

# FL SWITCH 3012E-2FX SM - Industrial Ethernet Switch



2891119

<https://www.phoenixcontact.com/pc/products/2891119>

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Managed Ethernet switch meets IEC 61850-3 and IEEE 1613 standards. Provides 12 RJ45 ports at 10/100 Mbps, two SC-D SM fiber optic ports and 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

## Commercial data

Item number	2891119
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DNN125
Catalog page	Page 317 (C-6-2019)
GTIN	4055626292762
Weight per piece (including packing)	1,657 g
Weight per piece (excluding packing)	1,657 g
Customs tariff number	85176200
Country of origin	TW

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## Technical data

### Dimensions

Width	78.6 mm
Height	145 mm
Depth	125 mm

### Material specifications

Housing material	Aluminum
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### Mounting

Mounting type	DIN rail mounting
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### Interfaces

#### Ethernet (RJ45)

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

#### Fiber optic interface

Connection method	SC
Transmission speed	100 Mbps (full duplex)
Transmission physics	Single-mode fiberglass
Transmission length	40 km (fiberglass with F-G 9/125 0.36 dB/km)
Wavelength	1300 nm
No. of channels	2 (SC single mode)

### Product properties

Type	Block design
Product type	Switch
Product family	Managed Switch 3000
MTTF	29 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)

#### Switch functions

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
Signal contact control voltage	24 V DC
Signal contact control current	100 mA
Redundancy	ERR (Extended ring redundancy)

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Status and diagnostic indicators	LEDs: U <sub>S1</sub> , U <sub>S2</sub> (redundant voltage supply), link and activity per port
Security functions	
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

## Electrical properties

Local diagnostics	US1, US2 Supply voltage Green LED LNK/ACT Link status/data transmission Green LED
Test section	Supply voltage/functional ground 500 V 1 min.
Transmission medium	Copper

### Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage range	12 V DC ... 48 V DC
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Typical current consumption	320 mA (at U <sub>S</sub> = 24 V DC)

### Function

Signal contact control voltage	24 V DC
Signal contact control current	100 mA

## Connection data

### Connection technology

Connection name	Power supply
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### Power supply

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

## Environmental and real-life conditions

### Ambient conditions

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

## Approvals

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## Conformity/Approvals

Conformance	CE-compliant
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## EMC data

Noise immunity	IEC 61850-3, IEEE 1613, EN 61000-6-2: 2005
Noise emission	EN 61000-6-4

## System properties

### Functionality

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
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## Signaling

Status display	LEDs: U <sub>S1</sub> , U <sub>S2</sub> (redundant voltage supply), link and activity per port
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## Classifications

### ECLASS

ECLASS-11.0

19170401

### ETIM

ETIM 7.0

EC000734

### UNSPSC

UNSPSC 21.0

43222612

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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 10;
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### MSTB 2,5/ 8-ST - PCB connector

1754562

<https://www.phoenixcontact.com/pc/products/1754562>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: MSTB 2,5/...-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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### FL PATCH GUARD - Port Guard Security Element

2891424

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Lockable security element

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## FL PATCH GUARD KEY - Key

2891521

<https://www.phoenixcontact.com/pc/products/2891521>

Key for lockable security element



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## DT-LAN-CAT.6+ - Surge protection device

2881007

<https://www.phoenixcontact.com/pc/products/2881007>



Surge protection in accordance with Class E<sub>A</sub> (CAT6<sub>A</sub>), for Gigabit Ethernet (up to 10 Gbps), token ring, FDDI/CDDI, ISDN, and DS1. Suitable for Power over Ethernet (PoE++ / 4PPoE) "Mode A" and "Mode B". RJ45 attachment plug with separate grounding cable and ground connection snap-on foot for NS 35 DIN rails.



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## FL SEC PAC 4TX - Port Guard Security Element

2832865

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Layer1 security elements for 4 RJ45 network connections for use with patch boxes and panels



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## FL DIN RA - DIN rail adapter

2891053

<https://www.phoenixcontact.com/pc/products/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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## FL RJ45 PROTECT CAP - Dust protection

2832991

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Dust protection caps for RJ45 socket



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## E/NS 35 N - End clamp

0800886

<https://www.phoenixcontact.com/pc/products/0800886>

End clamp, width: 9.5 mm, color: gray



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## FL CAT5 PATCH 0,5 - Patch cable

2832263

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Patch cable, CAT5, assembled, 0.5 m



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## FL CAT5 PATCH 1,0 - Patch cable

2832276

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Patch cable, CAT5, assembled, 1 m



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## FL CAT5 PATCH 2,0 - Patch cable

2832289

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Patch cable, CAT5, assembled, 2 m



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## NBC-R4AC-R4AC-IE8A/.../... - Patch cable

1411854

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Patch cable, degree of protection: IP20, number of positions: 8, 10 Gbps, CAT6<sub>A</sub>, cable outlet: straight, Ethernet



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## NBC-R4AC/10G-R4AC/10G-94F/2,0 - Patch cable

1408360

<https://www.phoenixcontact.com/pc/products/1408360>



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 2.0 m

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## NBC-R4AC/10G-R4AC/10G-94F/3,0 - Patch cable

1408365

<https://www.phoenixcontact.com/pc/products/1408365>



Patch cable, CAT6<sub>A</sub>, 4-pair, shielded, connection not crossed (line), assembled at both ends with RJ45/IP20 connectors, outer sheath material: PUR, length: 3.0 m

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## NBC-R4AC/1,0-93B/R4AC - Patch cable

1408968

<https://www.phoenixcontact.com/pc/products/1408968>



Patch cable, degree of protection: IP20, cable length: 1 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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## NBC-R4AC/2,0-93B/R4AC - Patch cable

1408969

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Patch cable, degree of protection: IP20, cable length: 2 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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## NBC-R4AC/5,0-93B/R4AC - Patch cable

1408970

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Patch cable, degree of protection: IP20, cable length: 5 m, number of positions: 4, 100 Mbps, CAT5, material: PA 6.6, PROFINET

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## FOC-SC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115550

<https://www.phoenixcontact.com/pc/products/1115550>



Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 1 m

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FOC-SC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115548

<https://www.phoenixcontact.com/pc/products/1115548>

Single-mode OS2 duplex jumper, SC-SC, UPC polishing, length 2 m



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FOC-ST:PA-SC:PA-OS2:D01/1 - FO patch cable

1115582

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Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 1 m





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## FOC-ST:PA-SC:PA-OS2:D01/2 - FO patch cable

1115581

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Single-mode OS2 duplex jumper, ST-SC, UPC polishing, length 2 m



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## FOC-LC:PA-SC:PA-OS2:D01/1 - FO patch cable

1115618

<https://www.phoenixcontact.com/pc/products/1115618>

Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 1 m



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FOC-LC:PA-SC:PA-OS2:D01/2 - FO patch cable

1115617

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Single-mode OS2 duplex jumper, LC-SC, UPC polishing, length 2 m



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