SIXNET

Rugged Industrial Telephone Modems

(VT – MODEM – 1 / 2 / 3 / 4 / 5 Options)

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THE AUTOMATION AND CONTROL SYSTEM SPECIALISTS

CONTACT DETAILS:

KAPP Engineering Pty Ltd
Office 2, 45 Delawney Street,
Balcatta WA 6021

Tel : (08) 9240 6686
Fax : (08) 9240 6686
Email : info@kapp.com.au
Web : www.kapp.com.au

SIXNET®

331 Ushers Road, P.O. Box 767, Clifton Park, NY 12065 USA
+1 (518) 877-5173, Fax +1 (518) 877-8346
email: sales@sixnetio.com www.sixnetio.com

Rugged Industrial Telephone Modems

Designed to Work Reliably in the Toughest Environments

SIXNET Industrial Telephone Modems eliminate the difficulties encountered with installing office-grade modems in industrial settings. These ruggedized modems connect to any PLC, RTU or other industrial equipment and provide the important features you have been looking for.

SIXNET Modems will:

- ✓ Reduce Your Design Time
- ✓ Simplify Your Installation
- ✓ Increase Your Reliability

- Rated for -30° to +70°C operation
- Proven in the toughest settings from pipelines in Alberta to remote locations in Sweden
- DIN Rail or flat panel mounting
- DC powered - No more bulky AC adapters
- Supports all PLCs, RTUs and other devices
- Five year guaranteed availability for OEMs
- Compliant with telephone systems world-wide
- Certified to perform:

ISO9001 Certified | Class 1, Div II & Cenelec Zone 2 | European Community | UL508 for Controllers | Marine & Offshore

Select the model that best fits your needs:

General Purpose	PLC Self-dialing	RS422 / RS485 & Extended Power	Leased-Line	Advanced 56K (V.92)
VT-MODEM-1 is the workhorse for general industrial applications. It supports baud rates 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-line connections up to 33.6K.	**VT-MODEM-5** provides advanced features such as call-back security and remote configuration.

VT-MODEM-1, -4 & -5

VT-MODEM-2

VT-MODEM-3

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INDUSTRIAL MODEMS MAKE YOUR JOB EASIER!

Why an Industrial Telephone Modem?

SIXNET industrial telephone modems are designed for industrial environments. Their rugged packaging and protected circuitry keep them working under conditions that may cause cheap office-grade modems to fail. Industrial applications are demanding - it gets hot, it gets cold - the power browns out or spikes wildly - and you need a reliable industrial modem that can keep on going.

Industrial modems survive heat & cold

SIXNET industrial modems work reliably through the dead of winter to those hot summer days. Unlike ordinary modems that are intended only for use in air conditioned offices, SIXNET industrial modems are designed for those places that you don't want to be - over the temperature range of -30 to 70ºC.

PC Software compatibility guaranteed

SIXNET industrial modems contain an industrial version of the same modem chip-set found in PC internal modems. They support the full set of modem (AT) commands, protocols and operating features, and are 100% Windows software ready.

Forget the Velcro and makeshift brackets

SIXNET industrial modems can be DIN rail or direct panel mounted. Their compact footprint fits easily into equipment-filled enclosures.

Lose those bulky power transformers

SIXNET industrial modems run directly on the DC power that you already have in your control cabinet. Get rid of those cumbersome AC outlet transformers. No AC power means fewer safety issues. If you ship your equipment internationally, you can forget about the headaches caused by different line voltages and incompatible power plugs.

Stop redesigning your OEM products

Have you ever qualified a system only to find that the modem you used is no longer available? SIXNET guarantees availability of these modems for a minimum of five years. Design your system just once!

A simple solution for global business

Forget about the troubles of supplying different modems for each country. SIXNET industrial modems are compliant with telephone systems around the world. Simplify the logistics of your worldwide business and improve your bottom line.

System Integrators increase profits

System Integrators are putting SIXNET industrial modems in every PLC cabinet they design or service. Now, you can make program changes and get your customer's systems running without leaving your office. Your customers will be delighted with your quick service and you will love the cost savings of not having to make a site visit.

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VT-MODEM Selection Guide

Main Functionality	-1	-2	-3	-4	-5
Dial-up and auto-answer	✓	✓	✓	✓	✓
Auto-dial on PLC output	-	✓	-	-	-
RS422 / RS485 interface	-	-	✓	-	-
Extended power input (up to 52 VDC)	-	-	✓	-	-
Leased-line* (2-wire only)	-	-	-	✓	-
Speeds up to 56K (V.90 & V.92)	-	-	-	-	✓
Remote configuration	-	-	-	-	✓
Call-back security	-	-	-	-	✓

*** The VT-MODEM-4 is intended for use in pairs and may not be compatible with other brands of leased-line modems**

VT-MODEM Compared to Office-grade Modem

The Industrial Features That Make Your Job Easier!	SIXNET Industrial Modems	Typical Office-grade Modem
Auto -dials on simple contact closure	YES	NO
Accepts VDC power directly	YES	NO
Does not need cumbersome wall mount transformer	YES	NO
DIN Rail or flat panel mounting	YES	NO
UL508, UL1604 and DNV rated	YES	NO
Compliant with most international systems	YES	NO
Rated for industrial environments	YES	NO
Operates outdoors without a heater (-30° C)	YES	NO
Survives extreme heat (+70° C)	YES	NO
Includes internal surge protection	YES	NO
Class I, Div. 2 (Zone 2) hazardous location rated	YES	NO
Guaranteed long-term support	YES	NO
Designed to make your job easier!	YES	NO

VT-MODEM Ordering Information

Modem Model Part Number: VT-MODEM-###	US Part #	Price	EC Part #	Price	World-wide Part #	Price
General purpose; dial-up to 33.6K (V.34)	-1US	US$340	-1EC	US$340	-1WW	US$360
PLC self-dialing and auto-answer to 33.6K	-2US	US$450	-2 EC	US$450	-2 WW	US$470
RS422 / RS485 port and 10-52 VDC power	-3US	US$410	-3 EC	US$410	-3 WW	US$430
Leased-line (2-wire only)	-4US	US$340	-4 EC	US$340	-4 WW	US$360
Advanced 56K (V.92 and V.90)	-5US	US$410	-5 EC	US$410	-5 WW	US$430
Extended Warranty	Extend the warranty from 12 to 36 months				VT-CARE-36	US$35
Note: All modems include a RS232 modem cable (DB9) and complete Windows software CD, at no extra cost.						

Location Codes:

US For use in U.S., Canada, Mexico, Central and South America
EC For use in Europe, Asia, Africa, Australia and New Zealand
WW For world-wide use. OEMs install and test it here — use it there.

1-Oct-04

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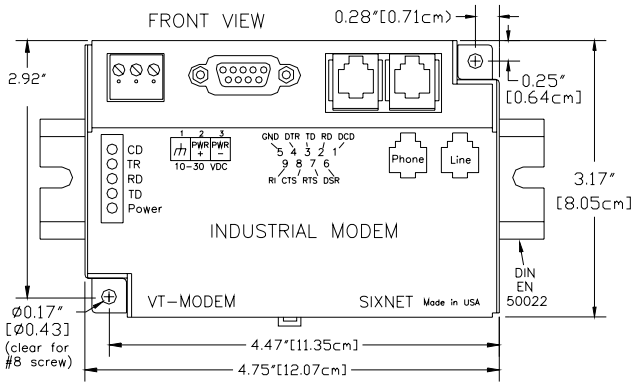
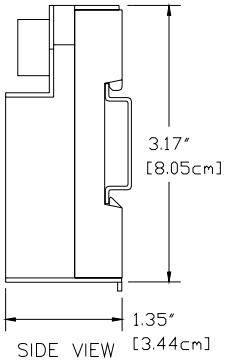
Performance Specifications

Telephone Line	
Max. data rate	33.6 kbps for -1, -2, -3 & -4; 56 kbps for -5
Compatibility	V.90, V.92 (-5 only); V.34, V.32 bis, V.32, V.22, V.22A/B, V.23, V.21, Bell 212A and 103
Data compression	V.44; V.42 bis, MNP 5
Error correction	V.42 MNP 2-4
Max. fax rate	14.4 kbps for -1, -2, -3 & -4; 33.6 kbps for -5
Fax capabilities	Group 3 (V.33, V.17, V.29, V.27 ter, V.21)
Ringer & jacks	0.3 & RJ11 (line and auxiliary)
RS232 Port	
Max. RS232 Rate	115.2 kbps for -1, -2, -3 & -4; 230 kbps for -5
RS232 (DCE)	TD, RD, CTS, RTS, CD, DTR, DSR, RI, GND
Command Set	Standard AT and S register (see help)
Status LEDs	CD, DTR, RD, TD, Power
PLC Discrete I/O Interface (VT-MODEM-2 Only)	
"Trigger" Input	Starts auto-dialing when TRUE
Voltage range	9 to 30 VDC (6.5 mA at 24 VDC)
Max OFF voltage	5 VDC
"On-line" Output	Output is ON when connection exists
Output type	Sourcing — switches supply power
Output current	100 mA maximum
RS422 / RS485 Port (VT-MODEM-3 Only)	
RS422 mode	Supports 4 wire full duplex
RS485 modes	2 or 4 wire party-line operation
Signal rate	Standard rates up to 115.2 kbps
RS422/485	Up to 0.5 miles
General Characteristics	
Input voltage	10-30 VDC for -1, -2, -4 & 5; 10-52 VDC for -3
Input current @ 24 VDC (typical)	50 mA (Sleep mode 30 mA): -1,-2,-3 (Rev.3) 75 mA (Sleep mode 50 mA): -4, -5
Operating Temp.	-30° to 70°C (Storage: -40° to 85°C)
Humidity	5% to 95% RH (non-condensing)
Flammability	UL 94V-0 materials
Telecom Ratings	FCC part 68, Industry Canada CS03-8, CTR21 (98/482/EC); ACA TS 001; ACA TS 002
Electrical Safety	UL 508, CSA C22.2/14; EN61010-1 (IEC1010), IEC 950, AS/NZS3260
EMI emissions	FCC part15, ICES-003, Class A; EN55022; AS/NZS3548
EMC immunity	EN50082-1 (IEC801-2, 3, 4)
Vibration	IEC68-2-6
Hazardous locations (Zone 2)	UL1604, CSA C22.2/213 (Class I, Div 2, Groups A, B, C, D); Cenelec, EN50021 (EEx nA II T4)
Mounting	DIN rail or panel mount

Mounting Dimensions



Note: Screw holes are provided as an alternative to DIN rail mounting.



Complete documentation

is on the SIXNET CD or may be downloaded from **www.industrialmodem.com**. Includes applications help for many common situations

Contact your SIXNET Applications Engineer today!

For instant availability and the latest product information check out **www.industrialmodem.com**

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

1-Oct-04