SL/SLX-6RS-1/4/5 Industrial Ethernet Switch

Sixnet Networking Series

red lion®

▶▶▶ 6 Port Industrial Ethernet Ring Switch

The SL/SLX-6RS is a 6 port industrial Ethernet switch featuring Sixnet's Real-Time-Ring™ which provides very fast, fault-tolerant network redundancy and prioritized message delivery needed in critical real-time systems. These Rings self-configure and just run, without the complex configuration steps required by alternative solutions. This advanced technology delivers reliability and performance, saves you money, and makes your job easier.

PRODUCT HIGHLIGHTS

- 6 ports including up to 2 fiber optic
- Super-fast, fault-tolerant ring redundancy
- Pre-configured for true plug & play simplicity
- Truly industrial hardened design
- Slim case for DIN rail or direct panel mounting

REAL-TIME FAULT-TOLERANT RINGS

- Recovery time of 30 mS plus 5 mS per hop!
- Ideal for deterministic systems and PLCs
- Real-time Modbus over Ethernet monitoring

REAL-TIME TRAFFIC PRIORITIZATION (QoS)

- Assure delivery of real-time data
- Improve network utilization
- User settable priority assignments

MANAGED SWITCH FEATURES – at a lower cost

- User configurable port settings
- Port mirroring for traffic diagnostics
- Message filtering to prevent broadcast storms

TROUBLE FREE OPERATION

- Ultra-reliable 1,000,000 + hours MTBF
- -40 to +85 °C operating range (SLX model)
- UL/CSA (CUL), CE and Hazloc (Zone 2) rated
- Dual (redundant) power inputs
- Industrial surge and spike protection
- Self-test/alarm output contact

industrial
networking

ETHERNET PERFORMANCE
- 6 fast Ethernet ports with up to 2 fiber
- Managed, store & forward, wire-speed
- All IEEE 802.3 Ethernet protocols supported
- RJ45 ports (shielded) 10/100BaseTX
- RJ45 port speed auto-negotiation
- RJ45 MDI/MDIX auto-crossover
- RJ45 TD and RD auto-polarity
- Fiber optional on port 5 and 6
- Fiber optic port speed: 100 Mbps
- Fiber typical specs (see separate datasheet for details)
  - Multimode, 4 km, 1310 nm, 50-62.5/125 µm
  - Singlemode, 20 km, 1310 nm, 9-10/125 µm
  - Long haul, up to 120 km, 1550 nm, 9-10/125 µm
- Typical latency (varies on load & settings)
  - @ 10 Mbps: 16 us + frame time
  - @ 100 Mbps: 5 us + frame time
- Full or half duplex operation configurable per port
- MAC addresses supported 2048
- Memory bandwidth 3.2 Gbps
- Ethernet isolation 1500 VRMS 1 minute

ETHERNET COMPLIANCE
- IEEE 802.3u (Fast Ethernet 100Mbps for newer devices)
- IEEE 802.3 (10Mbps Ethernet supports legacy devices)
- IEEE 802.1p (Priority Queuing – QoS, CoS, ToS/DS)
- IEEE 802.3x (Full-Duplex with Flow Control)

REAL-TIME-RING™
- Link loss recovery: 30 mS plus 5 mS per hop
- Switches in a ring: <50 for best performance
- Multiple rings supported (configurable)

"OK" ALARM OUTPUT
- Indicates power & operational status
- Voltage same as switch input voltage
- Maximum current output 0.5 Amp

POWER INPUT
- Redundant input terminals
- Reverse polarity protection
- Input power (typ. with all ports active)
  - 4 W (-1 model w/ no fiber)
  - 6 W (-4/5 model w/ 2 fiber)
- Power input voltage 10-30 VDC
- Transient protection 15,000 watts peak
- Spike protection 5,000 watts (10x for 10 uS)

ENVIRONMENTAL
- Operating temperature:
  - SLX: -40 to +85 °C (cold startup at -40 °C)
  - SL: -40 to +60 °C
- Storage temperature -40 to +85 °C
- Humidity (non-condensing) 5 to 95% RH (optional conformal coating is available)
- Vibration and shock – IEC60068-2-6, -27
- Maximum Operating Altitude: 30,000 ft.

STANDARDS COMPLIANCE
- Electrical safety – UL508 / CSA C22.2/142; EN61010-1, CE
- EMC – FCC part 15, ICES-003; EN61000-6-2/4, CE
- Hazardous locations – ANSI/ISA 12.12.01 / CSA C22.2/213 (Class I, Div. 2); EN60079-15 (Zone 2, Category 3), CE (ATEX)
- Maritime – designed for marine and offshore per ABS
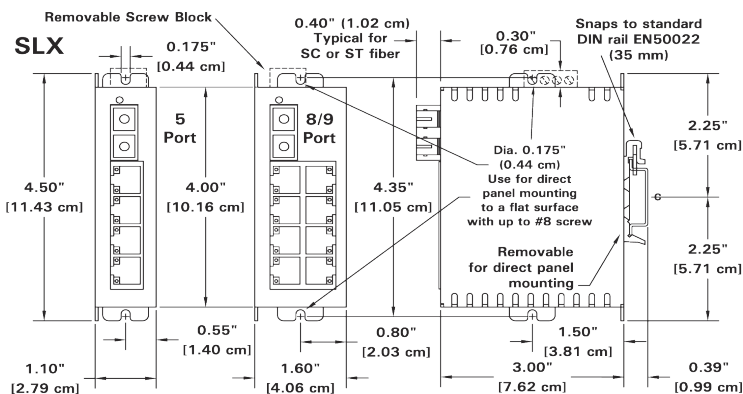- RoHS and WEEE compliant

PHYSICAL
- DIN rail or direct panel mounting
- Case – Aluminum (SLX) or Lexan (SL)
- Ingress protection
  - SL models: IP30
  - SLX models: IP40
- Weight – SLX: 0.23 kg (8 oz.); SL: 0.17 kg (6 oz.)
- Dimensions – see mechanical diagram

ORDERING GUIDE

SLX-6RS-1-D1	6 RJ45 ports, metal case, wide temp.
SLX-6RS-4SC-D1	4 RJ45 ports, 2 multimode SC, 4 km
SLX-6RS-4ST-D1	4 RJ45 ports, 2 multimode ST, 4 km
SLX-6RS-5SC-D1	4 RJ45 ports, 2 singlemode SC, 20 km
SLX-6RS-5ST-D1	4 RJ45 ports, 2 singlemode ST, 20 km
SLX-6RS-5SCL-D1	4 RJ45 ports, 2 singlemode SC, 40+ km
SLX-6RS-5STL-D1	4 RJ45 ports, 2 singlemode ST, 40+ km
SL-	w/ Lexan case and limited temperature
Setup Wizard	Free - Windows configuration tool
ET-PS-024-02	Power supply – AC to 24VDC, 2A
SP-ETH-2	Dual port Ethernet surge & lightning protector for 10/100 ports

NOTE: The suffix 1 means it is pre-configured for 1 ring on ports 5 & 6. Contact SIXNET for other pre-configuration options.

MECHANICAL DRAWING

All specifications are subject to change.
Consult factory for latest info.

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