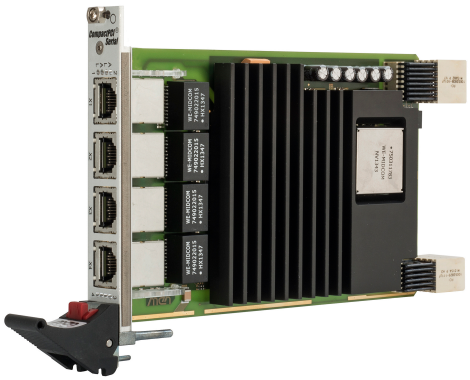
G304

Unmanaged 4-Port Rugged Industrial Ethernet Switch with PoE+

3U CompactPCI Serial

- Unmanaged 4-port rugged Ethernet switch
- 4 Gigabit Ethernet (front) on RJ45 (M12 optional)
- Power over Ethernet (PoE+) PSE (all ports)
- LEDs for link and activity status
- 1 Gigabit Ethernet on rear I/O (optional)
- -40°C to +85°C (screened)
- EN 50155 class TX (railways)
- PICMG CPCI-S.0 CompactPCI Serial



Unmanaged Industrial Ethernet Switch

The G304 is an unmanaged 3U Ethernet switch implemented as a CompactPCI Serial board. It occupies one peripheral slot, using a 4 HP front panel with 4 Gigabit Ethernet ports on RJ45 connectors, and one direct Ethernet connection to the CPU card using PCI Express on P1. Options include M12 front connectors, and a P6 connector to extend the number of Ethernet channels available on the board to six.

Reliable Communication System Component

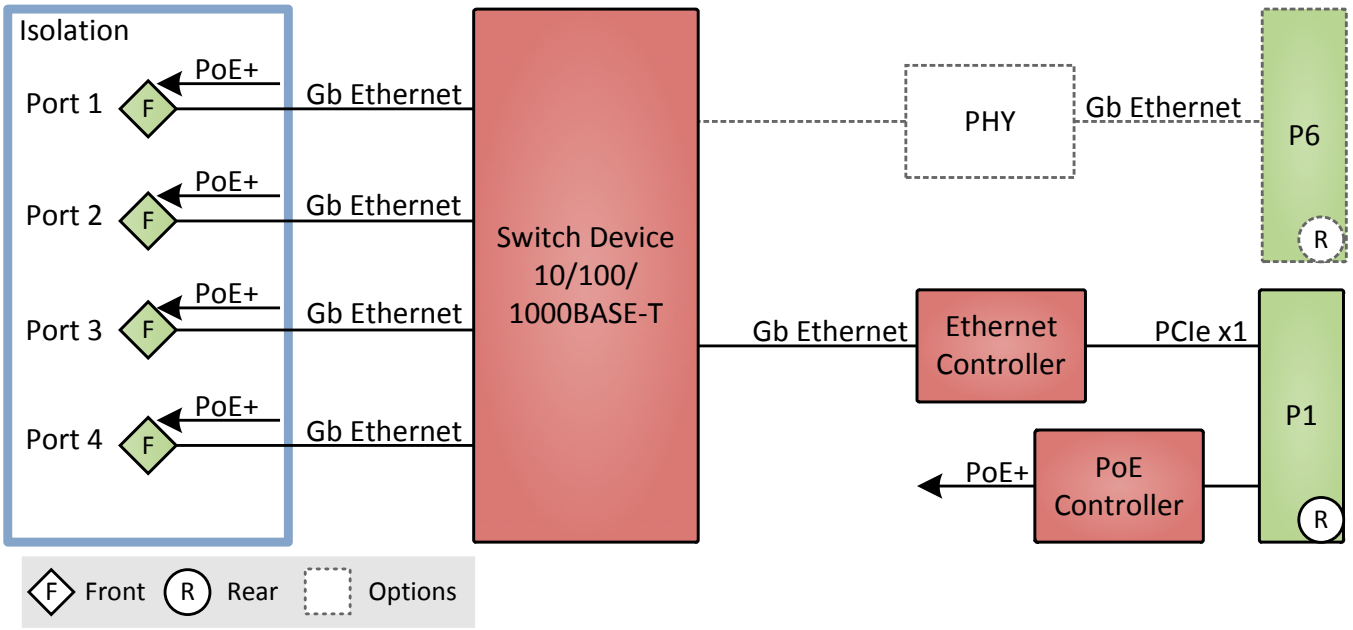
The G304 supports full-duplex and half-duplex operation with auto-negotiation, high-speed nonblocking store-and-forward switching. Its built-in test mechanisms make the G304 an even more reliable component in the communication system.

In addition, the switch can act as Power over Ethernet Plus (PoE+) Power Sourcing Equipment (PSE), supplying other devices on all ports with up to 30 W (class 0, 1, 2, 3, 4) per port for power according to IEEE 802.3 Section 2 - Type 1 and 2 (formerly known as IEEE 802.3at). The maximum power available for one G304 is limited to 61.6 W, according to CPCI-S.0 specification.

Compliant to Railway Standards

The board is specifically designed for rugged mobile communication systems. It is therefore, for example, fully compliant with the EN 50155 railway standard, screened for a -40 to +85°C operation temperature and ready for coating.

Data Sheet


Isolation
Port 1
Port 2
Port 3
Port 4
PoE+
F
Gb Ethernet
Switch Device
10/100/
1000BASE-T
PHY
Gb Ethernet
P6
R
Gb Ethernet
Ethernet
Controller
PCIe x1
P1
PoE+
PoE
Controller
Front
Rear
Options

Diagram

Switch Key Features

- High-speed non-blocking, store-and-forward switching
- Port configuration: copper, 10/100 and 1000 Mbit/s
- Auto-negotiation / Auto MDI/MDIX crossover on all ports
- 8K MAC address lookup table with automatic learning and aging
- Port-based VLANs

Power Over Ethernet

- PSE (Power Sourcing Equipment)
- Supported standard: IEEE 802.3 Section 2, Type 1 and 2
- Supply classes: 0, 1, 2, 3, 4
- Number of powered devices: up to four (up to 61.6 W total)

Front Interfaces

- Ethernet
  - Four RJ45 connectors, 10/100/1000BASE-T, or
  - Four 8-pin M12 connectors, X-coded, 10/100/1000BASE-T
  - Eight link and activity LEDs (two per channel)

Rear Interfaces

- Ethernet
  - One Gigabit Ethernet 1000BASE-T port on CompactPCI P1, uplink
  - One Gigabit Ethernet 10/100/1000BASE-T port on CompactPCI P6 (optional)

Backplane Standard

- Compliance with CompactPCI Serial PICMG CPCI-S.0 Specification
- Peripheral slot
- Host connection:
  - One PCI Express x1 link, PCIe 1.x
  - Used as Ethernet switch uplink

Electrical Specifications

- Supply voltage
  - +12 V (-3%/+5%)
- Power consumption
  - 7 W approx. (without PoE)
  - 85 W max. (with PoE)
- Isolation voltage
  - IEE802.3 (2012), Section 1; 9.7 Electrical Isolation - Environment A for 500 V (with M12 connectors), or
  - IEE802.3 (2012), Section 1; 9.7 Electrical Isolation - Environment B for 1500 V (with RJ45 connectors)

Mechanical Specifications

- Dimensions
  - 3U, 4 HP
- Weight
  - 348 g (with M12 connectors)

Environmental Specifications

- Temperature range (operation)
  - -40°C to +85°C (screened)
  - Airflow: 1.0 m/s
- Temperature range (storage): -40°C to +85°C
- Cooling concept
  - Air-cooled, or
  - Conduction-cooled in MEN CCA frame
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300 m to +3000 m
- Climatic tests according to EN 68068
- Shock: EN 61373
- Vibration: EN 61373
- Conformal coating; optional

Reliability

- MTBF: 1 040 974 h @ 40°C according to IEC/TR 62380 (RDF 2000)

Safety

- Flammability
  - UL 94V-0

EMC

- EN 55022 (radio disturbance)
- IEC 61000-4-2 (ESD)
- IEC 61000-4-4 (burst)

Germany

MEN Mikro Elektronik GmbH

Neuwieder Straße 3-7
90411 Nuremberg
Phone +49-911-99 33 5-0

sales@men.de
www.men.de

France

MEN Mikro Elektronik SAS

18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33-450-955-312

sales@men-france.fr
www.men-france.fr

USA

MEN Micro Inc.

860 Penllyn Blue Bell Pike
Blue Bell, PA 19422
Phone 215-542-9575

sales@menmicro.com
www.menmicro.com

China

MEN Mikro Elektronik (Shanghai) Co., Ltd.

Room 808-809, Jiaxing Mansion, No. 877 Dongfang Road
200122 Shanghai
Phone +86-21-5058-0961

sales@men-china.cn
www.men-china.cn

Up-to-date information, documentation and ordering information:
www.men.de/products/g304/

Contact Information