PC3425 MVB to WiFi / Ethernet Communications Gateway

EN 50155 Compliant MVB-EMD to WiFi / Ethernet Communications Gateway for Rail Applications on Rail Vehicles

The PC3425 has been designed using PC3 Series modules that have been proven to survive the rigors required for Railway Vehicles including:

- Electrical surges and transients of EN 50155 / EN 50121-3-2.
- Shock and vibration in accordance with EN 50155 / EN 61373.
- Operating temperature range of -40°C to +70°C and relative humidity 5% to 95% non-condensing.

Features and Benefits

- 10/100 Mbps Wired Ethernet in accordance with IEEE 802.3 via M12 D-Code connector
- Wireless Ethernet Dual Band 802.11.ac via external antenna
- Bluetooth 4.2 / BLE via onboard antenna
- One RS232 serial communications port
- One isolated RS485 serial communications port
- Two independent (isolated) MVB-EMD interfaces
- Suitable for nominal battery voltages of 110VDC
- Operating temperature range: -40°C to +70°C (+85°C for 10 minutes)
- Connections for RS232 and RS485 via DB9 female connectors
- Connections for MVB-EMD via DB9 connectors (one male and one female)
- Connections via cage clamp plug socket connectors
- Conformal Coating
- EN 50155 Compliant

Applications

- Passenger Vehicle Condition Based Monitoring
- Heating Ventilation Air Conditioning (HVAC) Control Systems
- Onboard controls for fire protection, power packs and doors
- Locomotive Performance and Condition Monitoring
- Trackside Monitoring and SCADA
- Industrial Control Systems

Ordering Information

- Part Number: 070-0898-1

PC3425 GATEWAY

Specification

Description	PC3425 MVB-EMD to WiFi/Ethernet Communications Gateway for Rail Applications on Rail Vehicles	
Environmental	Operating Temperature Range: -40°C to +70°C (EN50155 Class OT4)	
	Switch-on Extended Operating Temperature Range: To +85°C (EN50155 Class ST1) for 10 min	
	Storage Temperature Range: -40°C to +85°C	
	Relative Humidity: 5% to 95% non-condensing	
	Shock and Vibration: EN 61373:2010 Category 1 – Class B	
Power Supply	Nominal Input Voltage	110 VDC
	Minimum Input Voltage	66 VDC (EN50155 Class C1)
	Maximum Input Voltage	154 VDC
	Nominal Input Current	13 mA
Processor Features	Processor	Freescale iMX6ULL, CPU clock: 800MHz, DMIPS: 1,520
	NAND Flash	512 MB
	DDR3 RAM	512 MB
	Non-volatile MRAM	128 kB
	Non-volatile Real Time Clock with Supercap	
Communication Ports	Wired Ethernet	10/100 Mbps IEEE 802.3
	Wireless Ethernet	Dual Band 802.11.ac
	Bluetooth	4.2 / BLE
	Non-isolated RS232 (TIA-232F)	Five-wire with RxD, TxD, RTS and CTS signals.
	Isolated RS485 (TIA-485)	Three-wire: A, B and SG. Isolated to 500 VAC
	MVB	Electrical Middle Distance (EMD)
MVB Features	Device Class	Class 1 – Process_Data and Device_Status support.
	Line Redundancy	Dual line support with automated trusted line switchover.
	Traffic Store Size	64kB
	Maximum Local Source / Sink Ports	1024
Mechanical	Product dimensions: 184mm x 271mm x 64mm (with plug connectors installed)	
Enclosure Material	Extruded Aluminium with Anodised Screen Printed Lid	
Ingress Protection (IP) Rating	IP20 (in accordance with EN 60529)	
Weight	1.0 kg (without plug connectors)	
MTBF	412,712 hrs @ 40°C	Standard: Telcordia SR-332 Issue 2 – Parts Count Method
Terminations	Plug/socket cage clamp connections (2.5 mm² max.) on a 5.08mm pitch	
	Wired Ethernet: M12 D-Coded Female	
	Wireless Ethernet: External cable with RP-SMA bulkhead	
	RS-232 and RS-485: DB9 Female	
	MVB_M1: DB9 Male with M3 Screw Locks, MVB_M2: DB9 Female with M3 Screw Locks	
Standards	EN 50155:2017	Railway Applications – Electronic Equipment used on Rolling Stock
	EN 50121-3-2:2016	Railway Applications – Electromagnetic Compatibility Part 3-2: Rolling Stock – Apparatus
	EN 61373:2010	Railway Applications Rolling Stock Equipment Shock and Vibration Tests
	EN 45545-2:2013+A1:2015	Railway Applications – Fire Protection for Railway Vehicles Part 2: Requirements for Fire Behaviour of Materials and Components
Materials Compliance	REACH, ROHS, WEEE, EN45545-2	
Programming	• Linux "C" API's • iecTeso (ISaGRAF) IEC61131-3 Programmable	

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