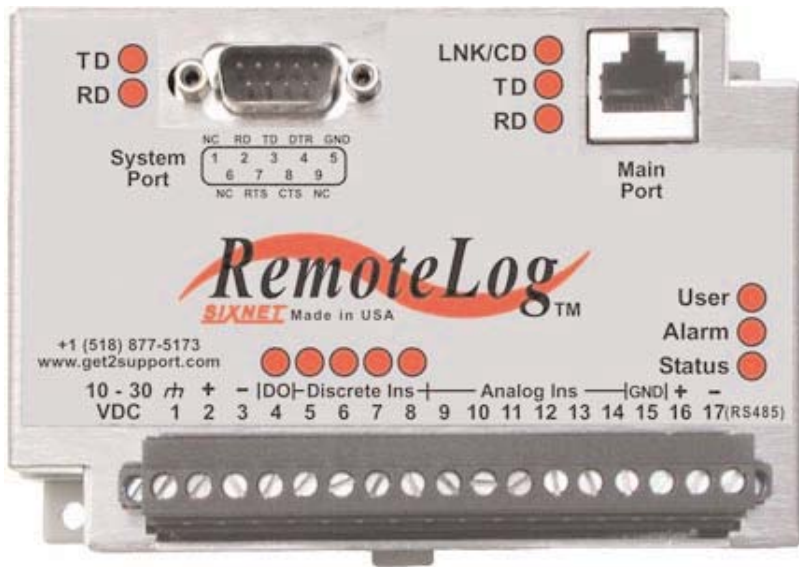


## RemoteLog<sup>™</sup> RTU and Datalogger

*The plant floor interface for real-time database systems*

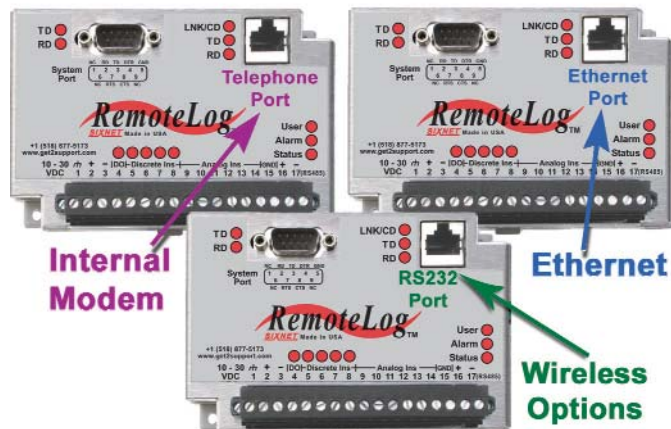


- **Real-time Internet Databases**  
*(E-business distributed data systems)*
- **Vendor Managed Inventory**  
*(Detect shortages and track usage)*
- **Remote Process Monitoring**  
*(Alarm reporting and datalogging)*
- **HVAC and Energy Management**  
*(Demand factor and usage analysis)*
- **Environmental Monitoring**  
*(Data collection and reporting)*
- **Low cost OEM applications**  
*(Data enable industrial products)*

[See page 4 for details](#)

Three RemoteLog models give you a flexible choice of communications.  
See page 3.

### Three models to choose from!



**RemoteLog puts an end to manual data recording and costly site visits.**

# A Powerful Solution for Remote Site Management

## RemoteLog™ completes your new strategy to better utilize information...

...to make fast, cost-effective decisions that give you a competitive edge. RemoteLog is the plant floor “front-end” that brings real-time data from distributed industrial locations into your central information server. RemoteLog is an innovative combination of RTU (Remote Terminal Unit), datalogger, real-time database client, and telemetry interface in a compact installation-ready package.

## RemoteLog is a Powerful RTU

SIXNET has been a major Remote Terminal Unit supplier for the past twenty years. All of this experience is designed into our 21st century RTU.

Flexible communications, rugged industrial I/O interfaces, alarm reporting, and numerous other field-proven features are packed into this powerful RTU & Datalogger.

## RemoteLog is a Datalogger

RemoteLog is configurable with optional SIXNET Sixlog software to gather time-stamped historical data into protected Flash memory and upload it into your central database in universal ASCII format.

Data can be pre-scaled into engineering units and identified with meaningful tag names to simplify your data management and save you valuable time.

## RemoteLog is Internet and Intranet Ready

Poll each RemoteLog using its IP address or phone number; it can also be a client to your central server or database.

RemoteLog contains an internal firewall for secure operation as a low-cost Internet client.

RemoteLog can “Report on Exception” to reduce polling traffic and report transactions and events in real-time.

## RemoteLog Open Communication Options

Some locations are Ethernet / Internet wired, some are not.

Sometimes phone lines are available and sometimes a wireless link is the only answer.

RemoteLog provides the open choice of communications that is necessary for a successful distributed data management strategy.

## RemoteLog is Plug-and-Play Profitable

Quickly configured with an easy-to-use Windows wizard, RemoteLog can be installed in minutes. No programming is required and field training requirements are greatly reduced. RemoteLog turns time savings into cost savings. The “cookie cutter” installation capabilities of RemoteLog will delight your operations planners.

### ● Dial Out Upon Alarm

High or low level or discrete state  
Send user-defined ASCII messages  
Use an internal or external modem

### ● Time-Stamped Datalog Files

1 Megabyte of Flash memory  
Battery-backed real-time clock  
Simple ASCII data file format

### ● Report Real-time I/O Status

6 analog inputs (4-20 mA, 10 bit)  
4 discrete inputs (10-30 VDC)  
1 battery-backed discrete output  
Expandable with one RemoteTRAK I/O  
Modbus or other protocol

### ● Internal Telephone Modem

Full featured SIXNET VT-MODEM-1WW  
PC and Windows compatible  
Certified for worldwide use

### ● Ethernet TCP/IP

Internet / Intranet ready  
Ideal for broadband systems  
Windows and SCADA ready

### ● Firewall Protected Client

Let the Internet carry your data  
Easiest way to access your server  
Internal firewall for full protection

### ● One or Two RS232 Ports

Supports external modem or radio  
I/O slave port for a SCADA system  
Laptop PC port for field service

### ● Easy Installation and Setup

Runs on 10–30 VDC power or batteries  
DIN rail or flat panel mounting  
Removable terminals for easy service

### ● Rugged Environmental Specifications

Full -30° to +70°C operation  
Zone 2 (Cl. 1 Div. II) hazardous locations  
Marine and offshore certified by DNV  
UL, CSA, CE – 100% global-ready

**Need a low power RTU or remote datalogger?  
See page 3.**

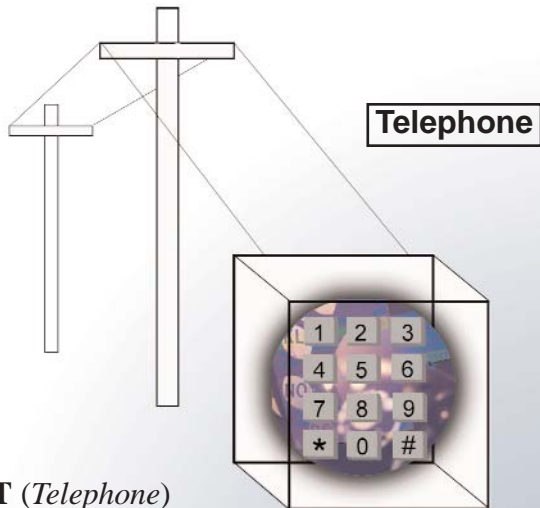
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# RemoteLog Communications For Every Application

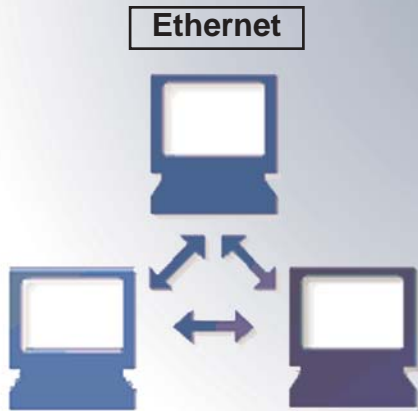
Some locations are Ethernet/Internet-wired, some are not. Sometimes phone lines are available and sometimes a wireless link is the only answer. In all likelihood, your system will contain a combination of communication links suited to the conditions at each client site. RemoteLog offers a flexible choice of communications; simply select the right options for each location.



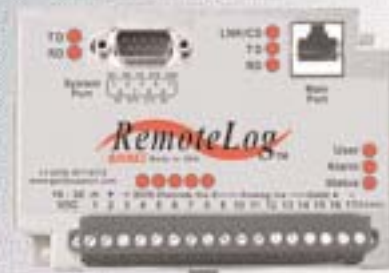
The **-T (Telephone)** version has an internal (self-contained) SIXNET world-wide Industrial Modem. Both dial-in (“Auto-answer”) and dial-out (“Report on Exception”) modes are fully supported.



The **-S (Serial)** version provides a wireless-ready serial port that plugs into the external modem of your choice. Wireless GSM, cellular, spread-spectrum, and most other wireless communication standards are supported.



The **-E (Ethernet)** version directly connects to your on-site Ethernet network. RemoteLog can be a master or slave node on any Ethernet SCADA network; or it can report to the central network server as a client.



## Low Power Option

Ideal For:



Battery Powered

or



Solar Panel Powered

The **-SL** version provides RemoteLog functionality while consuming less than 200 milliwatts of power. This low power RTU is ideal for battery or solar powered monitoring sites. Connect to your choice of external modem.

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# RemoteLog Applications

## **RemoteLog Reports Electric Power Demand**

The electric power industry is adopting RemoteLog as the ideal way to monitor power demand at remote customer sites. Such monitoring is frequently used as a means to offer incentives designed to reduce the burden on the power grid during periods of peak usage. This low cost RTU counts pulses generated by the existing power meters and logs the accumulated power usage in time-stamped data records which are reported in real-time or "near real-time" to the utilities' central data server.

Utilities using RemoteLog embrace the unique SIXNET concept of reporting data over the Internet. This low-cost interface eliminates the monetary and logistics problems of connecting to a large number of remote client sites. Each RemoteLog, acting as an Internet client, reports transactions to the central server as simple Internet (TCP/IP) data packets. The utilities no longer need to maintain "modem farms", and the responsibility of maintaining an inexpensive Internet connection is readily accepted by customers who are eager to benefit from energy conservation programs.

Of course it is also possible to poll the RemoteLog stations or have them report on exception through any number of classical means (telephone, wireless, etc.) as either a master or slave on a distributed SCADA network. In addition to counting meter pulses, some utilities offer value-added data services to their customers using the analog inputs that are standard on every RemoteLog. As a fully-featured datalogger, RemoteLog can be configured to store weeks of data in permanent Flash memory.



*Read power demand in real-time over the internet*

## **RemoteLog Tracks and Reports Chemical Usage**



*Automate your Vendor Managed Inventory System*

Chemical companies often distinguish their product offerings from the competition by providing value-added services to customers. RemoteLogs are used to monitor chemical usage and important process variables which help their customers realize more value from the chemicals they buy. The optional datalogging features of RemoteLog record operating conditions which forms the basis for valuable reports and analysis provided to the customer. Alarm detection in the RemoteLog signals unfavorable conditions before serious problems occur making it unnecessary to have personnel visit the site on a regular basis.

RemoteLog also monitors customer tank levels and will automatically reorder chemical inventory when needed. This vendor managed inventory function gives chemical companies yet another way to add value for their customers while again reducing operating expenses by eliminating expensive site visits to check inventory. At the same time lower delivery costs are realized as a result of the improved logistics.

Currently, much attention is being placed on direct Internet connections and wireless interfaces to sites that are difficult to reach using conventional communications means. SIXNET addresses this by offering a diverse range of communications options with the RemoteLog which simplifies the logistics for the major chemical companies that use SIXNET RTUs.

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# RemoteLog Applications

## **RemoteLog Replaces Chart Recorders Functions as a modern low cost remote datalogger**

Install RemoteLog dataloggers on the plant floor to replace your obsolete chart recorders and manual record keeping systems with a reliable and automated system. RemoteLog logs process variables (analog values), machine states (discrete inputs) and counter values in time stamped records, safely stored in Flash memory. Eliminate the frequent visits to the plant floor to collect the data by connecting the RemoteLogs to an Ethernet network. Sixlog data server software running on a Windows computer collects the time stamped data records and archives them in files that are organized by location and date. (More details on this easy-to-use software are given below.)

RemoteLog protects your data by retaining a backup file in its Flash memory. Should you lose your communications link or if the archiving computer goes offline, data can be retrieved later from the RemoteLog memory. Sixlog data is stored in standard database format which opens a world of possibilities for data sharing to make your processes more effective and save you time.

RemoteLog also has a built in alarm detection and reporting capability that can alert you to out of tolerance or fault conditions as soon as they occur. In more advanced applications, RemoteLog can report real-time results to a SCADA system through industry standard Modbus messaging.

## **Data Server Software Interfaces to Your Database**

Gather the plant floor data collected by distributed RemoteLog stations and archive it in a Windows-based computer or load it directly into your central database. Sixlog data server software receives time stamped data transactions from RemoteLog and VersaTRAK RTUs through the Internet, an in-plant Ethernet network, or a modem, and passes it to your data storage system. There are two common ways to use this versatile software:

For data archiving systems, log files are automatically created to store the historical data. Organized by location and date, you can easily view the data with Microsoft Excel or any other software that can read a text file. This simple and low cost solution will replace your legacy chart recorders with a modern computer solution.

This server software will also format the received data for upload to your central database. Data is stored until your system, acting as the master, retrieves it. The source code for the server interface is supplied, to give you full control over the interface. If you are using an operating system other than Windows, or if you have special requirements, this open-source interface can be easily ported to meet your requirements. Contact SIXNET for more information.



**Put an end to the manual labor of data collection!**

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## **RemoteLog Automates Remote Building Monitoring**

It's important to know that your building automation systems are running smoothly, but it is costly and difficult to have someone on-site all the time. RemoteLog will monitor key performance indicators for you and report status and alarm conditions to your central monitoring facility. In effect, RemoteLog is a tireless 24 hour-a-day watchman. RemoteLog is ideal for watching HVAC systems, monitoring the health of critical equipment, overseeing security, and a multitude of other tasks.



*Let RemoteLog be  
your watchman --24/7*

Broadband networks are bringing Internet-connected Ethernet directly to homes, offices and industrial complexes. Ethernet-enabled RemoteLogs are connected directly to a building's existing network as Internet clients. These pseudo-web browsers deliver real-time information to the central server with zero marginal communication cost. Because they are acting as clients, RemoteLogs use local or "borrowed" IP addresses; sparing the expense of attaining static IP addresses for each location. And as clients, RemoteLog data easily passes through firewall protection hardware.

Building automation applications for RemoteLog are springing up everywhere. Apartment complex (multi-family residences) buildings, remote wireless telephone repeaters, greenhouses and other agricultural applications, pumping stations, and security systems are just a few of the places that RemoteLog can save you money and give you real-time information flow.

## **RemoteLog Prevents Expensive Compressor or Pump Failures**

RemoteLog makes it possible to avoid expensive compressor or pump failure with effective preventive maintenance. By enabling you to monitor their operation remotely, the expense for frequent on-site inspections is eliminated.

4-20 mA signals representing operating parameters and switch closures (indicating machine status) will directly connect to RemoteLog. All process variables are logged in time-stamped historical trend files. Critical temperatures are measured by thermocouples, which are connected to a SIXNET RM-8INS-U instrumentation input module. That module is connected to the I/O expansion port on the RemoteLog.



*Predict failures before they occur.*

RemoteLog automatically checks for preset alarm conditions. Additional datalog records are stored for each alarm condition which creates a traceable sequence of events or "first out" trace of the original cause of failure. Any or all of the alarm conditions can trigger a "report by exception" to alert you to the abnormal operating conditions, enabling you to take action before expensive damage and the resulting down-time can occur.

Of course, the full spectrum of RemoteLog communications options make it possible to monitor all your compressors, no matter where they may be located. Telephone, wireless, and Ethernet connections may be used at each location, as the situation requires. RemoteLog compressor monitors are cost effective tools for the owners and operators of compressors and large pumps of any kind. They are also an excellent value-added feature that enables equipment OEMs to distinguish their products with a capability that has great value to their customers.

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## RemoteLog - The "Client" Advantage

RemoteLog can be either a server or a client in your system. The choice is yours. As a client, RemoteLog becomes a master, initiating communications. This mode, often referred to as "Report on Exception", offers many advantages:

### Easing customer security concerns

RemoteLog contains an internal firewall that blocks ALL outside attempts at access. A client initiates data transfers and thereby eliminates the need for external sources to access data that resides on your customer's network. (Most facilities will not grant network access to third parties.)

### Easy path through a firewall

RemoteLog, acting as an Internet client, can initiate data transactions as if it were a web browser. Data transactions from RemoteLog clients easily pass through the firewall protecting your customer's network because it is initiated from within by a known source.

### Reduced operating cost

By connecting distributed RemoteLog through the Internet you greatly reduce or completely eliminate the cost per data transaction. No longer will you have to own your own communications infrastructure and bear the high costs of installation and maintenance associated with dedicated communications links.

### Quick response to alarms

RemoteLog clients will report transactions or events as they occur on a real-time or "near real-time" basis. This "report on exception" operation reduces communications traffic and the long latency experienced on traditional polled systems. The larger your system gets, the greater the benefits of distributed client architecture.



## RemoteLog Reports Time Stamped Transactions to Your Database

RemoteLog can optionally record events (alarm conditions), time interval data (such as power demand intervals), and historical data in its datalog memory. These time stamped records can be easily uploaded to your database as transactions or as data records.

Acting as a database client, RemoteLog initiates the conversation and sends your database simple messages that contain the time stamped transactions. All that is required at the server is a simple interface to receive the information and save the transactions as records in your database. The format of these transactions is described in the technical documentation on the SIXNET CD and at SIXNETio.com.

This direct client /server connection eliminates the need for otherwise unnecessary middleware. (Yes, your database or server can connect directly to RemoteLog RTUs without expensive SCADA software in-between!)

If your server is Internet-enabled, transactions from RemoteLog clients can arrive directly over the Internet. There is no need for you to maintain and pay for a communications infrastructure. Using modem banks as your central facility with all the headaches associated with keeping them running reliably are gone forever!

*Ask SIXNET about Sixlog Data Server software to interface to your central database.*

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## Performance Specifications

<b>Analog Inputs</b>	6 (4-20 mA) - <i>Expand with RemoteTRAK (*see Note 1)</i>
Input resolution	0.1% (10 bits)
Input protection	Self-resetting fuses
<b>Discrete Inputs</b>	4 (10-30 VDC or switch closure) (*see Note 1)
Counting range	16 or 32 bits (to over 2 billion counts)
Max count rate	50 KHz (input 1 only) 200 Hz (any input)
<b>Discrete Output</b>	1 (closure to ground)
Maximum load	0.25 Amps at 30 VDC
Output functions	Report alarms or user-controlled output
<b>Internal Modem (-T option)</b>	100% PC modem and Windows compatible
Maximum data rate	33.6 kbps (v.34)
Compatibility	V.34, V.32 bis, V.32, V.22, V.22A/B, V.23, V.21, Bell 212A
Data compression	V.42 bis MNP 5
Error correction	V.42 MNP 2-4
Command compatibility	All standard AT and S register commands
Ringer equivalent, line jack	0.3, RJ11 connector
Telecom certifications	FCC part 68, CS03-8 (CSA), CTR21 (98/482/EC), ACA TS 001-1997, ACA TS 002-1997)
<b>Ethernet Port (-E option)</b>	10BaseT (100% IEEE 802.3 compliant)
Protocols	TCP/IP, ARP, UDP, ICNP, DHCP, Modbus
<b>RS232 Serial Port (-S option)</b>	All standard rates up to 57,600 baud
Connections (standard RJ45)	TD, RD, CTS, RTS, CD, DTR, RI, GND
Supported protocols	Modbus ASCII and RTU, SIXNET Universal
<b>Extra Serial Ports (All Models)</b>	For setup or a local computer and expansion
RS232	DB9 female (standard PC connector)
RS485	For one RemoteTRAK module only
<b>Internal Flash Memory</b>	1 Megabyte (consult factory for more)
Datalogging storage	40,000 records (all I/O)
Time of day clock	Run for 30 days without external power
Firmware upgrades	Reloadable to support future features
<b>General Characteristics</b>	DIN rail or flat panel mount
Input power	10-30 VDC
Input current	8 mA (-SL option in power saver mode) 25 mA @24 VDC (-S and -E option) 30 mA @24 VDC (-T with modem in standby) 70 mA @24 VDC (-T with modem active)
Mounting footprint	4.75"(12 cm) x 3.17"(8 cm)
Operating temperature	-30° to 70°C (-40° to 85°C storage)
Humidity	5% to 95% RH (non-condensing)
Flammability	UL 94V-0 materials
Electrical safety	UL 508, CSA C22.2/14; EN61010-1 (IEC1010), IEC 950: 1991, AS/NZS3260-1993
EMI emissions	FCC part 15, ICES-003, Class A; EN55022; AS/NZS3548-1995
EMC immunity	EN50082-1 (IEC801-2, 3, 4)
Surge withstand	IEEE-472 (ANSI C37.90)
Vibration	IEC68-2-6
Hazardous locations	UL 1604, CSA C22.2/213-M1987, (Class 1, Div 2, Groups A, B, C, D), Cenelec EN50021 (EEx nA II T4) Zone 2

**Note 1:** A RS485 port lets you expand RemoteLog using any one RemoteTRAK or EtherTRAK I/O module to a total of 22 analog or 20 discrete inputs.

## RemoteLog Packaged Systems

Designed, built, tested and ready for installation.



This PAK1210-FG RemoteLog Packaged System may be ordered as a standard product. As always, they are ready for installation at your distributed sites.

## Ordering Information

All RemoteLog models include four discrete and six 4-20 mA analog inputs, one output, 1 Meg of Flash Memory, a choice of remote communications and an extra serial port for on-site connection.

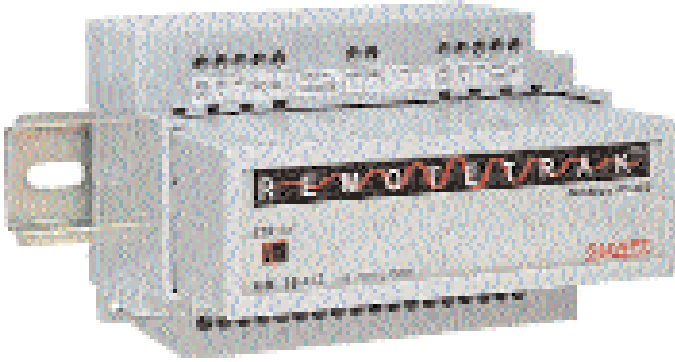
Part Number	Description
SR-4160-1T-1	Includes Industrial Telephone Modem
SR-4160-1E-1	Includes Industrial 10 Mbps Ethernet Port
SR-4160-1S-1	Includes Serial port for an external modem
SR-4160-1SL-1	Low power RemoteLog for an external modem
SXTOOLS-3	Level 3 I/O Tool Kit with datalogging utilities
RM-PS-024-01F	24 volt power supply for RemoteLog
PAK1210-FG	Installation-ready Packaged System
OEM Specials	Consult SIXNET for OEM versions

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## RemoteLog is Expandable



Address up to 22 analog and/or 20 discrete I/O channels by connecting any one RemoteTRAK or EtherTRAK I/O module to the RemoteLog RS485 I/O expansion port. Select from the wide range of available I/O options including:

- Discrete inputs
- High speed counters
- Isolated 4-20 mA (16 bit)
- 62 mV up to +/- 10 Volts
- J,K,E,R,T,B,C,N, and S thermocouples
- RTD (PT100) temperature sensors



*The RS485 port on every EtherTRAK module makes this advanced I/O family an excellent expansion choice for RemoteLog.*

## RemoteLog is an OEM Solution

SIXNET will gladly private label or manufacture special RemoteLog units to your exact requirements. RemoteLog is a flexible building block that was designed for the OEM supplier. SIXNET caters to OEMs.



## SIXNET Robust Industrial Products for Remote Site Management

SIXNET delivers a broad line of "industrial strength" products to help you manage your remote sites, including:

### Industrial Phone Modems



### Real-time Ethernet Switches



### Ethernet I/O



Contact your SIXNET Applications Engineer today!

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

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