

# Industrial Ethernet Switch - FL SWITCH 2304-2GC-2SFP - 2702653

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Managed Switch 2000, 4 RJ45 ports 10/100/1000 Mbps, 2 SFP ports 100/1000 Mbps, 2 Combo ports 10/100/1000 Mbps, degree of protection: IP20, PROFINET Conformance-Class B


The figure shows a version of the product

## Your advantages

- Suitable for PROFINET and EtherNet/IP™ networks
- Easy and fast startup and commissioning with the FL NETWORK MANAGER software
- 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 pc
GTIN	 4 055626 259994
GTIN	4055626259994

## 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

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### Dimensions

Depth	115 mm
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### 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	Ethernet (RJ45)
No. of ports	4 (RJ45 ports)
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	SFP module
No. of ports	2 (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
Interface	Ethernet (combo)
No. of ports	2 (Combo ports)
Number of interfaces	2
Connection method	SFP or RJ45 ports
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Depending on the SFP module
Transmission speed	10/100/1000 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
	LLDP (Link Layer Discovery Protocol)

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### Function

	SNMP-Traps
	N:1-Portmirroring
	ACD (Address Conflict Detection)
	SysLog
	CRC-Surveillance
Filter functions	Quality of Service (8 priority classes)
	Port-Priorisierung
	VLAN (up to 32 VLANs)
	IGMP Snooping/Querier (v1/v2)
	Auto-Query-Port
	Extended Multicast Filtering
Redundancy	MRP (Media Redundancy Protocol)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
	LACP (Link Aggregation Control Protocol)
Additional functions	Jumbo frames (Max. 9,600 bytes)
MAC address table	8k
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 <sub>PP</sub> (within the permitted voltage range)
Supply voltage range	12 V DC ... 57 V DC
Typical current consumption	290 mA ( )
Max. current consumption	1.5 A (At U <sub>S</sub> = 12 V DC and 70°C ambient temperature)
Current consumption	290 mA

### General

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### General

Mounting type	DIN rail
Type AX	Book type
Net weight	444.8 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	Push-in spring connection
Conductor cross section solid min.	0.25 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.25 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Stripping length	9 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
Shock (operation)	30g ( )
ATEX	# II 3 G Ex ec IIC T4 Gc
IECEX	Ex ec IIC T4 Gc
UL, USA	UL 60079-0, Ed.6 / UL 60079-7, Ed.5
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4
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 = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

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## Approvals

### Approvals

#### Approvals

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

#### Ex Approvals

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

### Approval details

DNV GL		<a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a>	TAA00000YV
LR		<a href="http://www.lr.org/en">http://www.lr.org/en</a>	17/20056
ABS		<a href="http://www.eagle.org/eagleExternalPortalWEB/">http://www.eagle.org/eagleExternalPortalWEB/</a>	17- HG1592765-1-PDA
BSH		<a href="http://www.bsh.de/de/index.jsp">http://www.bsh.de/de/index.jsp</a>	Nr. 966
RINA		<a href="http://www.rina.org/en">http://www.rina.org/en</a>	ELE130419XG
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
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
EAC			RU* DE.*.B.00741/19

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### Approvals

cULus Listed



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