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# Industrial Ethernet Switch - FL SWITCH GHS 12G/8-L3 - 2700787

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Gigabit Modular Switch with integrated routing function

Ethernet Gigabit Modular Switch with eight 10/100/1000 Mbps RJ45 slots and four 1000 Mbps SFP ports, can be extended by an extension station to up to 28 ports, with integrated routing function

## Product Description

The Gigabit Modular Switch is a high-performance managed switch, which covers the port requirements of industrial applications in a modular and flexible way. It also supports all popular Gigabit and Fast Ethernet transmission standards, IT standard protocols, and the PROFINET and EtherNet/IP™ automation protocols.

For use in the production backbone, the FL SWITCH GHS 12G/8 is the first switch, which has integrated 12 Gigabit ports and also supports the accommodation of interface modules for up to 16 additional 100 Mbps ports. With the integrated Layer 3 license, the switch can be configured as a router. The GHS switch can provide routing in up to 28 different subnetworks. With VRRP (Virtual Redundancy Routing Protocol) it can also be operated as a redundant router.

### Your advantages

☑ Connection of connection media that can be assembled in the field, such as POF, HCS, and GI HCS

☑ Quick and easy local configuration options with the new operator/display interface

☑ Security in the automation network according to IEEE 802.1X

☑ Integrated routing function

☑ Connection of Gigabit fiberglass via FL SFP plug-in modules

**RoHS**  **PROFINET®**  **PROFIenergy**

## Key Commercial Data

| Packing unit | 1 pc |
|---|---|
| GTIN | 4 046356 647144 |
| GTIN | 4046356647144 |

## Technical data

### Note

| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|---|---|

### Dimensions

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## Technical data

### Dimensions

| | |
|---|---|
| Width | 287 mm |
| Height | 122 mm |
| Depth | 113 mm |

### Ambient conditions

| | |
|---|---|
| Degree of protection | IP20 |
| Ambient temperature (operation) | -20 °C ... 55 °C (non-condensing) |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |
| Permissible humidity (operation) | 10 % ... 95 % (non-condensing) |
| Permissible humidity (storage/transport) | 10 % ... 95 % (non-condensing) |
| Air pressure (operation) | 80 kPa ... 108 kPa (2000 m above sea level) |
| Air pressure (storage/transport) | 66 kPa ... 108 kPa (3500 m above sea level) |

### SFP interface

| | |
|---|---|
| Interface | Ethernet (SFP) |
| No. of ports | 4 (SFP ports) |
| Transmission speed | 1000 Mbps (full duplex) |
| Transmission physics | FO |

### Copper interface

| | |
|---|---|
| Interface | Ethernet |
| No. of ports | 8 (RJ45 ports) |
| Transmission speed | 10/100/1000 Mbps |
| Connection method | RJ45 |
| Note on the connection method | Auto negotiation and autocrossing |
| Transmission physics | Copper |

### Interface expansion

| | |
|---|---|
| Interface | Ethernet |
| No. of ports | 2 (Per interface module) |
| Connection method | via interface module |
| Note on the connection method | Max. 4 interface modules (without extension) |
| Transmission speed | 10/100 Mbps (full duplex) |
| Transmission physics | multi-mode fiberglass |
| | Single-mode fiberglass |
| | POF-SCRJ |
| | GI-HCS fibers |
| | Copper |
| | PoE |

### Function

| | |
|---|---|
| Basic functions | Store-and-forward switch complies with IEEE 802.3, 8 priority classes according to IEEE 802.1p, smart mode, port mirroring, multicast filtering, IGMP snooping, VLANs, Media Redundancy Protocol (MRP according to IEC 62439), Rapid Spanning Tree (RSTP), Fast Ring Detection |

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### Function

| | |
|---|---|
| | (FRD), Large Tree Support, IEEE 802.1X security, port security, SNMPv3, HTTPS, PROFINET device, GMRP, GVRP, SNTP, 2 digital inputs |
| Management | Web-based management (HTTP) |
| | SNMPv1/v2/v3 |
| Diagnostic functions | RMON History |
| | N:1-Portmirroring |
| | LLDP (Link Layer Discovery Protocol) |
| | SNMP-Traps |
| Filter functions | Quality of Service (8 priority classes) |
| | Port-Priorisierung |
| | VLAN (up to 223 VLANs) |
| Redundancy | MRP (Media Redundancy Protocol) |
| | RSTP (Rapid Spanning Tree Protocol) |
| | FRD (Fast Ring Detection) |
| | Large Tree Support |
| | STP (Spanning Tree Protocol) |
| | MSTP (Multiple Spanning Tree Protocol) |
| Additional functions | DHCP Option 82 (Relay Agent) |
| | Link aggregation (up to 8 trunks) |
| | BootP |
| | DHCP-Client |
| | MAC-based Port Security |
| | Jumbo frames |
| Supported browsers | Internet Explorer 5.5 or higher |
| PROFINET device function | PROFINET device |
| | PROFIenergy |
| | Fast Startup |
| PROFINET specification | Version 1.1 |
| PROFINET conformance class | Conformance-Class B |
| Status and diagnostic indicators | LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link and switchable Activity/Speed/Duplex), DI1, DI2 (Digital Input), UI (supply voltage for ext. sensor), and large operator display (display of IP address and other parameters) |
| Signal contact control voltage | 24 V (typical) |
| Signal contact control current | 190 mA (maximum) |

### Network expansion parameters

| | |
|---|---|
| Cascading depth | Network, linear, and star structure: any |
| Maximum conductor length (twisted pair) | 100 m |

### Supply voltage

| | |
|---|---|
| Supply voltage | 24 V DC (redundant) |
| Residual ripple | 3.6 $V_{PP}$ (within the permitted voltage range) |

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### Supply voltage

| | |
|---|---|
| Supply voltage range | 18.5 V DC ... 30.2 V DC |
| Typical current consumption | 800 mA (up to 2.7 A, depends on the configuration) |
| Max. current consumption | 2.7 A |

### General

| | |
|---|---|
| Mounting type | DIN rail |
| Type AX | Stand-alone |
| Net weight | 3050.8 g |
| Material base plate | Die-cast aluminum, corrosion-resistant |

### Connection data

| | |
|---|---|
| Connection method | Screw connection |
| Conductor cross section solid min. | 0.2 mm² |
| Conductor cross section solid max. | 2.5 mm² |
| Conductor cross section flexible min. | 0.2 mm² |
| Conductor cross section flexible max. | 2.5 mm² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 12 |
| Stripping length | 7 mm |

### Standards and Regulations

| | |
|---|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
| Type of test | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 |
| Test result | Operation: 25g, 11 ms duration, semi-sinusoidal shock impulse |
| Type of test | Shock in acc. with EN 60068-2-27/IEC 60068-2-27 |
| Test result | Storage/Transport: 50g, 11 ms duration, semi-sinusoidal shock impulse |
| Type of test | Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 |
| Test result | Operation/Storage/Transport: 5g, 150 Hz, Criterion 3 |
| Type of test | Free fall in acc. with IEC 60068-2-32 |
| Test result | 1 m |
| Noise emission | EN 61000-6-3/-4 |
| Noise immunity | EN 61000-6-2:2005 |
| Vibration (storage/transport) | 5g, 150 Hz, in acc. with IEC 60068-2-6 |
| Free from substances that could impair the application of coating | In acc. with VW specification |
| Vibration (operation) | in acc. with IEC 60068-2-6: 5g, 150 Hz |

### Environmental Product Compliance

| | |
|---|---|
| REACh SVHC | 1,2-dimethoxyethane,ethylene glycol dimethyl ether (EGDME) 110-71-4 |
| | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

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## Approvals

### Approvals

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Approvals

UL Listed / cUL Listed / cULus Listed

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Ex Approvals

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### Approval details

| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|---|---|---|---|

| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
|---|---|---|---|

| cULus Listed | | | |
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PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
http://www.phoenixcontact.com