

# TC ROUTER 3002T-4G - Router



2702528

<https://www.phoenixcontact.com/us/products/2702528>

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Industrial 4G LTE router, European version, fallback to 3G UMTS/HSPA+ and 2G GPRS/EDGE, 2 Ethernet interfaces, firewall, NAT, IPsec and OpenVPN support, 2x SMA-F antenna socket, SMS and e-mail transmission, 2 digital inputs, 1 digital output

## Product description

The **TC ROUTER** for cellular 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 cellular 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 4G cellular router (LTE)
- Fallback to 3G (UMTS/HSPA) and 2G (GPRS/EDGE)
- Virtual dedicated line to connect networks via cellular network
- IPsec and OpenVPN
- Up to 3 VPN tunnels simultaneously
- VPN remote start via call or SMS
- Stateful inspection firewall for dynamic filtering
- NAT table
- Two switching inputs and one switching output
- Configuration via web-based management or microSD card
- 2 local Ethernet connections
- Switchable energy-saving mode
- Integrated logbook
- Connection monitoring
- Extended temperature range of -40 °C ... +70 °C

## Commercial data

Item number	2702528
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN25
Product key	DNC422
Catalog page	Page 413 (C-6-2019)

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GTIN	4055626211961
Weight per piece (excluding packing)	240 g
Customs tariff number	85176200
Country of origin	DE

# TC ROUTER 3002T-4G - Router

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## Technical data

### Notes

#### Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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### Product properties

Product type	Cellular router
Application	Ethernet
MTTF	383 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	184 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	78 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

### Electrical properties

Electrical isolation	VCC // LTE // Ethernet // PE
Maximum power dissipation for nominal condition	4.8 W
Mains type	Cellular communication

#### Supply

Supply voltage range	10 V DC ... 30 V DC (Via pluggable Push-in terminal block)
Typical current consumption	< 200 mA (24 V DC)
	65 mA (With activated energy-saving mode)
Max. current consumption	1.7 A
Connection method	Push-in spring connection
Single conductor/terminal point, rigid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Single-wire/terminal point, flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>

#### Function

Management	Web-based management, SNMP
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### Input data

#### Digital

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

### Output data

#### Signal

Output name	Digital output
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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)

## Connection data

### Supply

Connection method	Push-in spring connection
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 0.75 mm²
Conductor cross section, flexible [AWG]	26 ... 16
Stripping length	9 mm

## Interfaces

Signal	Ethernet
Web server	yes

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

Serial transmission speed	10/100 Mbps, auto negotiation
Connection method	RJ45 jack, shielded
No. of channels	2
Transmission length	100 m (shielded twisted pair)
Protocols supported	TCP/IP, UDP/IP, FTP, HTTP(S)
Auxiliary protocols	ARP, DHCP, PING (ICMP), SNMP V1/V2, SMTP(S), NTP, SSL/TLS, STARTTLS

### Wireless

Interface description	GSM / GPRS / EDGE / UMTS / HSPA+ / LTE
Frequency range	2600 MHz (LTE B38)
	2500 MHz (LTE B41)
	2300 MHz (LTE B40)
	2100 MHz (LTE B1)
	1800 MHz (LTE B3)
	2600 MHz (LTE B7)
	900 MHz (LTE B8)
	800 MHz (LTE B20)
	700 MHz (LTE B28A)
	2100 MHz (UMTS/HSPA B1)
Data rate	900 MHz (UMTS/HSPA B8)
	900 MHz (2 W (EGSM))
	1800 MHz (1 W (EGSM))
Antenna	≤ 150 Mbps (LTE, DL)
	≤ 50 Mbps (LTE, UL)
Antenna connection method	50 Ω impedance SMA antenna socket
	SMA (female)

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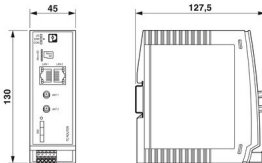
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SIM Interface	1.8 volt, 3 volt
LTE	CAT4
Country support	Europe

## Dimensions

Dimensional drawing	
Width	45 mm
Height	130 mm
Depth	127 mm

## Material specifications

Material	Plastic
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (Maximum transmission power 5 dBm) -40 °C ... 60 °C (Maximum transmission power 23 dBm)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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### Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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## EMC data

Noise immunity	EN 61000-6-2
Electromagnetic compatibility	Conformance with RED Directive 2014/53/EU

### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

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

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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 kV (Test Level 3)
Signal	± 2 kV (Ethernet)
Comments	Criterion B
Surge current load (surge)	
Standards/regulations	EN 61000-4-5
Surge current load (surge)	
Input	± 0.5 kV (symmetrical)
	± 1 kV (asymmetrical)
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	
Radio interference voltage in acc. with EN 55011	Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	Class B, area of application: Industry and residential
Criteria	
Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

## Mounting

Mounting type	DIN rail mounting
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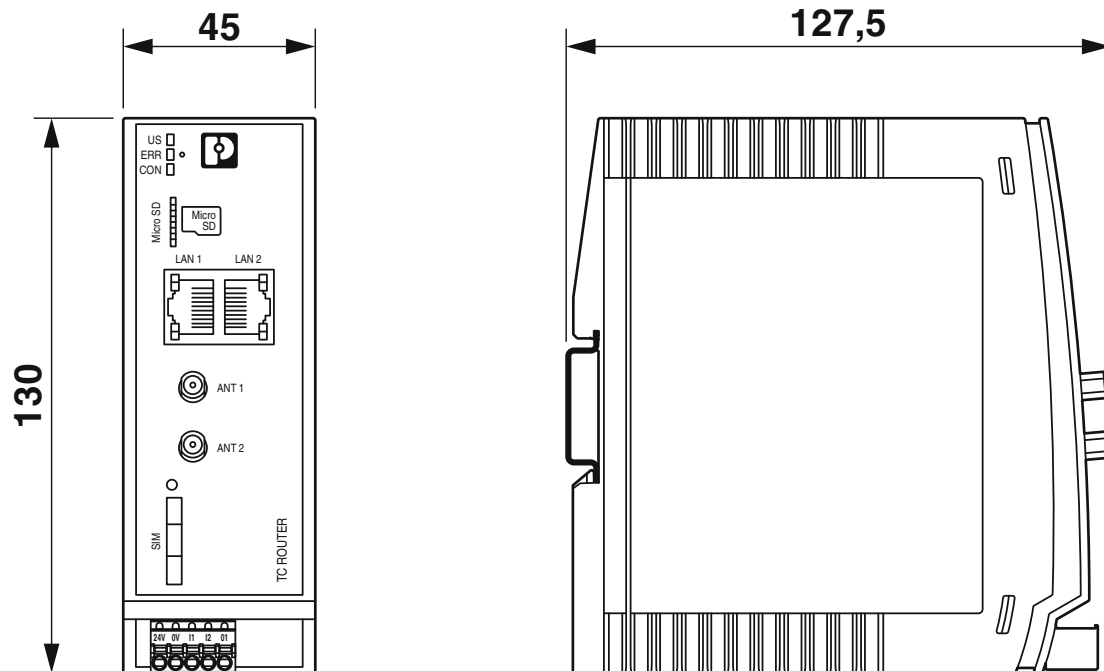
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## Drawings

Dimensional drawing



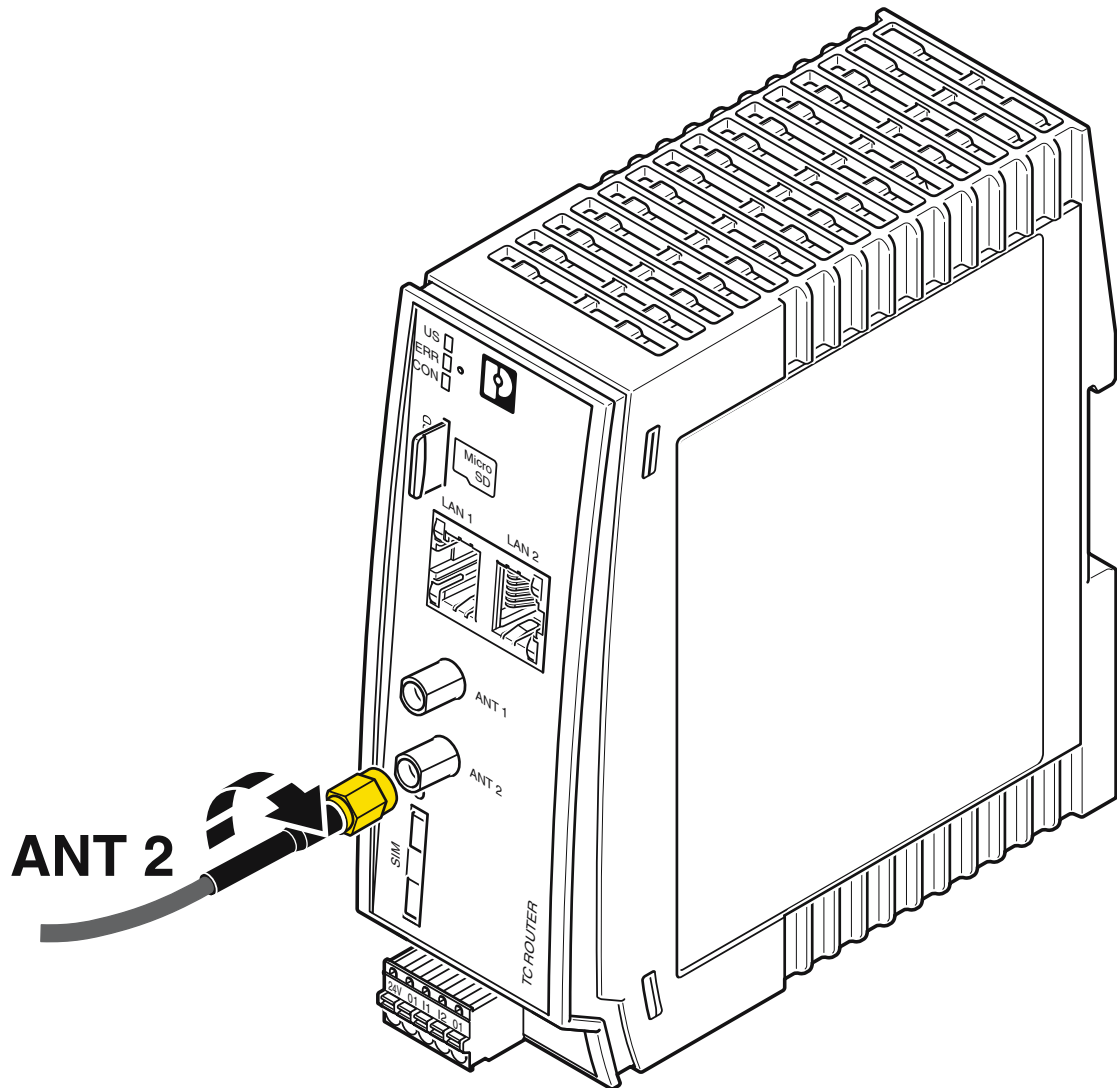
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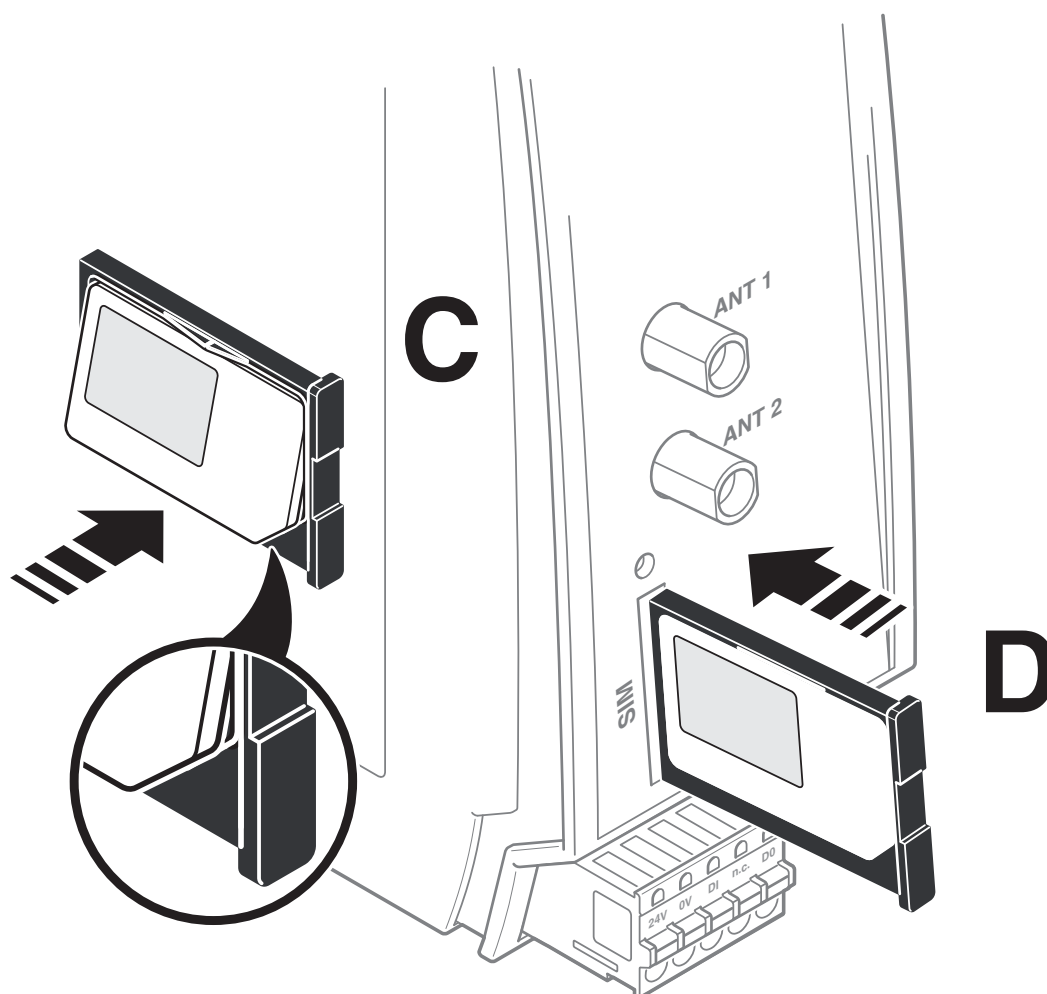
Schematic diagram



Connect the antenna



Schematic diagram



Insert the SIM card

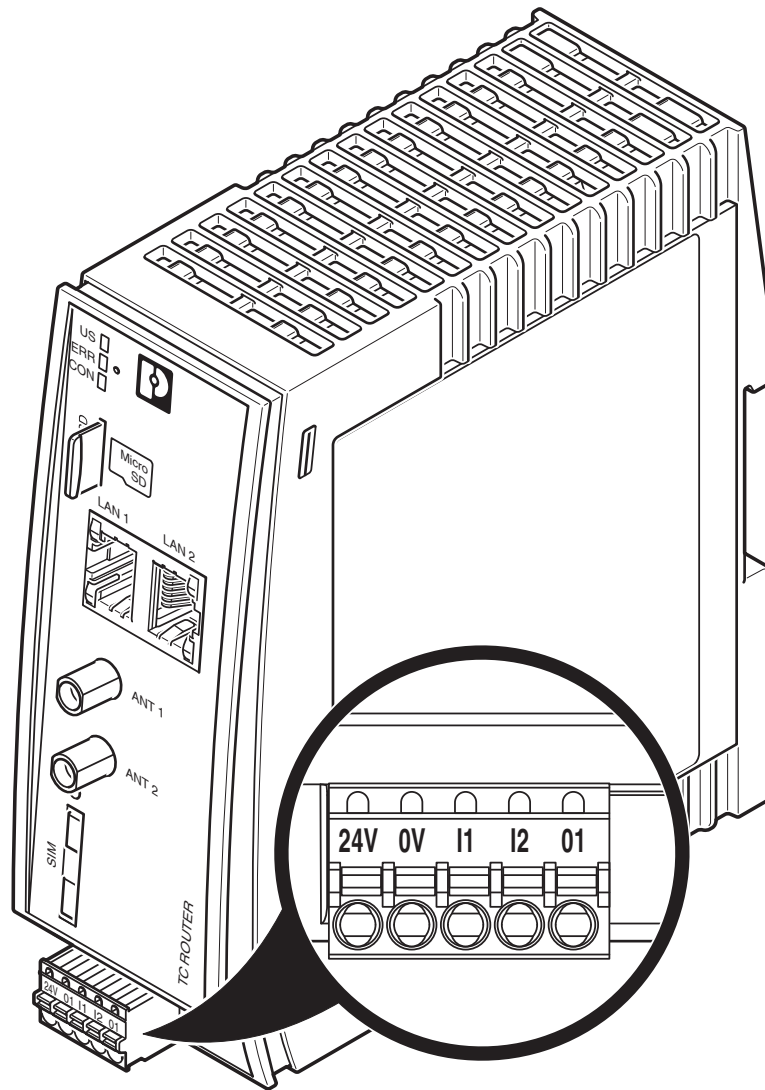
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Schematic diagram



Device connections

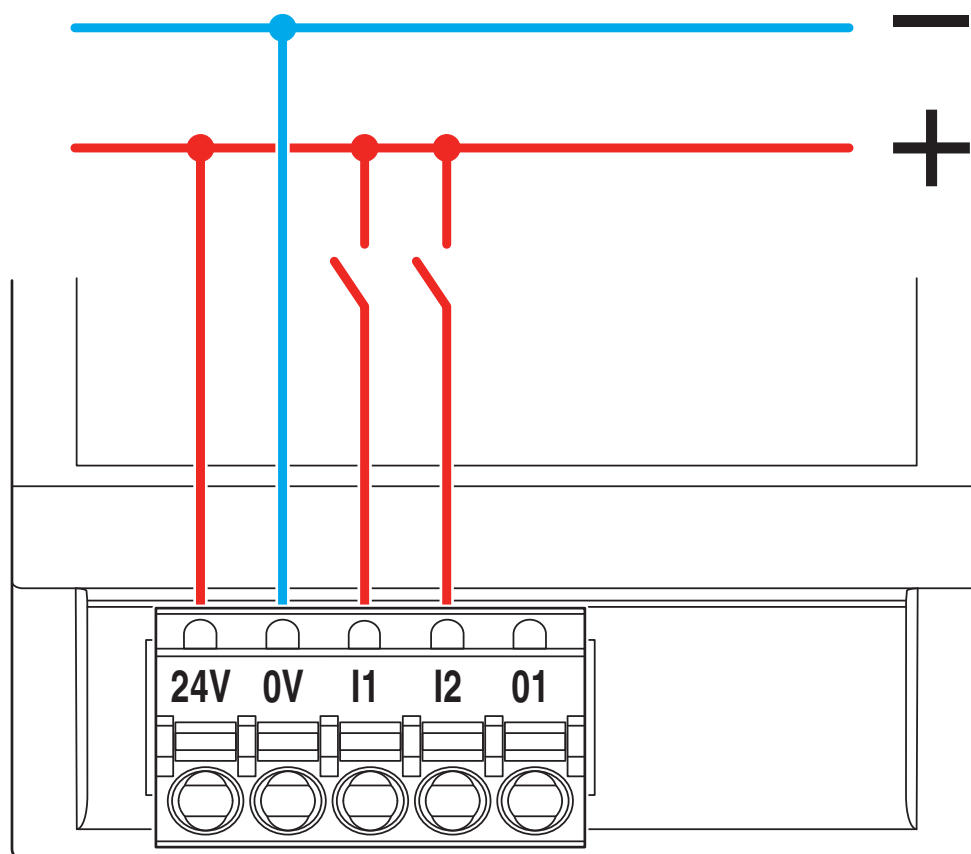
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Connection diagram



Switching inputs

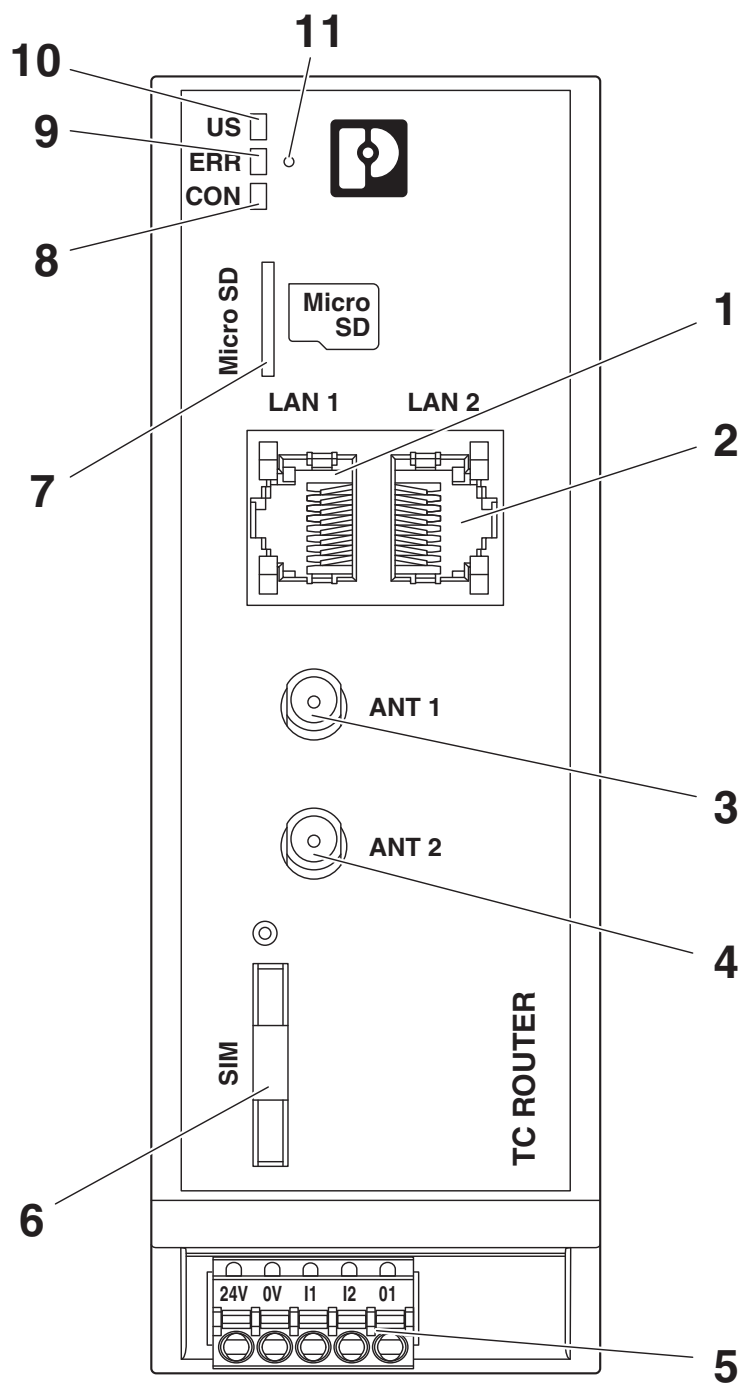
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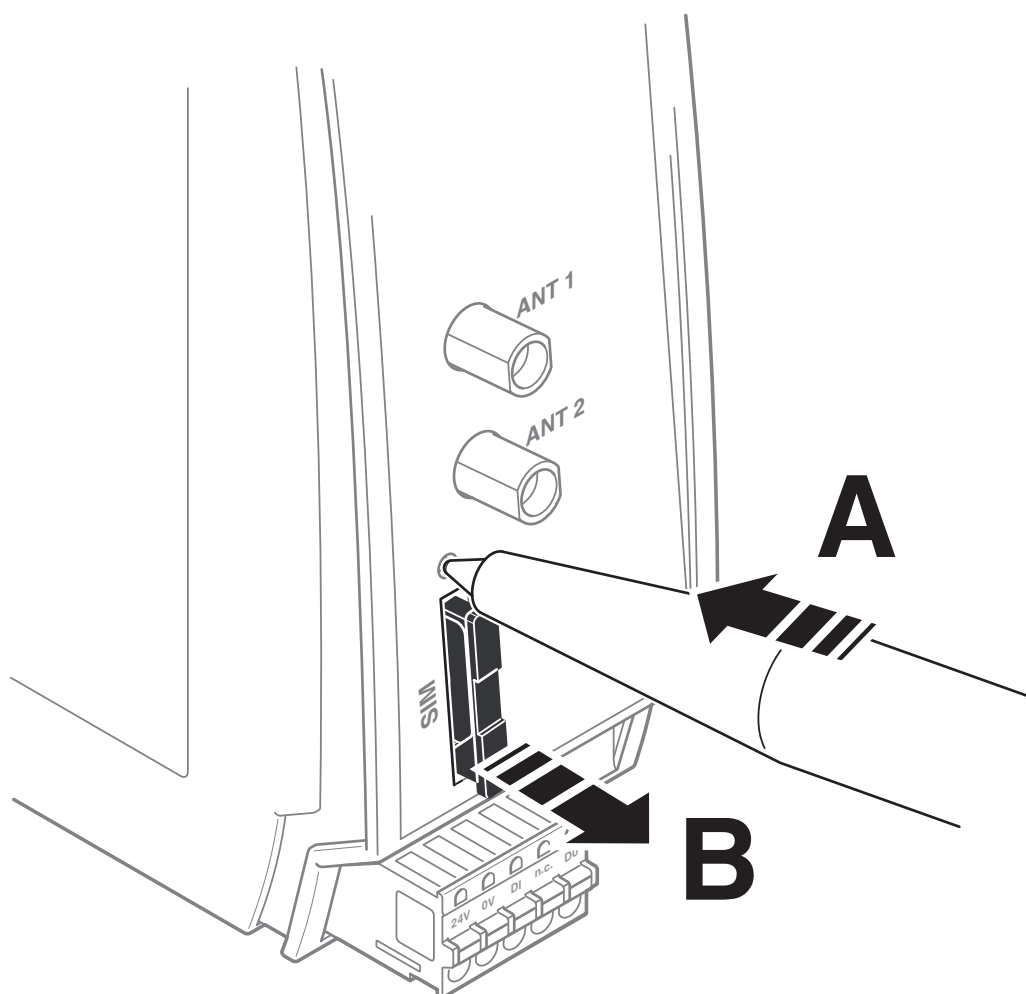


Schematic diagram



Front view

Schematic diagram



Remove SIM card holder

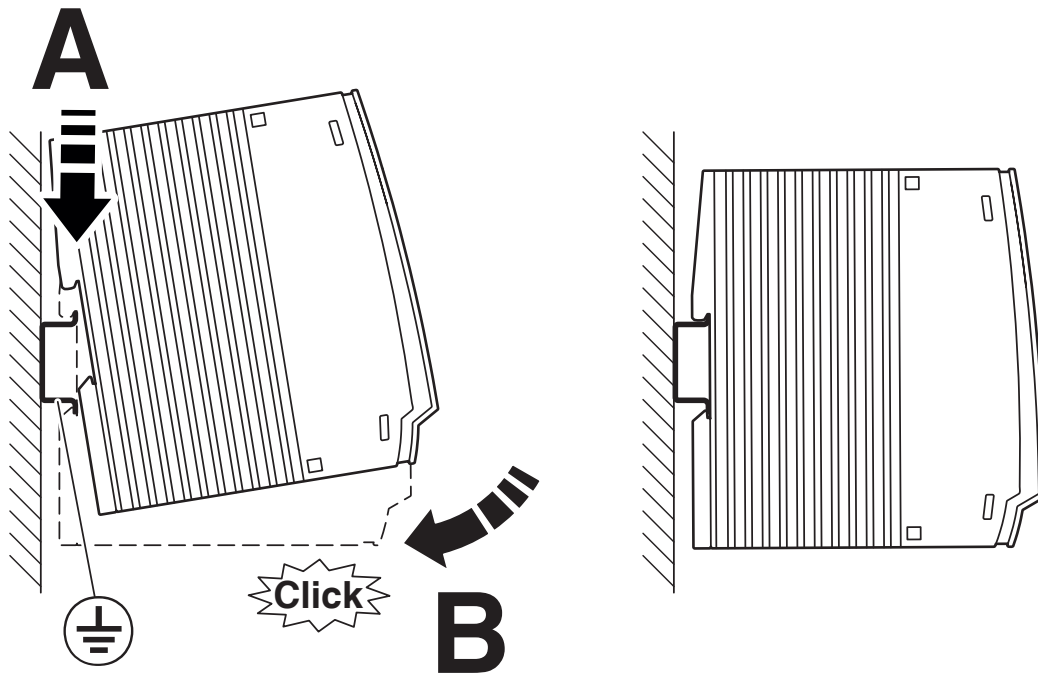
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Schematic diagram



Mounting

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## Classifications

### ECLASS

ECLASS-11.0	19170502
ECLASS-12.0	19170502
ECLASS-13.0	19170502

### ETIM

ETIM 8.0	EC001478
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### UNSPSC

UNSPSC 21.0	43222609
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## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values



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## Accessories

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

2903147

<https://www.phoenixcontact.com/us/products/2903147>



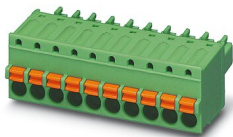
Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 1-phase, output: 24 V DC/3 A C2LPS

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

1105115

<https://www.phoenixcontact.com/us/products/1105115>



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of rows: 1, number of positions: 5, product range: FK-MCP 1,5/..-ST, pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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## MGUARD SECURE VPN CLIENT LIC - License

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License for mGuard Secure VPN Client v11.x

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## TC ANT MOBILE WALL 5M - Antenna

2702273

<https://www.phoenixcontact.com/us/products/2702273>



Multiband omnidirectional antenna for wall or mast mounting, 0.6 GHz ... 6 GHz, gain: 3 dBi ... 7 dBi, degree of protection: IP66, connection: SMA (male), incl. 5 m connecting cable, mounting bracket, and mast clamps

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## ANT-OMNI-0671-01 - Antenna

1396316

<https://www.phoenixcontact.com/us/products/1396316>



Multiband omnidirectional antenna for wall or mast mounting, 0.6 GHz ... 7.1 GHz, gain: 1 dBi ... 3 dBi, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clamps

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## ANT-OMNI-0671-02 - Antenna

1396318

<https://www.phoenixcontact.com/us/products/1396318>



Multiband omnidirectional antenna with protection against vandalism for control cabinet mounting, frequency band: 0.6 GHz ... 7.1 GHz, gain: 2 dBi ... 4 dBi, degree of protection: IP67, shockproof: IK10, seawater-resistant, connection: N (female)

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## ANT-OMNI-0671-03 - Antenna

1565400

<https://www.phoenixcontact.com/us/products/1565400>



Multiband omnidirectional antenna for installation in plastic control cabinets not visible from the outside, frequency band: 0.6 GHz ... 7.1 GHz, gain: 1 dBi .... 2 dBi, connection: SMA (male), antenna connector with 90° articulated joint

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## NBC-COX-CNM/0.5-S/COX-CKM - Coaxial cable

1340139

<https://www.phoenixcontact.com/us/products/1340139>



Coaxial cable, 50  $\Omega$ , length: 0.5 m, N(m) - SMA(m), external cable diameter: 2.8 mm, transmission frequency:  $\leq 7.25$  GHz, typical attenuation: 800 MHz 0.4 dB, 2.4 GHz 0.7 dB, 5.8 GHz 1.1 dB, 7.25 GHz 1.5 dB

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## NBC-COX-CNM/1.0-M/COX-CKM - Coaxial cable

1340143

<https://www.phoenixcontact.com/us/products/1340143>



Coaxial cable, 50  $\Omega$ , length: 1 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency:  $\leq 7.25$  GHz, typical attenuation: 800 MHz 0.5 dB, 2.4 GHz 0.8 dB, 5.8 GHz 1.2 dB, 7.25 GHz 1.4 dB

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## NBC-COX-CNM/3.0-M/COX-CKM - Coaxial cable

1340144

<https://www.phoenixcontact.com/us/products/1340144>



Coaxial cable, 50  $\Omega$ , length: 3 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency:  $\leq 7.25$  GHz, typical attenuation: 800 MHz 1.4 dB, 2.4 GHz 2.3 dB, 5.8 GHz 3.6 dB, 7.25 GHz 4.2 dB

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## NBC-COX-CNM/5.0-M/COX-CKM - Coaxial cable

1340147

<https://www.phoenixcontact.com/us/products/1340147>



Coaxial cable, 50  $\Omega$ , length: 5 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency:  $\leq 7.25$  GHz, typical attenuation: 800 MHz 2.3 dB, 2.4 GHz 3.8 dB, 5.8 GHz 6 dB, 7.25 GHz 7.3 dB

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## RAD-CAB-EF393- 3M - Antenna cable

2867649

<https://www.phoenixcontact.com/us/products/2867649>



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.0 / 1.8 / 3.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 3 m (10 ft.)

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## RAD-CAB-EF393- 5M - Antenna cable

2867652

<https://www.phoenixcontact.com/us/products/2867652>

Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.6 / 2.9 / 5.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 5 m (16 ft.)



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## RAD-CAB-EF393-10M - Antenna cable

2867665

<https://www.phoenixcontact.com/us/products/2867665>

Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 2.9 / 5.6 / 9.9 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 10 m (32 ft.)



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## RAD-CAB-EF393-15M - Antenna cable

2885634

<https://www.phoenixcontact.com/us/products/2885634>

Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 4.3 / 8.3 / 14.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 15 m (50 ft.)



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## CN-UB-70DC-6-BB - Surge protection device

2803166

<https://www.phoenixcontact.com/us/products/2803166>

Attachment plug with surge protection for coaxial signal interfaces. Connection: N connector, female/female





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## RAD-ADP-N/F-N/F - Adapter

2867843

<https://www.phoenixcontact.com/us/products/2867843>

Antenna adapter for control cabinet feed-through, frequency range: 0.3 GHz ...  
6 GHz, degree of protection: IP65, connection: 2 x N (female)



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## RAD-TAPE-SV-19-3 - Weather protection tape

2903182

<https://www.phoenixcontact.com/us/products/2903182>

Vulcanizing sealing tape for external protection of adapters, cable connections,  
etc. against the effects of weather, roll length: 3 m



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