

# Industrial Ethernet Switch - FL SWITCH 3012E-2SFX - 2891067

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Managed Ethernet switch meets IEC 61850-3 and IEEE 1613 standards. Provides 12 RJ45 ports at 10/100 Mbps and two SFP slots at 100 Mbps) with an operating temperature of -40°C ... +70°C.

## Product Description

FL SWITCH 3000 managed industrial Ethernet switches combine extensive network performance and security features with complete IEEE redundancy (STP/RSTP/MST) and 15 ms recovery time extended ring redundancy. Unique web customization provides a simplified user interface for today's applications and scalable functionality for future needs. A comprehensive mix of fiber optic and copper port connections meets a wide range of applications.


## Your advantages

- Network structure according to IEC 61850
- IEEE 1613



**IEC 61850-3**

## Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 773676
GTIN	4046356773676

## Technical data

### Note

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

Width	78.6 mm
Height	145 mm
Depth	125 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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### Ambient conditions

Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Air pressure (operation)	57 kPa ... 108 kPa (up to 4850 m above mean sea level)
Air pressure (storage/transport)	57 kPa ... 108 kPa (up to 4850 m above mean sea level)

### Interfaces

Interface	Ethernet (RJ45)
No. of ports	12 (RJ45 ports)
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Ethernet in RJ45 twisted pair
Transmission speed	10/100 Mbps
Transmission length	100 m
Interface	Fiber optic interface
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)

### Function

Basic functions	Store and forward switch, Extended Ring and IEEE redundancy, Multicast control, IGMP snooping, trunking, Port and Tagging VLANs, Port and IEEE 802.1x security, SNMP V3 and Https security, Sntp, web customization, user accounts
Redundancy	ERR (Extended ring redundancy)
Status and diagnostic indicators	LEDs: U <sub>S1</sub> , U <sub>S2</sub> (redundant voltage supply), link and activity per port
Signal contact control voltage	250 V AC
Signal contact control current	1 A

### 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 ... 48 V DC
Typical current consumption	312 mA (at U <sub>S</sub> = 24 V DC)

### General

Mounting type	DIN rail
Type AX	Block design
Net weight	1626.1 g
Housing material	Aluminum
MTTF	35.21 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)

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### Connection data

Connection method	Pluggable COMBICON screw connections
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm

### Standards and Regulations

Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	30g, 11 ms half-sine shock pulse
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 150 Hz, Criterion 3
Type of test	Free fall in acc. with IEC 60068-2-32
Test result	1 m
Noise emission	EN 61000-6-4
Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005
Conformance	CE-compliant

### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Approvals

### Approvals

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Approvals

UL Listed / cUL Listed / EAC / KC / cULus Listed

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Ex Approvals

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### Approval details

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## Approvals

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 140324
mm <sup>2</sup> /AWG/kcmil		30-14	

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 140324
mm <sup>2</sup> /AWG/kcmil		30-14	

EAC		RU *- DE.A*30.B.01735
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KC		<a href="http://eng.kcc.go.kr/user/ehpMain.do">http://eng.kcc.go.kr/user/ehpMain.do</a>	MSIP-REI- PCK-2891067
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cULus Listed	
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