

TC ROUTER 2002T-4G - Router



2702530

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Industrial LTE 4G router, European version, fallback to 3G UMTS/HSPA and 2G GPRS/EDGE, 2 Ethernet interfaces, firewall, NAT, 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 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.

Your advantages

- Industrial 4G cellular router (LTE)
- Fallback to 3G (UMTS/HSPA) and 2G (GPRS/EDGE)
- Cellular high-speed Internet connection up to 150 Mbps
- Networking of Ethernet end devices via the cellular network
- Ethernet SMS gateway for easy alerting
- Stateful inspection firewall for dynamic filtering
- NAT table and port forwarding for direct remote access to an end device
- Two switching inputs and one switching output
- Configuration via web-based management or microSD card
- Two local Ethernet connections
- Switchable energy-saving mode
- Integrated logbook
- Connection monitoring
- Extended temperature range of -40 °C ... +70 °C

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2702530 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Product key | DNC422 |
| GTIN | 4055626212814 |
| Weight per piece (including packing) | 357.2 g |
| Weight per piece (excluding packing) | 240 g |
| Country of origin | DE |

Technical data

Product properties

| | |
|--------------|---|
| Product type | Cellular router |
| 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%) |

Security functions

| | |
|----------------|------------------------------|
| Filtering | IP, port, protocol |
| Firewall rules | Stateful inspection firewall |

Electrical properties

| | |
|----------------------|------------------------------|
| Electrical isolation | VCC // LTE // Ethernet // PE |
| 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 |

Function

| | |
|------------|----------------------------|
| Management | Web-based management, SNMP |
|------------|----------------------------|

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 |
| 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

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| | |
|---|---|
| Connection method | Push-in spring connection |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.75 mm ² |
| Conductor cross-section, flexible | 0.14 mm ² ... 1.50 mm ² |
| Conductor cross-section, rigid | 0.14 mm ² ... 1.50 mm ² |
| Conductor cross-section AWG | 26 ... 16 |
| Stripping length | 9.00 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 (FDD) |
| Frequency range | 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) |
| | 2600 MHz (LTE B7) |
| | 850 MHz (UMTS/HSPA B5) |
| | 900 MHz (UMTS/HSPA B8) |
| | 1900 MHz (UMTS/HSPA B2) |
| | 2100 MHz (UMTS/HSPA B1) |
| | 850 MHz (2 W (EGSM)) |
| 900 MHz (2 W (EGSM)) | |
| 1800 MHz (1 W (EGSM)) | |
| 1900 MHz (1 W (EGSM)) | |
| Data rate | ≤ 150 Mbps (LTE, DL) |
| | ≤ 50 Mbps (LTE, UL) |
| Antenna | 50 Ω impedance SMA antenna socket |
| Antenna connection method | SMA (female) |
| SIM Interface | 1.8 volt, 3 volt |

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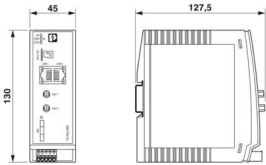


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| | |
|-----------------|----------------------------------|
| GPRS | Class 12, Class B CS1 ... CS4 |
| EDGE | Multislot Class 10 |
| UMTS | HSPA 3GPP R9 |
| LTE | CAT4 |
| Country support | Europe |

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Width | 45 mm |
| Height | 130 mm |
| Depth | 127 mm |

Material specifications

| | |
|----------------------------|-----------------------|
| Color (Upper housing part) | light gray (RAL 7035) |
| Material (Housing) | Plastic |

Mechanical tests

| | |
|--|---|
| Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6 | Vibration (operation): 5g, 10...150 Hz, 2.5 h, in XYZ direction |
| Shock in accordance with EN 60068-2-27/IEC 60068-2-27 | Shock (operation): 15g |

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 |
|-------------|--------------|

Corrosive gas test

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

EMC data

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

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 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 |

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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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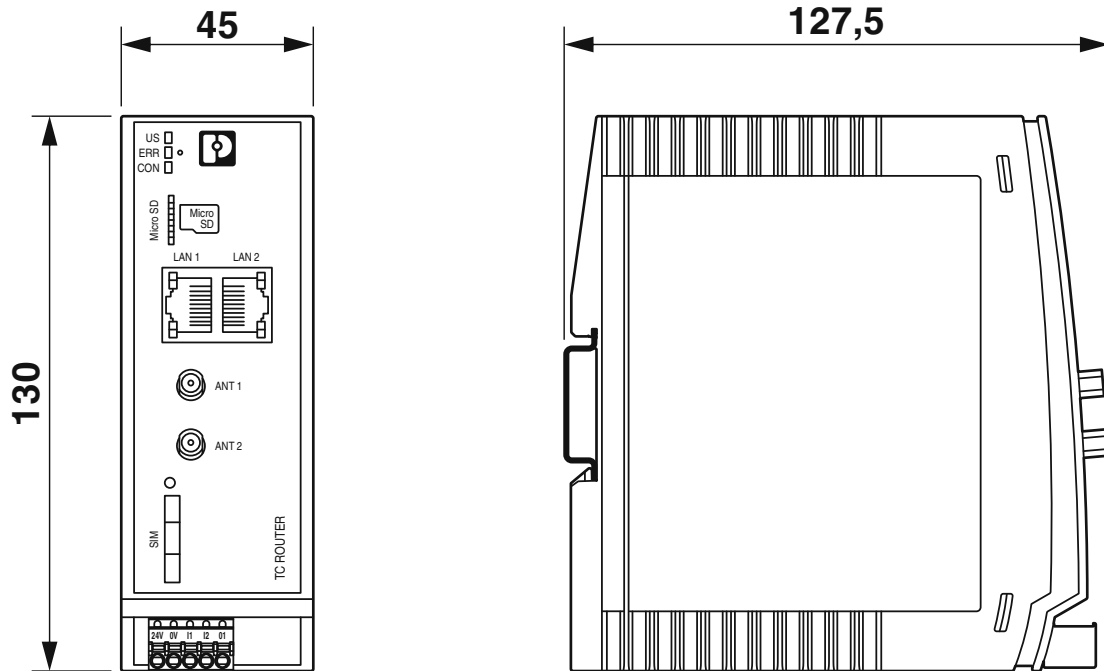


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Drawings

Dimensional drawing



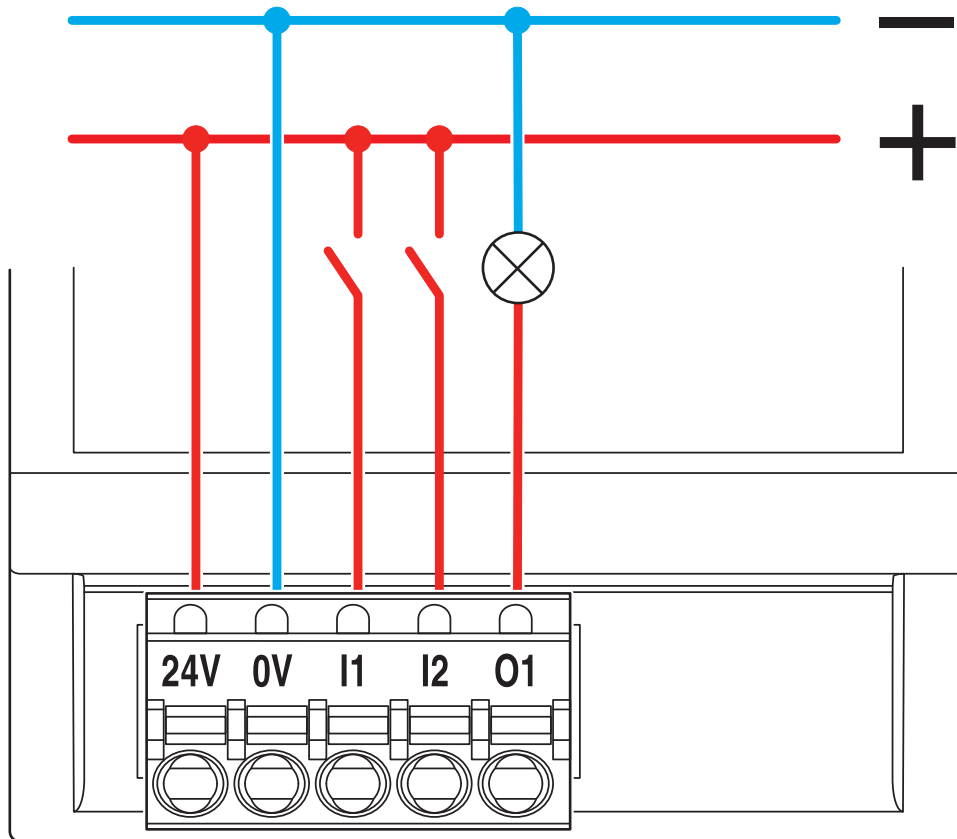
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Connection diagram



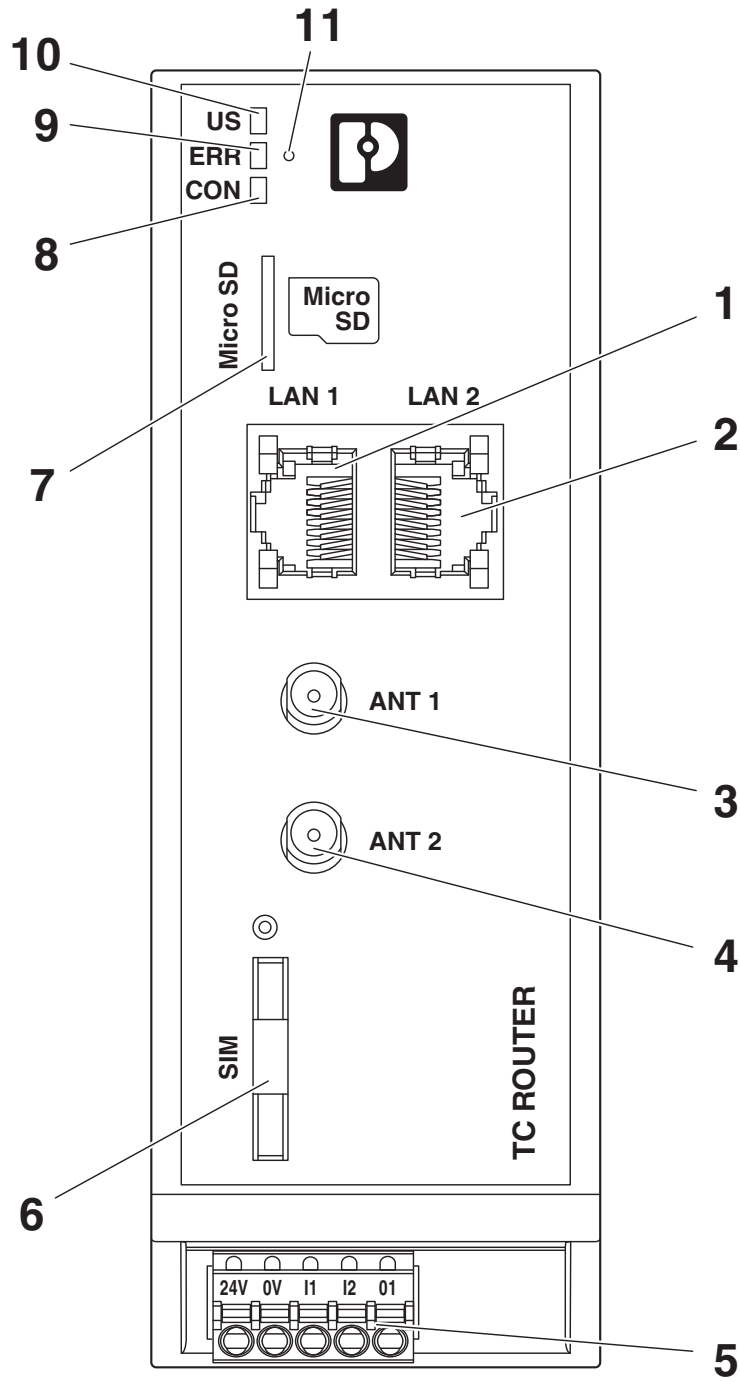
Switching inputs

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Schematic diagram



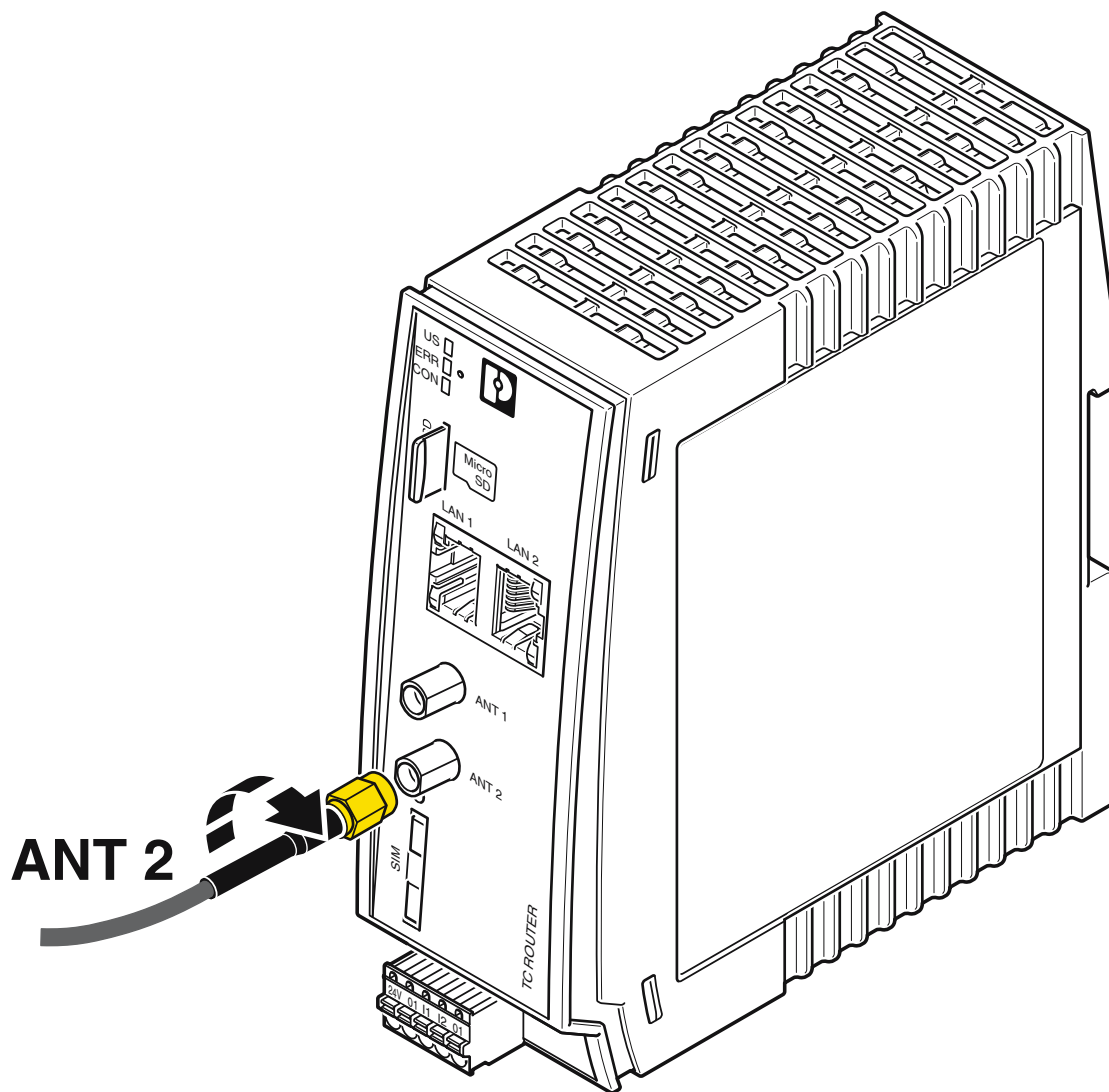
Front view

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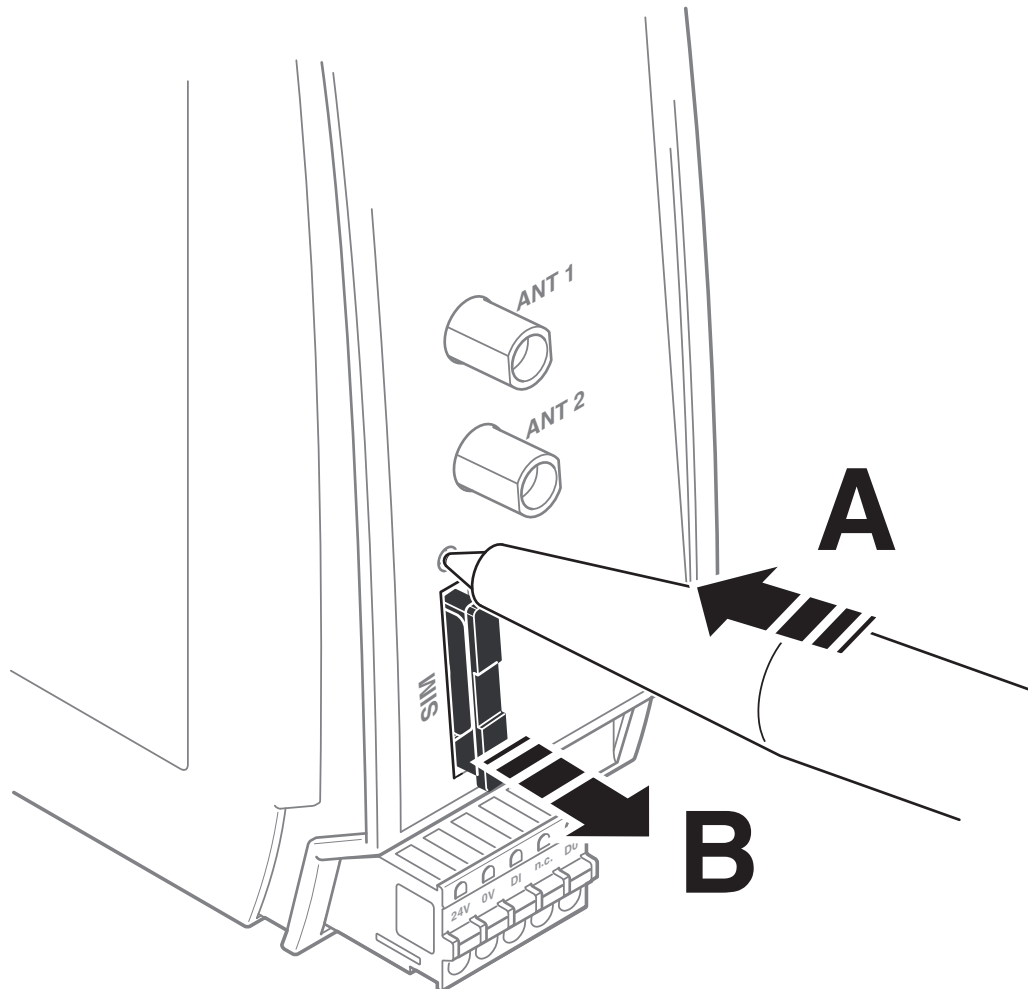
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Schematic diagram



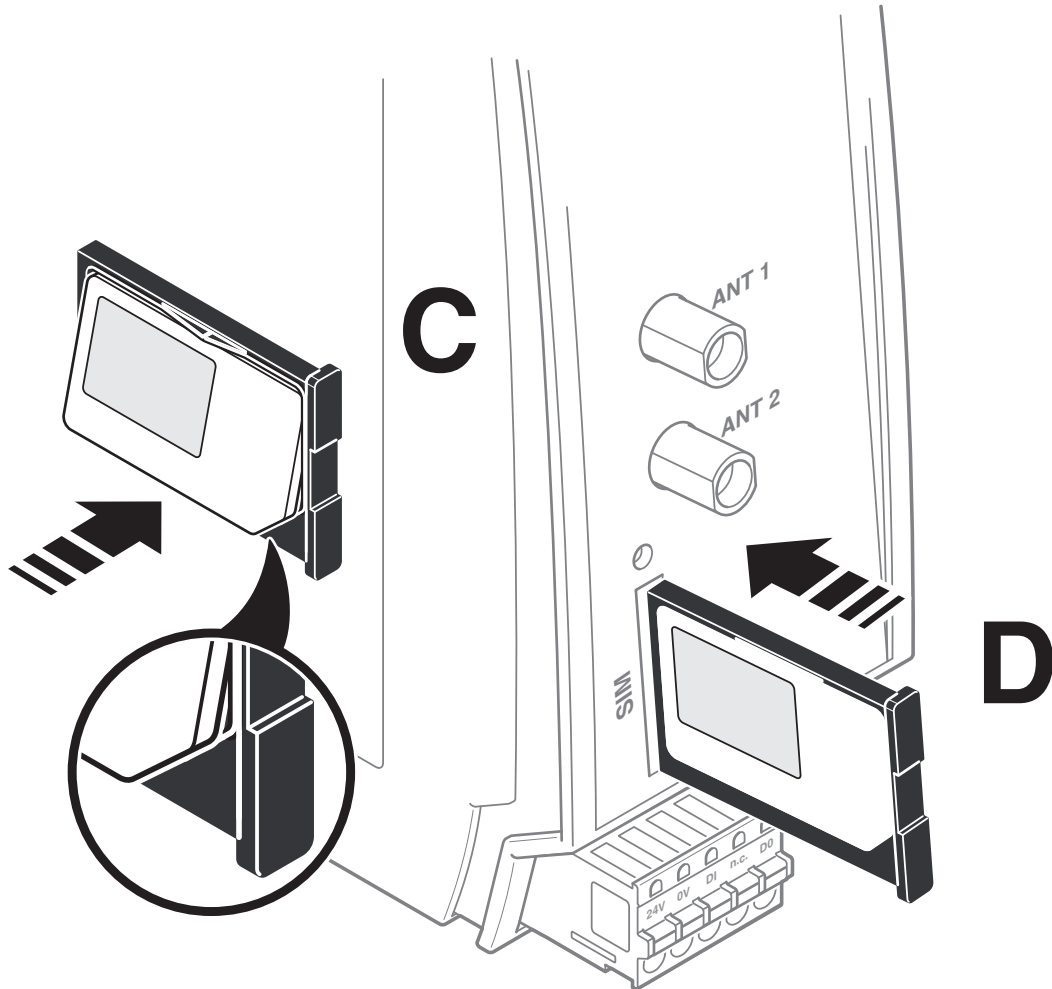
Connect the antenna

Schematic diagram



Remove SIM card holder

Schematic diagram



Insert the SIM card

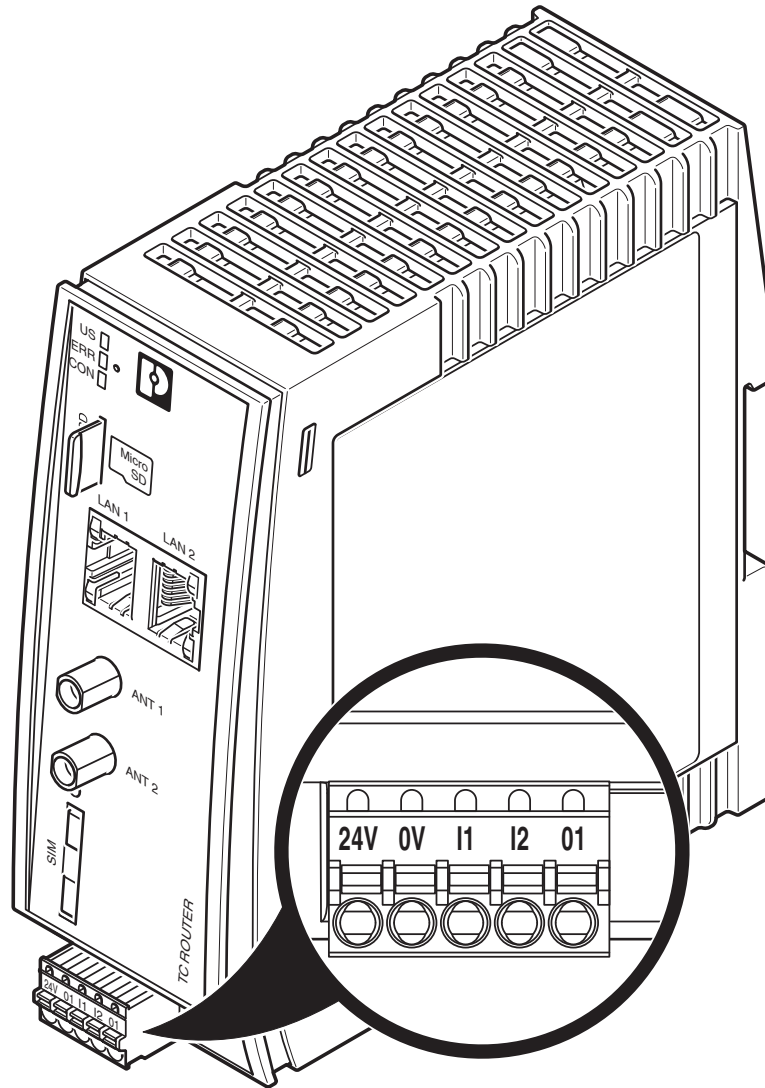
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Schematic diagram



Device connections

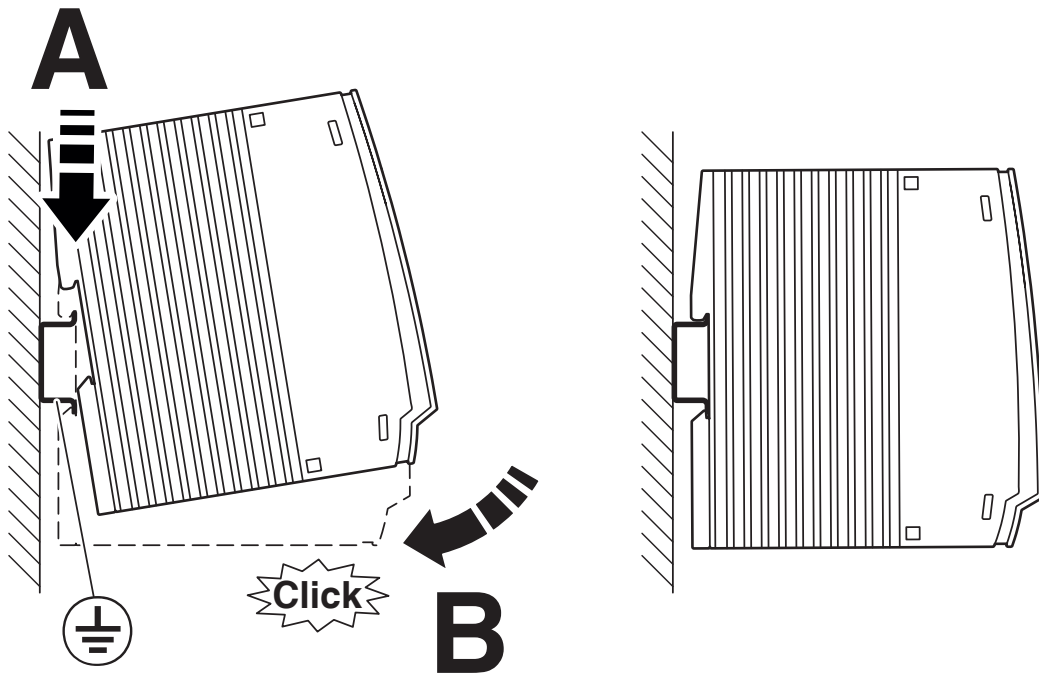
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Schematic diagram



Mounting

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Classifications

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 43222600 |
|-------------|----------|

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

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.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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