PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (http://phoenixcontact.com/download)

Security appliance, WAN, and cellular interface. SD card slot. 10 VPN tunnels, intelligent firewall with full scope of functions, router with NAT/1:1 NAT, optional CIFS integrity monitoring. 4-port managed switch. 2 SIM card slots. GPS receiver.

Product Description

The TC MGUARD... security appliances are industrial mobile network routers with mGuard technology. As such, the routers offer a remote maintenance infrastructure for the secure connection of machines and systems via the Internet.
A high-speed mobile network interface and a 4-port switch are integrated into a compact metal housing. Secure remote communication on a global scale takes place via 4G LTE as well as UMTS and CDMA networks.
With the help of an SD card as a configuration memory, the devices can be quickly and easily started up or replaced. The devices have a buffered realtime clock and Trusted Platform Module (TPM) for secure key generation and management.

Your advantages

☑ High-speed cellular interface with provider redundancy

☑ Integrated 4-port switch

☑ Maximum security with IPsec protocol on Layer 3

☑ Web-based management, SNMP

☑ Replaceable configuration memory

☑ RS-232 interface with COM server function for integrating serial devices

☑ Flexible routing

☑ Up to 10 parallel VPN tunnels (up to 250 possible with additional license as an option)

☑ Supports current certificates such as x509.v3

☑ Stateful inspection firewall for dynamic filtering

☑ Extended temperature rating

RoHS

COMPLETE line

dnp Distributed Network Protocol

Key Commercial Data

Packing unit	1 pc
GTIN	4 046356 752985
GTIN	4046356752985

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Weight per Piece (excluding packing)	660.000 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

Utilization restriction	Use in potentially explosive areas is not permitted in China.

Dimensions

Width	45 mm
Height	130 mm
Depth	114 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Altitude	$\leq$ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Degree of protection	IP20

General

Electrical isolation	VCC // PE
Test voltage data interface/data interface	1 kV (50 Hz, 1 min.)
Test voltage data interface/power supply	1 kV (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Net weight	600 g
Housing material	Metal
Color	silver
MTTF	567 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	269 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	114 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
Degree of pollution	2

Power supply

Supply voltage range	11 V DC ... 36 V DC (via pluggable COMBICON screw terminal block)
Max. current consumption	< 1.8 A (at 11 V DC (incl. 3 x 125 mA for the outputs))
Typical current consumption	< 320 mA (24 V DC)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section flexible max.	2.50 mm²

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Technical data

Power supply

Conductor cross section flexible min.	0.20 mm²
Conductor cross section solid max.	2.50 mm²
Conductor cross section solid min.	0.20 mm²
Conductor cross section AWG max.	14
Conductor cross section AWG min.	24
Stripping length	7 mm

Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3
Interface	Ethernet
No. of ports	6
Connection method	RJ45
Transmission length	100 m (shielded twisted pair)
Protocols supported	TCP/IP, UDP/IP, FTP, HTTP
Auxiliary protocols	ARP, DHCP, PING (ICMP), SNMP V1, SMTP
Basic functions	Router with intelligent firewall and VPN for 10 tunnels (up to 250 supported with optional additional license), CIFS Integrity Monitoring (as an option), metal housing, slot for SD memory card
Transmission speed	10/100 Mbps (auto negotiation)
Interface 2	V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1
Interface	RS-232
Connection method	D-SUB 9 plug
File format/coding	UART/NRZ: 8 Data, 1/2 Stop, None/Even/Odd Parity
Transmission length	15 m
Data flow control/protocols	Software handshake, Xon/Xoff or hardware handshake RTS/CTS
Serial transmission speed	9.6; 19.2; 38.4; 57.6; 115.2 kbps

Wireless interface

Interface description	GSM / GPRS / EDGE / UMTS / CDMA2000
Frequency range	800 MHz (UMTS/HSPA B6)
	850 MHz (UMTS/HSPA B5)
	900 MHz (UMTS/HSPA B8)
	1900 MHz (UMTS/HSPA B2)
	2100 MHz (UMTS/HSPA B1)
	800 MHz (CDMA2000 EV-DO)
	1900 MHz (CDMA2000 EV-DO)
	850 MHz (2 W (EGSM))
	900 MHz (2 W (EGSM))
	1800 MHz (1 W (EGSM))

Router - TC MGUARD RS4000 3G VPN - 2903440

Technical data

Wireless interface

	1900 MHz (1 W (EGSM))
Data rate	≤ 14.4 Mbps (HSDPA)
	≤ 5.7 Mbps (HSUPA)
	≤ 3.1 Mbps (DL CDMA2000)
	≤ 1.8 Mbps (UL CDMA2000)
Antenna	50 Ω impedance SMA antenna socket
SIM interface 1	1.8 volt, 3 volt
SIM interface 2	1.8 volt, 3 volt
GPRS	Class 12, Class B
	CS1 ... CS4
EDGE	Multislot Class 12
UMTS	HSPA 3GPP R6
Network function	4 time slots for receiving data, 4 time slots for transmitting data. The PIN is saved in the modem. After a voltage interruption, there is automatic redialing into the network. Integrated TCP/IP stack, firewall and VPN support, independent connection establishment.
Network check	LED bar graph to display receive quality
Protocols supported	GPS (Global Positioning System), GLONASS

Function

Web-based management	yes
Management	Web-based management, SNMP
Dynamic Host Configuration Protocol (DHCP) support	Server or Relay Agent
Network Time Protocol (NTP) client	Client
Link Layer Discovery Protocol (LLDP)	As per protocol 802.2
Remote Syslog Logging	On externals server
Virtual private network (VPN) throughput	max. 40 Mbps (Router)
	max. 26 Mbps (Stealth mode, VPN bidirectional throughput)
VPN in stealth mode	Supported
Number of VPN tunnels	10 (up to 250 tunnels with additional license as an option)
Dynamic DNS VPN support	Supported
1:1 Network Address Translation (NAT) in the VPN	Supported
Encryption methods	DES, 3DES, AES-128, -192, -256
Internet Protocol Security (IPsec) mode	ESP tunnel / ESP transport
IPsec L2TP server	Supported
IPsec NAT traversal	Supported
Authentication	X.509v3 certificates with RSA or PSK
Data integrity	MD5, SHA-1
Internet key exchange (IKE)	Quick mode, Main mode, PFS

Router - TC MGUARD RS4000 3G VPN - 2903440

Technical data

Function

Dead peer detection (DPD)	RFC 3706
Firewall data throughput	max. 124 Mbps (Router mode, default firewall rules, bidirectional throughput)
	max. 58 Mbps (Stealth mode, default firewall rules, bidirectional throughput)
Firewall rules	Configurable stateful inspection firewall with full scope of functions
Filtering	MAC and IP addresses, ports, protocols
Protection against	IP spoofing, DoS and Syn Flood Protection
Routing	Standard routing, NAT, 1:1-NAT, port forwarding

Digital outputs

Output name	Digital output
Number of outputs	3
Voltage output signal	10 V DC ... 30 V DC (depending on the operating voltage)
Current output signal	≤ 125 mA (Short-circuit-proof)

Digital inputs

Description of the input	Digital input
Number of inputs	3
Voltage input signal	10 V DC ... 30 V DC
Current input signal	5 mA

Conformance/approvals

Designation	CE
Certificate	CE-compliant
Designation	UL, USA / Canada
Identification	Class I, Div. 2, Groups A, B, C, D
Certificate	E357918
Designation	UL, USA
Identification	Class I, Zone 2, AEx nA IIC T4
Designation	UL, Canada
Identification	Class I, Zone 2, Ex nA IIC T4 Gc X
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Type of test	Free fall in acc. with IEC 60068-2-32
Test result	1 m
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6

Router - TC MGUARD RS4000 3G VPN - 2903440

Technical data

Standards and Regulations

Test result	5g, 10...150 Hz, 2.5 h, in XYZ direction
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	Operation: 15g, 11 ms period, half-sine shock pulse
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	Storage: 30g, 11 ms period, half-sine shock pulse
Free from substances that could impair the application of coating	according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (Data line, asymmetrical)
Standards/regulations	EN 61000-6-4
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

Environmental Product Compliance

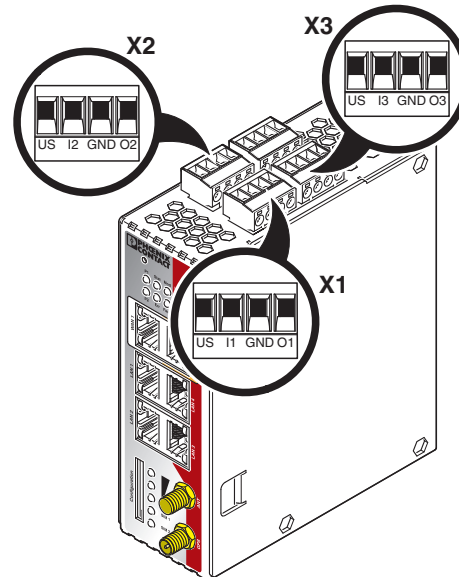|	
REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Router - TC MGUARD RS4000 3G VPN - 2903440
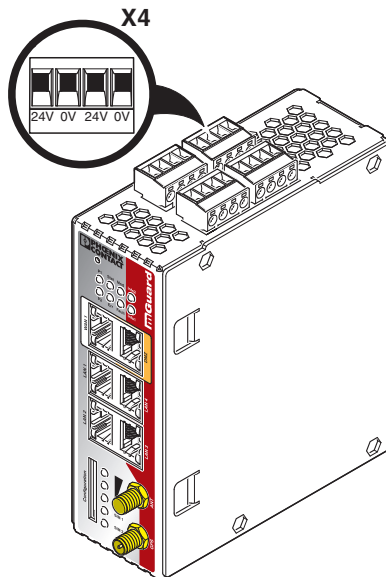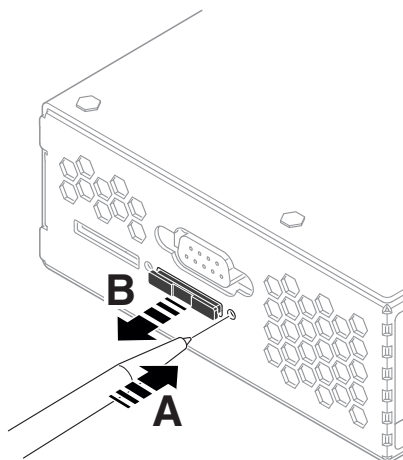
Schematic diagram

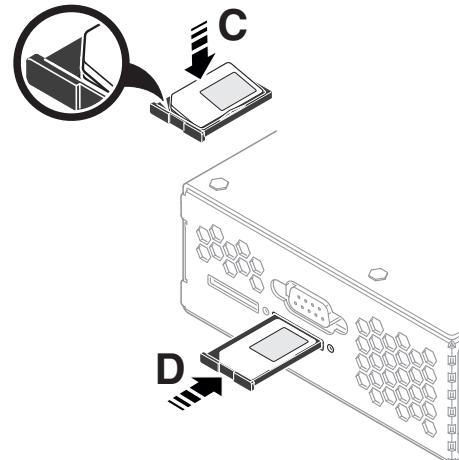Connecting the supply voltage

Schematic diagram

Connection of the cables

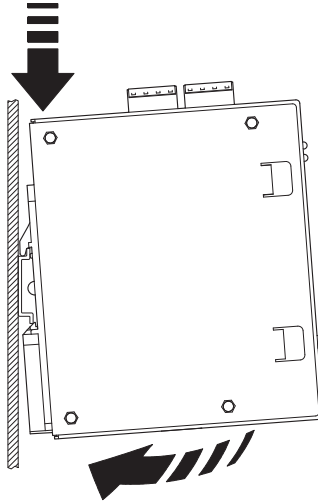Schematic diagram

Remove SIM card holder

Schematic diagram

Insert the SIM card

Router - TC MGUARD RS4000 3G VPN - 2903440

Schematic diagram

Mounting

Router - TC MGUARD RS4000 3G VPN - 2903440

Schematic diagram

Diagnostic and status indicators

Classifications

eCl@ss

eCl@ss 10.0.1	19170406
eCl@ss 11.0	19170406
eCl@ss 4.0	27230200
eCl@ss 4.1	27230200
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19170100
eCl@ss 7.0	19170103
eCl@ss 9.0	19170103

ETIM

| ETIM 3.0 | EC000310 |

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Classifications

ETIM

ETIM 4.0	EC000740
ETIM 6.0	EC001478
ETIM 7.0	EC001478

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222609
UNSPSC 18.0	43222609
UNSPSC 19.0	43222609
UNSPSC 20.0	43222609
UNSPSC 21.0	43222609

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Approvals

cULus Listed	c (UL) us LISTED

Accessories

Accessories

Antenna

Antenna - TC ANT MOBILE/GPS - 2903590

Combined cellular GPS antenna with omnidirectional characteristic, 2 m antenna cable with SMA round plug (GSM/UMTS) and R-SMA round plug (GPS)

Antenna - PSI-GSM/UMTS-QB-ANT - 2313371

GSM UMTS antenna, with omnidirectional characteristic, 2 m antenna cable with SMA round connector

Antenna - TC ANT MOBILE WALL 5M - 2702273

Multiband cellular antenna with mounting bracket for outdoor installation, 5 m antenna cable with SMA circular connector, suitable for LTE/4G and 5G

Coaxial cable

Antenna cable - PSI-CAB-GSM/UMTS- 5M - 2900980

Cellular antenna cable, 5 m in length, SMA (male) -> SMA (female), 50 ohm impedance

Router - TC MGUARD RS4000 3G VPN - 2903440

Accessories

Antenna cable - PSI-CAB-GSM/UMTS-10M - 2900981

Cellular antenna cable, 10 m in length, SMA (male) -> SMA (female), 50 ohm impedance

---

Data plug

Assembly tool - FL CRIMPTOOL - 2744869

Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site

---

License

License - FL MGUARD LIC VPN-10 - 2700194

License for up to 10 additional VPN online connections

Media converter

FO converters - FL MC EF 1300 MM SC - 2902853

FO converter with SC duplex fiber optic connection (1300 nm), for converting 10/100Base-T(X) to multi-mode fiberglass (50/125 µm). Auto negotiation and auto MDI(X) function. Comprehensive link diagnostics. DIN-rail mountable, 18 ... 30 V DC supply.

Patch cable

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Accessories

Patch cable - FL CAT5 PATCH 0,5 - 2832263

Patch cable, CAT5, assembled, 0.5 m

Patch cable - FL CAT5 PATCH 2,0 - 2832289

Patch cable, CAT5, assembled, 2 m

Patch cable - FL CAT5 PATCH 10,0 - 2832629

Patch cable, CAT5, assembled, 10 m

Plug

RJ45 connector - FL PLUG RJ45 GR/2 - 2744856

RJ45 connector, shielded, with bend protection sleeve, 2 pieces, gray for straight cables, for assembly on site. For connections that are not crossed, it is recommended that you use the connector set with gray bend protection sleeve.

RJ45 connector - FL PLUG RJ45 GN/2 - 2744571

RJ45 connector, shielded, with bend protection sleeve, 2 pieces, green for crossed cables, for assembly on site. For connections that are crossed, it is recommended that the connector set with green bend protection sleeves is used.

PHŒNIX CONTACT

Router - TC MGUARD RS4000 3G VPN - 2903440

Accessories

Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991

Dust protection caps for RJ45 socket

Remote control software

License - MGUARD SECURE VPN CLIENT LIC - 2702579

License for mGuard Secure VPN Client v11.x

Storage medium

Memory - SD FLASH 512MB - 2988146

Program and configuration memory, plug-in, 512 Mbyte.

Surge protection for transceiver systems

Surge protection device - CSMA-LAMBDA/4-2.0-BS-SET - 2800491

Attachment plug with Lambda/4 technology as surge protection for coaxial signal interfaces. Connection: Male/female SMA connectors.

Wireless element

Router - TC MGUARD RS4000 3G VPN - 2903440

Accessories

Wireless module - FL TIMESERVER NTP - 1107132

GNSS receiver and NTP (Network Time Protocol) for Ethernet networks, receives time, date, and location via GPS, GLONASS, or Galileo, web-based management, supply via PoE (af) or 24 V DC, integrated antenna, IP68 housing