

# Industrial Ethernet Switch - FL SWITCH LM 4TX/1FX ST - 2989721

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Ethernet Lean Managed Switch with four 10/100 Mbps RJ45 ports and one 10/100 Mbps FX-ST multi-mode port

## Product description

The compact Lean Managed Switches (LM) enable the flexible and cost-effective creation of managed Ethernet networks in automation applications. Thanks to the wide range of connection versions and the extended temperature range of -40°C to +70°C, it optimally meets the requirements of industrial applications. It supports PROFINET conformance class A. And its integrated software enables the redundant creation, diagnostics, and monitoring of networks using IT standard protocols.

## Product Features

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



Ethernet EtherNet/IP

## Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	300.0 GRM
Custom tariff number	85176200
Country of origin	Germany

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Dimensions

Width	45 mm
Height	99 mm

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## Technical data

### Dimensions

Depth	112 mm
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### 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)
Air pressure (operation)	80 kPa ... 108 kPa (2000 above sea level)
Air pressure (storage/transport)	70 kPa ... 108 kPa (3000 above sea level)
Noise immunity	EN 61000-6-2:2005

### Interfaces

Interface 1	Ethernet (RJ45)
No. of ports	4 (RJ45 ports)
Connection method	RJ45
Note on connection method	Auto negotiation and autocrossing
Transmission physics	Copper
Transmission speed	10/100 MBit/s
Transmission length	100 m (per segment)
Interface 2	Ethernet FO
No. of ports	1 (ST multi mode)
Connection method	ST
Transmission physics	multi-mode fiberglass
Transmission speed	100 MBit/s (full duplex)
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
Interface 5	Serial (V.24 (RS-232))
Connection method	V.24 (RS-232-C), 6-pos. MINI-DIN socket (PS/2)

### Function

Basic functions	Store-and-forward switch complies with IEEE 802.3 2, priority classes according to IEEE 802.1 P TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
Supported browsers	Internet Explorer 5.5 or higher

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## Technical data

### Function

Status and diagnostic indicators	Per Ethernet 2 status LEDs: LINK and status activity, 100, full duplex, supply voltage $U_{S1}$ and $U_{S2}$ (redundant supply voltage)
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### 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
Residual ripple	3.6 V <sub>PP</sub> (within the permitted voltage range)
Supply voltage range	18.5 V DC ... 30.5 V DC
Typical current consumption	250 mA (at $U_S = 24$ V DC)

### General

Mounting type	DIN rail
Type AX	Block design
Weight	230 g
Noise emission	EN 61000-6-3/-4

### Mechanical tests

Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	Operation/Storage/Transport: 5g, 150 Hz, Criterion 3

### Conformity with EMC directives

Developed in acc. with standard	IEC 61000-6.2
Test standard	IEC 61000-4-2 (ESD)
Test result	Criterion B
Test standard	IEC 61000-4-3 (immunity to radiated interference)
Test result	Criterion A
Test standard	IEC 61000-4-4 (burst)
Test result	Criterion B
Test standard	IEC 61000-4-5 (surge)
Test result	Criterion B
Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	Criterion A

## Classifications

### eCl@ss

eCl@ss 4.0	27250501
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## Classifications

### eCl@ss

eCl@ss 4.1	27250501
eCl@ss 5.0	19030117
eCl@ss 5.1	19030117
eCl@ss 6.0	19170106
eCl@ss 7.0	19170106
eCl@ss 8.0	19170106

### ETIM

ETIM 2.0	EC000734
ETIM 3.0	EC000734
ETIM 4.0	EC000734
ETIM 5.0	EC000734

### UNSPSC

UNSPSC 6.01	43172901
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201410
UNSPSC 13.2	43201410

## Approvals

### Approvals

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#### Approvals

UL Listed / cUL Listed / GL / BV / DNV / GL-SW / UL Listed / cUL Listed / GL / BV / DNV / GL-SW / GL / cULus Listed

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#### Ex Approvals

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#### Approvals submitted

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### Approval details



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## Approvals


cUL Listed 

GL

BV

DNV

GL-SW

UL Listed 

cUL Listed 

GL

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DNV

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cULus Listed 