TC MGUARD RS2000 3G VPN - Router

2903441

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Security appliance with cellular interface. SD card slot. 2 VPN tunnels, 2-click firewall for easy configuration, router with NAT/1:1 NAT. 4-port 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 real-time 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 rating

Commercial data

Item number	2903441
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN25
Product key	DNC424
GTIN	4046356752992
Weight per piece (including packing)	650.2 g
Weight per piece (excluding packing)	640 g
Customs tariff number	85176200
Country of origin	DE

Technical data

Dimensions

Width	45 mm
Height	130 mm
Depth	114 mm

Notes

Note on application

Note on application	Only for industrial use

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.

Material specifications

Material (Housing)	Metal

Interfaces

Signal	Ethernet
Web server	yes
Basic functions	Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card

Data: Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3

Transmission speed	10/100 Mbps (auto negotiation)
Connection method	RJ45
No. of channels	4
Transmission length	100 m (shielded twisted pair)
Protocols supported	TCP/IP, UDP/IP, FTP, HTTP
Auxiliary protocols	ARP, DHCP, PING (ICMP), SNMP V1, SMTP

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

Serial transmission speed	9.6; 19.2; 38.4; 57.6; 115.2 kbps
Connection method	D-SUB 9 plug
Transmission length	15 m
File format/coding	UART/NRZ: 8 Data, 1/2 Stop, None/Even/Odd Parity
Data flow control/protocols	Software handshake, Xon/Xoff or hardware handshake RTS/CTS

Wireless

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))
	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	1.8 volt, 3 volt
	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

System properties

Functionality

Basic functions	Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card

System requirements

Supported browsers	HTTPS support required

Input data

Digital

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

Output data

Signal

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)

Product properties

Product type	Security router for the DIN rail
MTTF	634 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	295 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	125 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Insulation characteristics

Degree of pollution	2

Security functions

Basic functions	Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card
1:1 Network Address Translation (NAT) in the VPN	supported
Number of VPN tunnels	2 (Fixed, Ipsec (IETF standard))
Authentication	X.509v3 certificates with RSA or PSK
Data integrity	MD5, SHA-1
Filtering	Incoming or outgoing traffic
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	Simplified 2-click stateful inspection firewall
Internet Protocol Security (IPsec) mode	ESP tunnel / ESP transport
Dynamic Host Configuration Protocol (DHCP) support	Server or Relay Agent
Link Layer Discovery Protocol (LLDP)	As per protocol 802.2
Network Time Protocol (NTP) client	Client
Remote Syslog Logging	on externals server
Routing	Standard routing, NAT, 1:1-NAT, port forwarding
Encryption methods	DES, 3DES, AES-128, -192, -256
Virtual private network (VPN) throughput	max. 40 Mbps (Router mode, VPN bidirectional throughput)
	max. 26 Mbps (Stealth mode, VPN bidirectional throughput)

Functions

Supported browsers	HTTPS support required
Basic functions	Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card

Security functions

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Electrical properties

Electrical isolation	VCC // PE
Maximum power dissipation for nominal condition	4.7 W
Mains type	Cellular communication
Test voltage data interface/data interface	1 kV (50 Hz, 1 min.)
Test voltage data interface/power supply	1 kV (50 Hz, 1 min.)

Supply

Supply voltage range	11 V DC ... 36 V DC (via pluggable COMBICON screw terminal block)
Typical current consumption	< 320 mA (24 V DC)
Max. current consumption	< 1.8 A (at 11 V DC (incl. 3 x 125 mA for the outputs))

Function

Management	Web-based management, SNMP

Connection data

Supply

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
Single conductor/terminal point, rigid	0.2 mm² ... 2.5 mm²
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 14
Stripping length	7.00 mm
Tightening torque	0.56 Nm ... 0.79 Nm

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

Free from substances that could impair the application of coating	VDMA 24364:2018-05

Approvals

CE

Certificate	CE-compliant

UL, USA/Canada

Identification	Class I, Div. 2, Groups A, B, C, D
Certificate	E357918

UL, USA

Identification	Class I, Zone 2, AEx nA IIC T4

UL, Canada

Identification	Class I, Zone 2, Ex nA IIC T4 Gc X

Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	± 6 kV (Test Level 3)
Discharge in air	± 8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 3 GHz (Test Level 3)
Field intensity	10 V/m
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	± 2.2 kV (Test Level 3)
Signal	± 2.2 kV (Test Level 3)
Comments	Criterion B

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Input	± 0.5 kV (DC supply)
Signal	± 1 kV (Data line, asymmetrical)
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V

Emitted interference

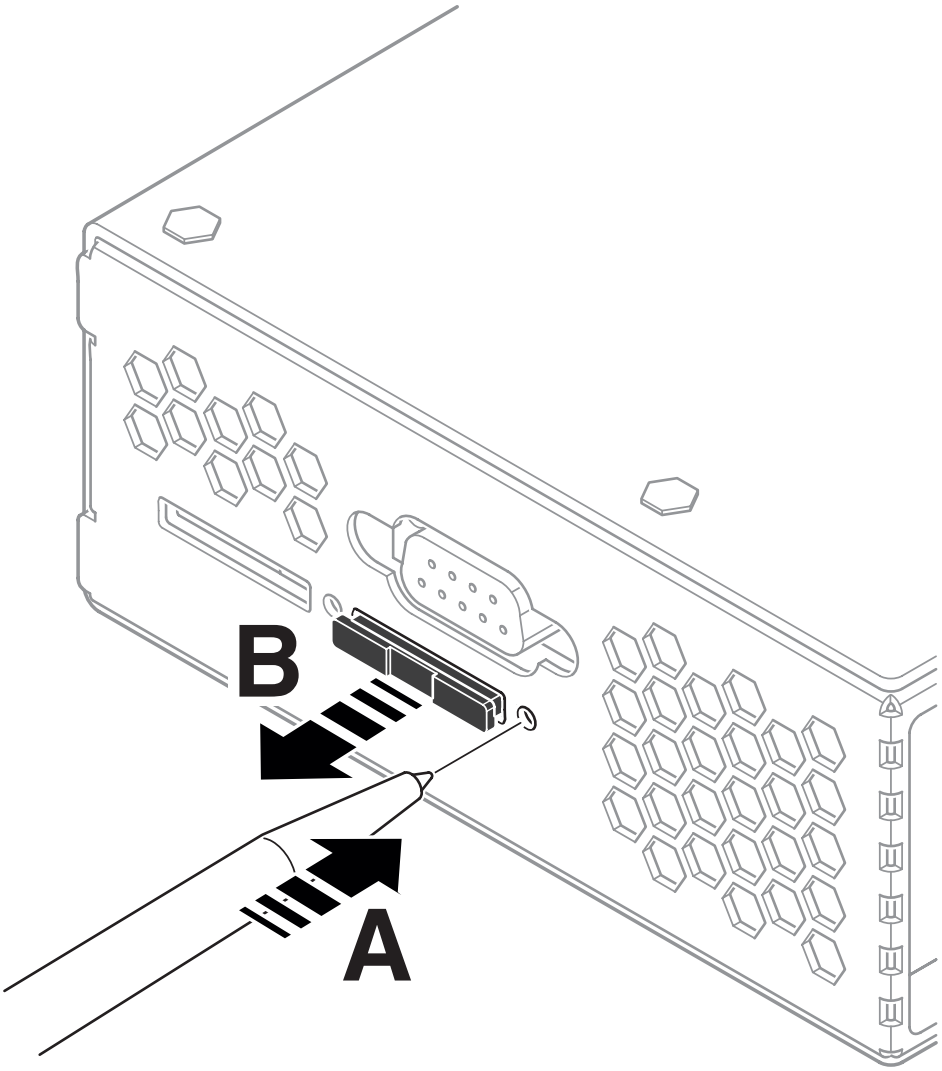
Standards/regulations	EN 61000-6-4
Radio interference voltage in acc. with EN 55011	EN 55011 class A industrial area of application
Emitted radio interference in acc. with EN 55011	EN 55011 class A industrial area of application

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

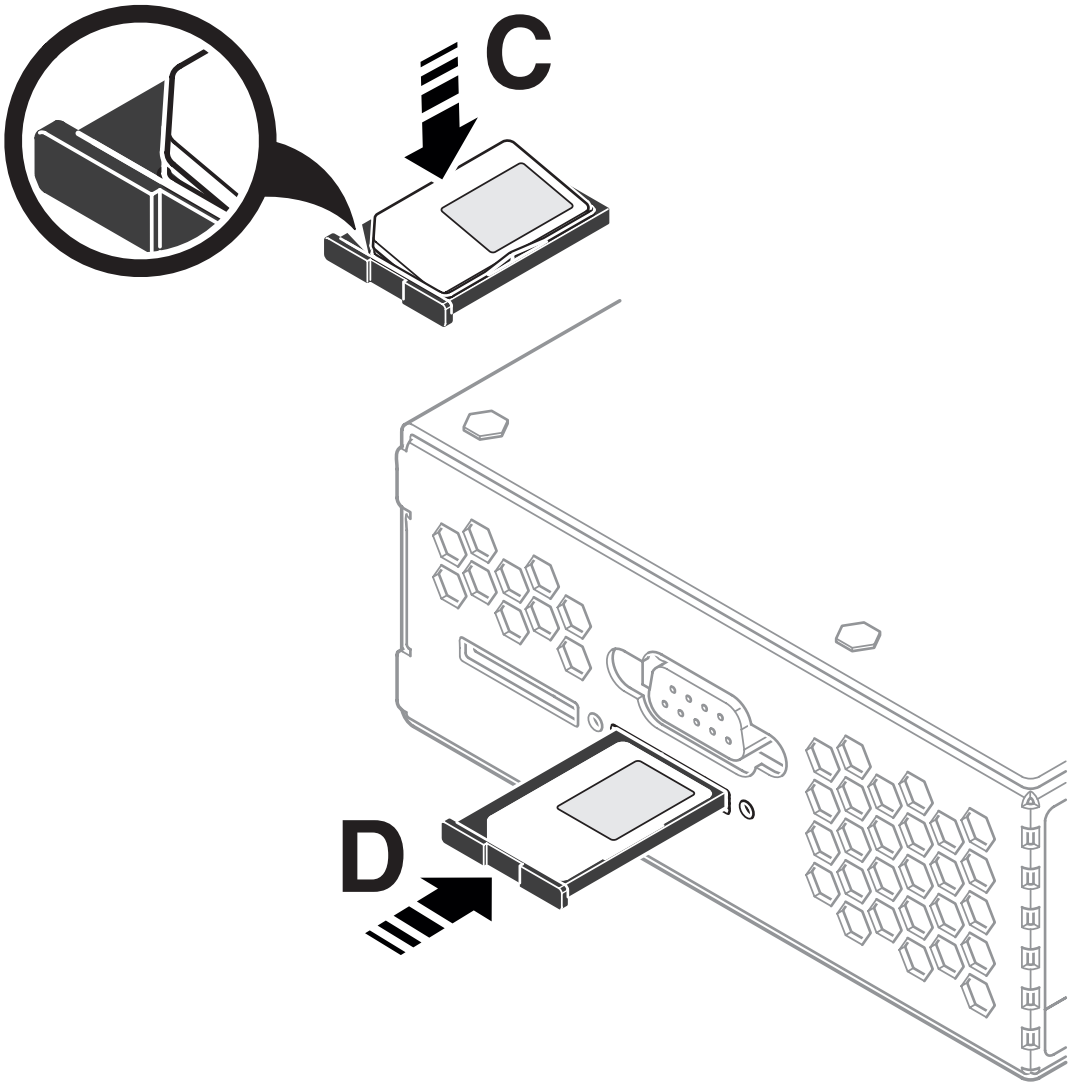
Drawings

Schematic diagram



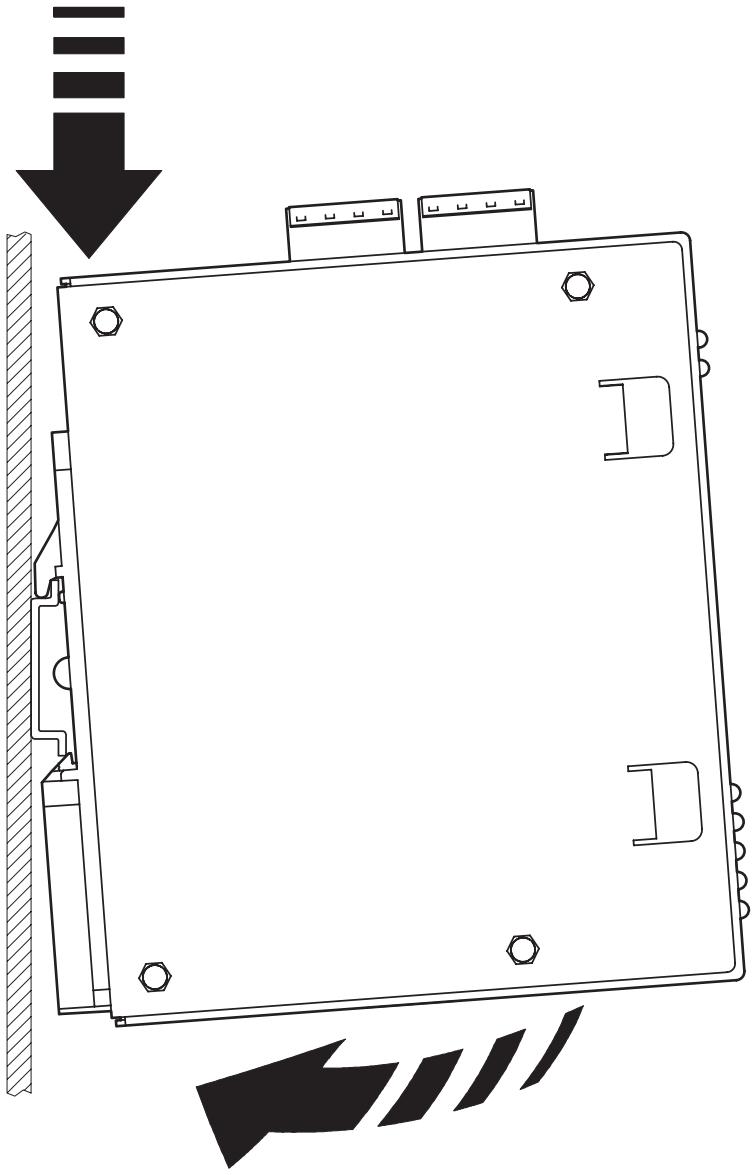
Remove SIM card holder

Schematic diagram



Insert the SIM card

Schematic diagram



Mounting

Classifications

ECLASS

ECLASS-13.0	19170406

ETIM

ETIM 9.0	EC001478

UNSPSC

UNSPSC 21.0	43222600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(a)-I, 6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)

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