

# SLX-5MS Industrial Ethernet Switches

Sixnet® Networking Series



## Managed Fast Ethernet Switches

Red Lion's Sixnet® series SLX-5MS managed Fast Ethernet switches features five ports with up to two fiber ports and Modbus monitoring, providing reliable connectivity options in harsh environments.

Rugged SLX-5MS managed switches feature 5 ports (up to 2 fiber ports) and are housed in slim, hardened metal DIN-rail enclosures with redundant 10-30 VDC power inputs. Designed to handle harsh environments, SLX-5MS switches offer wire-speed throughput, high MTBF and wide -40° to 75°C operating temperature ratings. Real-Time Ring, Modbus/TCP and HTTPS ensure reliable and secure operation in industrial applications.



### APPLICATIONS

- > Alternative Energy
- > Maritime
- > Oil & Gas
- > Transportation
- > Utility
- > Water/Wastewater

### PRODUCT HIGHLIGHTS

- > Hardened Industrial Design
- > Wide -40° to 75°C Operating Temperature
- > Redundant 10 to 30 VDC Power Inputs
- > Modbus/TCP Remote Monitoring
- > Real-Time Ring and Rapid Spanning Tree Protocol for network redundancy

### FEATURES & BENEFITS

- > 5 Fast Ethernet Ports
  - Up to Five 10/100Base-T(X) copper ports
  - Up to two 100Base-FX fiber ports
- > Redundant Power Inputs
  - 10-30VDC
  - Reverse polarity protection
- > Robust Industrial Design
  - -40° to 75°C operating temperature
  - Hardened IP40 enclosure
  - Extended shock and vibration specs
  - Electrical noise and surge immunity
  - LED status indicators
  - Configurable alarm output
  - DIN-Rail or panel mount
  - >2 million hours MTBF
  - UL/CSA: Class 1, Div 2
- > Fully Managed Features Include:
  - Web browser or CLI management
  - Secure web (HTTPS/SSL) and Telnet (SSH)
  - Broadcast and multicast storm protection
  - SNMP v1, v2, v3
  - DHCP Server
  - Real-Time Ring fast-healing ring technology
  - RSTP - 802.1w and 802.1D
  - 802.1p QoS/CoS/DS
  - IGMP multicast filtering
  - SNTP (Simple Network Time Protocol)
  - RMON & port mirroring for advanced diagnostics
  - Modbus/TCP monitoring for port, power and ring status

industrial  
networking



# ▶▶▶ SLX-5MS Industrial Ethernet Switch Specifications

## SWITCH PROPERTIES

Operation: Managed  
Number of MAC Addresses: 2048  
IEEE Compliance: 802.3, 802.3u, 802.3x, 802.1D/w, 802.1p and 802.1Q  
Industrial Connectivity: Modbus registers for port, power and ring status  
Latency (Typical): 5  $\mu$ s + frame time  
Switching Method: Store-and-Forward  
LED Status Indicators  
Configurable Alarm Contact  
Supports Full/Half Duplex Operation  
Ethernet isolation 1500 VRMS 1 minute  
Maximum Throughput: 1 Gb/s  
MDIX Auto Sensing Cable  
Auto Sensing Speed and Flow Control  
Communications: Full Wire Speed  
MTBF: > 2M hours GB @ 40°C per MIL HNBK-217F2

## POWER INPUT

Input Voltage Range: Dual 10-30 VDC power inputs  
Input Power (Max): 7 W  
Input Power (Typical):  
3.6 W (without fiber)  
5.6 W (with fiber)  
Transient Protection (Peak): 15,000 watts  
Spike Protection: 5,000 watts (10 times for 10 us)

## CONNECTORS

10/100Base-T: Up to five (5) RJ-45 ports  
100Base-FX: Up to two (2) ST or SC duplex fiber ports  
Configuration Port: One (1) RS-232 (RJ-45) and one (1) USB (mini)

## NETWORK MEDIA

10BaseT:  $\geq$  Cat3 cable  
100BaseTX:  $\geq$  Cat5 cable  
100Base-FX Multimode: 50-62.5/125  $\mu$ m  
100Base-FX Singlemode: 9-10/125  $\mu$ m

## RECOMMENDED WIRING CLEARANCE

Front: 4" (10.2 cm)  
Top: 4" (10.2 cm)

## ENVIRONMENTAL

Operating Temperature: -40°C to 75°C  
Storage Temperature: -40°C to 85°C  
Operating Humidity: 5% to 95% (non condensing)  
Operating Altitude: 0 to 30,000 ft.  
Shock and Vibration: IEC 60068-2-6, -27

## CERTIFICATION & COMPLIANCE

Electrical Safety: UL508/CSA C22.2/142; IEC61010-1, CE  
EMI Emissions: FCC part 15, ICES-003; EN61000-6-4, CE  
EMC Immunity: EN61000-6-2, CE  
Hazardous Locations: ANSI/ISA 12.12.01, CSA C22.2/213 (Class 1, Division 2); EN60079-0, -15 (zone 2; category 3), CE (ATEX)  
Marine: Offshore rated per ABS  
Eye Safety (Fiber Models): IEC60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

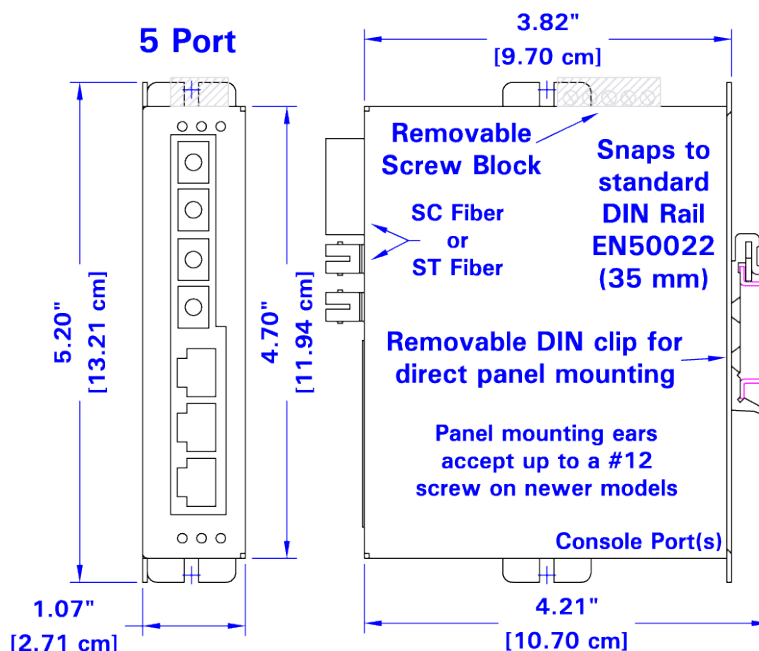
## MECHANICAL

Case Dimensions:  
Height: 4.7" (11.94 cm)  
Width: 1.07" (2.71 cm)  
Depth: 3.82" (9.70 cm)  
Weight: 8 oz (0.23 kg)  
Mount: DIN rail (35 mm) and panel mount

## WARRANTY

5 Years on Design and Manufacturing Defects

## DIMENSIONS in inches (mm)



# ▶▶▶ SLX-5MS Industrial Ethernet Switch Specifications

## ORDER GUIDE

PART NUMBER	PRODUCT LINE
SLX-5MS-1	5-Port Industrial Fast Ethernet Managed Switch (5 10/100Base-T Copper Ports)
SLX-5MS-4XX	5-Port Industrial Fast Ethernet Managed Switch (3 10/100Base-T, 2 100Base-FX, Multimode 2km Ports)
SLX-5MS-5XX	5-Port Industrial Fast Ethernet Managed Switch (3 10/100Base-T, 2 100Base-FX, Singlemode 30km Ports)
SLX-5MS-5XXL	5-Port Industrial Fast Ethernet Managed Switch (3 10/100Base-T, 2 100Base-FX, Singlemode 60km Ports)
ET-PS-024-02	Power supply – AC to 24VDC, 2A
SP-ETH-2	Dual port Ethernet surge & lightning protecton for the 10/100 ports only
RJ45-DB9F-CBL	Console port cable, DB9 to RJ45

Where XX = ST or SC connector

## FIBER TRANSCEIVER CHARACTERISTICS

FIBER MODE	MM	SM	SM
Fiber Length	2 km	30 km	60 km
TX Power Min	-23.5 dBm	-15 dBm	-5 dBm
RX Sensitivity Max	-32 dBm	-34 dBm	-35 dBm
Wavelength	1310 nm	1310 nm	1310 nm

\* Fiber Length distances represent typical performance. Link budgets should be evaluated based on specific application conditions.



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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our automation, Ethernet and cellular M2M technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron and Sixnet. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit [www.redlion.net](http://www.redlion.net).

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