PSI-MODEM-3G/ROUTER

UMTS/HSPA cell phone router

INTERFACE

Data sheet
104567_en_01

1 Description

The GSM modem **PSI MODEM 3G/ROUTER** is a high-performance router for industrial Ethernet networks which can be used to securely transfer sensitive data via cell phone networks. The integrated firewall and VPN (Virtual Private Network) support reliably protect your application from unauthorized access.

A UMTS/HSPA connection simply incorporates remote stations into an IP network. If UMTS/HSPA is not available, the system automatically switches to GPRS/EDGE.

Regardless of where your system or controller is situated, you can access the process data via a secure VPN connection from any location.

EMC, electrical isolation and overvoltage protection are provided for reliable and secure communication.

The data link and cell phone network quality are also monitored. If necessary, an appropriate message is sent or the cell phone connection re-established.

Six configurable switching inputs allow the user to independently send a SMS or email both to one or several recipients.

Four integrated switching outputs can be activated using a password-protected SMS. The system status can thereby be monitored and functions switched remotely.

WARNING: The PSI MODEM 3G/ROUTER is exclusively designed for the operation in the control cabinet and for connecting with the safety extra-low voltage (SELV) in accordance with IEC 60950 / EN 60950 / VDE 0805.

The modem may only be connected to devices that fulfill the requirements of EN 60950 (Safety of information technology equipment).

Make sure you always use the latest documentation.
It can be downloaded at www.phoenixcontact.net/catalog.

This data sheet applies to the products listed on the following page:

1.1 Features

- UMTS/HSPA tri-band (850 MHz/900 MHz/2100 MHz)
- GPRS/EDGS quad-band (850 MHz/900 MHz/ 1800 MHz/1900 MHz)
- Integrated TCP/IP stack
- Virtual dedicated line to connect networks via cell phone network
- Integrated firewall
- IPsec and OpenVPN support
- VPN remote start by SMS or call
- Configurable inputs and outputs
- Alarming by SMS, email or fax directly via integrated switching input
- Further supply voltage range of 10 V DC to 30 V DC
- Temperature range of -25 °C to +65 °C
- High-quality electrical isolation (VCC // Ethernet // 24 V)
- Integrated overvoltage protection
- Easy configuration via web-based management

2 Ordering data

Modem

Description	Type	Order No.	Pcs./Pkt.
UMTS/HSPA cell phone router with Ethernet interface, firewall, VPN support and alarm inputs and outputs	PSI-MODEM-3G/ROUTER	2314008	1

Accessories

Description	Type	Order No.	Pcs./Pkt.
GSM quad-band antenna with omnidirectional characteristics, antenna cable with SMA round plug 2 m Degree of protection IP65 Dimensions 76 mm x 20 mm	PSI-GSM-QB-ANT	2313155	1
GSM-UMTS omnidirectional antenna, 2 dBi boost, 5 m antenna cable with SMA round plug	PSI-GSM/UMTS-ANT-OMNI-2-5	2900982	1
GSM/UMTS antenna cable, 10 m long; SMA (male) -> SMA (female), 50 Ohm impendance	PSI-CAB-GSM/UMTS-10M	2900981	1
GSM/UMTS antenna cable, 5 m long; SMA (male) -> SMA (female), 50 Ohm impendance	PSI-CAB-GSM/UMTS-5M	2900980	1
System power supply, primary switched Input voltage range 45 Hz ... 65 Hz Nominal output voltage 85 V AC ... 264 V AC Nominal output current 24 V DC ±1 % 1.5 A	MINI-SYS-PS-100-240AC/24DC/1.5	2866983	1

3 Technical data

Supply	
Supply voltage	10 V DC ... 30 V DC via pluggable COMBICON screw terminal block
Frequency	DC
Current consumption	
Nominal current consumption	< 200 mA at 24 V, <580 mA at 10 V
Standby current consumption	< 90 mA at 24 V
LED	Power (green LED) Steady light: Operation
Ethernet interface	
Type of connection	RJ45 socket, 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
Auxiliary protocols	ARP, DHCP, BOOTP, SNMP, RIP, RARP
LED / control signal indicator	ACT (yellow LED), Ethernet data transmission LINK (green LED), Ethernet link established
Function	
Management	Web-based management, SNMP
Cell phone network	
UMTS frequencies	850 MHz, 900 MHz, 2100 MHz (UMTS/HSPA)
Transmission power	0.25 W
UMTS compatibility	UMTS/HSPA 3GPP release 6 – HSUPA max. 5.76Mbps – HSDPA max. 7.2Mbps
SIM interface	2 interfaces, 1.8-volt and 3-volt SIM card
GSM frequencies	850 MHz, 900 MHz, 1800 MHz, 1900 MHz (GPRS/EDGS)
GPRS compatibility	GPRS Class 12, Class B Coding diagrams: CS1 ... CS4
EDGE	EDGE (E-GRPS) Multislot Class 10
Network function	4 time slots for receiving data 4 time slots for sending data, maximum of 5 time slots at any one time The PIN code is stored in the modem. After a voltage interrupt, the system automatically logs back into the network and the GPRS network. Integrated TCP/IP stack, firewall and VPN support, automatic establishment of connection.
Antenna connection	50 Ω impedance SMA antenna socket
LED	SIM (green LED) – Steady light: No SIM card present – Flashing: No PIN code entered – Off: SIM card and PIN code present NET (LED bargraph)
Switch-on diagnostics	Self-test, visualization via LEDs (controller, RAM, EPROM, GSM engine, antenna, EEPROM)
Network check	Network bargraph in web-based management

Switching inputs and outputs

Switching inputs	6 x U_{nom} 24 V DC / 5 mA, Input range 10 V DC ... 30 V DC, activated as options: – SMS – Email – Output activation on outstation (via SMS) – Reboot, GPRS/EDGE, VPNB
Switching outputs	4 x U_{nom} 24 V DC / 50 mA, Input range 10 V DC ... 30 V DC, short-circuit-proof activated by: – Activation of outstation input – SMS – Web-based management – GSM, GPRS/EDGE, VPN, incoming call and loss of connection
Signaling	ALR (red LED)

Ambient conditions

Ambient temperature range (operation}	-25 °C ... +65 °C not aligned, -25 °C ... +60 °C aligned
Ambient temperature range (storage/transport)	-40 °C ... +75 °C

General data

Housing	ME 45 with ground contact
Material	PA 6.6-FR, V0, green
Dimensions (H x W x D)	99 mm x 45 mm x 114.5 mm
Device weight	226 g
Functional earth ground	Housing contact to DIN rail
Degree of protection	IP20
Split potential levels	VCC // Ethernet (TP) // 24 V
Resistance to vibration	According to DIN EN 60068-2-6 5g, per 1.5 h in x-, y-, z-direction
Shock testing	According to DIN EN 60068-2-27
Operation	15 g, 11 ms, half-sine shock pulse
Storage	30 g, 11 ms, half-sine shock pulse
Free fall	According to IEC 60068-2-32 from height of 1 m (unpacked)
Test voltage	500 V AC, 50 Hz, 1 min. between all potential levels according to DIN EN 61010-1 / VDE 0411-1 and DIN EN 60950
CE conformance	According to R&TTE Directive 1999/5/EC

Electromagnetic compatibility

Noise immunity according to EN 61000-6-2

Electrostatic discharge (ESD)	EN 61000-4-2	Criterion B 8 kV air discharge 4 kV contact discharge
Electromagnetic HF field	EN 61000-4-3	Criterion A
Amplitude modulation		10 V/m
Pulse modulation		10 V/m
Rapid transients (burst)	EN 61000-4-4	
Signal		Criterion A 1 kV / 5 kHz
Supply		Criterion A 1 kV / 5 kHz Criterion B 1 kV / 5 kHz
Surge	EN 61000-4-5	Criterion B
Signal		1 kV
Supply		1 kV symmetrical, 2 kV asymmetrical
Conducted influence	EN 61000-4-6	Criterion A 10 V
Radiated emission	EN 55011	Class S

CE conformance according to R&TTE Directive 1999/5/EC

EMC Immunity to interference (electromagnetic compatibility)	EN 61000-6-2	Specialized standard for industry
Safety Personal protection in terms of electrical safety	EN 60950	
Health Limiting exposure to electromagnetic fields	Official Journal of the European Communities 1999/519/EC	Recommendation of the Council of the European Community from July 12 1999
Radio Effective use of frequency range and avoidance of technical radio interference	DIN EN 301511	

Approvals

UL, USA / Canada	under preparation