

# Security Appliance - TC MGUARD RS2000 4G VPN - 2903588

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Security appliance with 4G mobile network interface, SD card slot, 2 VPN tunnels, firewall for easy configuration, router with NAT/1:1 NAT, 4-port switch, 2 SIM card slots

## 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
- ✓ 2 parallel VPN tunnels
- ✓ Supports current certificates such as x509.v3
- ✓ Stateful inspection firewall
- ✓ Extended temperature range



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356758109
Weight per Piece (excluding packing)	640.000 g

## Security Appliance - TC MGUARD RS2000 4G VPN - 2903588

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

#### 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 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 RED Directive 2014/53/EU
Net weight	610 g
Housing material	Metal
Color	silver
MTTF	582 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	271 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	114 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Degree of pollution	2
Wireless licences	Europe

#### 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 solid max.	2.50 mm <sup>2</sup>

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## Technical data

### Power supply

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

### Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3
Interface	Ethernet
No. of ports	4
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 simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any 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

### Wireless interface

Interface description	GSM / GPRS / EDGE / UMTS / HSPA / LTE (FDD)
Frequency	850 MHz (2 W (EGSM))
	900 MHz (2 W (EGSM))
	1800 MHz (1 W (EGSM))
	1900 MHz (1 W (EGSM))
	850 MHz (UMTS/HSPA B5)
	900 MHz (UMTS/HSPA B8)
	1900 MHz (UMTS/HSPA B2)
	2100 MHz (UMTS/HSPA B1)
	800 MHz (LTE B20)
	850 MHz (LTE B5)
	900 MHz (LTE B8)
	1700 MHz (LTE B4)
	1800 MHz (LTE B3)
	1900 MHz (LTE B2)
	2100 MHz (LTE B1)

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## Technical data

### Wireless interface

	2600 MHz (LTE B7)
Data rate	≤ 150 Mbps (LTE (DL))
	≤ 50 Mbps (LTE (UL))
Antenna	50 Ω impedance SMA antenna socket
SIM interface 1	1.8 volt, 3 volt
GPRS	Class 12, Class B
	CS1 ... CS4
EDGE	Multislot Class 10
UMTS	HSPA 3GPP R9
LTE	CAT4
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
Country support	Europe

### Function

Web-based management	yes
Management	Web-based management, SNMP
Security functions	Supported Supported Supported DES, 3DES, AES-128, -192, -256 ESP tunnel / ESP transport Supported Supported X.509v3 certificates with RSA or PSK MD5, SHA-1 Quick mode, Main mode, PFS RFC 3706 Incoming or outgoing traffic 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
Identification	CE-compliant
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

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## Technical data

### Standards and Regulations

Electromagnetic compatibility	Conformance with RED Directive 2014/53/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
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

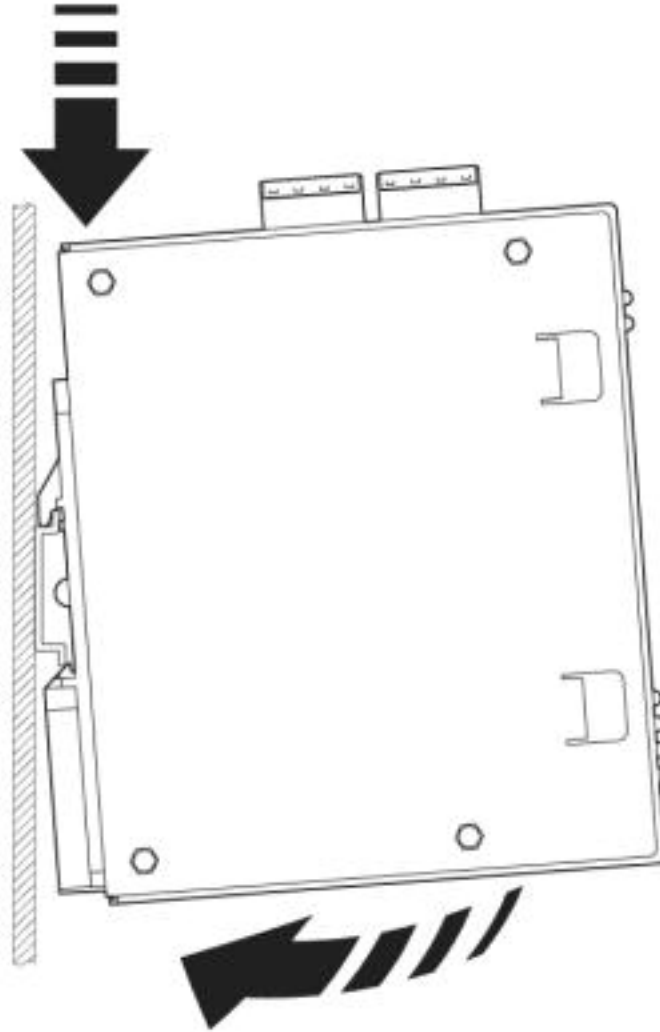
### Environmental Product Compliance

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

# Security Appliance - TC MGuard RS2000 4G VPN - 2903588

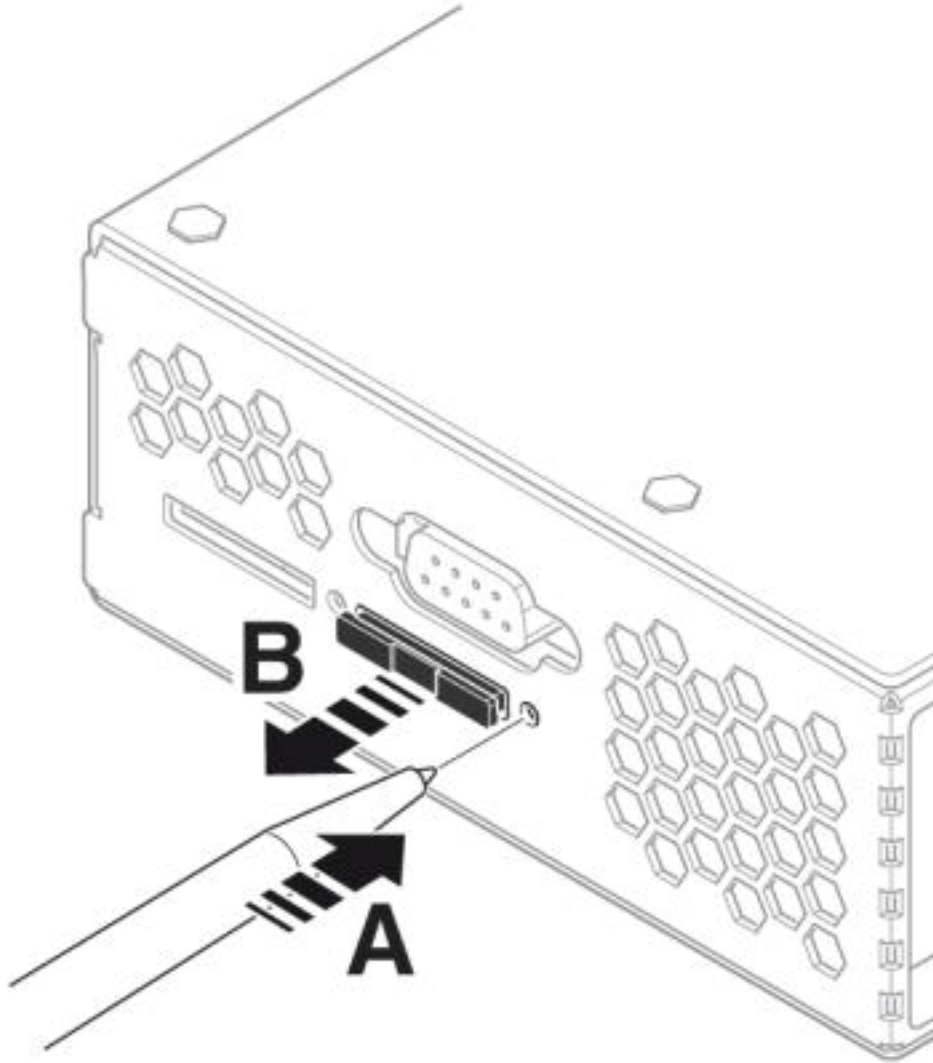
Schematic diagram



Mounting

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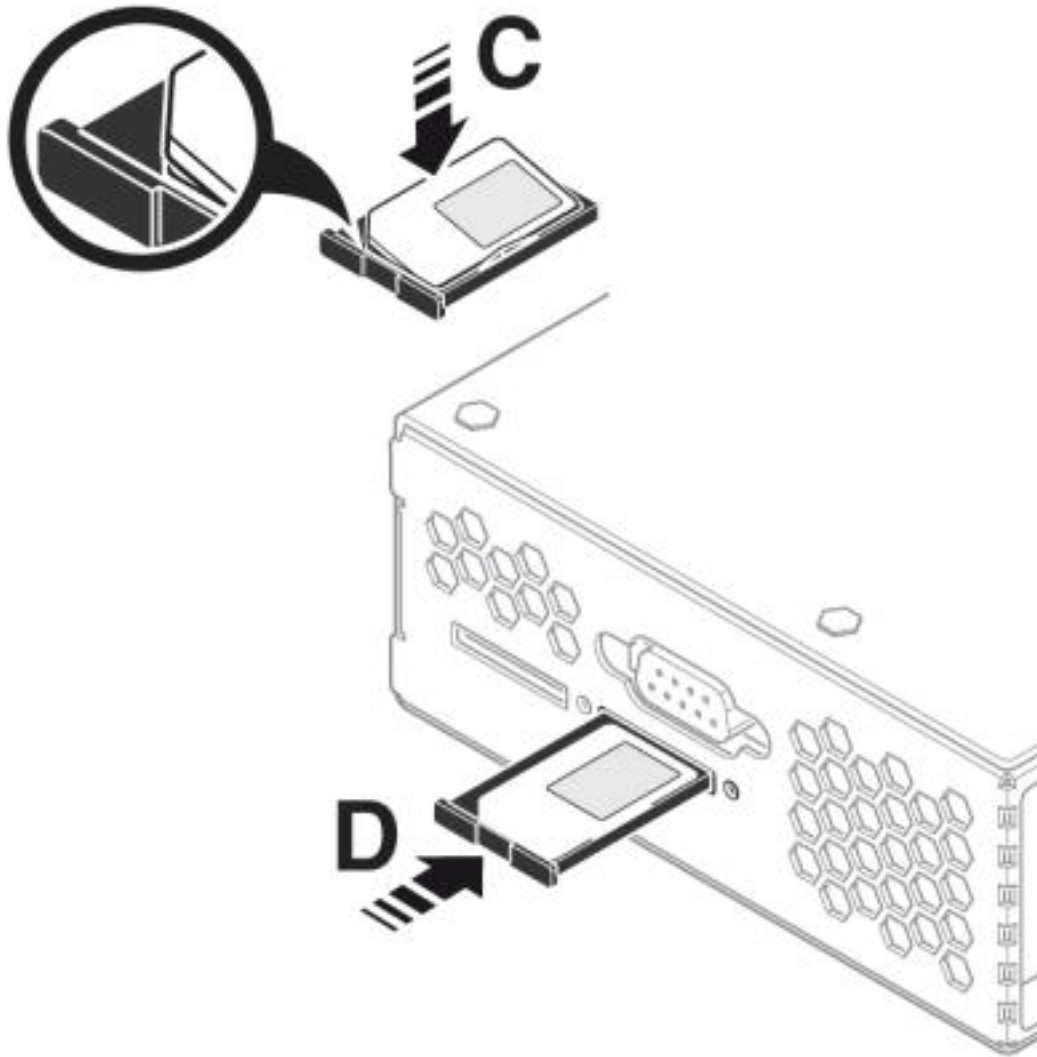
Schematic diagram



Remove SIM card holder

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Schematic diagram



Insert the SIM card

## Classifications

eCl@ss

eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19170100



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## Classifications

### eCl@ss

eCl@ss 7.0	19170103
eCl@ss 8.0	19170103
eCl@ss 9.0	19170103

### ETIM

ETIM 3.0	EC000310
ETIM 4.0	EC001478
ETIM 5.0	EC001478
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	43201553
UNSPSC 18.0	43222609
UNSPSC 19.0	43222609
UNSPSC 20.0	43222609
UNSPSC 21.0	43222609

## Accessories

### Accessories

#### Antenna

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



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

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### Accessories

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

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### Coaxial cable

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



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

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



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

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

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### Parameterization memory

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## Accessories

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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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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### Accessories

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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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### Remote control software

License - MGuard SECURE VPN CLIENT LIC - 2702579



License for mGuard Secure VPN Client v11.x

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### 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.

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### Wireless element

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### 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

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Assembly tool - FL CRIMPTOOL - 2744869



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

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