

Industrial Ethernet Switch - FL SWITCH 2306-2SFP - 2702970

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Managed Switch 2000, 6 RJ45 ports 10/100/1000 Mbps, 2 SFP ports 100/1000 Mbps, degree of protection: IP20

Why buy this product

- ✓ Suitable for PROFINET and EtherNet/IP™ networks
- ✓ Unmanaged Mode
- ✓ Configuration memory
- ✓ RSTP
- ✓ DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- ✓ VLANs
- ✓ MRP (client and master)
- ✓ Web-based management, SNMP
- ✓ Slim design
- ✓ -40°C ... +70°C ambient temperature



Key Commercial Data

Packing unit	1 STK
GTIN	 4 055626 443997
GTIN	4055626443997
Weight per Piece (excluding packing)	440.000 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
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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)	53 kPa ... 108 kPa (5000 m above sea level)
Air pressure (storage/transport)	53 kPa ... 108 kPa (5000 m above sea level)

Interfaces

Interface 1	Ethernet (RJ45)
No. of ports	6 (RJ45 ports)
Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Copper
Transmission speed	10/100/1000 Mbps
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
Interface 2	SFP module
No. of ports	2 (SFP ports)
Connection method	SFP ports
Transmission physics	Depending on the SFP module
Transmission speed	100/1000 Mbps (full duplex)
Transmission length	up to 80 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

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Function

	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	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 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	1.5 A (At U _S = 12 V DC and 70°C ambient temperature)

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Supply voltage

Current consumption	280 mA
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General

Mounting type	DIN rail
Type AX	Book type
Net weight	260 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 mm ²
Conductor cross section flexible min.	0.08 mm ²
Conductor cross section flexible max.	1.5 mm ²
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
Developed in acc. with standard	IEC 61000-6.2
Test standard	IEC 61000-4-2 (ESD)
Test result	Criterion B
Test standard	EN 61000-4-3 (electromagnetic fields)
Test result	Criterion A
Test standard	IEC 61000-4-4 (burst)
Test result	Criterion A
Test standard	IEC 61000-4-5 (surge)
Test result	Criterion A
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	Criterion A
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2

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Standards and Regulations

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

Classifications

eCl@ss

eCl@ss 4.0	27250501
eCl@ss 4.1	27250501
eCl@ss 5.0	27250501
eCl@ss 5.1	27250501
eCl@ss 6.0	27250501
eCl@ss 7.0	27250501
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

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Approvals

Approvals

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

Ex Approvals

IECEX / UL Listed / cUL Listed / ATEX / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC			RU C- DE.A*30.B01735
ABS		http://www.eagle.org/eagleExternalPortalWEB/	17-HG1592765-PDA
RINA		http://www.rina.org/en	ELE205816XG
DNV GL		http://exchange.dnv.com/tari/	TAA00000YV
LR		http://www.lr.org/en	17/20056
BSH		http://www.bsh.de/de/index.jsp	Nr. 966
cULus Listed			

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Accessories

Accessories

Configuration memory

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



Parameterization memory, plug-in, with MRM functionality

Data cable preassembled

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

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Accessories

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

Mounting rail adapter

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

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Accessories

Memory - SD FLASH 512MB - 2988146



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

Program / configuration memory - SD FLASH 2GB - 2988162



Program and configuration memory

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



Protective cap

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Accessories

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

SFP module

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 SX - 2891754



Gigabit SFP module for transmission up to 1 km with a wavelength of 850 nm.

Media module - FL SFP SX2 - 2702397



Gigabit SFP module for transmission up to 2 km with a wavelength of 1310 nm.

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Accessories

Media module - FL SFP LX - 2891767



Gigabit SFP module for transmission up to 30 km with a wavelength of 1310 nm.

Media module - FL SFP LH - 2989912



Gigabit SFP module for transmission up to 80 km with a wavelength of 1,550 nm.

Media module - FL SFP WDM10-SET - 2702442



Gigabit SFP WDM set for transmission up to a maximum of 10 km on a single fiber with a wavelength of 1310/1550 nm.

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.

Media module - FL SFP GT - 2989420



Gigabit SFP module for transmission up to 100 m.
