

# FL SWITCH 7005/FX-2FXSM-EIP - Industrial Ethernet Switch



2701420

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## Your advantages

- VLANs
- Common Industrial Protocol (CIP)
- Device Level Ring (DLR)
- Ambient temperature -40 °C ... 70 °C
- RSTP with fast switch-over
- DHCP client, DHCP server (pool-based and port-based), DHCP option 82
- Web-based management, SNMP
- Slim design

## Commercial data

Item number	2701420
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	DN17
Product key	DNN122
GTIN	4046356749756
Weight per piece (including packing)	1,167.2 g
Weight per piece (excluding packing)	1,000 g
Customs tariff number	85176200
Country of origin	DE

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## Technical data

### Dimensions

Width	60 mm
Height	130 mm
Depth	135.5 mm

### 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	Copper
Transmission length	100 m (per segment)
Signal LEDs	Data receive, link status
No. of channels	5 (RJ45 ports)

#### Ethernet FO

Connection method	SC
Transmission speed	100 Mbps (full duplex)
Transmission physics	multi-mode fiberglass
Transmission length	11000 m (fiberglass with F-G 62.5/125 0.7 dB/km F1000) 6400 m (fiberglass with F-G 50/125 0.7 dB/km F1200) 3000 m (fiberglass with F-G 62.5/125 2.6 dB/km F600) 2800 m (fiberglass with F-G 50/125 1.6 dB/km F800)
Wavelength	1300 nm
Signal LEDs	Data receive, link status
No. of channels	1 (SC multi-mode)

#### Ethernet FO

Connection method	SC
Transmission speed	100 Mbps (full duplex)
Transmission physics	Single-mode fiberglass
Transmission length	36000 m (fiberglass with F-G 9/125 0.36 dB/km) 32000 m (fiberglass with F-G 9/125 0.4 dB/km) 26000 m (fiberglass with F-G 9/125 0.5 dB/km)
Wavelength	1300 nm
No. of channels	2 (SC single mode)

### Product properties

Product type	Switch
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Product family	Managed Switch 7000
Type	Book type
MTTF	117.48 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	61.64 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	8.89 Years (SN 29500 standard, temperature 70°C, operating cycle 100%)
Special properties	EtherNet/IP™

## Insulation characteristics

Protection class	III (VDE 0106, IEC 60536)
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## Switch functions

Diagnostic functions	Remanente Event-Table
	RMON History
	N:1-Portmirroring
	LLDP (Link Layer Discovery Protocol)
	SNMP-Traps
	ACD (Address Conflict Detection)
EtherNet/IP™ supported protocols	Common Industrial Protocol
Basic functions	Store-and-forward switch, complies with IEEE 802.3
Signal contact control voltage	24 V DC (typical)
Signal contact control current	1 A (maximum)
PROFINET conformance class	Conformance Class A
PROFINET device function	Fast Startup
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
	Static Multicast Filtering (32 groups)
	Link Aggregation (up to 4 trunks)
IP parameterization	DHCP client
	DHCP Option 82 (Relay Agent)
	DHCP server (pool-based, port-based)
	BootP
MAC address table	16k
Management	Web-based management (HTTP/HTTPS)
	SNMPv1/v2/v3
Redundancy	DLR (Device Level Ring)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per

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	Ethernet port (Link and switchable Activity/Speed/Duplex) EtherNet/IP™ status LED: Net, Mod
Additional functions	MAC-based Port-Security
Time synchronization	PTP 1588 (Transparent clock on the DLR ports)

## Security functions

Basic functions	Store-and-forward switch, complies with IEEE 802.3
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## Electrical properties

Power consumption	12.8 W
Local diagnostics	US1/2 Supply voltage US1, US2 Green LED
	FAIL Div. LED red
	LINK Link status Green LED
Maximum power dissipation for nominal condition	12.8 W
Test section	500 V DC 1 min
Transmission medium	Copper
	FO

## Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage range	12 V DC ... 58 V DC
Power supply connection	Via COMBICON, max. conductor cross-section 2.5 mm <sup>2</sup>
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Typical current consumption	445 mA (at U <sub>S</sub> = 24 V DC)

## Function

Signal contact control voltage	24 V DC (typical)
Signal contact control current	1 A (maximum)

## Connection data

Connection method	Screw connection
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)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	86 kPa ... 108 kPa (1500 m above sea level)

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Air pressure (storage/transport)	66 kPa ... 108 kPa (3500 m above sea level)
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## Standards and regulations

Free from substances that could impair the application of coating	Yes
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## Approvals

### Conformity/Approvals

Noxious gas test	ISA S71.04.2013 G3 Harsh Group A
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## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Conformance with EMC directives	IEC 61000-6-2 IEC 61000-4-2 (ESD) Criterion B
	IEC 61000-6-2 EN 61000-4-3 (electromagnetic fields) Criterion A
	IEC 61000-6-2 IEC 61000-4-4 (burst) Criterion A
	IEC 61000-6-2 IEC 61000-4-5 (surge) Criterion A
	IEC 61000-6-2 IEC 61000-4-6 (immunity to conducted interference) Criterion 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, complies with IEEE 802.3
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## Signaling

Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link and switchable Activity/Speed/Duplex) EtherNet/IP™ status LED: Net, Mod
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## Classifications

### UNSPSC

UNSPSC 21.0	43222600
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## Environmental product compliance

### EU RoHS

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

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	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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