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

2700786

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Gigabit Modular Switch with integrated routing function

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

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) .

Your advantages

- Connection of Gigabit fiberglass via FL SFP plug-in modules
- Integrated routing function
- Security in the automation network according to IEEE 802.1X
- 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

Commercial data

Item number	2700786
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN17
Product key	DNN123
GTIN	4046356647151
Weight per piece (including packing)	3,032 g
Weight per piece (excluding packing)	2,700 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Width	289 mm
Height	127 mm
Depth	122 mm

Notes

Note on application

Note on application	Only for industrial use

Material specifications

Material base plate	Die-cast aluminum, corrosion-resistant
Housing surface material	Stainless steel, smooth, corrosion-resistant

Mounting

Mounting type	DIN rail mounting

Interfaces

Ethernet

Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Signal LEDs	Supply voltage, data transmission, error, link, activity
No. of channels	4 (RJ45 ports)

Ethernet

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
Signal LEDs	Data receive, link status
No. of channels	2 (Per interface module)

Ethernet (combo)

Connection method	SFP/RJ45
Transmission speed	1000 Mbps (full duplex)

Transmission physics	FO
	Copper
Transmission length	up to 80 km (Depending on the fiber/SFP module used)
Wavelength	850 nm / 1310 nm / 1550 nm
No. of channels	4 (SFP ports or RJ45 ports)

Ethernet (combo)

Connection method	SFP/RJ45
Note on the connection method	Either SFP port or RJ45 port active
Transmission speed	10/100/1000 Mbps (SFP module: 1000 Mbps)
Transmission physics	Copper or SFP module
Transmission length	up to 80 km (Depending on the fiber/SFP module used)
Wavelength	850 nm / 1310 nm / 1550 nm
Signal LEDs	Data receive, link status
No. of channels	4 (Combo ports)

Serial (RS-232)

Connection method	RS-232-C, 6-pos. MINI-DIN socket (PS/2)

Output data

Signal contact

Control voltage	24 V (typical)
Control current	190 mA (maximum)

Product properties

Product type	Switch
Product family	Managed Switch GHS
Type	Stand-alone
MTTF	78.04 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	47.91 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	13.92 Years (SN 29500 standard, temperature 55°C, operating cycle 100%)

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Switch functions

Supported browsers	Internet Explorer 5.5 or higher
Signal contact control voltage	24 V (typical)
Signal contact control current	190 mA (maximum)
PROFINET conformance class	Conformance Class B
PROFINET device function	PROFINET device
	PROFIenergy
	Fast Startup

PROFINET specification	Version 1.1
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)
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 functions	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 functions	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

Electrical properties

Power consumption	typ. 19 W (without plugged-in interface modules)
Local diagnostics	US1/2 Supply voltage US1, US2 Green LED
	FAIL Div. LED red
	LINK Link status Green LED
	MODE Data transmission speed Green LED
	MODE Data transmission speed Green/orange LED
Maximum power dissipation for nominal condition	19.2 W
Transmission medium	Copper
	FO

Supply

Supply voltage (DC)	24 V DC (redundant)

Supply voltage range	18.5 V DC ... 30.2 V DC
Power supply connection	Via COMBICON, max. conductor cross-section 2.5 mm²
Residual ripple	3.6 V_{PP} (within the permitted voltage range)
Max. current consumption	2.7 A
Typical current consumption	800 mA (up to 2.5 A, depends on the configuration)
Ground connection	Via DIN rail

Connection data

Connection method	Screw connection
pluggable	yes
Conductor cross-section, rigid	0.2 mm² ... 2.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm

Environmental and real-life conditions

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)
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	80 kPa ... 108 kPa (2000 m above mean sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (3500 m above sea level)

Standards and regulations

Free from substances that could impair the application of coating	In acc. with VW specification

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conformance with EMC directives	IEC 61000-4-2 (ESD) Criterion B, Class 3
	IEC 61000-4-3 (immunity to radiated interference) Criterion A, 10 V/m
	IEC 61000-4-4 (burst) Criterion A, 1 kV
	IEC 61000-4-5 (surge) Criterion B
	IEC 61000-4-6 (immunity to conducted interference) Criterion A, 10 Vrms
	EN 55022 (emitted interference) Class A
Noise immunity	EN 61000-6-2:2005

Noise emission

Standards/regulations	EN 61000-6-3/-4

System properties

System requirements

Supported browsers	Internet Explorer 5.5 or higher

Signaling

Status display	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)

Classifications

ECLASS

ECLASS-13.0	19170401

ETIM

ETIM 9.0	EC000734

UNSPSC

UNSPSC 21.0	43222600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	000dbfce-7643-42b8-ad64-03d846d17c0f

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