

GP1 4-Port Gigabit Ethernet PHY Line Card with PoE

- **4 Gigabit Ethernet on RJ45 connectors (M12 optional)**
- **Power over Ethernet (PoE+) PSE (all ports)**
- **LEDs for link and activity status**
- **-40 to +85°C with qualified components**
- **EN 50155 classTx (railways)**
- **PICMG CPCI-S.0 CompactPCI® Serial**
- **IEEE 1588v2 support (optional)**



The GP1 is a 3U Gigabit Ethernet PHY line card, with optional PoE support, implemented as a CompactPCI® Serial board. It occupies one peripheral slot using a 4 HP front panel with four Gigabit Ethernet ports on RJ45 connectors. Alternatively, the GP1 can be supplied with four M12 connectors on the front panel (X-coded variants in preparation).

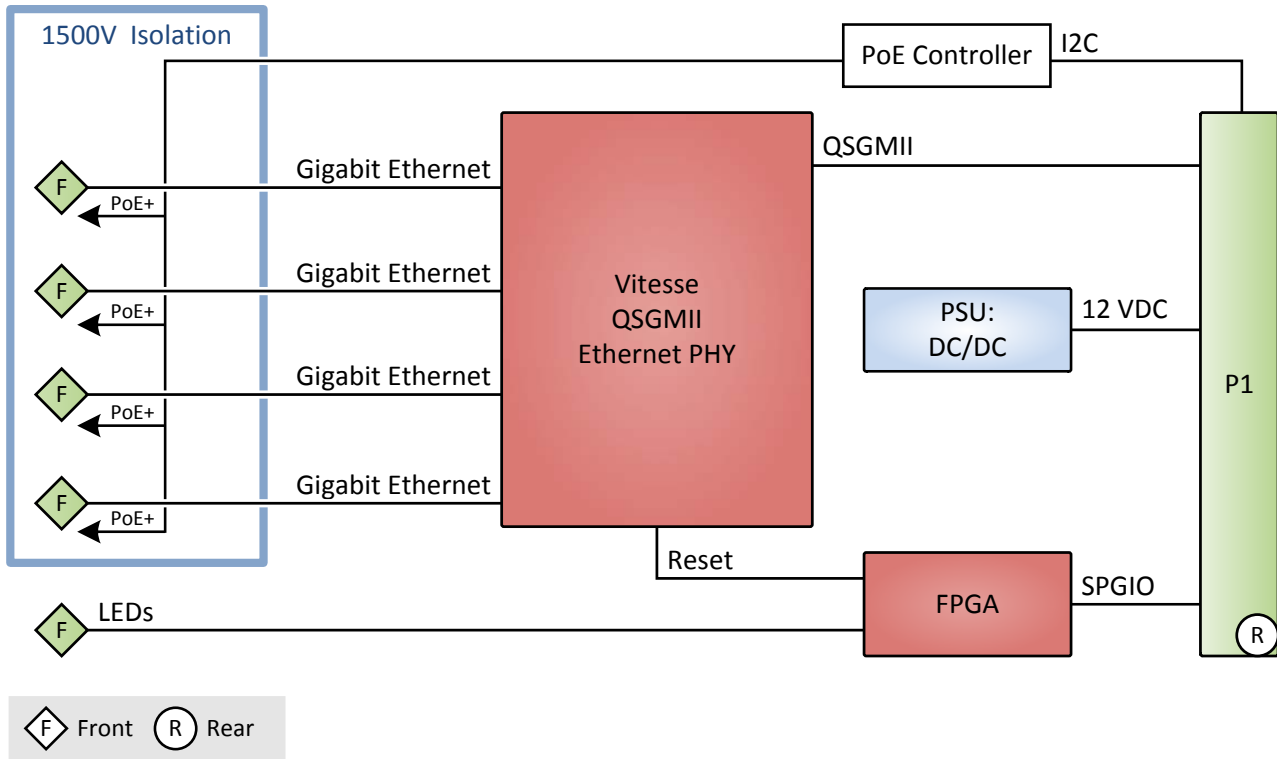
The GP1 is designed to work in combination with the [G101](#) CompactPCI® Serial managed industrial Ethernet switch.

The GP1 features four connectors on the front panel, which can be used to create 4 ports of copper Gigabit

Ethernet. In addition, the card can act as Power over Ethernet (PoE) Power Sourcing Equipment (PSE), supplying other devices on all ports with power. Each interface supports a data transfer rate of 1 Gbit/s, and provides two LEDs to indicate the link and activity status.

The GP1 operates with a primary voltage supply of +12 V, which is provided via the rear CompactPCI® serial connector. All additional required voltages are generated onboard. It is fully compliant with the EN 50155 railway standard, qualified for a -40 to +85°C operation temperature and ready for coating.

Diagram



Technical Data

Key Features	<ul style="list-style-type: none"> ■ Four 10/100/1000BASE-T ports at front panel (Electrical isolation: 1500 Vrms) <ul style="list-style-type: none"> □ One common isolation group when PoE PSE is installed ■ Optional PoE(+) Power sourcing support
Supported Protocols and Standards	<ul style="list-style-type: none"> ■ IEEE 1588v2 Optional ■ IEEE 802.3 Standard ■ Power over Ethernet support (IEEE 802.3 Section 2, Type 1 and 2 - classes 0, 1, 2, 3, 4) ■ EEE (Energy Efficient Ethernet)
Power Over Ethernet Features	<ul style="list-style-type: none"> ■ Power over Ethernet functions on all ports <ul style="list-style-type: none"> □ PSE (Power Sourcing Equipment) function □ Supports supply classes 0 to 4 □ Supplies up to four powered devices (up to 60 W total)
Front Interfaces	<ul style="list-style-type: none"> ■ Ethernet <ul style="list-style-type: none"> □ Four RJ45 or M12 connectors, 1000BASE-TX (1 Gbit/s) □ Power over Ethernet PSE ■ Status LEDs <ul style="list-style-type: none"> □ Two LEDs per channel □ Signal link status □ Signal link activity
Rear Interfaces	<ul style="list-style-type: none"> ■ Serial GPIO (SGPIO) ■ Quad Serial Gigabit Interface (QSGMII)
Backplane Standard	<ul style="list-style-type: none"> ■ CompactPCI® Specification PICMG CPCI-S.0 <ul style="list-style-type: none"> □ Peripheral slot with extensions (QSGMII)
Supervision and Control	<ul style="list-style-type: none"> ■ BITE Voltage Supervision ■ PoE Voltage monitoring
Electrical Specifications	<ul style="list-style-type: none"> ■ Supply voltages <ul style="list-style-type: none"> □ +12 V (±3%) ■ Power consumption <ul style="list-style-type: none"> □ 5 W without PoE support, 85 W max. with 60 W PoE
Mechanical Specifications	<ul style="list-style-type: none"> ■ Dimensions: 3U, 4 HP ■ Weight: 152 g
Environmental Specifications	<ul style="list-style-type: none"> ■ Temperature range (operation): <ul style="list-style-type: none"> □ -40°C to +85°C □ Airflow 1.5m/s ■ Temperature range (storage): -40°C to +85°C ■ Relative humidity (operation): max. 95% non-condensing ■ Relative humidity (storage): max. 95% non-condensing ■ Altitude: -300 m to +2000 m ■ Shock: 50 m/s², 30 ms ■ Vibration (Function): 1 m/s², 5 Hz to 150 Hz (EN 61373) ■ Vibration (Lifetime): 7.9 m/s², 5 Hz to 150 Hz (EN 61373) ■ Conformal coating on request
Reliability	<ul style="list-style-type: none"> ■ MTBF: 250.000 h @ 40°C according to IEC/TR 62380 (RDF2000)
Safety	<ul style="list-style-type: none"> ■ Flammability <ul style="list-style-type: none"> □ UL 94V-0 ■ Electrical Safety <ul style="list-style-type: none"> □ EN 50155 (Insulation) □ EN 50155 (Voltage)

Technical Data

EMC	<ul style="list-style-type: none"> ■ EN 55022 (radio disturbance) ■ EN 61000-4-2 (ESD Immunity) ■ EN 61000-4-4 (burst)
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Ordering Information

Standard GP1 4-Port Gigabit Ethernet PHY Line Card with PoE Models	02GP01-00	SemiCus: 3U CompactPCI® Serial, 4 x RJ45 QSGMII port extender, no PoE, EEE and Sync-E support, -40 to +85°C
	02GP01-01	3U CompactPCI® Serial, 4 x RJ45 QSGMII port extender, PoE+ PSE, EEE and Sync-E support, -40 to +85°C
	02GP01-02	SemiCus: 3U CompactPCI® Serial, 4 x M12 QSGMII port extender, no PoE, EEE and Sync-E support, -40 to +85°C, conformal coated
	02GP01-03	3U CompactPCI® Serial, 4 x M12 QSGMII port extender, PoE+ PSE, EEE and Sync-E support, -40 to +85°C, conformal coated
Related Hardware	02G101-00	25-Port Gigabit Ethernet Managed Switch, 2x RJ45 + 1x SFP 2.5 Gbps on front, 10x GE + 3x QSGMII links on backplane, -40 to +85°C with qualified components
	02G101-01	24-Port Gigabit Ethernet Managed Switch, 3x M12 on front, 9x GE + 3x QSGMII links on backplane, -40 to +85°C with qualified components

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