



DIN EN 50155:2018 and the WAGO I/O System 750 XTR

Railway Applications – Rolling Stock – Electronic Equipment



Paragraph and Title (from the standard)	Reference to Additional Standards	Class	Characteristics	Classification Achieved by XTR and Notes	
4. General requirements					
4.3 Environmental service conditions					
4.3.1 Altitude	EN 50125-1	A1 A2 A3 AX	Up to 1,400 m Up to 1,000 m Up to 1,200 m >1,400 m	AX	
4.3.2 Operating temperature		OT1 OT2 OT3 OT4 OT5 OT6	-25 ... +70 °C -40 ... +70 °C -25 ... +85 °C -40 ... +70 °C -25 ... +85 °C -40 ... +85 °C	OT4	
4.3.3 Switch-on extended operating temperature		ST0 ST1 ST2	None OTx + 15 °C OTx + 15 °C	ST1	Test cycle B
4.3.4 Rapid temperature variations		H1 H2	No requirements ±3°C/s	H1	
4.3.5 Shock and vibration	EN 61373	1A 1B 2 3	1,2,3,4,5 1,2,3,4,5 6 7	1A 1B	
4.3.7 Relative humidity	EN 50125-1		95 %	Ful-filled	Short-term condensation per Class 3K7/ EN 60721-3-3 is permitted (except wind-driven precipitation, water and ice formation)

5. Electrical service conditions					
5.1 Power supply					
5.1.1.2 DC power supply range			Minimum continuous voltage 0.7 x U_n Maximum continuous voltage 1.25 x U_n	Ful-filled	
5.1.1.3 Temporary DC power supply fluctuation			Minimum fluctuation voltage 0.6 x U_n Maximum fluctuation voltage 1.4 x U_n	Ful-filled	
5.1.1.4 Interruptions of voltage supply		S1 S2 S3	None ≤10 ms ≤20 ms	S1	(S2/S3 must be secured via a suitable external power supply if necessary)
5.1.3 Change-over classes (supply)		C1 C2	0.6 x U _N (100 ms) U _N (30 ms)	C1	
5.2 Installation requirements					
5.2.3 Electromagnetic compatibility	EN 50121-3-2 EN 50121-4 EN 50121-5			Ful-filled	The following filter modules must be used: 750-626/040-00 or 750-624/040-001
5.2.6 Insulation	EN 50124-1	OV1 OV2 OV3 OV4		OV2	Rated surge voltage as a function of the rated insulation voltage
6. Reliability, maintainability and expected useful life					
6.2 Useful life		L1 L2 L3 L4 LX	5 years 10 years 15 years 20 years As agreed	LX	
MTBF values (per MIL-HDBK-217-F2)		Available and are provided upon request on a project-specific basis.			
7. Design					
7.3 Detailed practices – Software	Development according to Annex G Developed to meet IRIS, modular construction, protected against external errors (short circuit, open circuit)				
8. Non-railway designed electronic equipment					
Development and documentation according to Annex G					
9. Components					
Sophisticated components have been optimized and carefully selected according to environmental requirements before being integrated. These permit eXTReme capabilities to be packaged into such a compact and finely modular system.					
10. Construction					
10.7 Protective coatings for printed board assemblies		PC1 PC2 PCX	None Protective coating on both sides As agreed	PC2	
11. Safety					
11.3 Fire behavior requirements	EN 455545-2			HL3	
12. Documentation					
Development according to Annex G					
EBA (German Federal Railway Authority) Regulation No. EMC 06 – Technical Rules on Electromagnetic Compatibility: Certification of the radio compatibility of rail vehicles with railway radio services				S0	

WAGO GmbH & Co. KG
Postfach 2880 · D-32385 Minden
Hansastraße 27 · D-32423 Minden
info@wago.com
www.wago.com

Headquarters +49 (0)571/ 887 - 0
Sales +49 (0)571/ 887 - 44 222
Orders +49 (0)571/ 887 - 44 333
Fax +49 (0)571/ 887 - 844 169

Your contacts:

Dipl.-Ing. Richard Markus
Head of Transportation Technology
Industry & Key Account Management
Phone: +49 (0)571/887-44 165
E-mail: richard.markus@wago.com

Kathrin Stemmer
Assistant Transportation Technology
Phone: +49 (0)571/887-49085
E-mail: kathrin.stemmer@wago.com

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