

G303 – 3U CompactPCI® Serial Unmanaged 16-Port Rugged Industrial Ethernet Switch

- **Unmanaged 16-port rugged Ethernet switch**
- **Up to 16 Gigabit Ethernet ports on rear I/O**
- **Or 3 ports on front and up to 13 ports on rear**
- **LEDs for front port and board states**
- **-40 to +85°C with qualified components**
- **EN 50155 class TX compliant (railways)**
- **PICMG CPCI-S.0 CompactPCI® Serial peripheral card**

The G303 is an unmanaged 3U Ethernet switch implemented as a CompactPCI® Serial board. It occupies one peripheral slot, using a 4 HP front panel with 3 Gigabit Ethernet ports on RJ45 or M12 connectors. The G303 either features three Ethernet ports on the front and up to 13 Ethernet ports on the rear or alternatively all 16 Ethernet ports on the rear, which is the ideal solution for conduction cooling.

The G303 supports full-duplex and half-duplex operation with auto-negotiation, high-speed non-

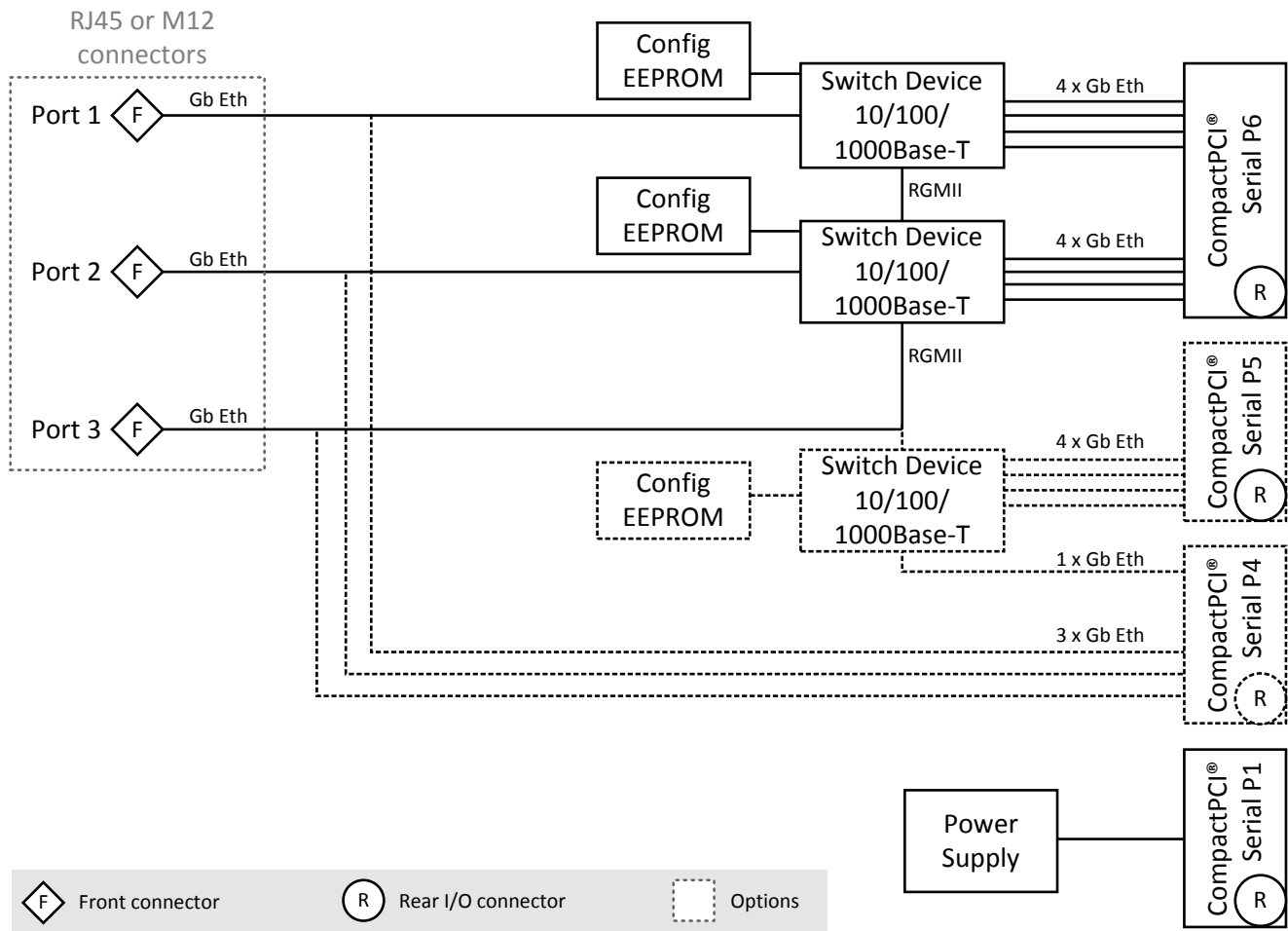


blocking store-and-forward switching, Quality of Service (QoS) support with four traffic classes IEEE 802.1p. Its built-in test mechanisms make the G303 an even more reliable component in the communication system.

By using an application-specific configuration EEPROM, the G303 can act similarly to a managed switch with fixed settings. This enables features untypical of unmanaged models like 802.1p priority and port-based priority, port-based VLAN or IEEE 802.1q VLAN IDs.

The railway Ethernet switch is specifically designed for rugged mobile communication systems and 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"> ■ High-speed non-blocking, store-and-forward switching ■ Up to three 10/100/1000Base-T ports at front panel (Electrical isolation: 1500 Vrms) ■ Up to sixteen 10/100/1000Base-T ports at rear connector (Electrical isolation: 100 Vrms) ■ Port configuration: copper, 10/100 and 1000 Mbit/s ■ Auto-negotiation / Auto MDI/MDIX crossover on all ports ■ Layer2-based Policy Control List ■ 8K MAC address lookup table with automatic learning and aging ■ Up to 4096 VLANs
Supported Protocols and Standards	<ul style="list-style-type: none"> ■ Energy Efficient Ethernet (IEEE 802.3az) ■ Ethernet flow control (IEEE 802.3x) ■ Link aggregation LACP / EtherChannel (IEEE 802.3ad, 2005) ■ Priority-based switching, Quality of Service/DiffServ, tagged frames, Layer2-based 801.1Q VLAN-ID packet routing (IEEE 802.1p) ■ Port-based authentication on registered MAC Address Lists ■ VLAN/port-based VLANs GVRP/MVRP (IEEE 802.1Q Rev D5.0, 2005)
Front I/O	<ul style="list-style-type: none"> ■ Three Ethernet ports on RJ45 or M12 connectors ■ Six link and activity Ethernet status LEDs (2 per channel)
Rear I/O	<ul style="list-style-type: none"> ■ Up to 16 Ethernet links
CompactPCI® Serial	<ul style="list-style-type: none"> ■ Compliance with CompactPCI® Serial PICMG CPCI-S.0 Specification ■ System or Peripheral slot
Electrical Specifications	<ul style="list-style-type: none"> ■ Supply voltage/power consumption <ul style="list-style-type: none"> □ +12 V (+/-10%), approx. 13 W max.
Mechanical Specifications	<ul style="list-style-type: none"> ■ Dimensions: conforming to CompactPCI® Serial specification for 3U boards ■ Front panel: 4HP with ejector ■ Weight: 156 g (with RJ45 connectors)/tbd g (with M12 connectors)
Environmental Specifications	<ul style="list-style-type: none"> ■ Temperature range (operation): <ul style="list-style-type: none"> □ -40..+85°C (qualified) □ Airflow: 1.0 m/s ■ Temperature range (storage): -40..+85°C ■ Relative humidity (operation): max. 95% non-condensing ■ Relative humidity (storage): max. 95% non-condensing ■ Altitude: -300 m to +3000 m ■ Shock: 50 m/s², 30 ms (EN 61373) ■ Vibration (function): 1 m/s², 5 Hz - 150 Hz (EN 61373) ■ Vibration (lifetime): 7.9 m/s², 5 Hz - 150 Hz (EN 61373) ■ Conformal coating on request ■ Climatic tests according to EN 68068 ■ Fully EN 50155-compliant (Power Interruption Class 2, Temperature Class Tx)
MTBF	<ul style="list-style-type: none"> ■ 887 895 h @ 40°C according to IEC/TR 62380 (RDF 2000)
Safety	<ul style="list-style-type: none"> ■ Flammability <ul style="list-style-type: none"> □ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers
EMC Conformity	<ul style="list-style-type: none"> ■ EN 55022 (radio disturbance) ■ EN61000-4-2 (ESD Immunity) ■ IEC 61000-4-4 (burst)

Configuration & Options

Options

Ethernet Switch	<ul style="list-style-type: none"> Managed version G302
Front Connectors	<ul style="list-style-type: none"> RJ45 connectors or M12 connectors
Front I/O, Rear I/O	<ul style="list-style-type: none"> Flexible combination of front and rear ports <ul style="list-style-type: none"> Three ports on front and up to 13 ports on rear Up to 16 ports on rear (suitable for conduction cooled version)
Environmental specifications	<ul style="list-style-type: none"> Conformal coating
Cooling Concept	<ul style="list-style-type: none"> Also available with conduction cooling in MEN CCA frame

Please note that some of these options may only be available for large volumes. Please ask our sales staff for more information.

Ordering Information

Standard G303 Models	02G303-00	G303, 3U CompactPCI® Serial, 11-port unmanaged Gigabit Ethernet switch, 8 links on backplane plus 3 RJ45 on front, -40..+85°C with qualified components
Related Hardware	02G302-00	G302, 3U CompactPCI® Serial, 11-port managed Gigabit Ethernet switch, 8 links on backplane plus 3 RJ45 on front, -40..+85°C with qualified components
Documentation	Compare Chart 3U CompactPCI® Serial CPU and I/O cards » Download Compare Chart Industrial Ethernet switches for different platforms » Download 20G303-00 G303 User Manual	

Contact Information

Germany

MEN Mikro Elektronik GmbH
Neuwieder Straße 3-7
90411 Nuremberg
Phone +49-911-99 33 5-0
Fax +49-911-99 33 5-901

info@men.de
www.men.de

France

MEN Mikro Elektronik SAS
18, rue René Cassin
ZA de la Châtelaine
74240 Gaillard
Phone +33 (0) 450-955-312
Fax +33 (0) 450-955-211

info@men-france.fr
www.men-france.fr

USA

MEN Micro Inc.
860 Penllyn Blue Bell Pike
Blue Bell, PA 19422
Phone (215) 542-9575
Fax (215) 542-9577

sales@menmicro.com
www.menmicro.com

The date of issue stated in this data sheet refers to the Technical Data only. Changes in ordering information given herein do not affect the date of issue. All brand or product names are trademarks or registered trademarks of their respective holders.

MEN is not responsible for the results of any actions taken on the basis of information in the publication, nor for any error in or omission from the publication.

MEN expressly disclaims all and any liability and responsibility to any person, whether a reader of the publication or not, in respect of anything, and of the consequences of anything, done or omitted to be done by any such person in reliance, whether wholly or partially, on the whole or any part of the contents of the publication.

The correct function of MEN products in mission-critical and life-critical applications is limited to the environmental specification given for each product in the technical user manual. The correct function of MEN products under extended environmental conditions is limited to the individual requirement specification and subsequent validation documents for each product for the applicable use case and has to be agreed upon in writing by MEN and the customer. Should the customer purchase or use MEN products for any unintended or unauthorized application, the customer shall indemnify and hold MEN and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim or personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that MEN was negligent regarding the design or manufacture of the part.

In no case is MEN liable for the correct function of the technical installation where MEN products are a part of.

Copyright © 2015 MEN Mikro Elektronik GmbH. All rights reserved.