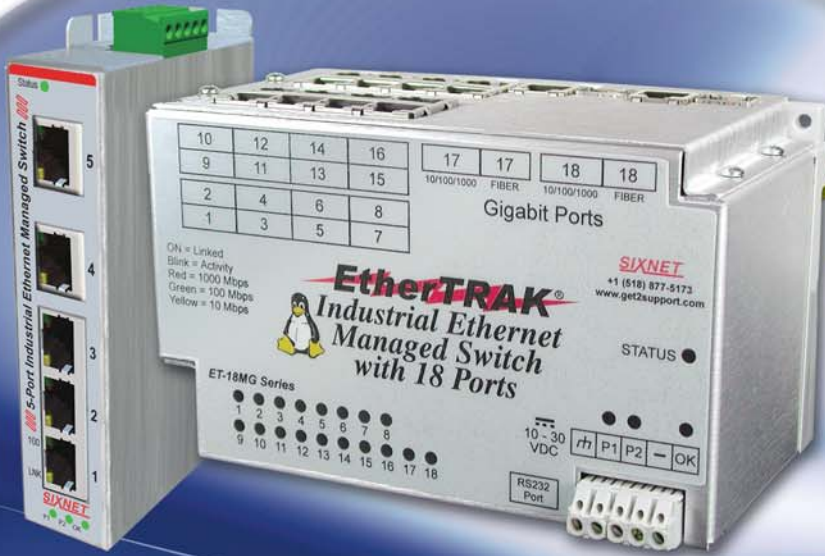


Ethernet Connectivity

SIXNET®



Managed Switches
Slim Line & Low Profile

Ring Switches



Unmanaged Switches
Slim Line & Low Profile



OEM - Military - IP67 Switches

Kevlar Protected Cable



Managed Ethernet Switches



Select these Managed switches when...

...you need an ultra-reliable product, robust enough for harsh locations or in applications where network security is a concern.

SIXNET Industrial Ethernet Managed Switches combine a feature-rich suite of real-time network management functions with the long-term benefits of truly open systems. These ultra-reliable industrially hardened switches are designed to perform for the long haul in the harshest environments.

Managed Switches Provide:

- 5 to 32 ports, including Gigabit ports
- Singlemode and multimode fiber optic ports for distances up to 120km
- -40 to +75°C operation (most units)
- Easy to configure management functions, including SNMP, VLAN, QoS, IGMP...
- Security using HTTPS, SSH and SNMPv3
- Fast and flexible redundancy with RSTP
- RMON and port mirroring for advanced diagnostics
- Compact, low profile packaging that fits in tight spaces and shallow enclosures
- Ultra-reliable with 1,000,000+ service free hours (MTBF)
- Unique 20-year support and service promise
- UL, CSA (CUL) and CE certified
- DNV marine and offshore rated
- Hazardous locations rated for Class 1, Div 2 (Zone 2) areas

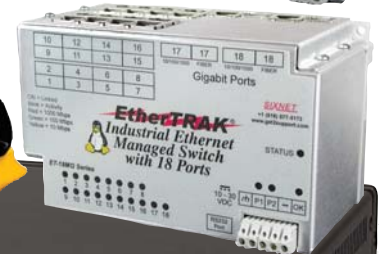
Setup is a Snap

We make your job easier with embedded tools, complete with meaningful online documentation.

The screenshot shows a web browser window with the URL <http://www.sixnetio.com>. The page title is "Port and Power Status". It displays a table with columns for "Port", "Name", "Admin", "Link", "Negotiation", "Speed / Duplex", and "Power Status". The table lists ports 1 through 8 with their respective status indicators.

See for yourself with our online demo:

www.sixnetio.com/demo.html



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Managed Ethernet Switches



| Part Number | 10/100 RJ45 Ports | Gigabit RJ45 Ports | Fiber Ports |
|-------------|-------------------|--------------------|-------------|
|-------------|-------------------|--------------------|-------------|

Slim Line Series - Best value for high reliability industrial applications

| | | | |
|----------|---------|---|---------|
| SL-5MS-# | Up to 5 | - | Up to 2 |
| SL-8MS-# | Up to 8 | - | Up to 2 |

EtherTRAK Series - Ultra robust for wide temperature and extreme environments

| | | | |
|-----------|---------|-----------|-----------------|
| ET-5MS-# | Up to 5 | - | Up to 2 |
| ET-9MS-# | Up to 9 | - | Up to 2 |
| ET-9MG-# | 7 | 2 gigabit | Up to 2 gigabit |
| ET-10MG-# | 8 | 2 gigabit | Up to 2 gigabit |
| ET-16MS-# | 16 | - | - |
| ET-18MG-# | 16 | 2 gigabit | Up to 2 gigabit |

Rack Mount Telecom Class - Modular switches for high port count applications

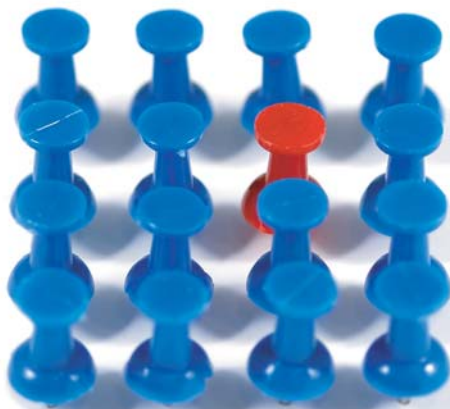
| | | | |
|------|----|-----------------|----------|
| RK16 | 16 | Up to 4 gigabit | Up to 16 |
| RK25 | 25 | Up to 4 gigabit | Up to 25 |
| RK32 | 32 | Up to 4 gigabit | Up to 16 |



See complete specs at:
www.sixnetswitch.com



SIXNET® **Stands Out Among the Rest!**



SIXNET is the leading Ethernet Switch manufacturer in North America because of our 30-year track record as the #1 supplier of industrial equipment for extreme environments. (We design and manufacture Remote Terminal Units that run just as flawlessly in the arctic as they do in deserts around the world.) We have earned a reputation as a true global supplier through outstanding customer service and worldwide technical support. Only SIXNET gives you a remarkable 20-year support policy on our very robust industrial products.

Find out the whole story at: www.sixnetswitch.com



SIXNET industrial products are certified to perform:



Unmanaged Ethernet Switches



Select these industrially hardened switches when...

...you need an ultra-reliable switches for "last mile" network connections or for simple stand-alone Ethernet connectivity.

SIXNET Real-time Unmanaged Ethernet Switches have enhanced performance that allows you to achieve real-time deterministic operation. These robust switches are truly industrially hardened to provide superior reliability and are offered with a unique twenty-year support promise. They require no user setup and immediately start operating as soon as you power them up.

Real-time Switches Provide:

- ▶ Plug and play simplicity
- ▶ 5 or 9 ports in Slim Line and low profile model
- ▶ Auto-sensing, auto-polarity and auto-crossover RJ45 ports
- ▶ Singlemode and multimode fiber optic ports for distances up to 120km
- ▶ Fully IEEE 802.3 compliant
- ▶ Intelligent routing - No collisions
- ▶ Dual power inputs with spike protection
- ▶ Ideal for deterministic systems and PLCs
- ▶ Ultra-reliable with 1,000,000+ service free hours (MTBF)
- ▶ -40 to +85°C operating range (traditional model)
- ▶ Unique 20-year support and service promise
- ▶ UL, CSA (CUL) and CE certified
- ▶ DNV marine and offshore rated
- ▶ Hazardous locations rated for Class 1, Div 2 (Zone 2) areas



Real-time Switches will:

- ▶ Simplify Installation
- ▶ Greatly Increase Reliability
- ▶ Operate in Harsh Environments
- ▶ Improve Network Bandwidth
- ▶ Ensure Real-time Operation
- ▶ Support Deterministic Control

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Unmanaged Ethernet Switches



| Part Number | 10/100 RJ45 Ports | Fiber Ports |
|-------------|-------------------|-------------|
|-------------|-------------------|-------------|

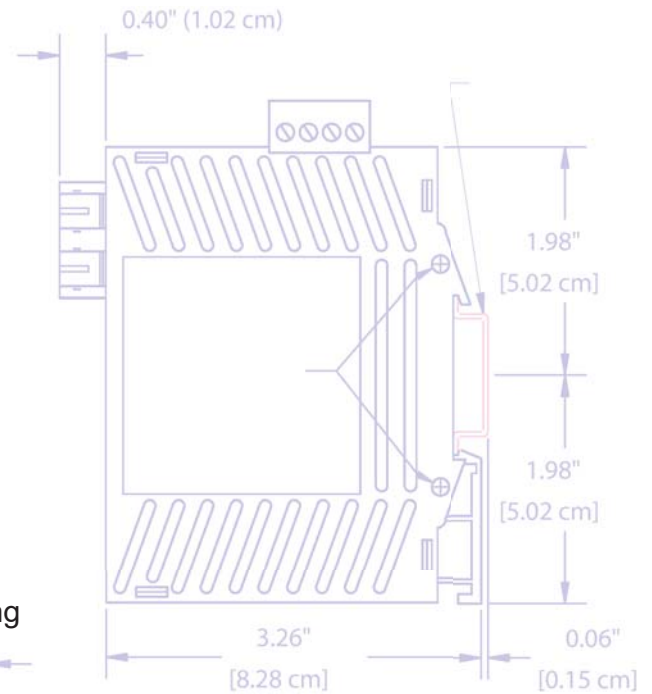
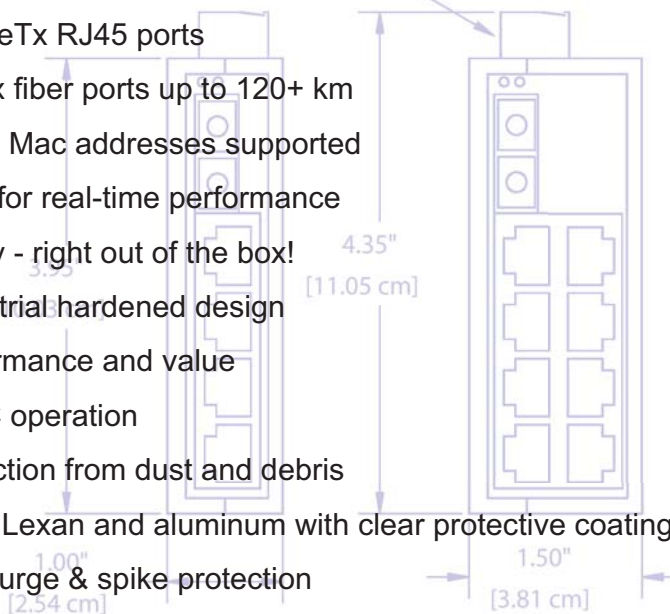


See complete specs at: www.sixnetswitch.com

Slim Line Series - Best value for high reliability industrial applications

| | | |
|-----------------|---------|---------|
| SL-5ES-# | Up to 5 | Up to 2 |
| SL-9ES-# | Up to 8 | Up to 2 |

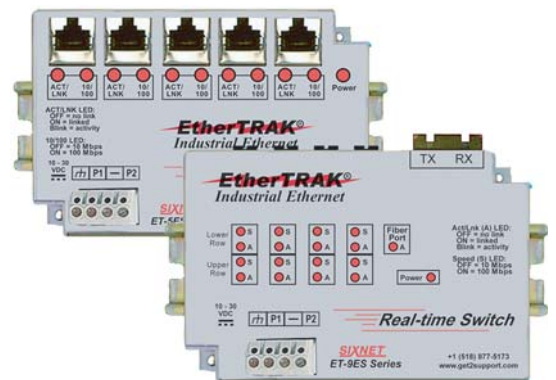
- ▶ 10/100BaseTx RJ45 ports
- ▶ 100BaseFx fiber ports up to 120+ km
- ▶ Up to 1024 Mac addresses supported
- ▶ Optimized for real-time performance
- ▶ Plug & play - right out of the box!
- ▶ Truly industrial hardened design
- ▶ High performance and value
- ▶ 10-30 VDC operation
- ▶ IP30 protection from dust and debris
- ▶ Rust-proof Lexan and aluminum with clear protective coating
- ▶ Industrial surge & spike protection



EtherTRAK Series - Ultra robust for wide temperature and extreme environments

| | | |
|--------------------|---------|---------|
| ET-5ES-# | Up to 5 | Up to 2 |
| ET-GT-9ES-# | 8 | 1 |

- ▶ 10/100BaseTx RJ45 ports
- ▶ 100BaseFx fiber ports up to 120+ km
- ▶ Up to 2048 Mac addresses supported
- ▶ Optimized for real-time performance
- ▶ Plug & play - right out of the box!
- ▶ Compact, low-profile packaging that fits in tight spaces and shallow enclosures
- ▶ DIN rail or direct panel mount (no extra kits required)
- ▶ Industrial -40 to +85°C operating range
- ▶ Hazardous locations rated for Class I, Div. 2 (Zone 2) areas
- ▶ DNV marine & offshore rated



See Also...

- Ring Switches (page 6)
- Military Switches (page 7)
- IP67 Switches (page 8)
- POE Switches (page 9)
- Modem Access (page 10)
- OEM Solutions (page 11)

SIXNET industrial products are certified to perform:



Real-time Ring™ Switches



Select these Real-time Ring™ Switches when...

....you need fault-tolerant connections and deterministic performance.

Real-time Rings - Better than the Rest!

- Recovery time less than 30 mS plus 5 mS per hop!
- No “master” switch - remove any switch at any time
- Smart ring detection - detects more failure modes

See the full story at: www.sixnetswitch.com/rings.html

A Full Spectrum of Choices:

- 5 and 9 ports, including Gigabit ports
- Singlemode and multimode fiber optic ports
Distances up to 120 Km
- User configurable port settings

Modbus Status Reporting:

- View ring status through Modbus registers
- Works with all HMI software
- Ideal for PLC (automation systems)

Real-time Traffic Prioritization (Qos and CoS):

- Assures delivery of real-time data
- Improves network utilization
- Allows user defined priority assignments

Special Features Make Your Job Easier:

- Port mirroring for traffic diagnostics
- Pre-configurable for plug & play simplicity
- -40 to +75°C operating range
- UL, CSA, CE, DNV and CENELEC rated



See complete specs at:
www.sixnetswitch.com

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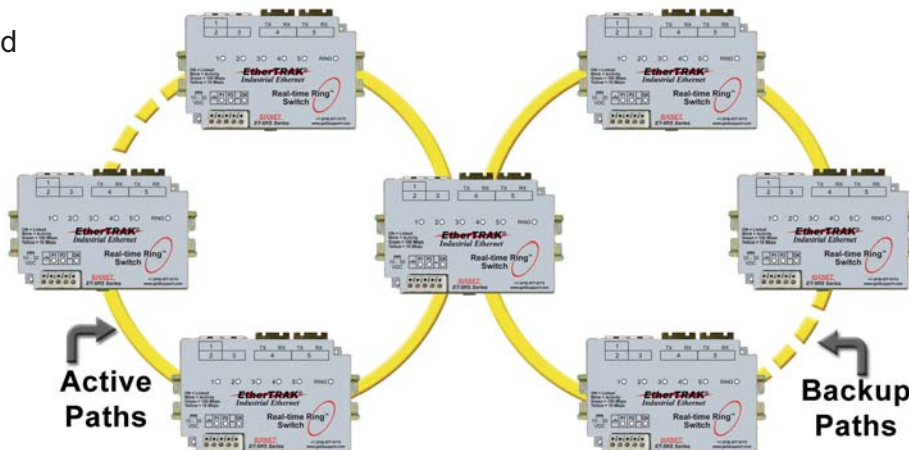
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Pre-configured
To Make Your
Job Easier!



Military Ethernet Switches



Select a Military strength switch when....

....you need to survive the extreme heat and cold of the harshest environments, whether it be on land, sea or air - or anywhere you need ultra-reliability.

SIXNET Ethernet switches are rugged enough to meet demanding military applications. This fact is demonstrated in the large number of military programs that have selected SIXNET switches after extensive qualification reviews.

- ▶ Both COTS & ITAR solutions are available
- ▶ Proven in many military applications
 - ▶ Bombers, transports and other aircraft
 - ▶ Missile delivery systems
 - ▶ Naval vessels and offshore platforms
 - ▶ Land vehicles with fluctuating power
 - ▶ Ground support facilities
- ▶ Reliable operation from up to -40 to +85°C
- ▶ Tested for vibration and harsh conditions
- ▶ Special technology for military applications
- ▶ Easily adapted to special requirements
- ▶ Guaranteed long-term availability
- ▶ Custom switches for OEMs
- ▶ 1 Million Hours Mean Time Between Failure



ITAR Registered Code: M19128



EB-GT-8ES-1EP is designed for MIL-STD-1275 power requirements.

They are used in the Stryker Light Armored Vehicles...



...and they withstand the worst.

EB-GT-8ES-1EP
IP67 rated with MIL-STD-1275 power protection



SIXNET industrial products are certified to perform:



See complete specs at: www.sixnetswitch.com



IP67 Waterproof Solutions



IP67 Waterproof Switches, Connectors and Ethernet Cabling

IP67 Waterproof Switches

SIXNET's IP67 (waterproof) industrial Ethernet switches were designed for the toughest applications, and are even tough enough for the military. The rugged packaging of these switches and accessories are rated to protect against water, oil, dust, vibration, shock and much more. They can be mounted directly to any machine or convenient flat surface.



ET-5RS-IP67

Switch Benefits:

- Reduced installation cost
- Mount anywhere - save space
- Ensure real-time operation and allow for deterministic control
- Increased network reliability



IP67 Accessories:

- Power Plug
- Bulkhead Connector
- Ethernet Plug
- Caps for Unused Ports

Features:

- Easy to install - no tools required
- Super rugged - IP67 and military tough
- Patented RJSTOP® System
- Fits over any standard Ethernet cordset



Available in bulk reels or pre-assembled cordsets

Kevlar Reinforced Ethernet Cabling

Cable and Cordsets

This industrial Ethernet cable is ideal for connecting your industrial Ethernet devices. Its high reliability and superior ruggedness make it a perfect choice for any application needing extra protection. Its design resists UV, water and microbial penetration.

Category 5E for 1000BaseT connections

-40 to +75°C operating range

High flexibility for easy routing

Double shielded for noise immunity

Shielded RJ45 plug with Gold plated contacts

Low smoke, halogen-free material

Common Applications

- Industrial automation and control
- Process, machining and motion control
- Railway (on-board and side-track)
- Maritime, marine and off-shore
- Military and aerospace
- Extreme temperature locations



See the full details at: www.sixnetio.com/ip67.html

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Power Over Ethernet Applied to Ruggedized Industrial Systems

Etherbus combines PoE (Power Over Ethernet), your standard and existing Ethernet messages, and rugged industrial cabling to create the first truly open Fieldbus. Everyone can take advantage of Etherbus. It works with existing industrial field devices. It supports every Ethernet protocol. It will seamlessly connect to your existing Fieldbus solutions (without expensive gateways). Climb on the bus and enjoy the ride!

Etherbus is the Ideal Fieldbus

- ▶ Full 100 Megabit Ethernet speed
The fastest Fieldbus by far
- ▶ Easy to install (it's just Ethernet)
- ▶ Eliminates power cables – saves money
- ▶ Rugged IP67 rated, Fieldbus cabling

Etherbus is “Everybus” –

- ▶ Works with **ALL** Ethernet devices
- ▶ 100% compatible with **ALL** protocols
- ▶ Provides the greatest range of choices
- ▶ Freedom from proprietary products

Real-time PoE Switches

These ultra-compact unmanaged switches source reliable power for industrial applications.

- EB-5ES-PSE-1** 4 PoE & 1 RJ45
- EB-5ES-PSE-2SC** 4 RJ45 PoE &
- EB-5ES-PSE-2ST** 1 multimode fiber port
- EB-5ES-PSE-3SC** 4 RJ45 PoE &
- EB-5ES-PSE-3ST** 1 singlemode fiber port



Convenient Industrial PoE Injector

This injector steps up and isolates 24VDC for sourcing an Etherbus cable. This is a highly reliable way to install a single industrial PoE (Etherbus) channel in a system powered by traditional 24VDC power.

- EB-PSE-24V-1A**
- EB-PSE-24V-1B**



Universal Power Splitter -- At the Field End

This splitter will eliminate expensive power wiring by generating clean, isolated 24 VDC power for any (non-PoE) industrial devices. The ingenious UPS model charges a 12 volt battery to keep systems running.

- EB-PD-24V-1** PoE splitter for 24 VDC systems
- EB-PD-UPS-1** Charges an external 12V battery



Two-port Power Injectors

Stack these space-saving injectors on a DIN rail to add PoE power to any Ethernet cable.

Efficiently powered by a single 48VDC supply.

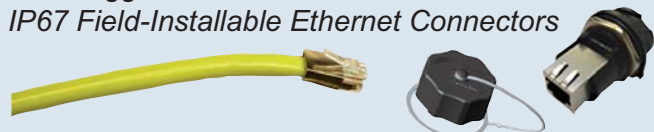
- EB-PSE-48V-2A**
- EB-PSE-48V-2B**



Etherbus Cabling and Connectors

Ultra-rugged Kevlar reinforced CAT5E cable and IP67 Field-Installable Ethernet Connectors

- EB-CAT5E-xx** Yellow cable “x” meters long
- EB-RJ45-PLUG-1** Ethernet plug
- EB-RJ45-BLKHD-1** Bulkhead connector
- EB-RJ45-CAP-1** Protective cap with tether



Power Supplies

Various power supplies are offered to complete your Etherbus PoE solution.

- EB-PS-AC-48-120** AC to 48 VDC @ 120 Watts
- EB-PS-AC-48-75** AC to 48 VDC @ 75 Watts
- EB-PS-4824- 13** Isolated 48 VDC - 24 VDC - accessory



SIXNET industrial products are certified to perform:



Find full product details at:
www.sixnetio.com/etherbus.html

Industrial Telephone Modems

SIXNET Industrial Telephone Modems are specifically designed for -30 to +70°C environments! Connect these rugged modems to PLCs, RTUs or any industrial equipment that you need to remotely access.

VT-MODEM-1



...is a workhorse for general industrial applications. It supports speeds up to 33.6K (V.34)

VT-MODEM-2



...can automatically dial out on a contact closure from any PLC or other device.

VT-MODEM-3



...has a RS422/485 port in addition to the RS232 port. It also accepts power up to 52 VDC.

VT-MODEM-4



...supports 2-wire leased-lines. (Must be used in pairs.)

VT-MODEM-5



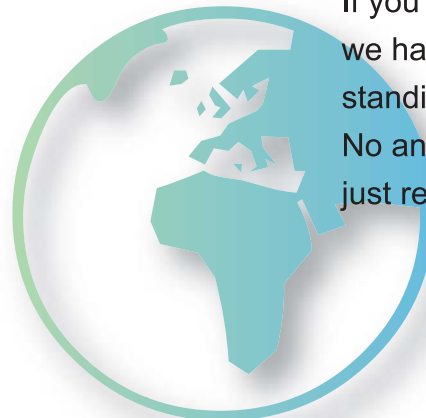
...supports speeds up to 56K and advanced features such as call-back security and remote configuration.

Industrial Features that Make Your Job Easier!

- ▶ Auto-dials on simple contact closure
- ▶ Accepts VDC power directly
- ▶ No more cumbersome wall mount transformers
- ▶ DIN Rail or flat panel mounting
- ▶ UL508, UL1604 and DNV rated
- ▶ Compliant with most international systems
- ▶ Rated for industrial environments
- ▶ Operates outdoors without a heater (-30° C)
- ▶ Survives extreme heat (+70° C)
- ▶ Includes internal surge protection
- ▶ Class I, Div. 2 (Zone 2) hazardous location rated
- ▶ Guaranteed long-term support

World Class Support!

If you have questions, we have a Modem expert standing by, ready to help you. No answering machines here, just real people.



See complete specs at:
www.industrialmodem.com

ET-5MS-MDM Remote Access Ethernet Modem



This powerful Ethernet switch and modem combination allows you to easily and securely access your Ethernet network from any remote location over standard telephone lines.

Avoid costly site visits and respond to network situations immediately!

- ▶ 5-port industrial Ethernet managed switch with integrated industrial telephone modem
- ▶ Easy and secure dial-in and dial-out connections, up to 56 Kbps using PPP (point-to-point protocol)
- ▶ Easy to configure management and modem functions including PPP, SNMP, VLAN, QoS, IGMP and more
- ▶ Truly rugged design with -40 to +75°C operation

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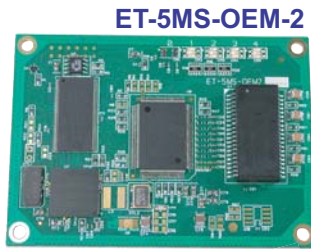
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SIXNET is Your OEM Supplier!

SIXNET can help make your job easier — and add more profit to your bottom line. Twenty years as a Total Quality OEM supplier has taught us to be responsive and deliver just what you need.

Your products are Ethernet enabled. Go the next step and round out your product offering with high quality Industrial Ethernet Switches. Enhance your value added and be the only source your customers go to. **SIXNET** helps our OEM partners with flexible marketing programs and attractive OEM pricing.



Off the Shelf Embedded Switches

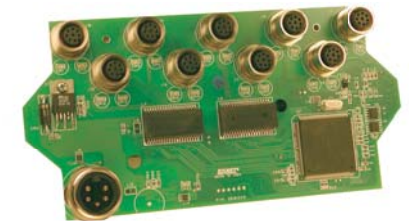
SIXNET embedded managed switches are ready to plug into your electronic assemblies. This military qualified switch is only 3.5" x 2.5" (8.9 cm x 6.4 cm) and runs on just 1.5 Watts.

Custom Designed Switches

Do you need specialized packaging or ruggedized connectors? **SIXNET** will design the ideal switch for your application. Our expertise will save you money and make your job much easier!



Alternative packaging for a distinctive look



Custom switch with M12 connectors



Private Label

Transform standard **SIXNET** switches into your own profitable products. Setup cost for labeling is low and **SIXNET** will even create the artwork for you!

SIXNET Switches allow you to:

- Provide complete solutions to your customer
- Enhance the real-time performance of your products
- Increase your revenue with this profitable item
- Improve reliability & reduce support calls
- Keep your customers from calling your competition for solutions

Detailed information about all **SIXNET** products may be downloaded as pdf files from www.sixnetswitch.com.



SIXNET industrial products are certified to perform:



Complete Your System with:



Ethernet Device Servers

The SIXNET serial to Ethernet device servers are ideal for connecting your serial-based software applications over Ethernet to your remote serial devices. These high performance devices deliver a truly rugged solution in a very compact size. They are easy to use and at the same time extremely flexible, offering the latest in advanced IP technology.

Part #: ET-DS or ET-SDS (Secure Device Server)

Information at: www.sixnetio.com/device_server.html



Ethernet Media Converter

SIXNET Slim Line Industrial Ethernet Copper to Fiber Media Converters provide fast performance allowing for real-time operation. They require no user setup and immediately start operating as soon as you power them up.

Part #: SL-2ES-#

Information at: www.sixnetio.com/converter.html



Kevlar Protected Ethernet Cable

This industrial Ethernet cable is reinforced by kevlar, making it the toughest in the world! It is ideal for connecting your industrial devices. Its high reliability and superior ruggedness make it a perfect choice for industrial, military or any application needing extra protection.

Part #: ET-RJF5E-xx

Information at: www.sixnetio.com/cat5e.html



Industrial Power Supplies

SIXNET power supplies provide up to 120 Watts (5 Amps) of clean, protected power in a compact package and are ideal for powering an industrial switch or modem. With an operating range of -35 to +75°C they share the same industrial ratings as the industrial products they are designed to power.

Part #: ET-PS-024-02

Information at: www.sixnetio.com/power_supplies.html

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