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Managed Switch 2000, 6 RJ45 ports 10/100 Mbps, 2 SFP ports 100 Mbps, degree of protection: IP20

Why buy this product

- Suitable for PROFINET and EtherNet/IP™ networks
- ☑ Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- Configuration memory
- **▼** RSTE
- ☑ DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- ✓ VLANs
- MRP (client and master)



Ethernet

Key Commercial Data

Packing unit	1 STK
GTIN	4 055626 444406
GTIN	4055626444406
Weight per Piece (excluding packing)	440.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note



Technical data

Note

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

Dimensions

Width	45 mm
Height	130 mm
Depth	115 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C 70 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Permissible humidity (operation)	10 % 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % 95 % (non-condensing)
Air pressure (operation)	68 kPa 108 kPa (3000 m above sea level)
Air pressure (storage/transport)	68 kPa 108 kPa (3000 m above sea level)

Interfaces

Interface 1	Ethernet (RJ45)
No. of ports	6 (RJ45 ports)
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Copper
Transmission speed	10/100 Mbps
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
Interface 2	SFP module
No. of ports	2 (SFP ports)
Transmission physics	Depending on the SFP module
Transmission speed	100 Mbps (full duplex)
Transmission length	up to 40 km (Depending on the fiber/SFP module used)
Signal LEDs	Data receive, link status

Function

Basic functions	Store-and-forward switch, complies with IEEE 802.3
Management	Web-based management (HTTP/HTTPS)
	SNMPv1/v2/v3
	Command-line interface (Telnet, SSH)
Diagnostic functions	RMON History
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps



Technical data

Function

	ACD (Address Conflict Detection)
	N:1-Portmirroring
Filter functions	Quality of Service (8 priority classes)
	Port-Priorisierung
	VLAN (up to 32 VLANs)
	IGMP Snooping (32 groups)
	IGMP Query
	Auto-Query-Port
	Extended Multicast Filtering
MAC address table	8k
Redundancy	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
IP parameterization	DHCP-Client DHCP-Client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
PROFINET device function	PROFINET device
PROFINET conformance class	Conformance-Class B
Time synchronization	SNTP (Simple Network Time Protocol)
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed)
Signal contact control voltage	24 V DC (typical)
Signal contact control current	200 mA (1 minute, 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	12 V DC 57 V DC
Typical current consumption	280 mA (at U _S = 24 V DC)
Max. current consumption	1.4 A (At U _S = 12 V DC and 70°C ambient temperature)
Current consumption	230 mA

General



Technical data

General

Mounting type	DIN rail
Type AX	Book type
Net weight	439 g
Housing material	Polycarbonate fiber reinforced
Note	Support by phone or on-site (fee is charged)
MTTF	491.44 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	212.99 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	24.97 Years (SN 29500 standard, temperature 70 °C, operating cycle 100 % (7 days a week, 24 hours a day))

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.08 mm ²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.08 mm²
Conductor cross section flexible max.	1.5 mm²
Conductor cross section AWG min.	28
Conductor cross section AWG max.	16
Stripping length	7 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Vibration (storage/transport)	5g, 150 Hz, in acc. with IEC 60068-2-6
Free from substances that could impair the application of coating	Yes
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
ATEX	# II 3G Ex nA IIC T4 Gc
IECEx	Ex nA IIC T4 Gc
UL, USA	UL 60079-0, Ed.6 / UL 60079-7, Ed.5
UL, Canada	CSA C22.2 NO.60079-0, Ed.3 / CSA C22.2 NO.60079-7:16

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values



Classifications

eCl@ss

eCl@ss 4.0	27250501
eCl@ss 4.1	27250501
eCl@ss 5.0	27250501
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106
eCl@ss 9.0	19170106

ETIM

ETIM 3.0	EC000734
ETIM 4.0	EC000734
ETIM 5.0	EC000734
ETIM 6.0	EC000734

UNSPSC

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

Approvals

Approvals

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ABS / EAC / UL Listed / cUL Listed / RINA / DNV GL / LR / BSH / cULus Listed

Ex Approvals

IECEx / ATEX / UL Listed / cUL Listed / cULus Listed

Approval details

ABS http://www.eagle.org/eagleExternalPortalWEB/ 17-HG1592765-PDA

EAC RU CDE.A*30.B01735



Approvals

UL Listed	LISTED	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed	CUL	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
RINA		http://www.rina.org/en	ELE205816XG
DNV GL		http://exchange.dnv.com/tari/	TAA00000YV
LR	Lloyds Register	http://www.lr.org/en	17/20056
BSH		http://www.bsh.de/de/index.jsp	Nr. 966
		парличи. Бол. абабай. Бр	141. 300
cULus Listed	C UL US		

Accessories

Accessories

Configuration memory

Program / configuration memory - FL SD FLASH/MRM - 2700270



Parameterization memory, plug-in, with MRM functionality

Data cable preassembled



Accessories

FO patch cable - FL MM PATCH 1,0 LC-LC - 2989158



Assembled FO cable, break out cable, multimode fiberglass 50/125 µm (OM2), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

FO patch cable - FL SM PATCH 1,0 LC-LC - 2989187



Assembled fiber optic cable, break-out cable, fiberglass single mode 9/125 µm (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

Drivers and interfaces

Software - FL SNMP OPC SERVER V3 - 2701139



SNMP-OPC server, German and English, for monitoring and configuration of SNMP-capable equipment in HMI and SCADA systems

End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

Mounting rail adapter



Accessories

DIN rail adapter - FL DIN RA - 2891053



The FL DIN RA is installed in a standard, 19-inch rack (EIA-310-D, IEC 60297-3-100) to allow DIN rail mounted equipment to be rack mounted.

Network management software

Software - FL NETWORK MANAGER BASIC - 2702889



FL Network Manager, SNMP-based configuration and firmware update software, for easy startup of Managed Switches

Software - FL VIEW 32 LITE - 2701744



FL VIEW, SNMP-based software in English, for the detection and display of Ethernet networks. 32 nodes (network devices) can be monitored in one Class C subnetwork with this version.

Parameterization memory

Memory - SD FLASH 512MB - 2988146



Program and configuration memory, plug-in, 512 Mbyte.

Program / configuration memory - SD FLASH 2GB - 2988162



Program and configuration memory



Accessories

Patch cable

Patch cable - FL CAT6 PATCH 1,0 - 2891385



Patch cable, CAT6, pre-assembled, 1.0 m

PCB plug

Printed-circuit board connector - FK-MCP 1,5/ 5-ST-3,81GY35BD1-5 - 1015782



PCB connector, number of positions: 5, pitch: 3.81 mm, connection method: Push-in spring connection, color: light gray, contact surface: Tin

MCVW 1,5/5-ST-3,81GY7035BD2DO - 1034096



PCB connector, number of positions: 5, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: light gray, contact surface: Tin

Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

SFP module



Accessories

Media module - FL SFP FX - 2891081



The small form-factor plug-in module provides a fiber optic interface with a data transmission speed of 100 Mbps with a wavelength of 1310 nm (long).

Media module - FL SFP FX SM - 2891082



The small form-factor plug-in module provides a fiber optic interface with a data transmission speed of 100 Mbps with a wavelength of 1310 nm (long).

Media module - FL SFP FE WDM20-SET - 2702439



Fast Ethernet SFP WDM set for transmission up to a maximum of 20 km on a single fiber with a wavelength of 1310/1550 nm.

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