

## Industrial Ethernet Switch - FL SWITCH 2204-2TC-2SFX - 2702334

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Managed Switch 2000, 4 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
- 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 129006
GTIN	4055626129006
Weight per Piece (excluding packing)	460.000 g
Custom tariff number	85176200
Country of origin	Germany

### Technical data

#### Note

# Industrial Ethernet Switch - FL SWITCH 2204-2TC-2SFX - 2702334

## 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)	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	4 (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
Interface 3	Ethernet (combo)
No. of ports	2 (Combo ports)
Connection method	SFP or RJ45 ports
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Depending on the SFP module
Transmission speed	10/100 Mbps (full duplex)
Transmission length	up to 40 km (Depending on the fiber/SFP module used)
Signal LEDs	Data receive, link status

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## Technical data

### 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
	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)
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## Technical data

### Supply voltage

Residual ripple	3.6 V <sub>pp</sub> (within the permitted voltage range)
Supply voltage range	12 V DC ... 57 V DC
Typical current consumption	250 mA (at U <sub>S</sub> = 24 V DC)
Max. current consumption	1.4 A (At U <sub>S</sub> = 12 V DC and 70°C ambient temperature)
Current consumption	250 mA

### General

Mounting type	DIN rail
Type AX	Book type
Net weight	462 g
Housing material	Polycarbonate fiber reinforced
Note	Support by phone or on-site (fee is charged)
MTTF	362.94 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	158.13 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	19.77 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 <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.08 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
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

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## Technical data

### 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 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	43222612

## Approvals

### Approvals

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#### Approvals

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

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#### Ex Approvals

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

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## Approvals


### Approval details

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

Accessories

Configuration memory

## Industrial Ethernet Switch - FL SWITCH 2204-2TC-2SFX - 2702334

### Accessories

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



Parameterization memory, plug-in, with MRM functionality

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### Data cable preassembled

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



Assembled FO cable, break out cable, multimode fiberglass 50/125  $\mu\text{m}$  (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  $\mu\text{m}$  (OS2, Low Water Peak Fiber), connector: LC/LC, degree of protection: IP20, for installation in cable ducts or control cabinets, length: 1 m

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### 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

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### End block

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## Accessories

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

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## 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.

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## 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

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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.

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## Parameterization memory

## Industrial Ethernet Switch - FL SWITCH 2204-2TC-2SFX - 2702334

### Accessories

Memory - SD FLASH 512MB - 2988146



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

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Program / configuration memory - SD FLASH 2GB - 2988162



Program and configuration memory

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### Patch cable

Patch cable - FL CAT6 PATCH 1,0 - 2891385



Patch cable, CAT6, pre-assembled, 1.0 m

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### 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

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### Protective cap

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### Accessories

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

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### 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).

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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).

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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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