

FL SWITCH 4012T-2GT-2FX ST - Industrial Ethernet Switch



2891161

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Managed Ethernet switch with twelve RJ45 ports at 10/100 Mbps, two RJ45 ports at 10/100/1000 Mbps and two ST 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

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

Commercial data

Item number	2891161
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DN17
Product key	DNN125
GTIN	4046356914253
Weight per piece (including packing)	1,413.5 g
Weight per piece (excluding packing)	1,285 g
Customs tariff number	85176200
Country of origin	TW

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Technical data

Dimensions

Width	66 mm
Height	173 mm
Depth	140 mm

Notes

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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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	ST
Transmission speed	100 Mbps (full duplex)
Transmission physics	multi-mode fiberglass
No. of channels	2 (ST multi-mode)

Ethernet (RJ45)

Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100/1000 Mbps
Transmission physics	Ethernet in RJ45 twisted pair
Transmission length	100 m

Product properties

Product type	Switch
Product family	Managed Switch 4000
Type	Block design
MTTF	18.8 Years (MIL-HDBK-217F standard, temperature 25°C,

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	operating cycle 100%)
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Insulation characteristics

Protection class	III (VDE 0106, IEC 60536)
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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)
Status and diagnostic indicators	LEDs: U _{S1} , U _{S2} (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
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Electrical properties

Local diagnostics	US1, US2 Supply voltage Green LED
	LNK/ACT Link status/data transmission Green LED
Maximum power dissipation for nominal condition	11.38 W
Test section	Supply voltage/functional ground 500 V 1 min
Transmission medium	Copper
	FO

Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage range	12 V DC ... 48 V DC
Residual ripple	3.6 V _{PP} (within the permitted voltage range)
Typical current consumption	474 mA (24 V DC)

Function

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

Connection data

Power supply

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

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Environmental and real-life conditions

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

Approvals

Conformity/Approvals

Conformance	CE-compliant
ATEX	Ⓜ II 3 G Ex nA nC IIC T4 Gc
EU-type examination certificate	DEMKO 16 ATEX 1616X
IECEX	Ex nA nC IIC T4 Gc
IECEX certificate	IECEX UL 16.0094X
UL, USA / Canada	Class I, Div. 2, Groups A, B, C, D

EMC data

Conformance with EMC directives	IEC 61000-6-2 IEC 61000-4-2 (ESD) Criterion B
	IEC 61000-4-3 (immunity to radiated interference) Criterion A
	IEC 61000-4-4 (burst) Criterion A
	IEC 61000-4-5 (surge) Criterion B
	IEC 61000-4-6 (immunity to conducted interference) Criterion A
	IEC 61000-4-8 (immunity to magnetic fields) Criterion A
	EN 55022 (emitted interference) Class A
Noise immunity	EN 61000-6-2:2005

Noise emission

Standards/regulations	EN 61000-6-4
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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 _{S1} , U _{S2} (redundant voltage supply), link and activity per port
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Classifications

UNSPSC

UNSPSC 21.0	43222612
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	15(a), 6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-10
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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