PSI-MODEM/ETH

Industrial Ethernet modem

INTERFACE

Data sheet
103553_en_00

1 Description

The **PSI-MODEM/ETH** analog V.92 Ethernet modem enables worldwide access to industrial Ethernet networks in machines and systems via dial-up line connections. All control systems and operator panels in an Ethernet network can be controlled remotely via just a modem and a telephone line.

The connection is established as a dial-up connection (remote data transmission) with 128-bit password encryption and continuous reauthentication via the CHAP protocol (Challenge Handshake Authentication Protocol), which prevents unauthorized access.

This means that remote maintenance and diagnostics for remote network devices is as simple as dialing into the Internet at home.

To ensure interference-free operation even under harsh EMC conditions, the devices are equipped with high-quality electrical isolation and integrated surge protection.

The modem also features an integrated automatic "Sleep" function to increase battery life and a particularly wide supply voltage range, making it suitable for universal use.

Plug and play and web-based management enable quick and easy startup.

The Ethernet modem is approved for use in public telephone networks in Europe, the USA, and Canada. Additional approvals can be provided on request.

NOTICE: The PSI-MODEM/ETH is designed exclusively for SELV operation according to IEC 60950/EN 60950/VDE 0805.

The modem must only be connected to devices, which meet the requirements of EN 60950 ("Safety of Information Technology Devices").

Make sure you always use the latest documentation.
It can be downloaded at www.download.phoenixcontact.com.

A conversion table is available on the Internet at
www.download.phoenixcontact.com/general/7000_en_00.pdf.

PHOENIX CONTACT

INSPIRING INNOVATIONS

2 Ordering data

Modem

Description	Type	Order No.	Pcs./Pkt.
Industrial Ethernet modem Scope of supply: Modem, RJ12/RJ12 cable, TAE adapter	PSI-MODEM/ETH	2313300	1

Accessories

Description		Type	Order No.	Pcs./Pkt.
System power supply unit: Primary-switched Input voltage range Nominal output voltage Nominal output current	45 Hz ... 65 Hz 85 V AC ... 264 V AC 24 V DC ±1% 1.5 A	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1
DIN rail connector		ME 22,5 TBUS 1,5/ 5-ST-3,81 GN	2707437	1

3 Technical data

Power supply	
Supply voltage	10.8 V DC ... 30 V DC (via COMBICON plug-in screw terminal block)
	24 V DC ±5% (alternative or redundant, via backplane bus contact and system power supply)
Current consumption	
Nominal operation	< 100 mA (at 24 V)
Standby	< 40 mA

Ethernet interface	
Connection	RJ45 female connector, shielded
Transmission speed	10/100 Mbps
Transmission length	100 m (twisted pair, shielded)
Supported protocols	TCP/IP, UDP, TFTP, HTTP, MODBUS TCP, PPP, PROFINET, EtherNet IP, CHAP
Secondary protocols	ARP, DHCP, BOOTP, SNMP, RIP, RARP

Functions	
Management	Web-based management, SNMP or FL SWT Factory Manager software

PSTN port (a/b line)	
Connection method	6-pos. RJ12
Shield	Via metal foot on EN DIN rail
Operating modes	Dial-up modem, 2-wire half/full duplex
Transmission speed	300 baud ... 56 kbaud
Compatibility	ITU V.42bis, V.42, V.92, V.90, V.34 extended, ITU V.32bis, V.32, V.21, V.22bis, V.22, V.23, ITU V.17, Bell 212, and Bell 103
Error correction	V.42 (LAP-M or MNP 2 to 4)
Data compression	V.42bis (throughput 4:1), MNP 5 (throughput 2:1)
Acoustic signaling	Integrated piezo (during the dialing process)
Startup diagnostics	Selftest, visualization via LEDs (controller, RAM, EEPROM, DSP)
Telecommunications approvals	TBR21, TIA-968-A, CS-03 for Europe, USA, and Canada

General data

CE conformance	According to R&TTE directive
Approvals	UL (in preparation)
Telecommunications approvals	TBR21, TIA-968-A, CS-03 for Europe, USA, and Canada
Ambient operating temperature range	0°C ... +55°C
Housing type	ME 22,5 with DIN rail connector and ground contact
Housing material	PA 66-FR, green
Housing dimensions (H x W x D)	114.5 mm x 45 mm x 99 mm
Weight	200 g
Functional earth ground	To EN DIN rail in the housing
Vibration resistance	5g according to DIN EN 60068-2-6, 1.5 h each in x, y, and z direction
Shock test according to IEC 60068-2-27	
Operation	15g, 11 ms, half-sine shock pulse
Storage	30g, 11 ms, half-sine shock pulse
Free fall according to IEC 60068-2-32	1 m
Degree of protection	IP20
Separate ground levels	Supply // PSTN // Ethernet
Test voltage	1.5 kV AC, 50 Hz, 1 min. between all ground levels according to EN 61010-1/ VDE 0411-1 and EN 60950

Conformance with EMC directive 89/336/EEC

Noise immunity test according to EN 61000-6-2[1]

Electrostatic discharge (ESD)	EN 61000-4-2	Criterion B[2]	8 kV air discharge 6 kV contact discharge
Electromagnetic HF field	EN 61000-4-3	Criterion A[3]	
Amplitude modulation			10 V/m
Pulse modulation			10 V/m
Fast transients (burst)	EN 61000-4-4		
Signal		Criterion B[2] Criterion A[3]	2 kV/5 kHz 1 kV/5 kHz
Supply			2 kV/5 kHz
Surge current load (surge)	EN 61000-4-5	Criterion B[2]	
Signal			1 kV
Supply			2 kV
Conducted interference	EN 61000-4-6	Criterion A[3]	10 V

Noise emission test according to EN 61000-6-4

Noise emission of housing	EN 55022		Limiting curve B

[1] EN 61000 corresponds to IEC 61000

[2] Criterion B: Temporary adverse effects on the operating behavior, which the device corrects automatically.

[3] Criterion A: Normal operating behavior within the specified limits.

4   Features

– For universal use
– Password-protected access
– Wide supply voltage range of 10 V to 30 V DC
– Power-saving sleep mode
– High-quality 3-way isolation
   (VCC // V.24 (RS-232) // Ethernet)
– Slim design width of 45 mm
– Easy startup and user-friendly configuration using web-based management

5 Application

The PSI-MODEM/ETH modem is suitable for universal and international use as an analog Ethernet modem.
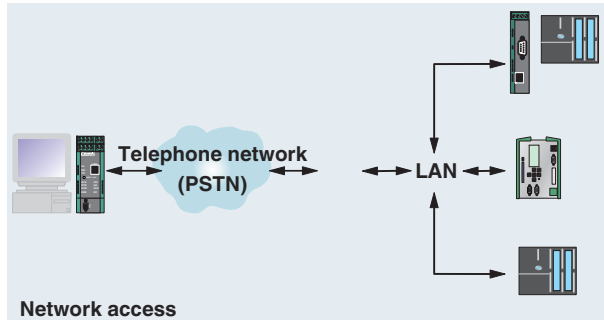

Figure 1   Remote dial-in

The modem can be used for the following applications:
– Remote monitoring of systems and machines
– Remote control
– Remote system diagnostics
– Production data acquisition

This device is approved for operation in the following public telephone networks:
– Belgium
– Denmark
– Germany
– France
– Finland
– Greece
– Great Britain
– Italy
– Ireland
– Canada
– Luxembourg
– The Netherlands
– Norway
– Austria
– Portugal
– Sweden
– Switzerland
– Spain
– USA

Approvals for other countries are available on request.