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# FL SWITCH LM 4TX/2FX SM-E

Order No.: 2891864



http://eshop.phoenixcontact.de/phoenix/treeViewClick.do?UID=2891864

Ethernet lean managed switches with four RJ45 ports, 10/100 Mbps, with auto crossing and auto negotiation and two glass fiber SC FO ports (single mode), 100 Mbps (100BASE-FX), SNMP management, redundancy via Rapid Spanning Tree (IEEE 802.1w) and Fast Ring Detection, VLAN, multicast filtering, IGMP snooping, 24 V DC power supply, redundant

Commercial data		
GTIN (EAN)	4 046356 281454	
Note	Made-to-order	
sales group	K000	
Pack	1 pcs.	
Customs tariff	85176200	
Catalog page information	Page 183 (AX-2009)	

#### Product notes

WEEE/RoHS-compliant since: 09/28/2009



#### http://

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## **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.

Technical data	
Interfaces	
Interface	Ethernet (RJ45)
No. of ports	4 (RJ45 ports)
Type of connection	RJ45 female connector, auto negotiation
Transmission physics	Copper
Transmission speed	10/100 MBit/s (RJ45)
Interface	Fiber optic interface
No. of ports	2 (SC single-mode)
Type of connection	SC duplex
Transmission length	36000 m (glass fiber with F-G 9/125 0.36 dB/km)
	32000 m (glass fiber with F-G 9/125 0.4 dB/km)
	26000 m (glass fiber with F-G 9/125 0.5 dB/km)
Interface	Serial (V.24 (RS-232))
Type of connection	V.24 (RS-232-C), 6-pos. MINI-DIN female connector (PS/2)
Function	
Basic functions	Store and forward switch complies with IEEE 802.3 2 priority classes in acc. with IEEE802.1 P TCP/IP protocol, BootPcapable, port mirroring, integrated web server function, multicast filtering, IGMP snooping, Rapid Spanning Tree (RSTP)
Supported browsers	Internet Explorer 5.5 or higher
Redundancy	Rapid Spanning Tree 802.1w, Fast Ring Detection
Status and diagnostic indicators	Per Ethernet 2 status LEDs: LINK and status activity, 100, full duplex, supply voltage $U_{\rm S1}$ and $U_{\rm S2}$ (redundant supply voltage)
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	400 mA (at U <sub>S</sub> = 24 V DC)
General data	
Weight	230 g

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Width	45 mm
Height	99 mm
Depth	112 mm
Degree of protection	IP20
Ambient temperature (operation)	-40 °C 70 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Permissible humidity (operation)	30 % 95 % (no condensation)
Permissible humidity (storage/transport)	30 % 95 % (no condensation)
Air pressure (operation)	80 kPa 108 kPa (2000 above sea level)
Air pressure (storage/transport)	70 kPa 108 kPa (3000 above sea level)
Noise emission	EN 61000-6-3/-4
Noise immunity	EN 61000-6-2:2005

### **Certificates / Approvals**



Certification CUL, UL

Certification Ex: CUL-EX LIS, UL-EX LIS

# Accessories

Item Designation Description

#### Cable/conductor

2832250	FL CAT5 PATCH 0,3	Patch cable, CAT5, assembled, 0.3 m
2832263	FL CAT5 PATCH 0,5	Patch cable, CAT5, assembled, 0.5 m
2832276	FL CAT5 PATCH 1,0	Patch cable, CAT5, assembled, 1.0 m
2832221	FL CAT5 PATCH 1,5	Patch cable, CAT5, assembled, 1.5 m
2832629	FL CAT5 PATCH 10,0	Patch cable, CAT5, assembled, 10.0 m
2832289	FL CAT5 PATCH 2,0	Patch cable, CAT5, assembled, 2.0 m
2832292	FL CAT5 PATCH 3,0	Patch cable, CAT5, assembled, 3.0 m
2832580	FL CAT5 PATCH 5,0	Patch cable, CAT5, assembled, 5.0 m
2832616	FL CAT5 PATCH 7,5	Patch cable, CAT5, assembled, 7.5 m

and VS-TÖF., terminal outlets and VS-SI-FP-2F front plate, obe used for glass multi-mode, HCS and polymer fiber types  General  800886 E/NS 35 N End clamp, width: 9.5 mm, color: gray  891165 FL PF 2TX CAT5E Patch field with two RJ45 CAT5e network connections  891178 FL PF 8TX CAT5E Patch field with eight RJ45 CAT5e network connections  832991 FL RJ45 PROTECT CAP Dust protection caps for RJ45 female connector  832865 FL SEC PAC 4TX Layer1 security elements for four RJ45 network connections for use with patch boxes and panels  1654400 VS-PC-2XGOF-50-SCRJ/ Assembled fiber optic cable, break-out cable, glass fiber multi-mode 50/125 µm, SCRJ/IP20 on SC-duplex/IP20, for installatic inside control cabinets, length: 1 m  Plug/Adapter  2744571 FL PLUG RJ45 GN/2 RJ45 connector, shielded, with bend protection sleeve, 2 piece green for crossed cables, for assembly on site. For connection that are crossed, it is recommended that the connector set with green bend protection sleeves is used.  2744856 FL PLUG RJ45 GR/2 RJ45 connector, shielded, with bend protection sleeve, 2 piece gray for straight cables, for assembly on site. For connection is renot crossed, it is recommended that you use the connector with gray bend protection sleeve.  2730611 PRG CAB MINI DIN Connection cable, to connect Remote Field Controllers to a PC (RS-232) for PC WORX, 3 m in length  Software  832166 FL SNMP OPC SERVER SNMP-OPC server, German and English, for monitoring and configuration of SNMP-capable equipment in HMI and SCADA systems  2831044 FL SWT Factory Manager, multillingual, configuration and diagnostics software for ETHERNET networks in automation	Female inse	ert	
0800886       E/NS 35 N       End clamp, width: 9.5 mm, color: gray         2891165       FL PF 2TX CAT5E       Patch field with two RJ45 CAT5e network connections         2891178       FL PF 8TX CAT5E       Patch field with eight RJ45 CAT5e network connections         2832991       FL RJ45 PROTECT CAP       Dust protection caps for RJ45 female connector         2832865       FL SEC PAC 4TX       Layer1 security elements for four RJ45 network connections for use with patch boxes and panels         1654400       VS-PC-2XGOF-50-SCRJ/ SCDU-1       Assembled fiber optic cable, break-out cable, glass fiber multimode 50/125 µm, SCRJ/IP20 on SC-duplex/IP20, for installation inside control cabinets, length: 1 m         Plug/Adapter         2744571       FL PLUG RJ45 GN/2       RJ45 connector, shielded, with bend protection sleeve, 2 piece gree for crossed cables, for assembly on site. For connection that are crossed, it is recommended that the connector set with green bend protection sleeves is used.         2744856       FL PLUG RJ45 GR/2       RJ45 connector, shielded, with bend protection sleeve, 2 piece gray for straight cables, for assembly on site. For connections is are not crossed, it is recommended that you use the connector with gray bend protection sleeve.         2730611       PRG CAB MINI DIN       Connection cable, to connect Remote Field Controllers to a PC (RS-232) for PC WORX, 3 m in length         Software         2832166       FL SMP OPC SERVER       SMMP-OPC server, German and English, fo	1654358	VS-SCRJ-GOF-KU	SCRJ coupling insert, duplex, for VS-PP-19-1HE-16-F patch pane and VS-TOFterminal outlets and VS-SI-FP-2F front plate, can be used for glass multi-mode, HCS and polymer fiber types
2891165 FL PF 2TX CAT5E Patch field with two RJ45 CAT5e network connections 2891178 FL PF 8TX CAT5E Patch field with eight RJ45 CAT5e network connections 2832991 FL RJ45 PROTECT CAP Dust protection caps for RJ45 female connector 2832865 FL SEC PAC 4TX Layer1 security elements for four RJ45 network connections for use with patch boxes and panels 2832865 FL SEC PAC 4TX Assembled fiber optic cable, break-out cable, glass fiber multimode 50/125 µm, SCRJ/IP20 on SC-duplex/IP20, for installation inside control cabinets, length: 1 m  Plug/Adapter  2744571 FL PLUG RJ45 GN/2 RJ45 connector, shielded, with bend protection sleeve, 2 piece green for crossed cables, for assembly on site. For connection that are crossed, it is recommended that the connector set with green bend protection sleeves is used.  2744856 FL PLUG RJ45 GR/2 RJ45 connector, shielded, with bend protection sleeve, 2 piece gray for straight cables, for assembly on site. For connections are not crossed, it is recommended that you use the connector with gray bend protection sleeves.  2730611 PRG CAB MINI DIN Connection cable, to connect Remote Field Controllers to a PC (RS-232) for PC WORX, 3 m in length  Software  2832166 FL SNMP OPC SERVER SNMP-OPC server, German and English, for monitoring and configuration of SNMP-capable equipment in HMI and SCADA systems  2831044 FL SWT Factory Manager, multilingual, configuration and diagnostics software for ETHERNET networks in automation  Tools  2744869 FL CRIMPTOOL Crimping pliers, for assembling the RJ45 connectors FL PLUG	General		
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1.0 10, for describing on site	2744869	FL CRIMPTOOL	Crimping pliers, for assembling the RJ45 connectors FL PLUG RJ45, for assembly on site

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