

# TC ROUTER 3002T-4G VZW - Router



2702532

<https://www.phoenixcontact.com/us/products/2702532>

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Industrial LTE 4G router, version for Verizon wireless (US), 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 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 4G cellular router (LTE)
- 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                          | 2702532       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DN25          |
| Product key                          | DNC422        |
| GTIN                                 | 4055626212852 |
| Weight per piece (including packing) | 266 g         |
| Weight per piece (excluding packing) | 266 g         |

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|                       |          |
|-----------------------|----------|
| Customs tariff number | 85176200 |
| Country of origin     | DE       |

## Technical data

### 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. |
|------------|---|

### 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%)    |

#### Insulation characteristics

|                  |   |
|------------------|---|
| Pollution degree | 2 |
|------------------|---|

#### Security functions

|  |                              |
|--|------------------------------|
| 1:1 Network Address Translation (NAT) in the VPN | supported                    |
| Number of VPN tunnels                            | ≤ 10 (IPsec or OpenVPN)      |
| Authentication                                   | X.509v3, PSK                 |
| Data integrity                                   | MD5                          |
|  | SHA-1                        |
| Filtering  | IP addresses                 |
|  | Ports                        |
|  | Protocols                    |
| Firewall rules                                   | Stateful inspection firewall |
| Internet Protocol Security (IPsec) mode          | ESP tunnel                   |
| Encryption methods                               | 3DES, AES-128, -192, -256    |

### 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 (SELV, 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  |

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## 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

|   |   |
|---|---|
| Connection method   | Push-in spring connection                     |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve    | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 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>  |
| Conductor cross-section AWG   | 26 ... 16                                     |
| Stripping length  | 9.00 mm                                       |

## Interfaces

|            |     |
|------------|-----|
| 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 (SELV)  |
| 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 | LTE (FDD)                              |
| Frequency range       | 700 MHz (LTE B13)<br>1700 MHz (LTE B4) |

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|                           |   |
|---------------------------|---|
| Data rate                 | ≤ 150 Mbps (LTE, DL)<br>≤ 50 Mbps (LTE, UL) |
| Antenna                   | 50 Ω impedance SMA antenna socket           |
| Antenna connection method | SMA (female)                                |
| SIM Interface             | 1.8 volt, 3 volt                            |
| LTE                       | CAT4  |
| Country support           | USA   |

## Dimensions

|                     |        |
|---------------------|--------|
| Dimensional drawing |        |
| Width               | 45 mm  |
| Height              | 130 mm |
| Depth               | 126 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 (Manufacturer's declaration)   |
| Ambient temperature (operation)          | -40 °C ... 70 °C (Maximum transmission power 5 dBm)<br>-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

### UL, USA/Canada

|                |   |
|----------------|---|
| Identification | Class I, Zone 2, AEx nA IIC T4 / Ex nA IIC T4 Gc<br>Class I, Div. 2, Groups A, B, C, D T4 |
|----------------|---|

### Corrosive gas test

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

Wireless approval USA, FCC

|             |           |
|-------------|-----------|
| Certificate | N7NHL7518 |
|-------------|-----------|

## 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 | $\pm 6$ kV (Test Level 3) |
|-------------------|---------------------------|

|                  |                           |
|------------------|---------------------------|
| Discharge in air | $\pm 8$ 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 | $\pm 2$ kV (Test Level 3) |
|-------|---------------------------|

|        |                       |
|--------|-----------------------|
| Signal | $\pm 2$ kV (Ethernet) |
|--------|-----------------------|

|          |             |
|----------|-------------|
| Comments | Criterion B |
|----------|-------------|

Surge current load (surge)

|                       |              |
|-----------------------|--------------|
| Standards/regulations | EN 61000-4-5 |
|-----------------------|--------------|

Surge current load (surge)

|       |                            |
|-------|----------------------------|
| Input | $\pm 0.5$ kV (symmetrical) |
|-------|----------------------------|

|  |                           |
|--|---------------------------|
|  | $\pm 1$ kV (asymmetrical) |
|--|---------------------------|

|        |                                      |
|--------|--------------------------------------|
| Signal | $\pm 1$ 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 |
|---------|------|

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## 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 |
|---------------|-------------------|

# TC ROUTER 3002T-4G VZW - Router

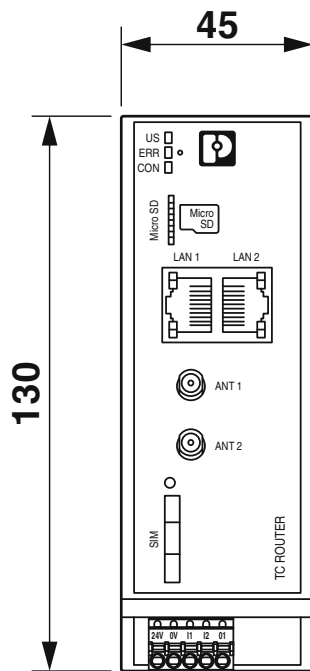


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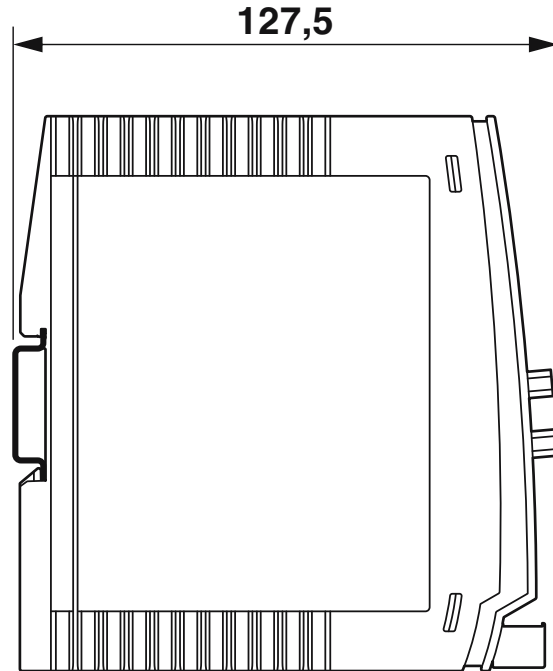
<https://www.phoenixcontact.com/us/products/2702532>

## Drawings

Dimensional drawing



Housing dimensions



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Connection diagram



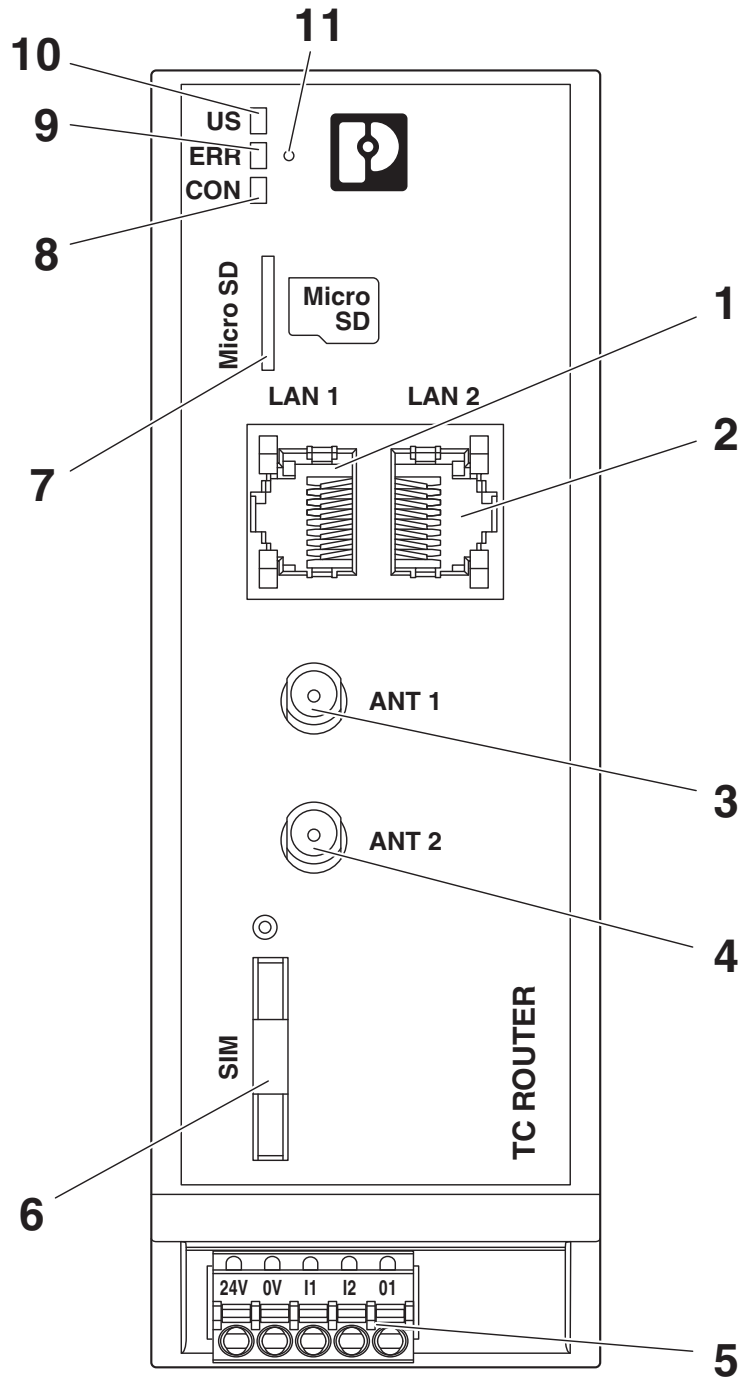
Switching inputs

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Schematic diagram



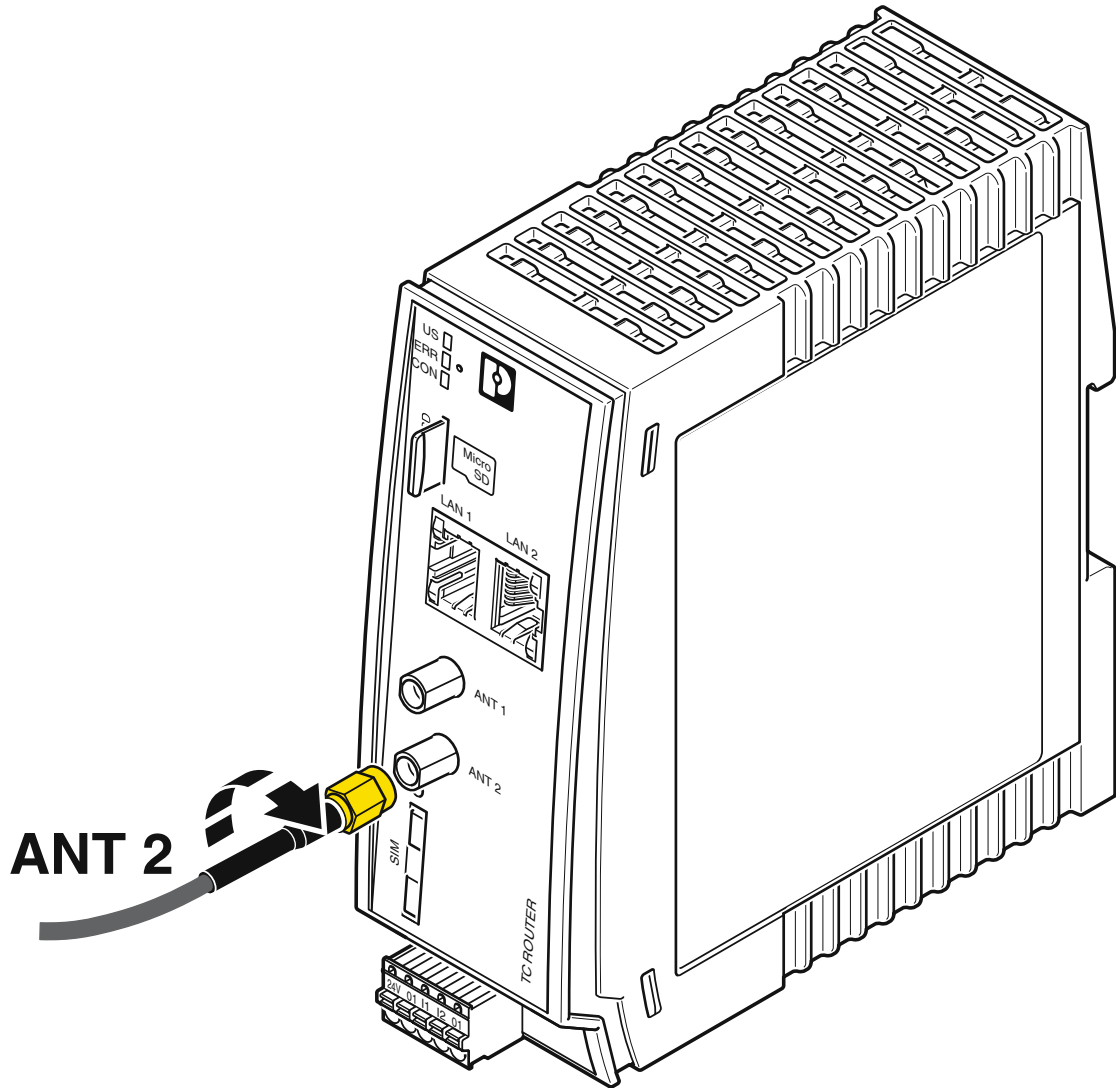
Front view

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Schematic diagram



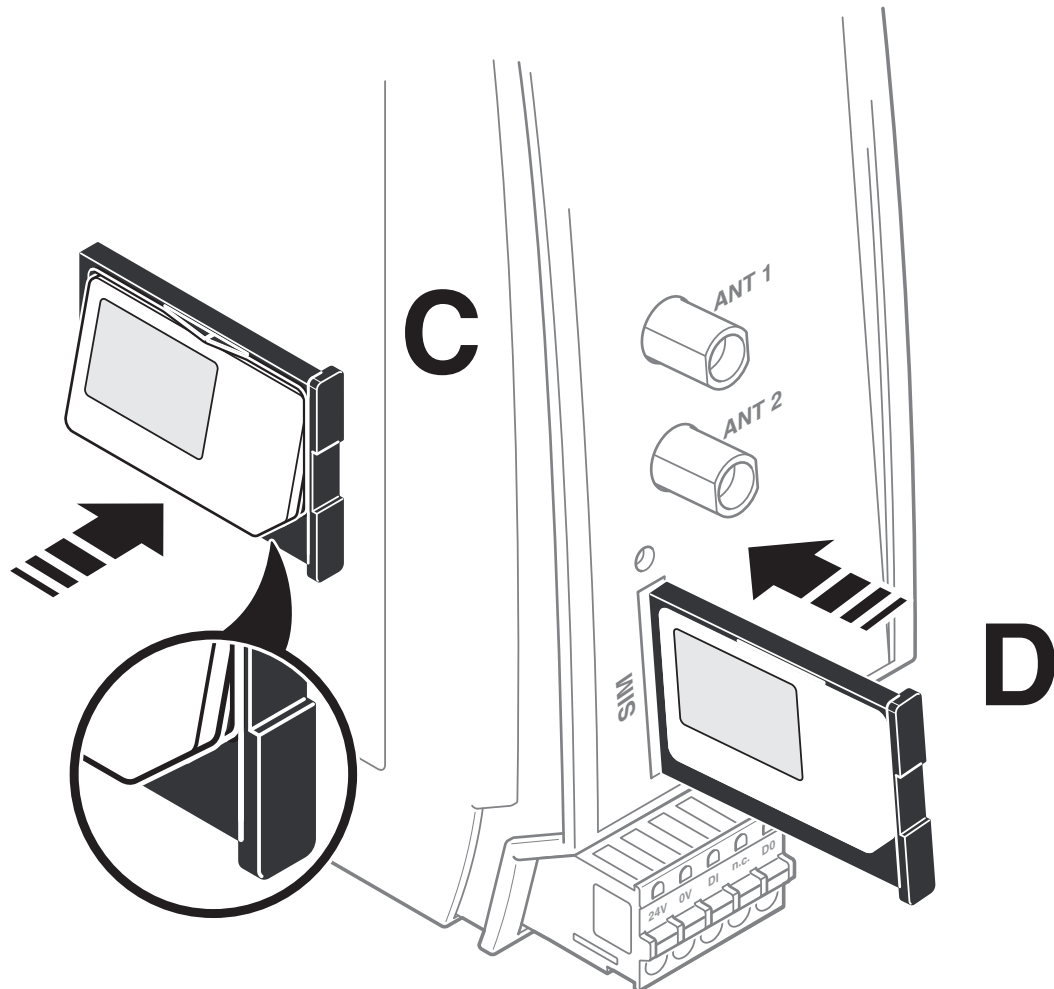
Connect the antenna

## Schematic diagram



Remove SIM card holder

## Schematic diagram



Insert the SIM card

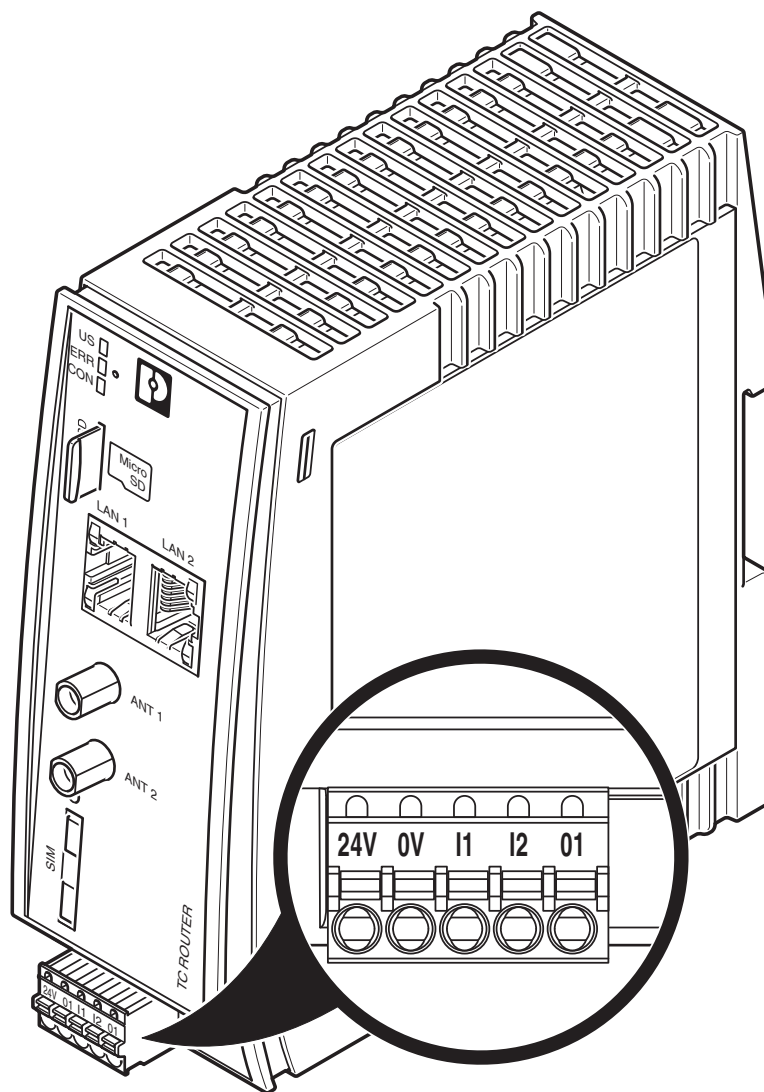
# TC ROUTER 3002T-4G VZW - Router

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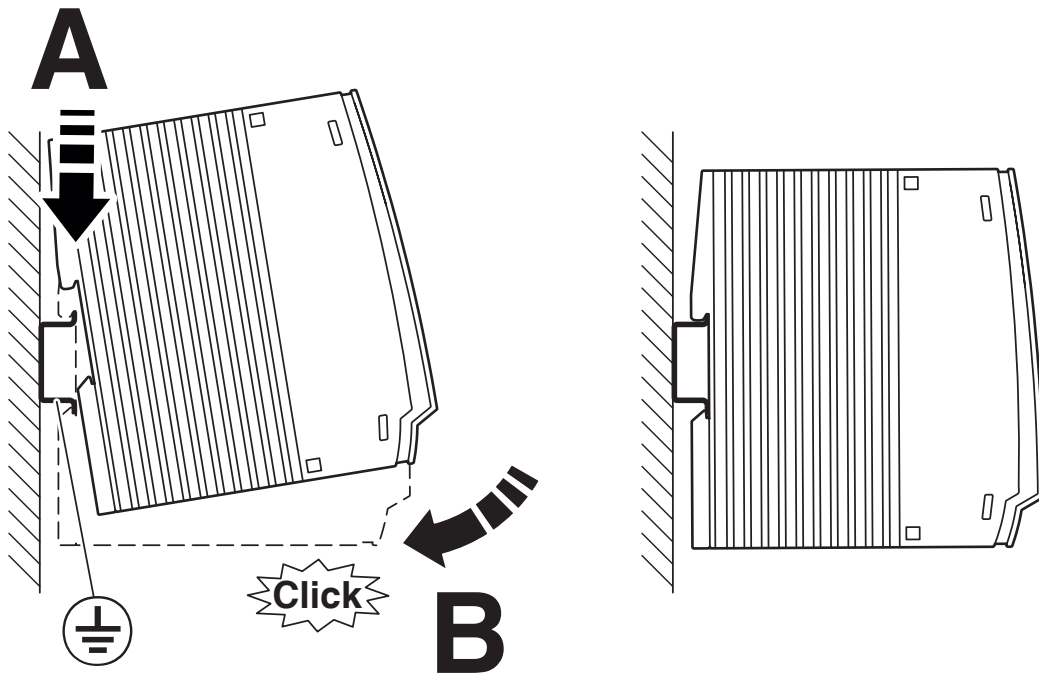


Schematic diagram



Device connections

Schematic diagram



Mounting

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## Classifications

### ECLASS

ECLASS-13.0

19170502

### ETIM

ETIM 9.0

EC001478

### 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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