

# Industrial Ethernet Switch - FL SWITCH 4008T-2GT-3FX SM - 2891160

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Managed Ethernet switch with eight RJ45 ports at 10/100 Mbps, two RJ45 ports at 10/100/1000 Mbps and three SC-D fiber optic ports at 100 Mbps. Wide operating temperature of -40 °C ... +75 °C.

## Product Description

FL SWITCH 4000 managed industrial Ethernet switches combine Gigabit interfaces with extensive network performance for the most demanding applications. Security features with complete IEEE redundancy (STP/RSTP/MST) and 15 ms recovery time extended ring redundancy optimize network uptime. Unique web customization provides a simplified user interface for today's applications and scalable functionality for future needs. A comprehensive mix of 10/100 Mbps and Gigabit fiber optic connections combine performance with installed cost savings.

## Your advantages

- ✓ Unique cleanup function hides unused configuration pages, reducing complexity, maintenance and startup times
- ✓ Secure web-based and SNMP-based management
- ✓ Extensive web diagnostics with configurable LED and remote alarm contacts
- ✓ Eight 10/100 Mbps RJ45 ports for device connections, two Gigabit RJ45 ports for network trunk lines and four 100 Mbps single mode fiber optic SC interfaces for remote connections
- ✓ -40 to 75°C ambient temperature

## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356914246

## Technical data

### Dimensions

Width	66 mm
Height	173 mm
Depth	140 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 75 °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)

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## Technical data

### Ambient conditions

Air pressure (storage/transport)	57 kPa ... 108 kPa (up to 4850 m above mean sea level)
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### Interfaces

Interface	Ethernet (RJ45)
No. of ports	8 (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	3 (SC single mode)
Transmission physics	Single-mode fiberglass
Transmission speed	100 Mbps (full duplex)
Interface	Ethernet (RJ45)
Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission physics	Ethernet in RJ45 twisted pair
Transmission speed	10/100/1000 Mbps
Transmission length	100 m

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

### 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	488 mA (24 V DC)
Inrush current	8 A (200 µs)

### General

Mounting type	DIN rail
Type AX	Block design

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## Technical data

### General

Net weight	1285 g
Housing material	Aluminum
MTTF	20.6 Years (MIL-HDBK-217F standard, temperature 25°C, operating cycle 100%)

### 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	EN 61000-6-2:2005
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEX	Ex nA nC IIC T4 Gc
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

### eCl@ss

eCl@ss 4.1	27250500
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19170100
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106

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## Classifications

### eCl@ss

eCl@ss 9.0	19170106
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### ETIM

ETIM 4.0	EC000734
ETIM 5.0	EC000734
ETIM 6.0	EC000734
ETIM 7.0	EC000734

### UNSPSC

UNSPSC 13.2	43222612
UNSPSC 19.0	43222612

## Accessories

### Accessories

#### Data cable preassembled

Patch cable - NBC-R4AC-R4AC-IE8A/.../... - 1411854



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

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

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

Patch cable - NBC-R4AC/1,0-93B/R4AC - 1408968



PROFINET patch cable, shielded, star-quad, 22 AWG stranded (7-wire), green, straight RJ45 male connector/IP20 to straight RJ45 male connector/IP20, length: 1.0 m

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Patch cable - NBC-R4AC/2,0-93B/R4AC - 1408969



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20, to straight RJ45 plug/IP20, length: 2 m

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Patch cable - NBC-R4AC/5,0-93B/R4AC - 1408970



PROFINET patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, straight RJ45 plug/IP20 to straight RJ45 plug/IP20, length: 5 m

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FO patch cable - FOC-SC:PA-SC:PA-OS2:D01/1 - 1115550



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

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FO patch cable - FOC-SC:PA-SC:PA-OS2:D01/2 - 1115548



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

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## Accessories

FO patch cable - FOC-ST:PA-SC:PA-OS2:D01/1 - 1115582



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

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FO patch cable - FOC-ST:PA-SC:PA-OS2:D01/2 - 1115581



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

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FO patch cable - FOC-LC:PA-SC:PA-OS2:D01/1 - 1115618



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

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FO patch cable - FOC-LC:PA-SC:PA-OS2:D01/2 - 1115617



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

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## End block

End clamp - E/NS 35 N - 0800886



End clamp, width: 9.5 mm, color: gray

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## Mounting rail adapter

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## Accessories

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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## Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

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Patch cable - FL CAT5 PATCH 1,0 - 2832276



Patch cable, CAT5, assembled, 1 m

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Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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## PCB plug

Printed-circuit board connector - MSTB 2,5/ 2-ST - 1754449



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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## Accessories

Printed-circuit board connector - MSTB 2,5/ 5-ST - 1754504



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 5, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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## Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

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## Safety locking

Port Guard Security Element - FL PATCH GUARD - 2891424



Lockable security element

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Key - FL PATCH GUARD KEY - 2891521



Key for lockable security element

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## Surge protection for information technology

Surge protection device - DT-LAN-CAT.6+ - 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+) "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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