

PC3422 FIP to Ethernet Communications Gateway

EN 50155 Compliant FIP to Ethernet Communications Gateway for Rail Applications on Rail Vehicles

The PC3422 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
- Supports FIP networks as per IEC61158 and IEC61784
- Slow FIP, Fast FIP and WorldFIP support at 1Mbps bus speed
- One RS232 serial communications port
- One isolated RS485 serial communications port
- Suitable for nominal battery voltages of 110VDC in accordance with EN 50155
- Operating temperature range: -40°C to +70°C (+85°C for 10 minutes)
- Connections for RS232 and RS485 via DB9 female connectors
- Connections for FIP via DB9 connectors (two male)
- 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: 070-0895-1



PC3422 GATEWAY

Specification

| | | |
|--------------------------------|--|---|
| Description | PC3422 FIP to 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 Vybrid VF50N, CPU clock: 400MHz, DMIPS: 628 |
| | NAND Flash | 128 MB |
| | DDR3 RAM | 128 MB |
| | Non-volatile SRAM | 128 kB |
| | Non-volatile Real Time Clock with Supercap | |
| Communication Ports | Ethernet | 10/100 Mbps IEEE 802.3 |
| | Non-isolated RS232 (TIA-232F) | Five-wire with Rx/D, Tx/D, RTS and CTS signals. |
| | Isolated RS485 (TIA-485) | Three-wire: A, B and SG. Isolated to 500 VAC |
| | FIP | Full station without bus arbiter (ST3) |
| FIP Features | Line Redundancy | Medium redundancy over FIP1 and FIP2 ports |
| | LED Indicators | 4 x LEDs (FIP STS, FIP ERR, FIP TX, FIP RX) |
| | Device ID Selection | 8 pins located in FIP1 and FIP2 (This allows for an 8-bit FIP Device ID. The application software can then override this value if required) |
| | Bus speed | 1 Mbps |
| | Physical Layers Compatibility | Slow FIP, Fast FIP and WorldFIP |
| | Mechanical | Product dimensions: 184mm x 249mm 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 | 389,408 hrs @ 40°C | Standard: Telcordia SR-332 Issue 2 – Parts Count Method |
| Terminations | Plug/socket cage clamp connections (2.5 mm ² max.) on a 5.08mm pitch | |
| | Ethernet: M12 D-Coded Female | |
| | RS-232 and RS-485: DB9 Female | |
| | FIP Port1 & FIP Port2: DB9 Male with UNC 4-40 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 | <ul style="list-style-type: none"> Linux “C” API's iecTeso (ISaGRAF) IEC61131-3 Programmable | |

OEM-I5327_PC3422 Standard Communications Gateway_DataSheet_1

Contact us:

Australia

Phone +61 2 9966 9424
sales-aus@duagon.com

China

Phone +86 159 0077 2985
sales-chn@duagon.com

France

Phone +33 450 955 312
sales-fra@duagon.com

Germany

Phone +49 991 99 335 0
sales-deu@duagon.com

India

Phone +91 11 41 61 12 48
sales-ind@duagon.com

Switzerland (HQ)

Phone +41 44 743 73 00
sales@duagon.com

USA

Phone +1 215 542 9575
sales-usa@duagon.com



www.duagon.com