

Industrial Ethernet Switch - FL SWITCH LM 4TX/2FX ST-E - 2989831

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Ethernet Lean Managed Switch with four 10/100 Mbps RJ45 ports and two 100 Mbps FX-ST multi-mode ports, preconfigured for EtherNet/IP™

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.

Why buy this product

- 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 STK
GTIN	 4 046356 342483

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
Depth	112 mm

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C

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Ambient conditions

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)

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	2 (ST multi-mode)
Connection method	ST
Transmission physics	multi-mode fiberglass
Transmission speed	100 MBit/s (full duplex)
Transmission length	8000 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 (RS-232)
Connection method	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 802.1p, TCP/IP protocol, BootP-compatible, port mirroring, integrated web server function, multicast filtering, IGMP snooping, VLAN, Rapid Spanning Tree (RSTP), DHCP server, PTCP filter
Management	Web-based management (HTTP)
	SNMP v1/v2
	Serial interface (V.24)
Diagnostic functions	1:1-Portmirroring
Filter functions	Quality of Service
	VLAN (up to 8 VLANs)
	IGMP Query
	Auto-Query-Port
	Extended Multicast Filtering
Supported browsers	Internet Explorer 5.5 or higher

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Function

Redundancy	STP (Spanning Tree Protocol)
	RSTP (Rapid Spanning Tree Protocol)
	FRD (Fast Ring Detection)
	Large Tree Support
PROFINET IO conformance class	Conformance-Class A
Status and diagnostic indicators	LEDs: US1, US2 (power supply), Fail (alarm contact), 2 LEDs per Ethernet port (Link/Activity and Speed)

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 _{PP} (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
Net weight	230 g

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Stripping length	7 mm

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
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

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Standards and Regulations

Test standard	IEC 61000-4-6 (immunity to conducted interference)
Test result	Criterion A
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
Noise emission	EN 61000-6-3/-4
Noise immunity	EN 61000-6-2:2005
Vibration (storage/transport)	5g, 150 Hz, in acc. with IEC 60068-2-6
Vibration (operation)	In acc. with IEC 60068-2-6: 5g, 150 Hz

Classifications

eCl@ss

eCl@ss 4.0	eCl@ss 4.0	27250501
eCl@ss 4.1	eCl@ss 4.1	27250501
eCl@ss 5.0	eCl@ss 5.0	19030117
eCl@ss 5.1	eCl@ss 5.1	19030117
eCl@ss 6.0	eCl@ss 6.0	19170106
eCl@ss 7.0	eCl@ss 7.0	19170106
eCl@ss 8.0	eCl@ss 8.0	19170106

ETIM

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

UNSPSC

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

Approvals

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UL Listed / cUL Listed / cULus Listed

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Approvals

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Listed 

cUL Listed 

cULus Listed 

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