

## Router - TC MGUARD RS4000 3G VPN - 2903440

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Security device, WAN, and mobile phone 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.

### Why buy this product

- Maximum security
- Maximum performance
- Central management tool



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 752985
GTIN	4046356752985
Weight per Piece (excluding packing)	1,000.000 g
Custom tariff number	85176200
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	45 mm
Height	130 mm
Depth	114 mm

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## Technical data

### 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	5000 m (For restrictions see manufacturer's declaration)
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	950 g
Housing material	Metal
Color	silver
MTTF	567 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	269 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	114 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Degree of pollution	2
Conformance	CE-compliant
UL, USA	Class I, Zone 2, AEx nA IIC T4
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D
UL, Canada	Class I, Zone 2, Ex nA IIC T4 Gc X

### Power supply

Supply voltage range	11 V DC ... 36 V DC (via pluggable COMBICON screw terminal block)
Max. current consumption	< 800 mA (at 11 V DC (incl. 3 x 50 mA for the outputs))
Typical current consumption	< 200 mA (24 V DC)
	< 90 mA (stand by)
Conductor cross section solid max.	2.50 mm <sup>2</sup>
Conductor cross section solid min.	0.20 mm <sup>2</sup>
Max. AWG conductor cross section, flexible	14
Min. AWG conductor cross section, flexible	24

### Serial interface

Interface 1	Ethernet interface, 10/100BASE-T(X) in acc. with IEEE 802.3u
Interface	Ethernet
Connection method	RJ45

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### Technical data

#### Serial interface

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
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

#### Radio interface

Interface description	GSM / GPRS / EDGE / UMTS / CDMA2000
Frequency	850 MHz (2 W (EGSM))
	900 MHz (2 W (EGSM))
	1800 MHz (1 W (EGSM))
	1900 MHz (1 W (EGSM))
	800 MHz (0.25 W (UMTS))
	850 MHz (0.25 W (UMTS))
	900 MHz (0.25 W (UMTS))
	1900 MHz (0.25 W (UMTS))
	2100 MHz (0.25 W (UMTS))
	800 MHz (CDMA2000 EV-DO)
	1900 MHz (CDMA2000 EV-DO)
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

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## Technical data

### Radio interface

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

Management	Web-based management, SNMP
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### 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	≤ 250 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

### 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
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
	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
Conformance	CE-compliant
UL, USA	Class I, Zone 2, AEx nA IIC T4

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## Technical data

### Standards and Regulations

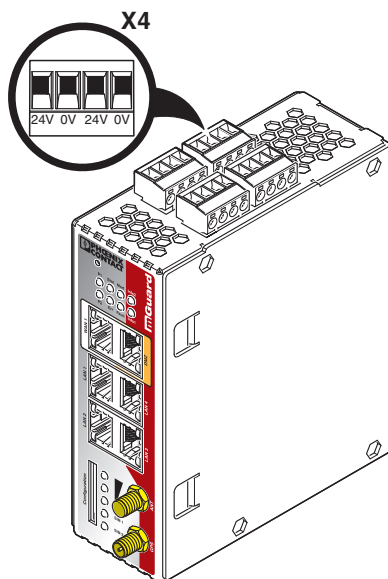
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D
UL, Canada	Class I, Zone 2, Ex nA IIC T4 Gc X

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

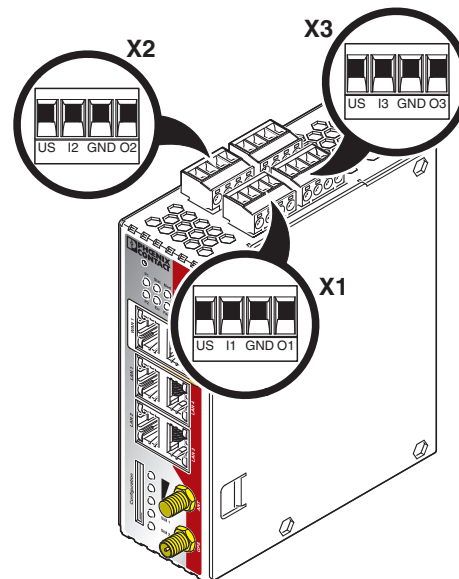
## Drawings

Schematic diagram



Connecting the supply voltage

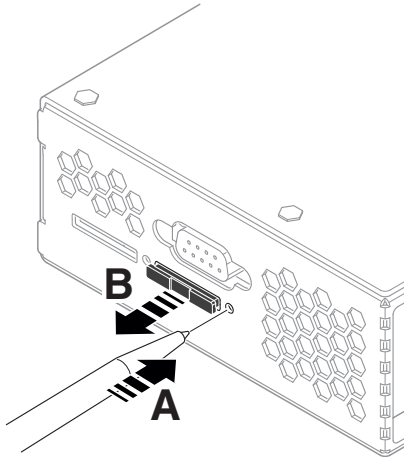
Schematic diagram



Connection of the cables

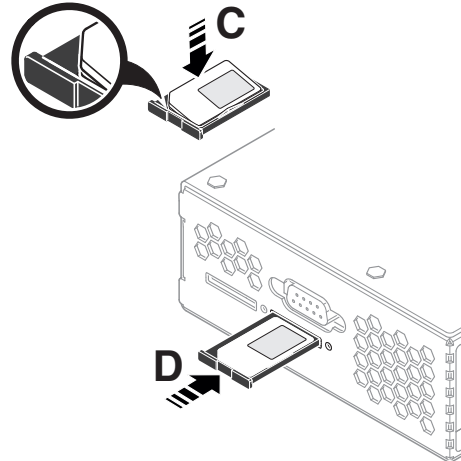
# Router - TC MGUARD RS4000 3G VPN - 2903440

Schematic diagram



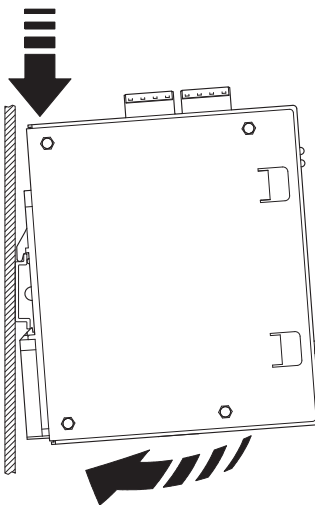
Remove SIM card holder

Schematic diagram



Insert the SIM card

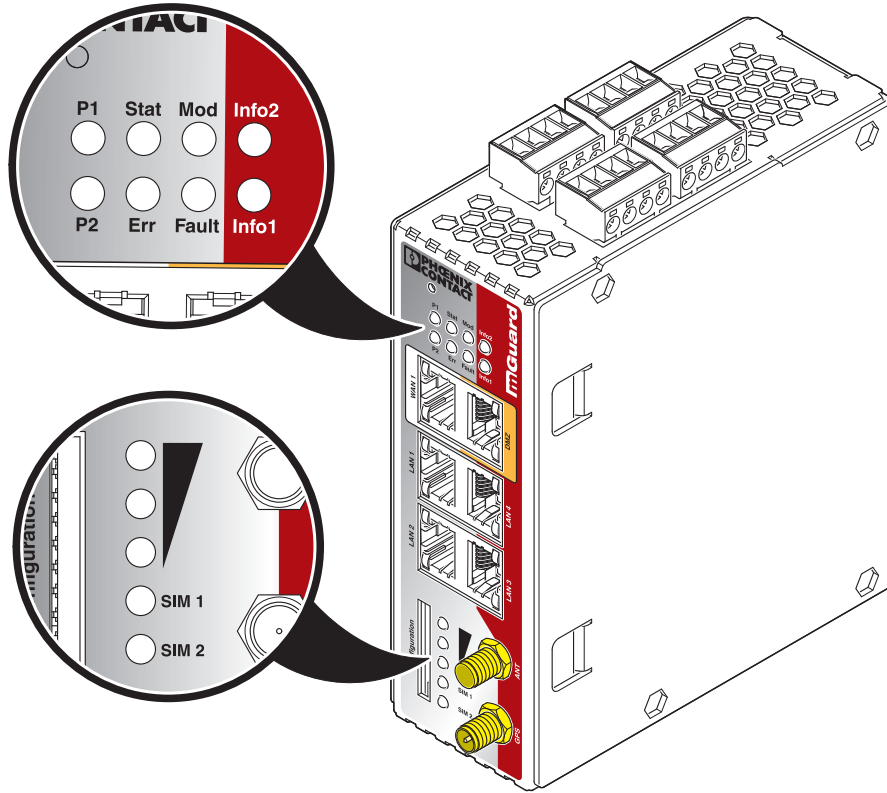
Schematic diagram



Assembly

# Router - TC MGUARD RS4000 3G VPN - 2903440

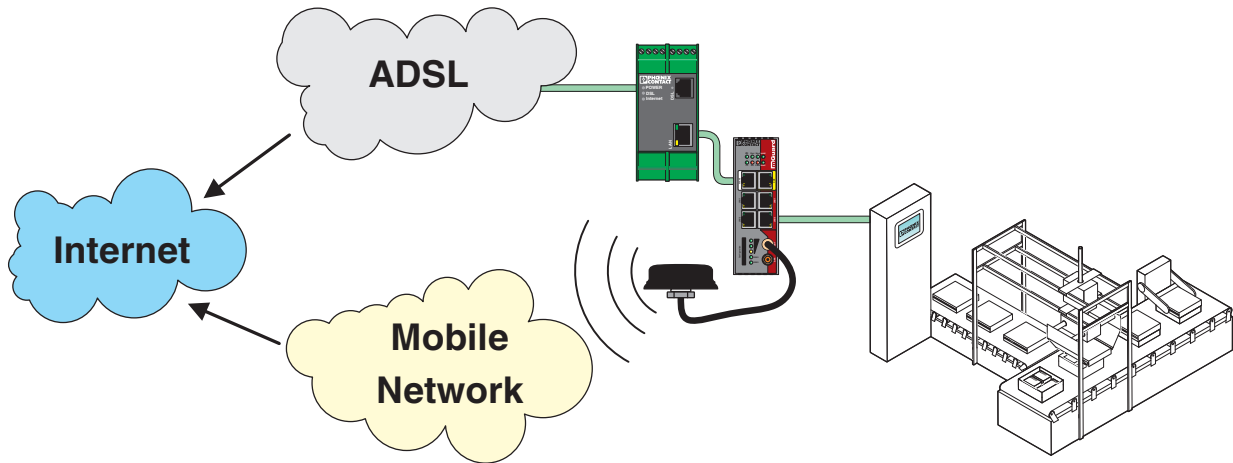
Schematic diagram



Diagnostic and status indicators

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Application drawing



Example application

## Classifications

eCl@ss

eCl@ss 4.0	27230207
eCl@ss 4.1	27230207
eCl@ss 5.0	27230207
eCl@ss 5.1	27230207
eCl@ss 6.0	27230207
eCl@ss 7.0	27230207
eCl@ss 8.0	19170103
eCl@ss 9.0	19170103

ETIM

ETIM 3.0	EC000310
ETIM 4.0	EC000740
ETIM 5.0	EC001478
ETIM 6.0	EC001478

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008



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## Classifications

### UNSPSC

UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222609

## Accessories

### Accessories

#### Antenna

Antenna - TC ANT MOBILE/GPS - 2903590



Combined mobile phone 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 mobile phone antenna with mounting bracket for outdoor installation. 5 m antenna cable with SMA round plug

#### Coaxial cable

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



GSM/UMTS antenna cable, 5 m long; SMA (male) -> SMA (female), 50 Ohm impedance

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### Accessories

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



GSM/UMTS antenna cable, 10 m long; SMA (male) -> SMA (female), 50 Ohm impedance

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### License

License - FL MGUARD LIC VPN-250 GROUP - 2700192



License for up to 250 additional VPN online connections

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License - FL MGUARD LIC VPN-250 - 2700193



License for up to 250 additional VPN online connections

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License - FL MGUARD LIC VPN-10 - 2700194



License for up to 10 additional VPN online connections

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### Media converter

## Router - TC MGUARD RS4000 3G VPN - 2903440

### Accessories

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  $\mu\text{m}$ ). Auto negotiation and auto MDI(X) function. Comprehensive link diagnostics. DIN-rail mountable, 18 ... 30 V DC supply.

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### Parameterization memory

Memory - SD FLASH 256MB - 2988120



Program and configuration memory, plug-in, 256 MB

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Memory - SD FLASH 512MB - 2988146



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

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### Patch cable

Patch cable - FL CAT5 PATCH 0,5 - 2832263



Patch cable, CAT5, assembled, 0.5 m

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Patch cable - FL CAT5 PATCH 2,0 - 2832289



Patch cable, CAT5, assembled, 2 m

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### Accessories

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Patch cable - FL CAT5 PATCH 10,0 - 2832629



Patch cable, CAT5, assembled, 10 m

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### 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.

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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.

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### Protective cap

Dust protection - FL RJ45 PROTECT CAP - 2832991



Dust protection caps for RJ45 socket

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### Surge protection for transceiver systems

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### Accessories

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.

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### Universal tools

Assembly tool - FL CRIMPTOOL - 2744869



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