin spacing may also be used for internal connections, provided they meet the requirements laid out in Table 5 (see below).

The exact clearances and creepage distances as well as separation distances based on Table 5 must be derived from the application items cited above.



#### Legend:

1: Conductive cover

T: Distances based on Table 5

d: Distance at outer connecting parts of the Terminal Blocks according to 6.2.1

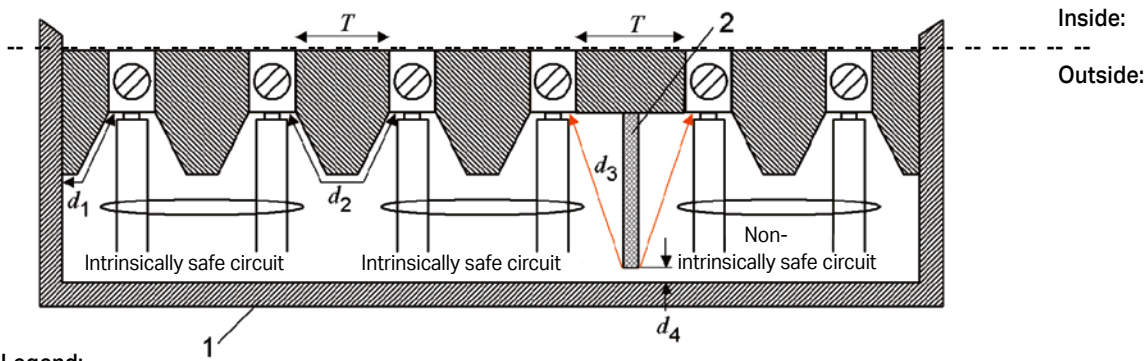
#### Note:

The dimensions indicated here represent the clearances and creepage distances around the insulation and not the thickness of the insulation.

Dimensions in mm

Figure 1a: Requirements for clearances and creepage distances for Terminal Blocks with isolated, intrinsically safe circuits

# General Technical Information on Electrical Equipment Used in Hazardous Areas (continued)



**Legend:**

- 1 Cover: non-conductive or conductive and grounded
- 2: Partition based on 6.2.1 b); in this example, the partition must end at the base
- T: Distances based on Table 5
- $d_1 \geq 3 \text{ mm}$ , when the cover is conductive and grounded  $\geq 6 \text{ mm}$
- $d_3 \geq 50 \text{ mm}$  or  $d_4 \leq 1.5 \text{ mm}$

**Note:**

The dimensions indicated here represent the clearances around the insulation and not the thickness of the insulation!

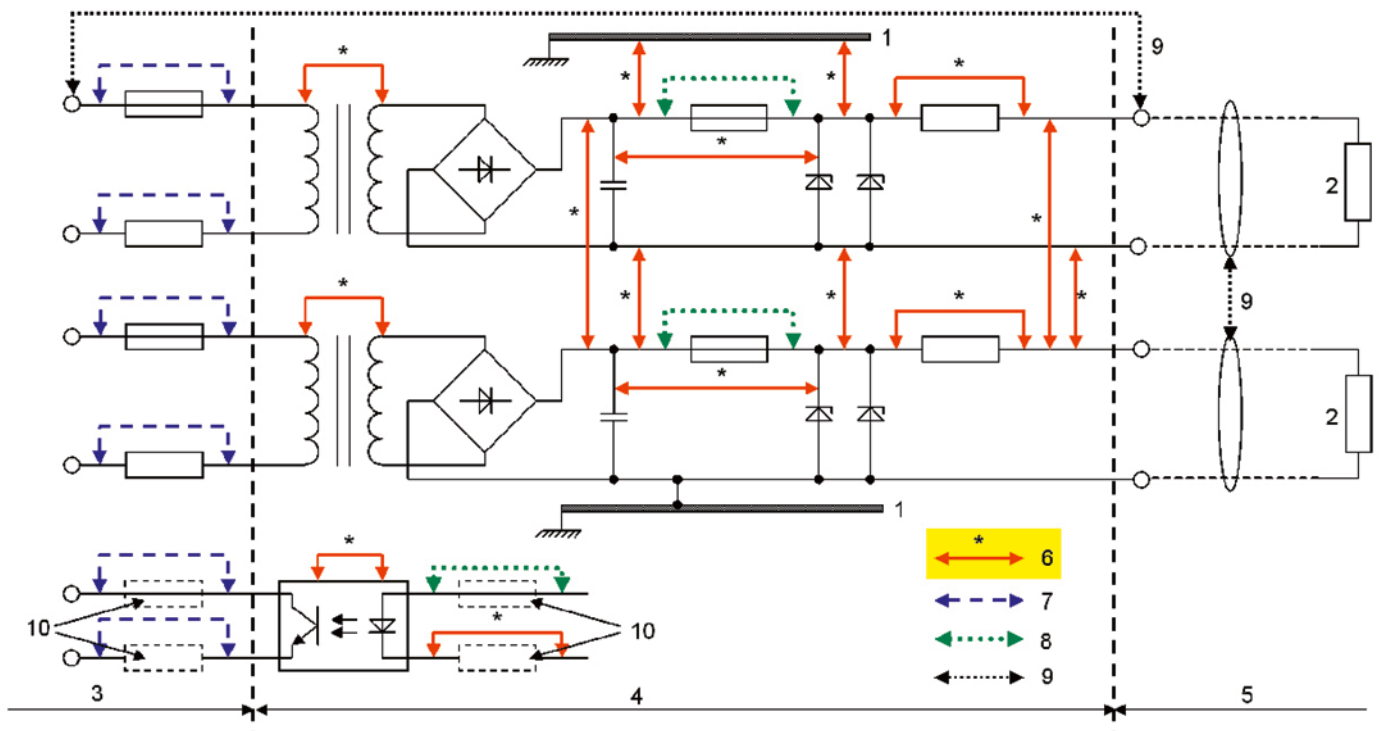
**Figure 1b: Example of isolation of intrinsically safe and non-intrinsically safe Terminal Blocks by a partition**

**Table 5: Clearances, Creepage and Isolation Distances**

1 Voltage (Peak) (V)	2 Clearance (in mm)		3 Separation by Encapsulation (in mm)		4 Separation by Fixed Insulation (in mm)		5 Creepage Distance through Air (in mm)		6 Creepage Distance beneath Protective Layer (in mm)		7 Comparative Tracking Index (CTI)	
	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia, ib	ic	ia	ib, ic
10	1.5	0.4	0.5	0.2	0.5	0.2	1.5	1.0	0.5	0.3	--	
30	2.0	0.8	0.7	0.2	0.5	0.2	2.0	1.3	0.7	0.3	100	100
60	3.0	0.8	1.0	0.3	0.5	0.3	3.0	1.9	1.0	0.6	100	100
90	4.0	0.8	1.3	0.3	0.7	0.3	4.0	2.1	1.3	0.6	100	100
190	5.0	1.5	1.7	0.6	0.8	0.6	8.0	2.5	2.6	1.1	175	175
375	6.0	2.5	2.0	0.6	1.0	0.6	10.0	4.0	3.3	1.7	175	175
550	7.0	4.0	2.4	0.8	1.2	0.8	15.0	6.3	5.0	2.4	275	175
750	8.0	5.0	2.7	0.9	1.4	0.9	18.0	10.0	6.0	2.9	275	175
1000	10.0	7.0	3.3	1.1	1.7	1.1	25.0	12.5	8.3	4.0	275	175
1300	14.0	8.0	4.6	1.7	2.3	1.7	36.0	13.0	12.0	5.8	275	175
1575	16.0	10.0	5.3	*	2.7	*	49.0	15.0	16.3	*	275	175
3.3k	*	18.0	9.0	*	4.5	*	*	32.0	*	*	*	*
4.7k	*	22.0	12.0	*	6.0	*	*	50.0	*	*	*	*
9.5k	*	45.0	20.0	*	10.0	*	*	100.0	*	*	*	*
15.6k	*	70.0	33.0	*	16.5	*	*	150.0	*	*	*	*

Note 1: \*At present, no values have been recommended for these voltages.

Note 2: Proof of fulfillment of the CTI requirements for the insulating materials must be provided by the manufacturer. Defining a CTI is not required for insulation materials for voltage levels up to 10 V.

**Legend:**


- 1: Chassis
- 2: Load
- 3: Non-intrinsically safe circuit defined by  $U_m$
- 4: Portion of intrinsically safe circuit, item is not intrinsically safe
- 5: Intrinsically safe circuit
- 6: Dimensions for which Table 5 applies
- 7: Dimensions for which general industrial standards apply
- 8: Dimensions per 7.3
- 9: Dimensions based on 6.2.1 for output Terminal Blocks between isolated intrinsically safe circuits ( $d_2 \geq 6 \text{ mm}$ ) and between intrinsically safe circuits and non-intrinsically safe circuits ( $d_3 \geq 50 \text{ mm}$ )
- 10: Where required

**Figure 2: Isolation examples for conductive parts**



In accordance with DIN EN 60079-14 (VDE 0165-1), in intrinsically safe circuits, the ends of stranded and fine-stranded conductors must be protected against splaying (e.g., via cable lugs or ferrules) or by the type of Terminal Blocks used. Soldering alone is not sufficient. The conductor entry funnels of WAGO PCB Terminal Blocks fulfill this requirement.

WAGO recommends gas-tight tinned copper ferrules or tinned copper pin terminals when connecting fine-stranded conductors to Terminal Blocks in corrosive atmospheres.

## International Certification Organizations – Overview

		Abbreviation			Abbreviation
	Underwriters Laboratories USA <a href="http://www.ul.com">http://www.ul.com</a>	UL		Danmarks Elektriske Materielkon- trol Denmark <a href="http://www.demko.dk">http://www.demko.dk</a>	DEMKO
	Underwriters Laboratories USA <a href="http://www.ul.com">http://www.ul.com</a>	UL		CENELEC CERTIFICATION AGREE- MENT Danmarks Elektriske Materielkon- trol Denmark <a href="http://www.cenelec.org">http://www.cenelec.org</a>	CCA Appr. No. with NL
Y	Underwriters Laboratories USA <a href="http://www.ul.com">http://www.ul.com</a>	cURus			
	Underwriters Laboratories USA <a href="http://www.ul.com">http://www.ul.com</a>	cULus		SETI – FEMKO Sähkötarastuskeskus Elinspeck- tionscentralen Finland <a href="http://www.seti.fi">http://www.seti.fi</a>	
	Canadian Standards Association Canada <a href="http://www.csa.ca">http://www.csa.ca</a>	CSA		Sähkötarastuskeskus Elinspeck- tionscentralen Finland <a href="http://www.fimko.com">http://www.fimko.com</a>	FIMKO
	VDE-Gutachten mit Ferti- gungsüberwachung Germany <a href="http://www.vde.de/vde/html/e/home.htm">http://www.vde.de/vde/html/e/ home.htm</a>	VDE	<b>SABS</b>	South African Bureau of Standards South Africa <a href="http://www.sabs.co.za">http://www.sabs.co.za</a>	SABS
	VDE – Deutscher Verband für Elektrotechnik Germany <a href="http://www.vde.de">http://www.vde.de</a>			RosTesT Russia <a href="http://www.rostest.ru">http://www.rostest.ru</a>	ROTEST
VDE	VDE – Prüfbericht Germany			Departamentul Moldovastandard Moldova <a href="http://www.moldova.md/ro/govern-&lt;br/&gt;ment/oll/D_STAND/en/strcent2.htm">http://www.moldova.md/ro/govern- ment/oll/ D_STAND/en/strcent2.htm</a>	CSM
	Österreichischer Verband für Elektrotechnik Austria <a href="http://www.ove.at">http://www.ove.at</a>	ÖVE		Certificate of Registration Great Britain <a href="http://www.astacertification.com">http://www.astacertification.com</a>	ASTA
	Schweizerischer Elektrotech- nischer Verein Switzerland <a href="http://www.sev.ch/">http://www.sev.ch/</a>	SEV		Rheinisch-Westfälischer Tech- nischer Überwachungsverein e.V. Germany <a href="http://www.rwtuv.de">http://www.rwtuv.de</a>	RWTüv
	N.V. tot Keuring van Elektrotech- nische Materialen Netherlands <a href="http://www.kema.nl">http://www.kema.nl</a>	KEMA		Elektrotechnick´y v´yskumn´y a projektov´y ústav Czech Republic <a href="http://www.ezu.cz">http://www.ezu.cz</a>	EZU
CCA	CENELEC CERTIFICATION AGREE- MENT N.V. tot Keuring van Elektrotech- nische Materialen Netherlands <a href="http://www.cenelec.org">http://www.cenelec.org</a>	CCA Appr. No. with NL		Stowarzyszenie Elektrykow Pol- skich Poland <a href="http://www.sep.com.pl">http://www.sep.com.pl</a>	BBJ
	Norges Elektriske Materialkontroll Norway <a href="http://express.nemko.com">http://express.nemko.com</a>	NEMKO		Stowarzyszenie Elektrykow Pol- skich Poland <a href="http://www.bbj.pl">http://www.bbj.pl</a>	SEP
	Svenska Elektriska Materielkon- trollanstalten AB Sweden <a href="http://www.semko.com">http://www.semko.com</a>	SEMKO			

For complete, up-to-date approval information, visit [www.wago.com](http://www.wago.com).

		Abbreviation		Abbreviation	
<b>CNET</b>	Centre National d'Etudes des Télécommunications France <a href="http://www.lannion.cnet.fr">http://www.lannion.cnet.fr</a>	CNET	,	Robbanásbiztos Villamos Berendezések Hungary <a href="http://www.bki.hu">http://www.bki.hu</a>	BKI
<b>LCIE</b>	Laboratoire Central des Industries Electriques France <a href="http://www.lcie.fr">http://www.lcie.fr</a>	LCIE	CB	CB – TEST CERTIFICATE India <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	CB
	Fyzikálne Technické Ústav, Ostrava-Radvanice Czech Republic <a href="http://www.ftzu.cz">http://www.ftzu.cz</a>	FTZU	CB	CB – TEST CERTIFICATE China <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	CB
				UL-International Demko A/S Denmark <a href="http://www.ul-europe.com">http://www.ul-europe.com</a>	ENEC
<b>Marine Approvals</b>					
	Germanischer Lloyd Germany <a href="http://www.gl-group.com">http://www.gl-group.com</a>	GL	Ex Approvals		
	Bureau Veritas France <a href="http://www.bureauveritas.fr">http://www.bureauveritas.fr</a>	BV	P	Physikalisch Technische Bundesanstalt Germany Ex e II <a href="http://www.ptb.de">http://www.ptb.de</a>	PTB
	Lloyd's Register of Shipping Great Britain <a href="http://www.lloydsregister.com">http://www.lloydsregister.com</a>	LR	Y	Underwriters Laboratories USA <a href="http://www.ul.com">http://www.ul.com</a>	cURus-EX
	NV – Det Norske Veritas Norway <a href="http://www.dnv.com">http://www.dnv.com</a>	DNV	K	N.V. tot Keuring van Elektrotechnische Materialen Netherlands <a href="http://www.kemaquality.com">http://www.kemaquality.com</a>	KEMA-EX
	Russian Maritime Register of Shipping GUS <a href="http://www.rs-head.spb.ru">http://www.rs-head.spb.ru</a>	RMR	GOSENERGO-Ex GOSENERGONADZOR Russia		GOSENERGO-EX
	Polski Rejestr Statków Poland <a href="http://www.prs.pl">http://www.prs.pl</a>	PRS	-	Fyzikálne Technické Ústav, Ostrava-Radvanice Czech Republic <a href="http://www.ftzu.cz">http://www.ftzu.cz</a>	FTZU
	Korean Register of Shipping Korea <a href="http://www.krs.co.kr">http://www.krs.co.kr</a>	KR	,	Robbanásbiztos Villamos Berendezések Hungary <a href="http://www.bki.hu">http://www.bki.hu</a>	BKI-Ex
	American Bureau of Shipping USA <a href="http://www.eagle.org">http://www.eagle.org</a>	ABS			

## Electrical Engineering Laboratory Product Safety for Our Customers

To use terminal blocks globally, they must satisfy certain standards and obtain test certificates. These requirements apply to every manufacturer. WAGO also conducts its own tests to increase standards and offer greater reliability with its products. Products undergo a full range of mechanical, electrical and climatic testing, and we'll share a few of those processes with you.

### Pull-Out Test (per EN 60947-7-1, EN 60998-2-2)

During the pull-out force test, a conductor is pulled on until it is removed from the clamping unit. The design of the terminals means that extraction only occurs after the standard pull-out force has been exceeded many times over.

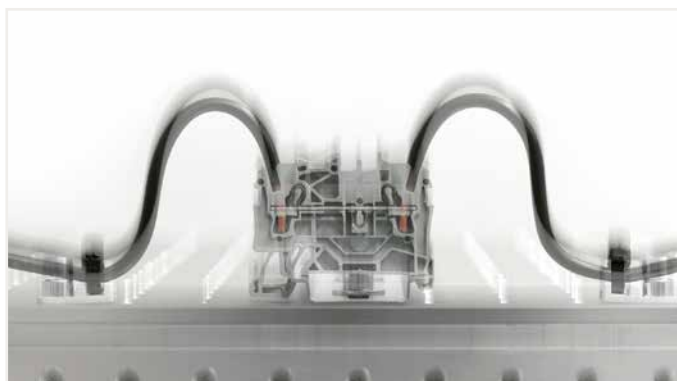
### WAGO Test Lab

This means that WAGO's products can be used safely and reliably both in Europe and anywhere globally for a wide variety of applications. We heavily emphasize the importance of global acceptance during development. As a result, we can present documentation that verifies our high levels of product safety and reliability while ensuring the fulfillment and accuracy of technical data, which are the highest priorities for our customers and users worldwide. On December 22, 2009, our test lab was accredited by the German Accreditation Association (Deutsche Gesellschaft für Akkreditierung GmbH) in accordance with DIN EN ISO/IEC 17025.



### Vibration Test (per IEC/EN 60068-2-6)

Depending on the application, such as railway (per EN 61373) or marine (per GL, LR, DNV), there are various testing requirements to determine if the long-term effects of vibrations degrade electrical connections. The test specimen is subjected to different loads on three axes in an electrodynamic vibration system. The amplitude, the acceleration, and particularly the frequency of the vibration vary during the test. The test values are increased many times over the standard values to meet special customer requirements.



### Shock Test (per IEC/EN 60068-2-27)

The shock test is very similar to the vibration test except that, instead of continuous vibrations, single shocks are applied to the test specimen. Shock tests are usually performed, for example, at an acceleration of 20g over a period of 11 ms. Tests for special requirements often call for much higher values and are also conducted in our laboratory.



### Voltage Drop Test under Bending Stress (per WAGO test requirements)

The voltage drop test under bending stress simulates mechanical stress on the clamping unit. In everyday use, this stress can occur during installation, for example, when an electrician shoves connected conductors to the side in order to access a specific component. The quality of the clamping unit when moving a connected conductor can be validated by the constantly stable measured value of the voltage drop.







## Deutsche Akkreditierungsstelle GmbH

**Beliehene gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV**  
 Unterzeichnerin der Multilateralen Abkommen  
 von EA, ILAC und IAF zur gegenseitigen Anerkennung

# Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

**WAGO Kontakttechnik GmbH & Co. KG**  
**Hansastraße 27, 32423 Minden**

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

**Elektrische und mechanische Prüfungen an Klemmen und Steckverbinder  
 sowie Umweltsimulation**

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Bescheid vom 18.12.2014 mit der Akkreditierungsnummer D-PL-19704-01 und ist gültig bis 17.12.2019. Sie besteht aus diesem Deckblatt, der Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 5 Seiten.

Registrierungsnummer der Urkunde: **D-PL-19704-01-00**

Frankfurt am Main, 18.12.2014

Im Auftrag Dipl.-Ing. (FH) Ralf Egner  
 Abteilungsleiter

Siehe Hinweise auf der Rückseite

## Success for generations: environmental protection at WAGO



At WAGO, we see environmental protection not only as compliance with environmental protection requirements.

As a growing company, our commitment to the environment drives our efforts to deliver new ideas, new concepts and new technologies along the product lifecycle. Here our employees and business partners support us.

### Corporate environmental protection

Business growth also leads to higher consumption of resources. We have realized that the economic success of a company also depends on the achievement of environmental goals.

As a manufacturing company, we therefore support developments that make a contribution to environmental protection. In doing so, we always pursue individual material flows along the value chain, because we see resources, product design, production and consumption as a whole.

With our environmental management system certified in accordance with DIN EN ISO 14001, we ensure that the required national and international requirements are complied with in all areas of the company and that the concept of environmental protection is practiced in all corporate processes. In addition, WAGO is pursuing further efforts in the field of environmental protection that go far beyond the requirements of ISO

Some examples include the recycling of plastics, resource savings on product and packaging materials, the use of recycled paper throughout the company, the introduction of e-filling stations and the use of waste heat from production processes.

### Product-related environmental protection

Product-related environmental protection is an important part of sustainable environmental management at WAGO. Ensuring compliance with substance bans / restrictions worldwide, such as: As REACH, RoHS has a high priority.

## Success for generations: environmental protection at WAGO

### RoHS – Restriction of the use of certain Hazardous Substances

It is an EC directive that regulates the use of certain hazardous substances in electrical and electronic equipment. In addition to reducing the harmful effects on humans and the environment, legislation aims to improve recycling possibilities. WAGO closely monitors the development regarding RoHS and reacts promptly to specifications accordingly. For more information about RoHS please contact us via [ehs-product-compliance@wago.com](mailto:ehs-product-compliance@wago.com).

RoHS   
Compliant

### REACH – Registration, Evaluation and Authorisation of Chemicals

On 01.06.2007 the regulation (EC) no. 1907/2006 (REACH regulation) came into force and since then forms a valid legal basis for all EU member states. To protect human health and the environment, this EU Chemicals Regulation aims to classify and identify all chemicals, including their effects.

The REACH Regulation creates specific obligations for each actor in the supply chain. The products manufactured by WAGO are to be designated as products in the sense of the regulation. Since products are not subject to registration, WAGO usually assumes the role of the downstream user in the supply chain. WAGO therefore has an obligation to provide information along the supply chain in accordance with REACH Article 33. WAGO is naturally aware of this obligation.

For more information about our reporting requirements according to REACH Article 33 please visit our website "REACH SVHC Declaration" via [www.wago.com/svhc](http://www.wago.com/svhc)

### BOMcheck

European legislation such as REACH or RoHS requires the provision of information on restricted ingredients in products. This information must be shared by manufacturers and suppliers in the supply chain. WAGO meets this challenge in product-related environmental protection successfully and efficiently with BOMcheck.

BOMcheck .net

BOMcheck is a centralized database for the declaration of ingredients. It is a compliance tool specifically designed to enable manufacturers and suppliers to produce their substance declarations under REACH, RoHS, and other restrictions on ingredients in an efficient and structured manner. This Internet database system increases data quality in the area of product-related environmental protection.

Further information on BOMcheck can be found at the following link: <http://www.bomcheck.net>

### Less is more: our packaging

Recycling is the basis for choosing our packaging materials. All packaging used by WAGO can be recycled in the economic cycle without further pretreatment. In addition to the aspect of recycling, emphasis is placed on resource conservation. For this reason, our cardboard boxes consist of 80% recycled paper and are marked with the Resy symbol. The Resy symbol guarantees compliance with the Packaging Ordinance for transport packaging. The labeling is partly done by perforation. This process enables the colorless printing of WAGO cardboard boxes. This avoids unnecessary environmental pollution.



# Indexes and Addresses

## Indexes and Addresses

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2273-208	235	2604-3306	91	2624-3110	95	2734-102/037-000	101
2273-500	235	2604-3307	91	2624-3111	95	2734-102/107-000	101
		2604-3308	91	2624-3112	95	2734-124	101
<b>2601 Series</b>		2604-3309	91	2624-3302	95	2734-124/031-000	101
2601-1102	87	2604-3310	91	2624-3303	95	2734-124/037-000	101
2601-1103	87	2604-3311	91	2624-3304	95	2734-124/107-000	101
2601-1104	87	2604-3312	91	2624-3305	95	2734-202	102
2601-1105	87	2604-3502	91	2624-3306	95	2734-202/031-000	102
2601-1106	87	2604-3503	91	2624-3307	95	2734-202/037-000	102
2601-1107	87	2604-3504	91	2624-3308	95	2734-220	102
2601-1108	87	2604-3505	91	2624-3309	95	2734-220/031-000	102
2601-1109	87	2604-3506	91	2624-3310	95	2734-220/037-000	102
2601-1110	87	2604-3507	91	2624-3311	95	2734-1102/327-000	101
2601-1111	87	2604-3508	91	2624-3312	95	2734-1116/327-000	101
2601-1112	87	2604-3509	91	2624-3502	95		
2601-3102	87	2604-3510	91	2624-3503	95	<b>2759 Series</b>	
2601-3103	87	2604-3511	91	2624-3504	95	2759-204/261-1000	255
2601-3104	87	2604-3512	91	2624-3505	95	2759-2101/271-1000	255
2601-3105	87	<b>2606 Series</b>		2624-3506	95	2759-2102/271-1000	255
2601-3106	87	2606-1102/020-000	42	2624-3507	95	2759-2103/271-1000	255
2601-3107	87	2606-1112/020-000	42	2624-3508	95		
2601-3108	87	2606-1352	44	2624-3509	95		
2601-3109	87	2606-1362	44	2624-3510	95		
2601-3110	87	2606-3352	44	2624-3511	95		
2601-3111	87						

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2773-404	237						
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2773-406	237						
2773-408	237						
2773-500	237						
<b>2852 Series</b>							
2852-7101	255						
2852-7102	255						
2852-7210	255						
2852-7213	255						
2852-7214	255						
2852-7215	255						
2852-7220	255						
2852-7221	255						
2852-7223	255						
2852-7225	255						
2852-7230	255						
2852-7231	255						
2852-7232	255						
2852-7233	255						
2852-7901	255						

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