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Industrial Ethernet Switch - FL SWITCH GHS 4G/12-L3 - 2700786

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Ethernet Gigabit Modular Switch with four 1000 Mbps combo ports and twelve 10/100 Mbps RJ45 slots, can be extended by an extension station to up to 24 ports, with integrated routing function

Gigabit Modular Switch 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 or automation cell, the FL SWITCH GHS 4G/12 has four integrated Gigabit ports, which can either be used via SFP modules or twisted pair connections. In addition to the four integrated 100 Mbps TX ports, up to 16 more 100 Mbps ports can be used via interface modules.

The switch can be configured as a router using the integrated Layer 3 license. The GHS switch can be routed into up to 28 different subnetworks. It can also be operated as a redundant router using VRRP (Virtual Redundancy Routing Protocol) .

Product Features

- 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
- Connection of Gigabit fiberglass via FL SFP plug-in modules
- Integrated routing function

Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	3080.0 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

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Technical data

Note

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

Environmental Product Compliance

REACh SVHC	Lead monoxide (lead oxide) 1317-36-8

Dimensions

Width	287 mm
Height	125 mm
Depth	115 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 above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (3500 m above sea level)

SFP interface

Interface	Ethernet (combo)
No. of ports	4 (SFP ports or RJ45 ports)
Transmission speed	1000 MBit/s (full duplex)
Transmission physics	FO
	Copper

Copper interface

Interface	Ethernet
No. of ports	4 (RJ45 ports)
Transmission speed	10/100 MBit/s
Connection method	RJ45
Note on 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 connection method	Max. 4 interface modules (without extension)
Transmission speed	10/100 MBit/s (full duplex)

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Interface expansion

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 (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)
Supported browsers	Internet Explorer 5.5 or higher
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)
PROFINET IO device function	PROFINET device
	PROFIenergy
	Fast Startup
PROFINET IO specification	Version 1.1
PROFINET IO conformance class	Conformance-Class B
Additional functions	DHCP Option 82 (Relay Agent)
	Link aggregation (up to 8 trunks)
	BootP
	DHCP-Client

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Function

	MAC-based Port Security
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)
Supply voltage range	18.5 V DC ... 30.2 V DC
Typical current consumption	800 mA (Up to 2.5 A, depends on the configuration)
Max. current consumption	2.7 A

General

Mounting type	DIN rail
Type AX	Stand-alone
Net weight	2700 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 2004/108/EC
Test standard	IEC 61000-4-2 (ESD)
Test result	Criterion B, Class 3
Test standard	IEC 61000-4-3 (immunity to radiated interference)
Test result	Criterion A, 10 V/m

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Standards and Regulations

Test standard	IEC 61000-4-4 (burst)
Test result	Criterion A, 1 kV
Test standard	IEC 61000-4-5 (surge)
Test result	Criterion B
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	Criterion A, 10 Vrms
Test standard	EN 55022 (emitted interference)
Test result	Class A
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

Classifications

eCl@ss

eCl@ss 4.0	24010504
eCl@ss 4.1	24010504
eCl@ss 5.0	19030117
eCl@ss 5.1	19030117
eCl@ss 6.0	19170106
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106

ETIM

ETIM 3.0	EC000734
ETIM 4.0	EC000734
ETIM 5.0	EC000734

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Classifications

UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201410
UNSPSC 13.2	43201410

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed

cUL Listed

cULus Listed