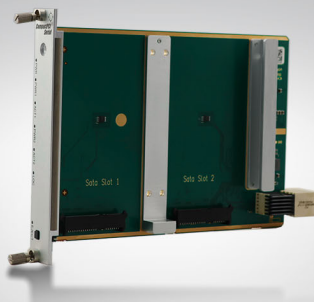




G507

Data Sheet

Dual 2.5" SATA Storage Expansion

CompactPCI Serial Carrier Board for HDD/SSD with Front-Panel LEDs

- **2× 2.5" SATA 6Gbit/s**
- **Temperature sensors for board and drives**
- **Drive control and sensor readout via I2C**
- **7 status LEDs**
- **-40 °C to +85 °C operating temperature**
- **Compliant with EN 50155 (railways)**
- **Long-term availability**

Product Description

2.5" HDD or SSD

The G507 is a CompactPCI Serial storage expansion board for up to two 2.5" SATA drives.

Front Panel Status LEDs

The unit's front panel features LEDs for board power, configurable location and ejection status as well as activity for the individual installed drives.

Thermal Monitoring

Temperature sensors for SSDs and board connected via I2C enable detailed temperature monitoring.

Staggered Power-Up

The board powers up drives consecutively to alleviate electrical and system load.

Suitable for Railway Applications

The G507 complies with the EN 50155 standard for use in railway applications.

Technical Data

Interfaces

- SSD/HDD slot
 - 2× SATA 2.5"; SATA Revision 3.x
- PCI Express: 1× PCIe 3.0 x1, backplane

Supervision and Management

- Temperature measurement
- Drive control

Product Standard

- CompactPCI Serial: CompactPCI Serial PICMG CPCI-S.0 Specification

Electrical Specifications

- Supply voltage: +12 V (-10 % / +10 %)
- Power consumption: 35 W peak
- Maximum allowed power consumption per drive: 10 W

Mechanical Specifications

- Dimensions: 3U, 4 HP
- Weight: 148 g
- Cooling
 - forced convection, required airflow depends on assembled drives
- Protection rating: IP20

Product Compliance: Rail - Rolling Stock

- Compliance level: This product is prepared for use in EN 50155 systems. Some parameters are system-dependent and are specified on system level.
- Operating temperature: -40 °C to +85 °C (EN 50155:2021, Tmax/PCB = +85 °C; designed for use in OT4+ST1 systems)
- Equipment location
 - EN 50155:2021, location 1, closed electrical operating area
 - EN 50155:2021, location 2, cabin and interiors
- Rapid temperature variations: EN 50155:2021, class H1, no requirements
- Storage temperature: -40 °C (EN 50155:2021) to +85 °C (EN 60068-2-2, Bb)
- Altitude: +3000 m max. (EN 50125-1:2014, class AX)
- Pollution degree: EN 50124-1:2017, class PD2
- Humidity: +55 °C and +25 °C, 100 % RH max. (EN 50155:2021)
- Shock: 30 ms @ 50 m/s² (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class A)
- Vibration: 10 min @ 2.02 m/s² (functional) and 5 h @ 11.44 m/s² (long-life) (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class B, double acceleration)
- Electrical safety
 - EN 50155:2021
 - EN 50153:2014 + A1:2017 + A2:2020
 - EN 50124-1:2017
 - EN ISO 13732-1:2008
- Fire protection: EN 45545-2:2020, EL9, HL3
- EMC emission
 - EN 50121-3-2:2016 + A1:2019
 - Regelung Nr. EMV 06 :2019-05-09 (2.0), Anhang E: Messung an Geräten, Schutzklasse S1
 - Regelwerk 50.02.01 :2021-12-01, 12.3.2. EMV - Funk, prequalified according to electronic equipment tests defined by Deutsche Bahn EMV 06 standard, class S1, for risk minimization in finished vehicle test
- EMC immunity: EN 50121-3-2:2016 + A1:2019
- Protective coatings: EN 50155:2021, class PC2 (Any PCB protected on both sides)

- Useful life: 20 years (EN 50155:2021, class L4)

Product Compliance: Rail - Wayside Non-Safety Related

- Operating temperature: -40 °C to +70 °C (EN 50125-3:2003, class T2, cubicle, with class T2 maximum extended by 5 °C)
- Storage temperature: -40 °C (EN 60068-2-1:2007, Ab) to +85 °C (EN 60068-2-2:2007, Bb)
- Altitude: +3000 m max. (EN 50125-3:2003, class AX)
- Pollution degree: EN 50124-1:2017, class PD2
- Humidity: 95 % RH max. (EN 50125-2:2002, building N.C.C., class T1/T2/TX)
- Humidity - Condensation: Non-condensing
- Shock: 11 ms @ 20 m/s² (EN 50125-3:2003, in a switch cabinet 1 m to 3 m from the track)
- Vibration: 2.3 m/s² (EN 50125-3:2003, in a switch cabinet 1 m to 3 m from the track)
- Electrical safety
 - EN 50124-1:2017
 - EN 62368-1:2014 + AC:2015
- EMC emission: EN 50121-4:2016 + A1:2019
- EMC immunity: EN 50121-4:2016 + A1:2019

Product Compliance: Information Technology Equipment

- Operating temperature: -40 °C (EN 60068-2-1:2007, Ae) to +85 °C (EN 60068-2-2:2007, Be)
- Storage temperature: -40 °C (EN 60068-2-1:2007, Ab) to +85 °C (EN 60068-2-2:2007, Bb)
- Altitude: +3000 m max. (EN 62368-1:2014 + AC:2015)
- Electrical safety: EN 62368-1:2014 + AC:2015
- Flammability (PCBs): UL 94 V-0
- EMC emission:
 - EN 55032:2015 + A11 + A1:2020 (multimedia equipment), class A (industrial environments)
 - EN 61000-6-4:2019 (generic standard, industrial environments)
- EMC immunity:
 - EN 55035:2017 + A11:2020 (multimedia equipment)
 - EN 61000-6-2:2019 (generic standard, industrial environments)

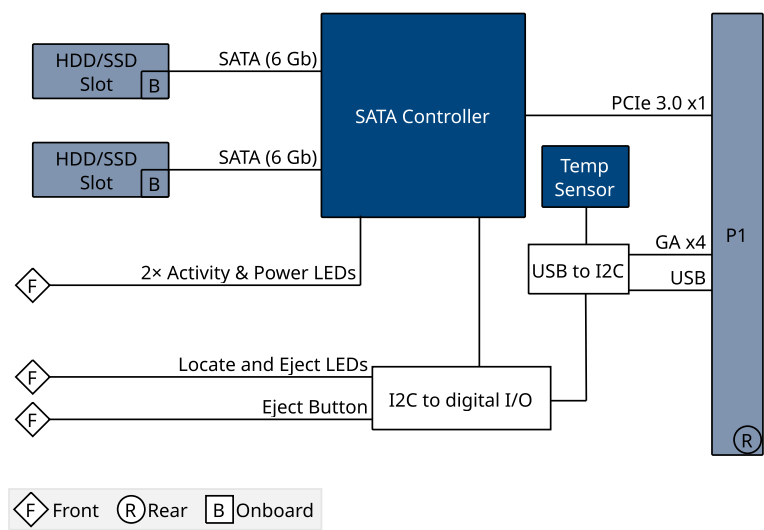
Reliability

- MTBF: 2 638 277 h predicted @ 40 °C according to IEC/TR 62380 (RDF 2000)

Software Support

- Linux
 - Tested with: Ubuntu 24.04 LTS

Functional Diagram



Standard Models

02G507-00

3U CPCI Serial, 4HP, 2x 2.5" SATA expansion board, -40 °C to +85 °C, conformal coating