

# Router - TC ROUTER 2002T-3G - 2702531

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Industrial 3G router, European version, fallback to 2G GPRS/EDGE, 2 Ethernet interfaces, firewall, NAT, SMA-F antenna socket, SMS and e-mail transmission, 2 digital inputs, 1 digital output

## Product Description

The TC ROUTER for mobile communication implements high-performance, high-speed data links of up to 150 Mbps via mobile 4G LTE networks. This enables you to establish a mobile broadband connection for highly flexible site networking even in places where a wired Internet connection is not available. These connections can be used to transmit sensitive data securely over mobile networks. Furthermore, the TC ROUTER offers a high level of security thanks to IPsec or OpenVPN tunnels, as well as an integrated stateful packet inspection firewall. This means that you can reliably protect your application against unauthorized access.

## Your advantages

- ✓ Industrial 3G cellular router (UMTS/HSPA)
- ✓ Fallback to 2G (GPRS/EDGE)
- ✓ Networking of Ethernet end devices via the cellular network
- ✓ Ethernet SMS gateway for easy alerting
- ✓ Two switching inputs and one switching output
- ✓ Stateful inspection firewall for dynamic filtering
- ✓ NAT table and port forwarding for direct remote access to an end device
- ✓ Configuration via web-based management or microSD card
- ✓ Two local Ethernet connections
- ✓ Switchable energy-saving mode
- ✓ Integrated logbook
- ✓ Connection monitoring
- ✓ Extended temperature range, -40 °C ... +70 °C



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626212838
Weight per Piece (excluding packing)	232.800 g
Custom tariff number	85176200
Country of origin	Germany

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## 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	126 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C (Maximum transmission power 10 dBm)
	-40 °C ... 60 °C (Maximum transmission power 23 dBm)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Degree of protection	IP20
Noise immunity	EN 61000-6-2

### General

Electrical isolation	VCC // UMTS // Ethernet // PE
Electromagnetic compatibility	Conformance with RED Directive 2014/53/EU
Net weight	232.8 g
Housing material	Plastic
Color	gray
MTTF	383 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	184 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	78 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

### Power supply

Supply voltage range	10 V DC ... 30 V DC (Via pluggable Push-in terminal block)
Max. current consumption	1.7 A
Typical current consumption	< 200 mA (24 V DC)
	65 mA (With activated energy-saving mode)

### Interfaces

Interface 1	Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3
Interface	Ethernet
No. of ports	2
Connection method	RJ45 socket, shielded
Transmission length	100 m (shielded twisted pair)

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## Technical data

### Interfaces

Protocols supported	TCP/IP, UDP/IP, FTP, HTTP(S)
Auxiliary protocols	ARP, DHCP, PING (ICMP), SNMP V1/V2, SMTP(S), NTP, SSL/TLS, STARTTLS
Serial transmission speed	10/100 Mbps, auto negotiation

### Wireless interface

Interface description	GSM / GPRS / EDGE / UMTS / HSPA
Frequency	850 MHz (2 W (EGSM))
	900 MHz (2 W (EGSM))
	1800 MHz (1 W (EGSM))
	1900 MHz (1W (EGSM))
	900 MHz (UMTS/HSPA B8)
	2100 MHz (UMTS/HSPA B1)
Data rate	≤ 21.6 Mbps (HSPA (DL))
	≤ 5.76 Mbps (HSPA (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 R7

### Function

Web-based management	yes
Management	Web-based management, SNMP
Security functions	IP, port, protocol

### Digital outputs

Output name	Digital output
Number of outputs	1
Voltage output signal	10 V DC ... 30 V DC (depending on the operating voltage)
Current output signal	≤ 50 mA (Not short-circuit proof)

### Digital inputs

Description of the input	Digital input
Number of inputs	2
Switching level "1" signal	10 V DC ... 30 V DC
Voltage input signal	10 V DC ... 30 V DC

### 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	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	15g
Noise immunity	EN 61000-6-2
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 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

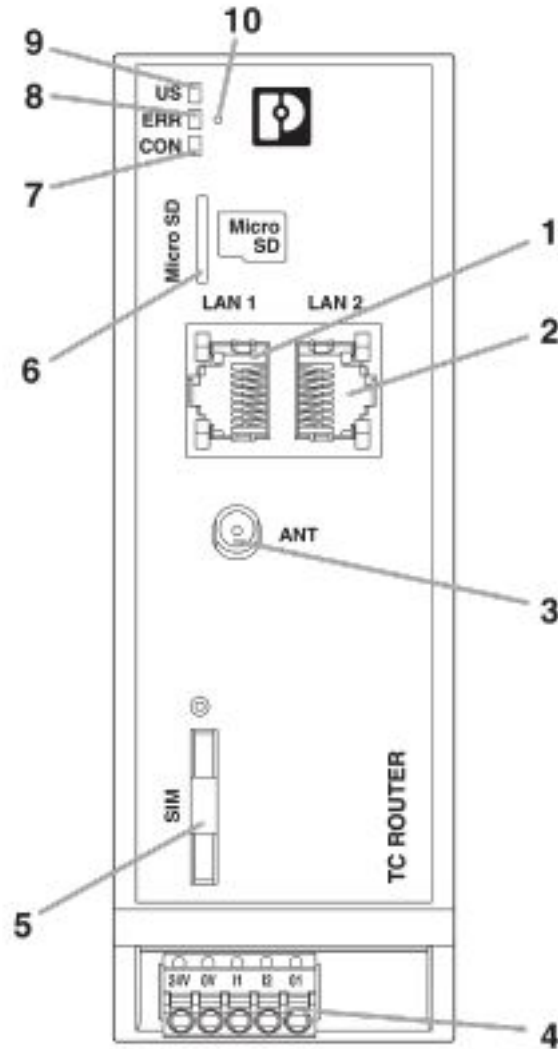
### Environmental Product Compliance

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

## Drawings

# Router - TC ROUTER 2002T-3G - 2702531

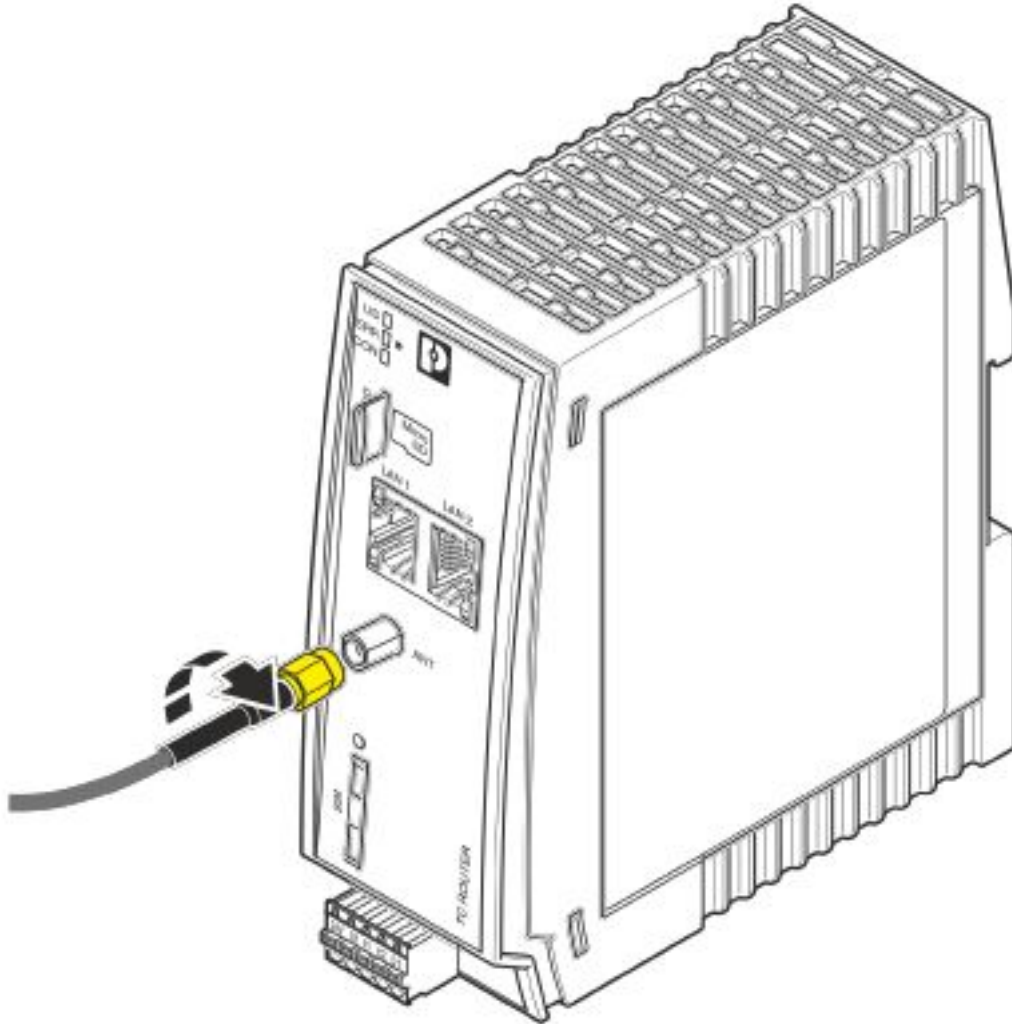
Schematic diagram



Front view

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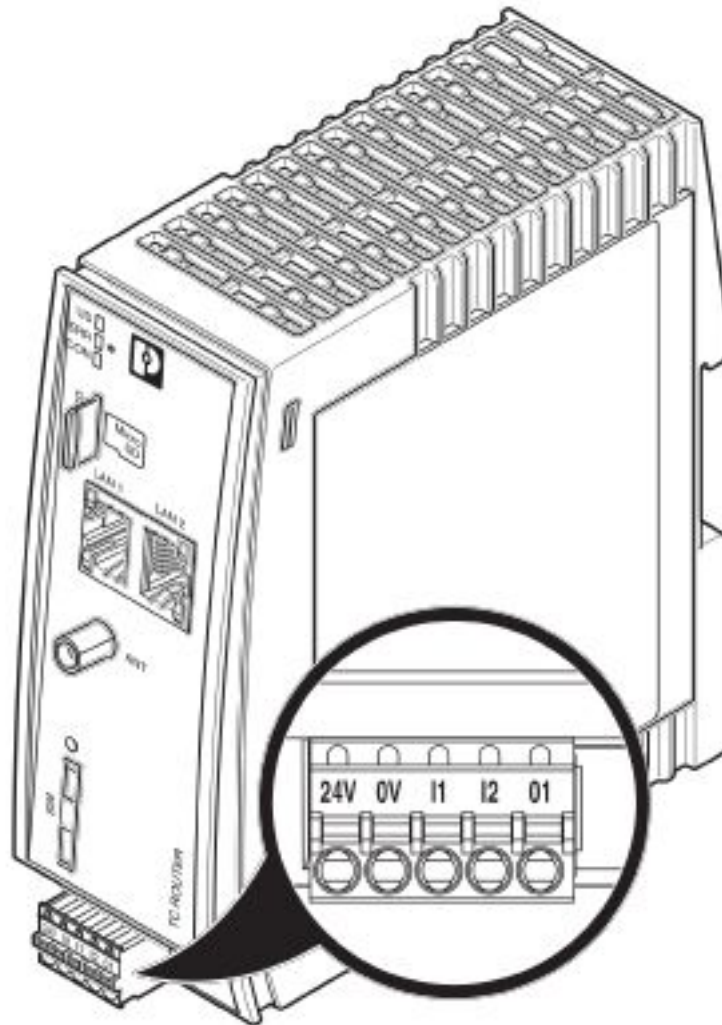
Schematic diagram



Connect the antenna

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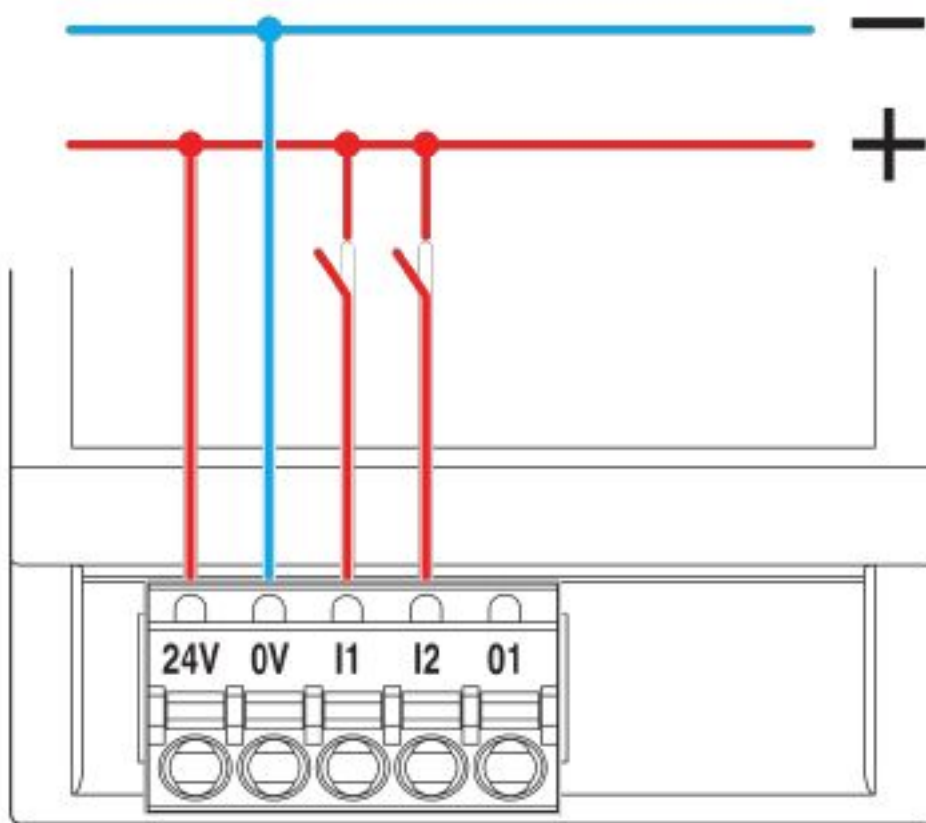
Schematic diagram



Device connections

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Connection diagram

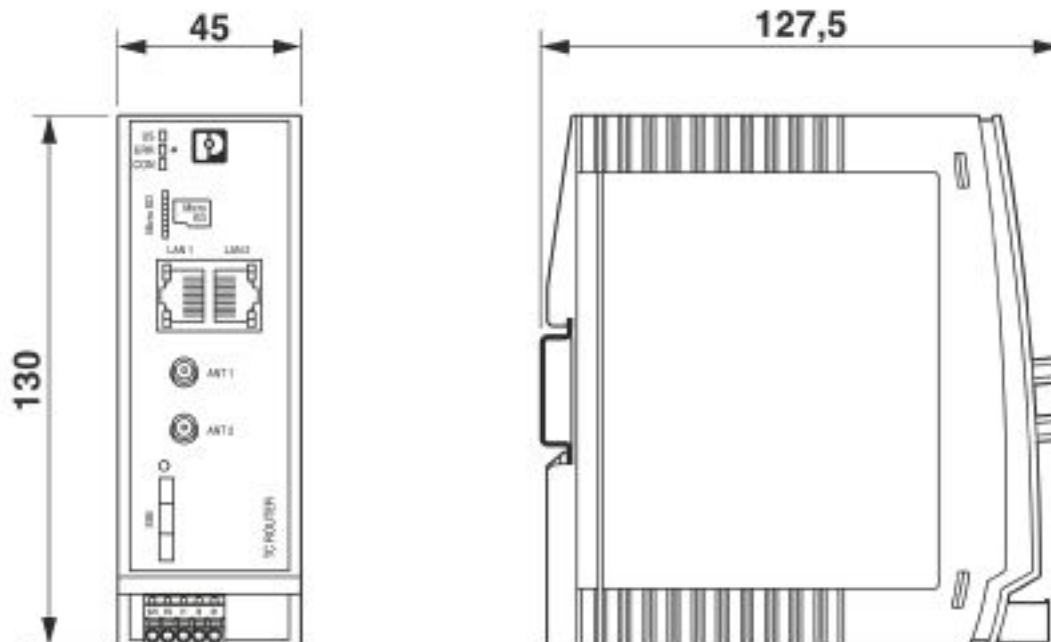


Switching inputs



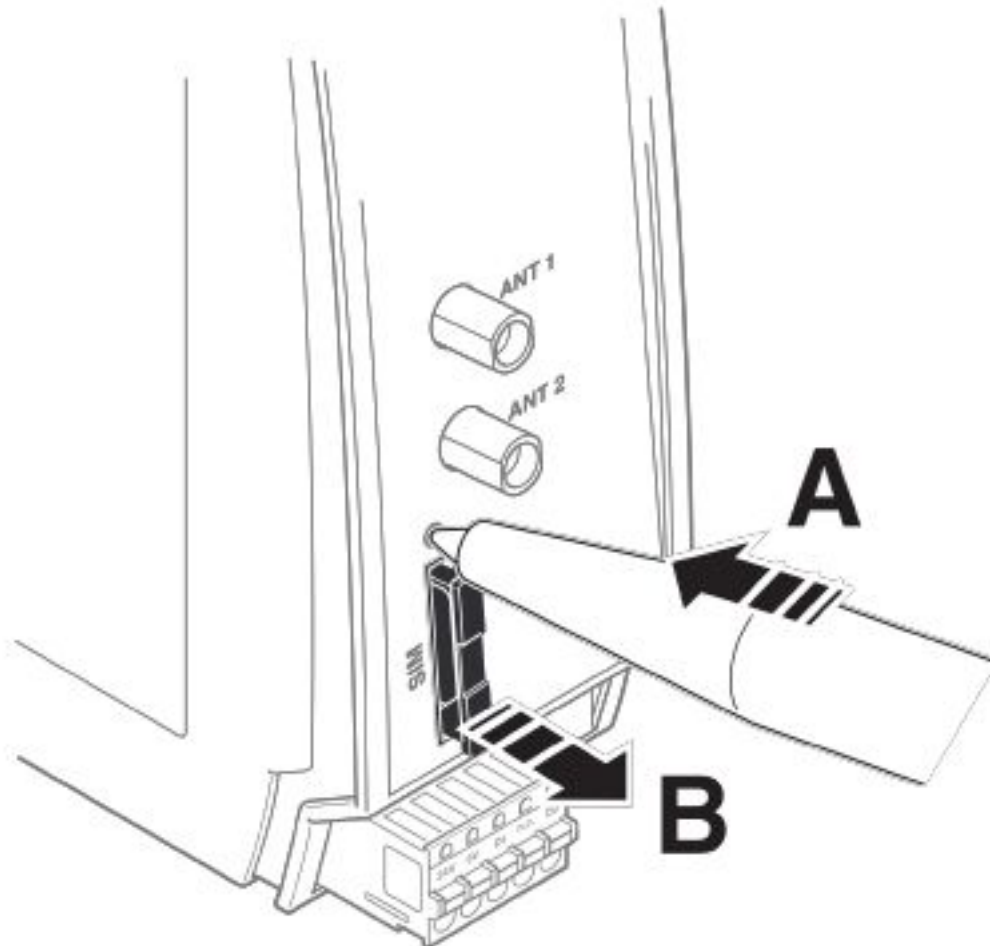
# Router - TC ROUTER 2002T-3G - 2702531

Dimensional drawing



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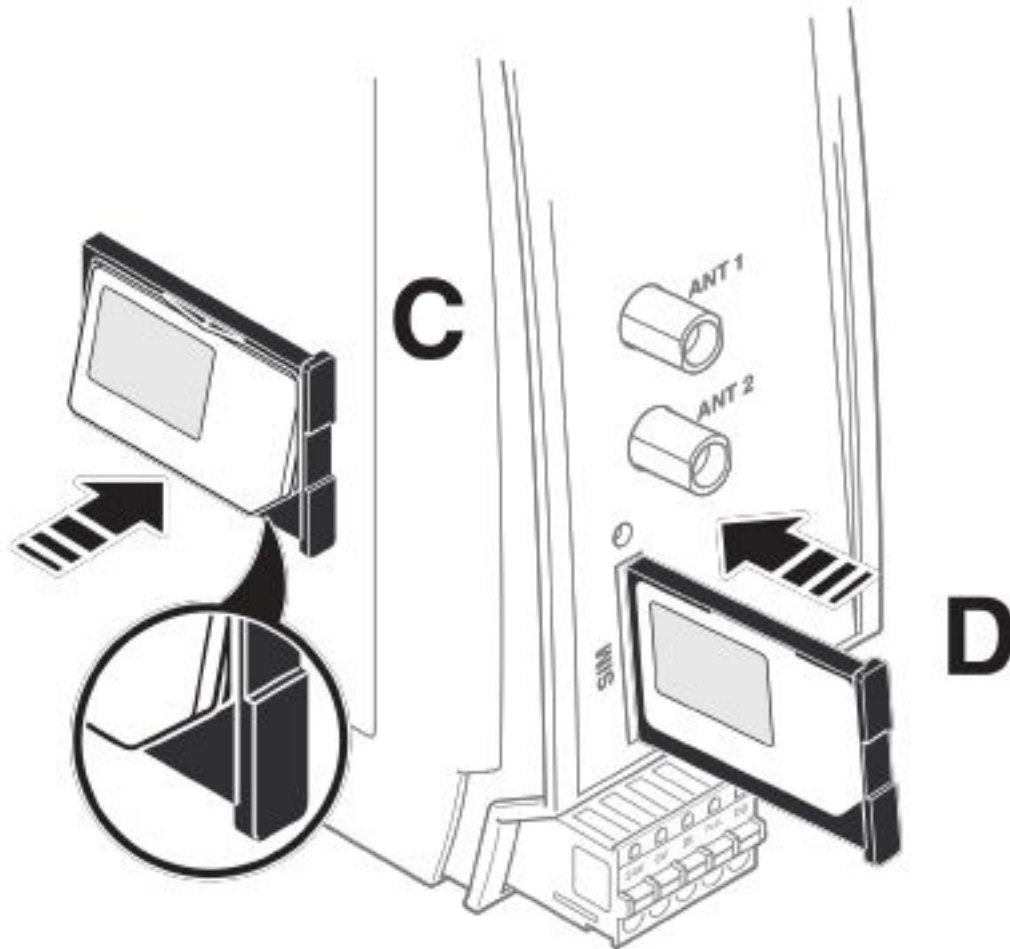
Schematic diagram



Remove SIM card holder

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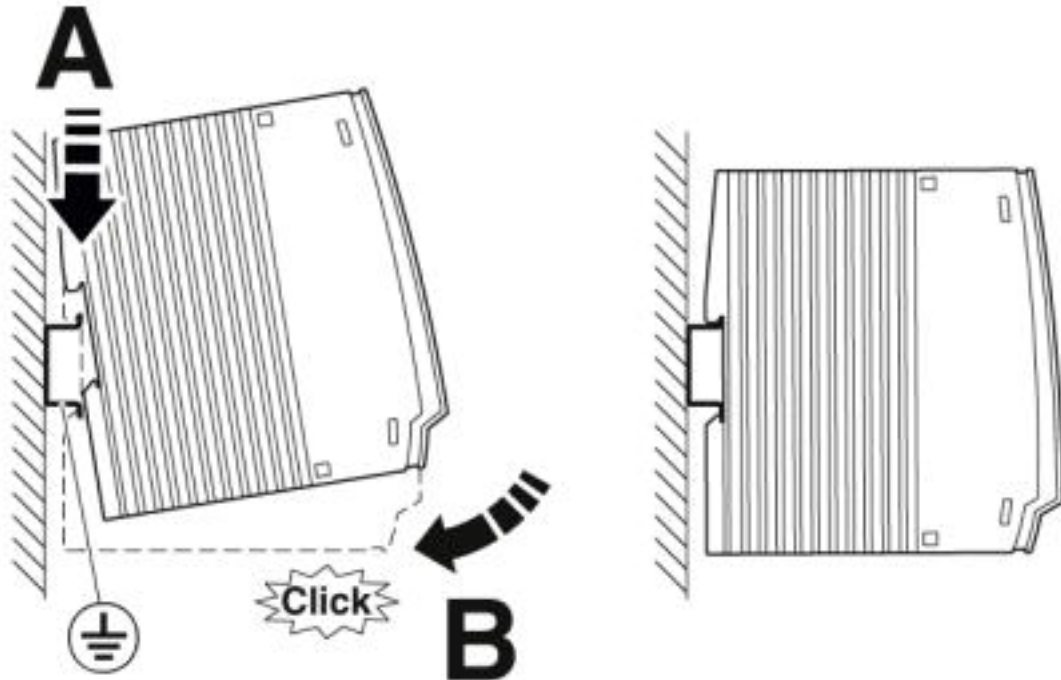
Schematic diagram



Insert the SIM card

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Schematic diagram



Mounting

## Classifications

eCl@ss

eCl@ss 5.0	19030100
eCl@ss 5.1	19030100
eCl@ss 6.0	19170100
eCl@ss 7.0	19170103
eCl@ss 8.0	19170103
eCl@ss 9.0	19170103

ETIM

ETIM 5.0	EC001478
ETIM 6.0	EC001478
ETIM 7.0	EC001478

## Accessories

Accessories

Antenna

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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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### PCB plug

PCB connector - FK-MCP 1,5/ 5-ST-3,81GY35BD-01 - 1105115



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 5, pitch: 3.81 mm, connection method: Push-in spring connection, color: light gray, contact surface: Tin

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### Power supply

Power supply unit - TRIO-PS-2G/1AC/24DC/3/C2LPS - 2903147



Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 1-phase, output: 24 V DC/3 A C2LPS

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### Remote control software

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### Accessories

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.