

# FL SWITCH LM 4TX/1FX SM-E - Industrial Ethernet Switch



2989637

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Ethernet Lean Managed Switch with four 10/100 Mbps RJ45 ports and one 100 Mbps FX-SC single-mode port, preconfigured for EtherNet/IP™

The figure shows a version of the product

## Product description

The compact lean managed switches (LM) make it possible to set up flexible and economical managed Ethernet networks in an automation environment. Its huge range of connection variants and extended temperature range of -40 °C to +70 °C enable it to perfectly cover the requirements of industrial applications. The integrated software allows networks to be redundantly set up, diagnosed and monitored using IT standard protocols.

## Your advantages

- Ambient temperature -40 °C ... 70 °C
- Configurable alarm contact
- Web-based management, SNMP
- Configuration can be stored externally
- Compact housing
- Comprehensive fiber optic versions

## Commercial data

Item number	2989637
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DN17
Product key	DNN121
GTIN	4046356342469
Weight per piece (including packing)	333.333 g
Weight per piece (excluding packing)	230 g
Customs tariff number	85176200
Country of origin	DE

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## Technical data

### Dimensions

Width	45 mm
Height	99 mm
Depth	112 mm

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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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	Copper
Transmission length	100 m (per segment)
No. of channels	4 (RJ45 ports)

#### 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	1 (SC single mode)

#### Serial (RS-232)

Connection method	RS-232-C, 6-pos. MINI-DIN socket (PS/2)
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### Product properties

Product type	Switch
Type	Block design

#### Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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#### Switch functions

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Diagnostic functions	1:1-Portmirroring
Basic functions	Store-and-forward switch complies with IEEE 802.3, 2 priority classes according to IEEE 802.1p, TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
PROFINET conformance class	Conformance Class A
Filter functions	Quality of Service
	VLAN (up to 8 VLANs)
	IGMP Query
	Auto-Query-Port
	Extended Multicast Filtering
Management	Web-based management (HTTP)
	SNMP v1/v2
	Serial interface (V.24)
Redundancy	STP (Spanning Tree Protocol)
	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 Ethernet port (Link/Activity and Speed)
Supported browsers	Internet Explorer 5.5 or higher

## Security functions

Basic functions	Store-and-forward switch complies with IEEE 802.3, 2 priority classes according to IEEE 802.1p, TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
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## Electrical properties

Local diagnostics	US Supply voltage Green LED
	Link status Green LED
	Telegrams received Yellow LED
Maximum power dissipation for nominal condition	6 W
Transmission medium	Copper
	FO

## Supply

Supply voltage (DC)	24 V DC (redundant)
Supply voltage range	18.5 V DC ... 30.5 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	250 mA (at U <sub>S</sub> = 24 V DC)

## Connection data

Connection method	Screw connection
Conductor cross-section, rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>

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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)	30 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	30 % ... 95 % (non-condensing)
Vibration (operation)	in acc. with IEC 60068-2-6: 5g, 150 Hz
Air pressure (operation)	80 kPa ... 108 kPa (2000 m above mean sea level)
Air pressure (storage/transport)	70 kPa ... 108 kPa (3000 m above sea level)

## EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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 B
	IEC 61000-4-5 (surge) Criterion B
IEC 61000-4-6 (immunity to conducted interference) Criterion A	
Noise immunity	EN 61000-6-2:2005

### Noise emission

Standards/regulations	EN 61000-6-3/-4
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## System properties

### Functionality

Basic functions	Store-and-forward switch complies with IEEE 802.3, 2 priority classes according to IEEE 802.1p, TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
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### System requirements

Supported browsers	Internet Explorer 5.5 or higher
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## Signaling

Status display	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed)
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## Environmental product compliance

### 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.)	No substance above 0.1 wt%
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