

All-Gigabit Industrial Ethernet Managed Switch

Ultra-Reliable and Rugged with Flexible High Speed Gigabit

SL-8MG Product Highlights

- 8 Gigabit ports for 10/100/1000 Ethernet links
- 4 advanced combination ports accept copper RJ45 or noise-immune fiber optic links up to 80+ km
- Fully managed w/ advanced features and security
- Flexible mounting on DIN rail or direct to panel
- Truly rugged design for -40 to +75°C operation

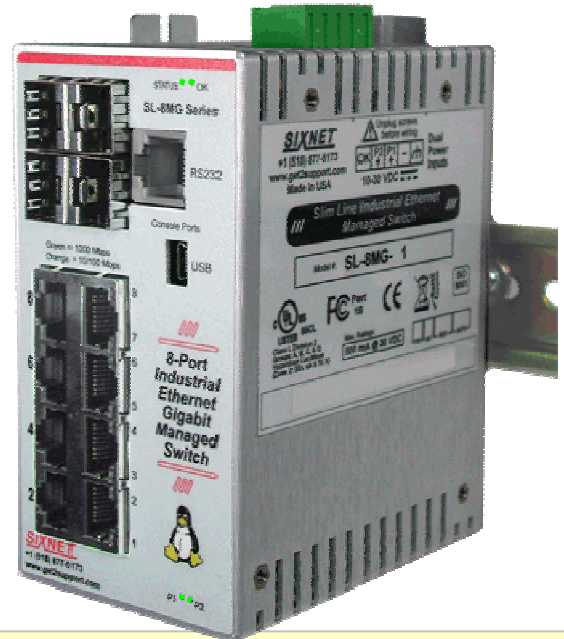
Real-time Secure Performance

- Rapid Spanning Tree (RSTP) for fast redundant rings
- SNMPv1 and v2 network management
- SNMPv3 authentication & encryption for security
- SNMP notifications (traps) for report on event
- Priority Queuing (QoS/CoS) for real-time operation
- IGMP for Multicast filtering (snooping & querying)
- VLAN for convenient traffic segregation
- Open-source programming for ultimate flexibility
- Broadcast & multicast storm protection
- RMON & port mirroring for advanced diagnostics
- Security with HTTPS, SSL, SSH, SNMPv3 & more

Trouble Free Operation

- Wide temperature -40 to +75 °C operation – no fans!
- Twenty year support and service policy
- Free field-installable upgrades forever
- UL, CSA (CUL), CE and HazLoc (Zone 2) rated
- Dual (redundant) power inputs with spike protection
- Self-test and alarm output contact
- Rugged corrosion-resistant metal packaging
- DIN rail or direct panel mounting in multiple positions – No accessories required!

The Power of
Linux IPm
Inside

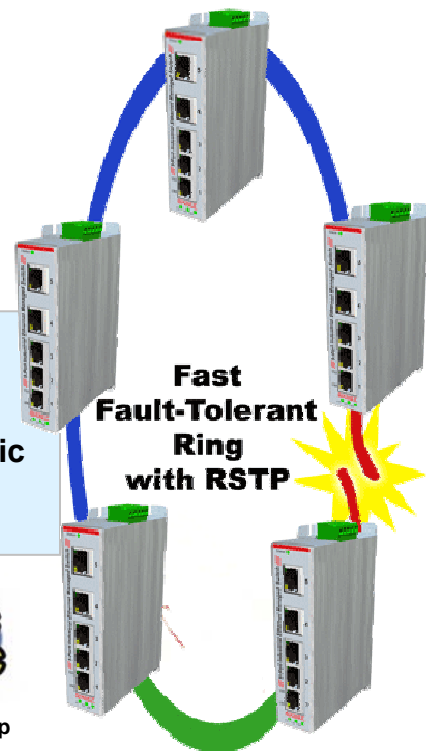


Four Flexible Combination Gigabit Ports

Your choice – RJ45 (10/100/1000) or Fiber Optic (100 or 1000) in one product! Start with a RJ45 Gigabit connection and upgrade to fiber at any time just by plugging in a fiber optic transceiver. These advanced gigabit ports make your job easier plus save you time and money!

Ensure the reliability of your network with fast automatic switchover on a segment failure.

Fast Fault-Tolerant Ring with RSTP



Industrial Rated to Perform:



ISO9001
Certified



Class I, Div 2
& Zone 2



European
Community



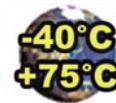
UL508
for Safety



USA/Canada
Emissions



Lead & Hazardous
Substance Free



Wide Temp
Range

SIXNET Industrial Switches Make Your Job Easier

Why an Industrial Ethernet Switch

SIXNET switches are designed for industrial environments. Their rugged packaging and protected circuitry keep them working under conditions that will likely cause other switches to fail. Industrial applications are demanding – it gets hot, it gets cold – the power browns out or spikes wildly. You need a reliable industrial switch that can keep on going.

Enhanced Network Reliability and Performance

SIXNET managed switches detect and report network irregularities before serious problems can occur. These switches support SNMP (Simple Network Management Protocol) that allows you to monitor Ethernet and RMON statistics, and SNMP Notifications (traps) to report possible problems as they occur. Then the detailed information from these reliability-enhancing switches can point you to the source of the errors and eliminate hours of frustration while hunting down problems. These ultra-reliable switches will improve the overall performance of your network.

Fast Fault-Tolerant Redundancy

SIXNET managed switches ensure that your system stays running even after a break in a communications pathway. This is possible due to the Rapid Spanning Tree Protocol (RSTP) which lets you wire fault-tolerant loops or redundant rings within your Ethernet network. When a communications path is lost, the switches will automatically and quickly re-route messages through backup or alternate pathways.

Real-time Performance Ensures Deterministic Results

SIXNET managed switches intelligently route messages to eliminate collisions, and use priority queuing (QoS & CoS) to ensure that higher priority messages are delivered first and in real-time. This automatic capability maximizes your network performance by making sure that priority traffic such as I/O control messages are delivered without delay, giving your deterministic software the open communication channels it needs. These switches also support IGMP for IP Multicast filtering for use with industrial protocols like Ethernet/IP. Plus they support VLANs for convenient network segregation, and they automatically limit the number of broadcast and multicast messages to protect you from undesirable "broadcast storms" that can cripple your network.

Ultra-Reliability and True Industrial Performance

SIXNET managed switches are likely to provide maintenance free service for the life of your equipment. Reliability data reported from field installed units proves the amazing track record of these rugged industrial switches. On average, you will enjoy over 1,000,000 hours of trouble free operation before service is required on even one unit!

Advanced Security without Holes or Back Doors

The reality is that security is measured by its weaknesses, not its strengths. Unless your Ethernet switches have every aspect of security adequately protected, access to your network management is not secure. SIXNET managed switches make sure that you are completely secure, with no holes or "back doors" for hackers to sneak into. They include SSH (Secure Shell) for secure and encrypted terminal access, HTTPS protected web server (the same protocol used to manage many e-commerce sites), authenticated communications (user name and password), plus SNMP v3 which provides authenticated and encrypted SNMP messaging.

The LINUX Advantage - Free Industrial Computer with each SIXNET Managed Switch

The powerful IPm embedded-Linux engine is inside each SIXNET managed switch. The IPm engine provides a Linux computer with plenty of horsepower to run your own application programs. Save the expense of a separate computer and enhance the reliability of your systems through this cost-saving combination. Contact SIXNET for details.

Experience how easy it is to configure a SIXNET managed switch.




[See the Live Demo!](#)

<http://www.sixnetio.com/switch-demo.html>

SIXNET®

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Performance Specifications		
General	8 Ethernet ports (all Gigabit)	
Ethernet switch type	Managed	
Ethernet protocols supported	All IEEE 802.3	
RJ45 ports (shielded)	10/100/1000BaseTX	
RJ45 speed (10, 100 or 1000)	Auto-negotiation	
RJ45 MDI/MDIX	Auto-crossover	
RJ45 TD and RD polarity	Auto-polarity	
Ethernet isolation	1500 VRMS 1 minute	
Note: Four ports are combination gigabit ports that have both a RJ45 connector and SFP fiber connector. For each of these ports, only one of the connectors can be used at a time.		
SFP (pluggable) ports	Accepts mini-GBIC transceivers	
Fiber optic port speed	1000Base or 100Base depending on transceiver	
Note: The SFP ports on the SL-8MG support both Gigabit (1000M) and fast Ethernet (100M) mini-gbic SFP fiber optic transceivers.		
Fiber optic port wavelength for typical gigabit transceivers	850 nm (mm), 1310 nm (sm) or 1550 nm (long haul sm) center	
Fiber multimode (mm) typical	50 or 62.5/125 um (LC typical)	
Fiber singlemode (sm) typical	9 or 10 /125 um (LC typical)	
Fiber typ. distance (full duplex) (Contact SIXNET for details)	0.55-1.1 km (mm); 10+ km (sm); up to 70+ km (long haul sm)	
Note: See separate fiber transceiver datasheet for more details.		
Typical latency	<5 us plus frame time	Varies on load & settings
Full or half duplex operation	Configurable per port	
MAC addresses supported	8192	
Memory bandwidth	32 Gbps	
Console ports	RS232 (RJ45) and USB	
Power Input	Redundant input terminals	
Input power (typical with all ports linked and active)	12 W (8-ports without fiber) 15 W (8-ports with 4 fiber)	
Input voltage (all models)	10-30 VDC	
Transient protection	15,000 watts peak	
Spike protection	5,000 watts (10 times for 10 uS)	
"OK" Output	Power & operational status	
Voltage	Same as switch input voltage	
Maximum current output	0.5 Amp	
Environmental	Industrial rated	
Operating temperature range	-40 to +75 °C (cold startup at -40°C)	
Storage temperature range	-40 to +85 °C	
Humidity (non-condensing)	5 to 95% RH (Conformal coating optional)	
Vibration and shock	IEC68-2-6, -27, -32	
Compliances	Industrial rated	
Electrical safety		UL508/CSA C22, EN61010-1
EMC emissions and immunity		FCC part 15, ICES-003, EN55022, IEC61326-1
Hazardous locations (Class I, Div. 2 and Zone 2)	UL1604, CSA C22.2/213; EN50021/EN60079-15	
Mechanical	Corrosion-resistant aluminum	
Protection	IP30	
Mounting	Din rail or direct to panel	
Dimensions (L x W x H)	See next page	
Weight	12 oz. (0.34 kg)	

Specifications are subject to change. Consult factory for latest information.

Hardware Highlights:

- 8 port (all Gigabit) industrial Ethernet switch with 4 flexible combination ports for RJ45 or fiber optic links
- Output for reporting power and operational status
- Redundant power with industrial surge/spike protection
- Wide temperature operation -40 to +75°C – no fans!
- UL/CSA, CE and Zone 2 rated for industrial applications
- DIN rail or direct panel mounting (no extra kits required)

Networking Features:

- Auto-detecting, auto-crossover and auto-polarity
- Store and forward wire speed switching
- Support for up to 8192 MAC addresses
- Full-Duplex operation with flow control (no collisions!)
- Rapid Spanning Tree (RSTP) for fault-tolerant loops
- Priority queuing for real-time performance
- SNMP v1 and V2 for network management
- SNMP v3 for authentication and encryption
- SNMP notifications (traps) for report on event
- IGMP v1 & v2 for IP multicast filtering
- VLAN (port & tag based) for traffic segregation
- Message filtering to stop broadcast/multicast storms
- RMON and port mirroring for diagnostics
- Configuration via secure (https) Web interface, Telnet / SSH (network), terminal (RS232/USB) or SNMP (v1,2,3)

Additional features are in the works and are provided through FREE Firmware Upgrades. Contact SIXNET for the latest information.

Ethernet Compliance:

- IEEE 802.3ab/z (Gigabit 1000 Mbps Ethernet links)
- IEEE 802.3u (Fast Ethernet 100Mbps for newer devices)
- IEEE 802.3 (10Mbps Ethernet supports legacy devices)
- IEEE 802.3x (Full-Duplex with Flow Control)
- IEEE 802.1D/w (Rapid Spanning Tree for redundant rings and Spanning Tree for interoperability)
- IEEE 802.1p (Priority Queuing – QoS, CoS, ToS/DS)
- IEEE 802.1Q (VLAN for traffic segregation)

Ordering Guide

SL-8MG-1	Managed switch with no fiber transceivers populated
SL-8MG-MMXX	Managed switch with 2 multimode fiber transceivers populated
SL-8MG-MMMM	Managed switch with 4 multimode fiber transceivers populated
SL-8MG-SSXX	Managed switch with 2 singlemode fiber transceivers populated
SL-8MG-SSSS	Managed switch with 4 singlemode fiber transceivers populated
SL-8MG-xxxx	Managed switch with up to 4 fiber transceivers of your choice
x =	S = singlemode, 1310nm, 10 km, LC M = multimode, 850nm, 550 m, LC or Contact SIXNET for 100 Mbps, special and long haul fiber optic transceivers.

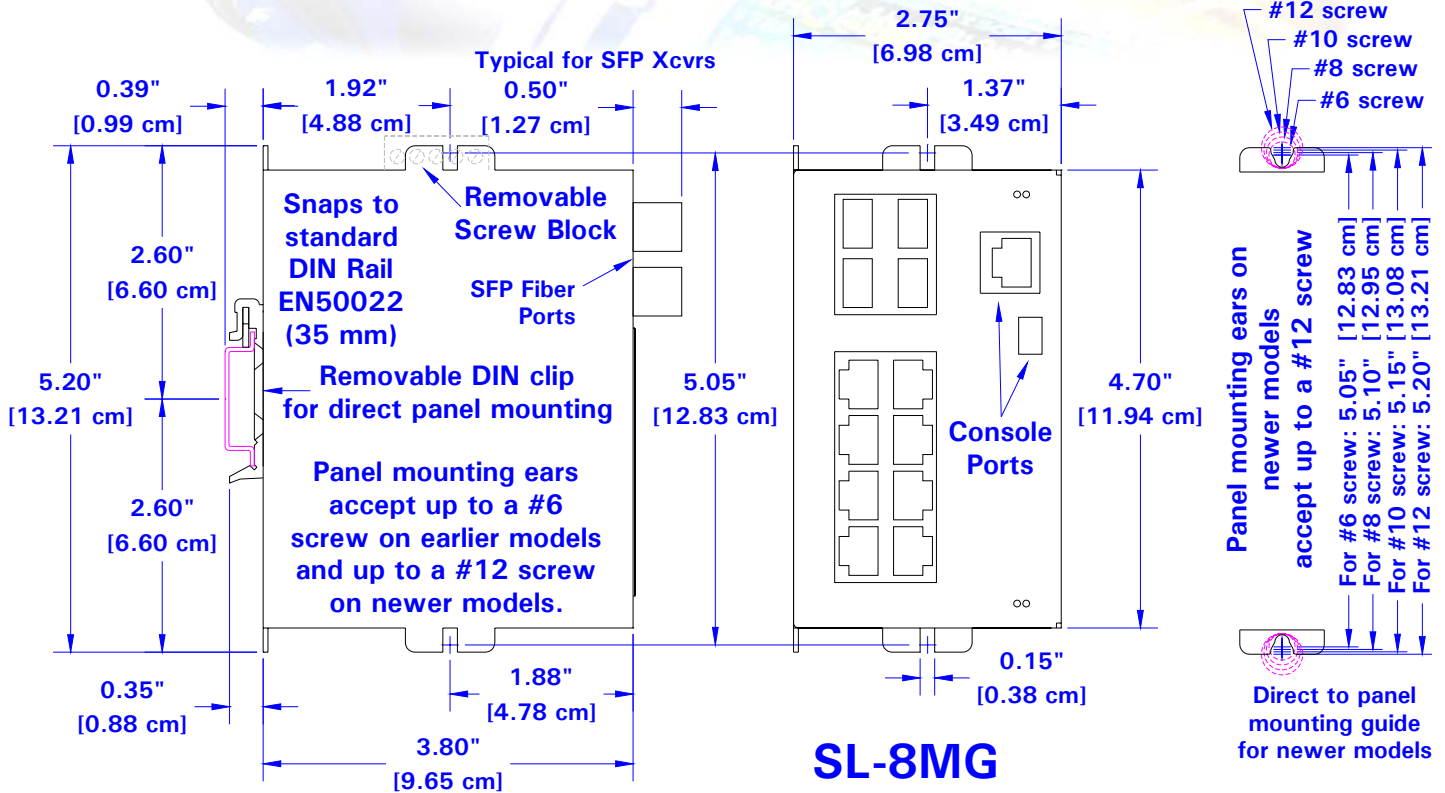
Accessories:

ET-PS-024-02	Power supply, AC to 24VDC, 2A
RJ45-DB9F-CBL	PC to managed switch serial cable

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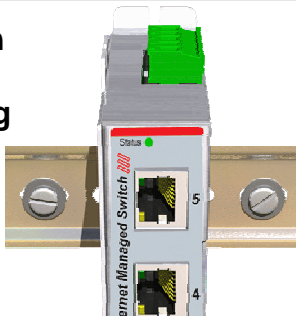
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Mechanical Dimensions

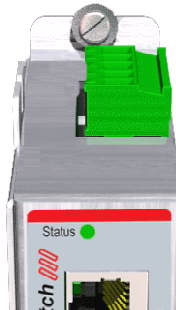


Optional Mounting Positions

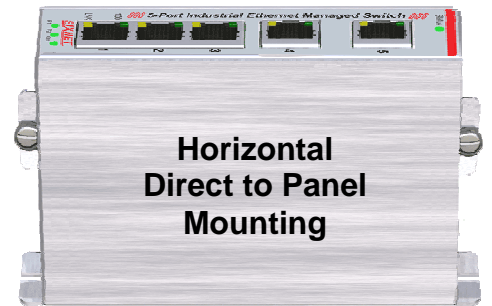
Snap On
DIN Rail
Mounting



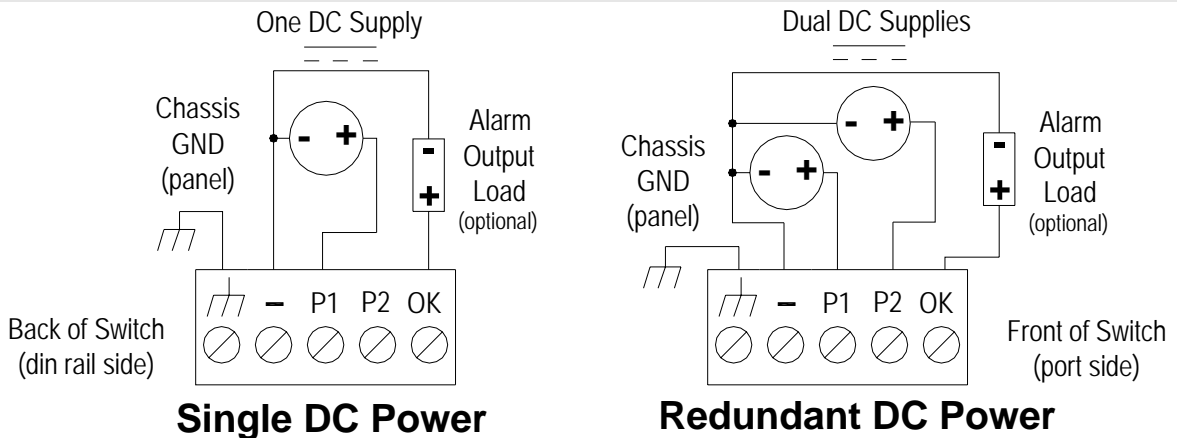
Vertical
Direct to
Panel
Mounting



Horizontal
Direct to Panel
Mounting



Power and Alarm Connections



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A Complete Family of Automation & Connectivity Solutions

Industrial Ethernet I/O

SIXNET can provide you the building blocks for the open systems you are looking for. Several complementary families of modular DIN rail mounted I/O provide local, remote, enterprise level, or Internet I/O solutions.



IP & GPS Series



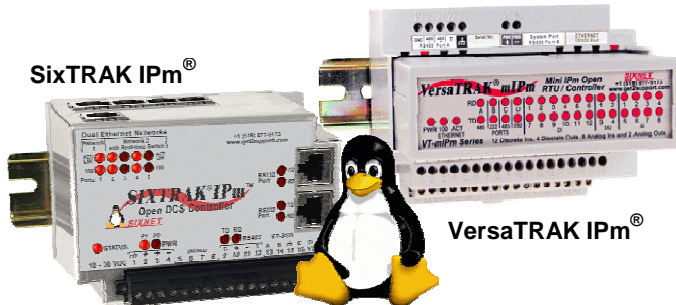
VT-MODEM



BT-6000 Series

More Industrial Ethernet Switches

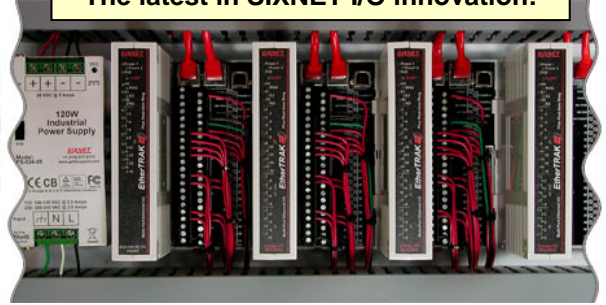
SIXNET offers a full line of unmanaged, ring, managed, gigabit and PoE industrial Ethernet switches. All these advanced switches are rugged, reliable and provide real-time performance.



SixTRAK IPm®

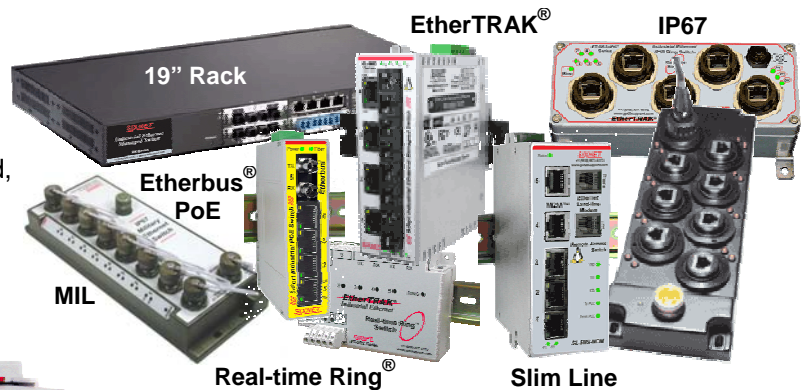
VersaTRAK IPm®

Check out EtherTRAK-2®
The latest in SIXNET I/O innovation!



Industrial Cellular and Phone Modems

SIXNET rugged industrial modems allow you to remotely access your systems from anywhere in the world. They are ultra-reliable, secure, and real-time. Plus they will save you money by eliminating all those costly site visits.



Controllers & RTUs with Open-Source Linux

SIXNET IPm is a combination of installation-ready industrial controllers & RTUs and a wealth of powerful software solutions. IPm offers the reliability of a PLC, the familiarity of powerful Windows programming and configuration utilities, all combined with powerful open-source Linux flexibility.

Contact your SIXNET Applications Engineer Today!



Request Your
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<http://www.sixnetswitch.com>

For the latest information, check out
<http://www.sixnetswitch.com>

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