

Router - TC ROUTER 3002T-4G VZW



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, 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)
- 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
- 2 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	C19
Product Key	DNC422
Catalog Page	Page 413 (C-6-2019)
GTIN	4055626212852
Customs tariff number	85176200

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Country of origin	DE
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Technical Data

Notes

Trade restriction

CE note	The products are offered exclusively for export outside the EU and the European Economic Area.
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Utilization restriction

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

Insulation characteristics

Pollution degree	2
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Electrical properties

Electrical isolation	VCC // LTE // Ethernet // PE
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
Connection method	Push-in spring connection

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

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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 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
Stripping length	9 mm

Interfaces

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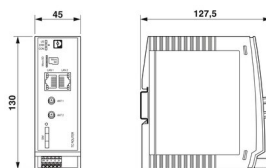
Data: Ethernet interface, 10/100Base-T(X) in accordance with IEEE 802.3

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) 1700 MHz (LTE B4)
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
LTE	CAT4
Country support	USA

Dimensions

Dimensional drawing	
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Width	45 mm
Height	130 mm
Depth	126 mm

Material specifications

Material	Plastic (Housing)
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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) -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)

Approval data

UL, USA / Canada

Identification	Class I, Zone 2, AEx nA IIC T4 / Ex nA IIC T4 Gc Class I, Div. 2, Groups A, B, C, D T4
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Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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Wireless approval USA, FCC

Certificate	N7NHL7518
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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
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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
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Electromagnetic HF field

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

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Comments	Criterion A
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Fast transients (burst)

Standards/regulations	EN 61000-4-4
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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
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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
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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
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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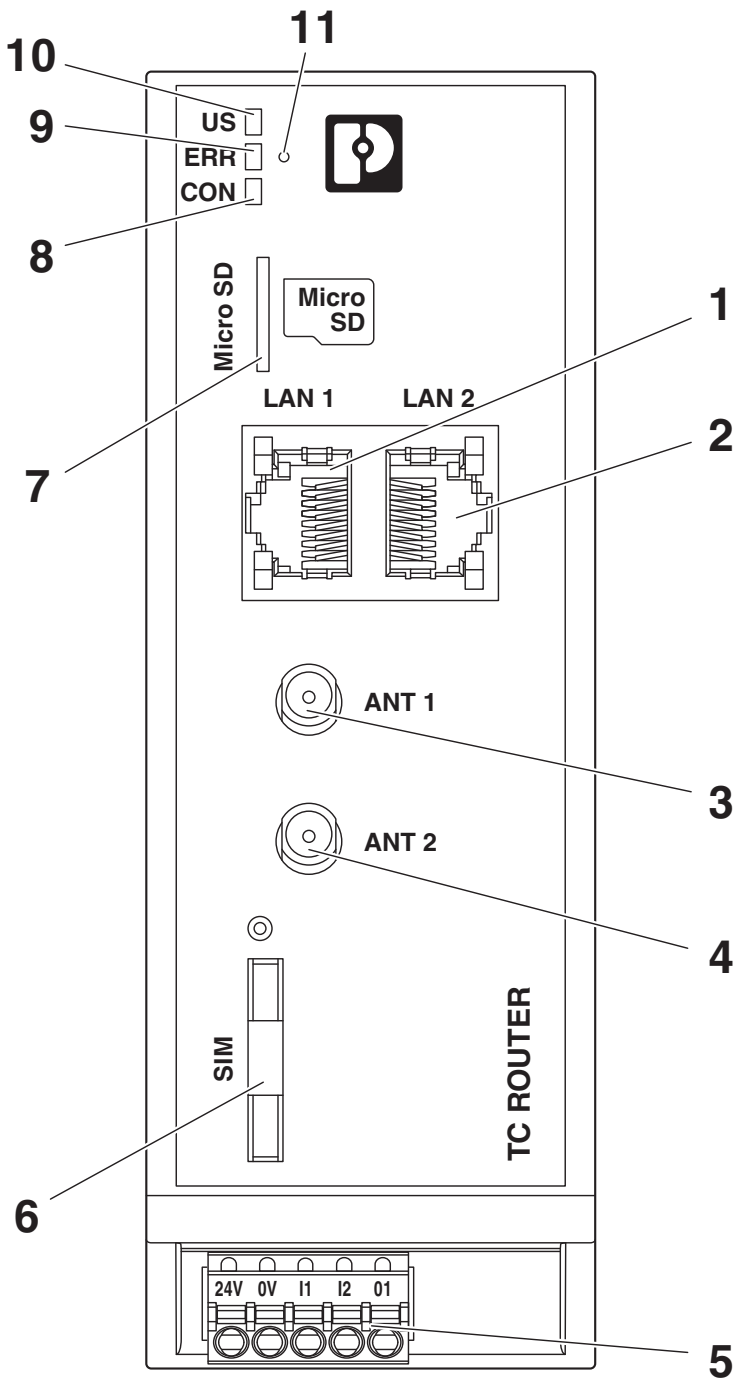
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Drawings

Schematic diagram



Front view

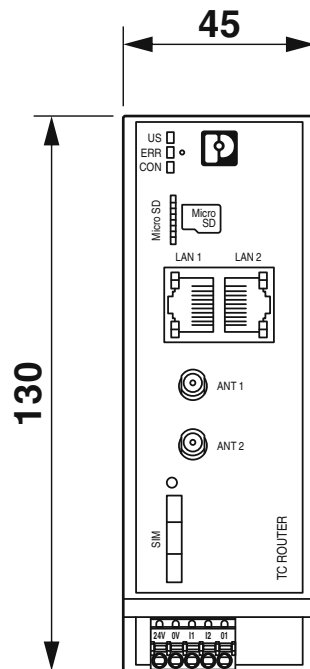
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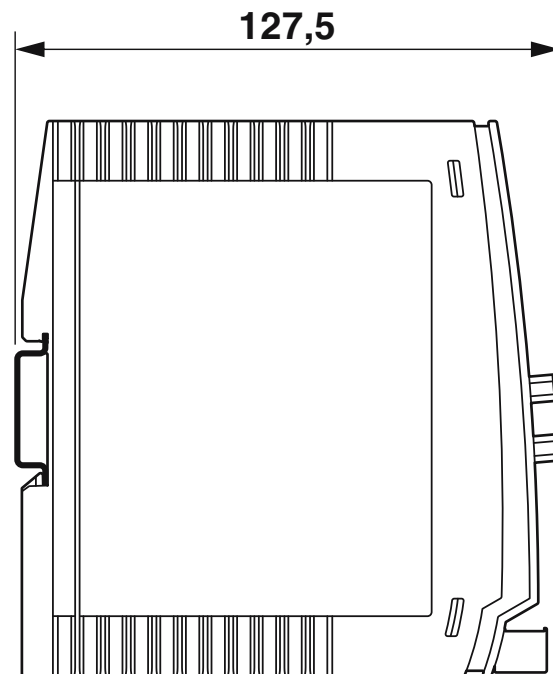
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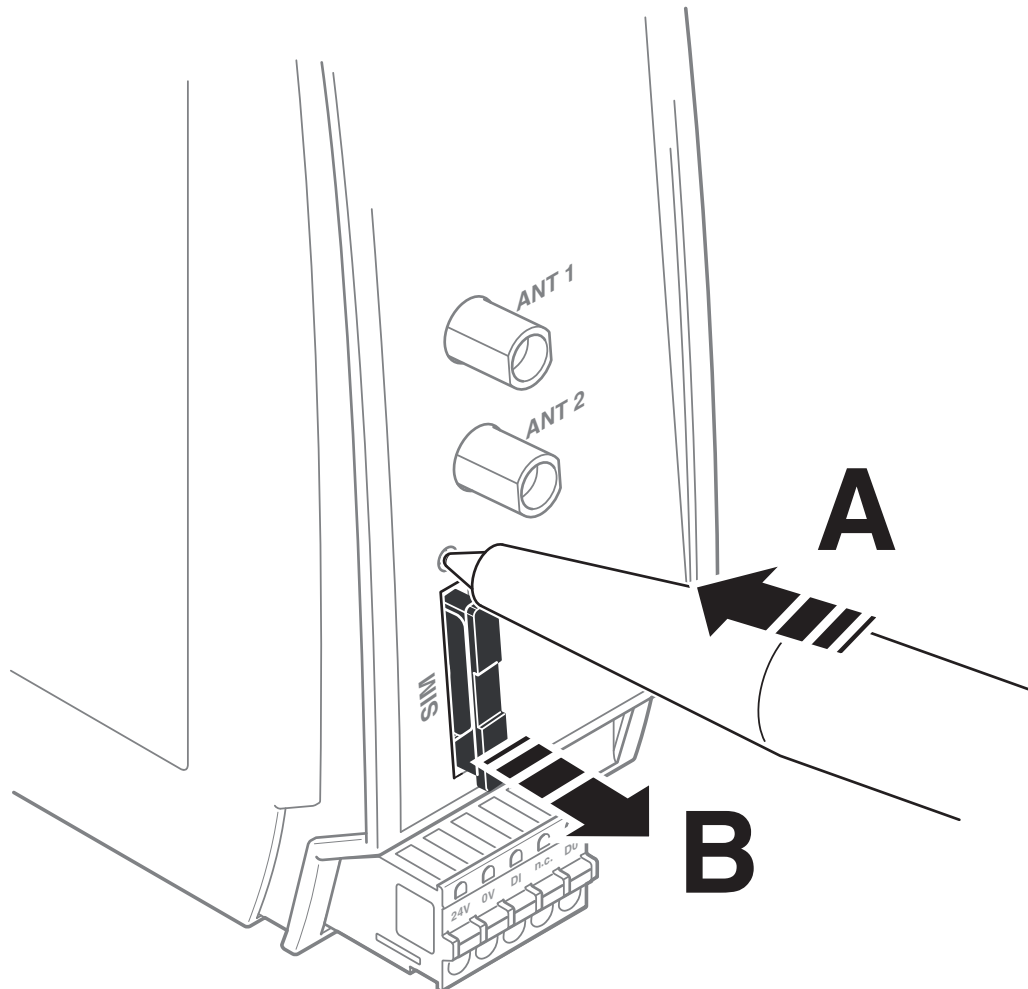
Dimensional drawing



Housing dimensions



Schematic diagram



Remove SIM card holder

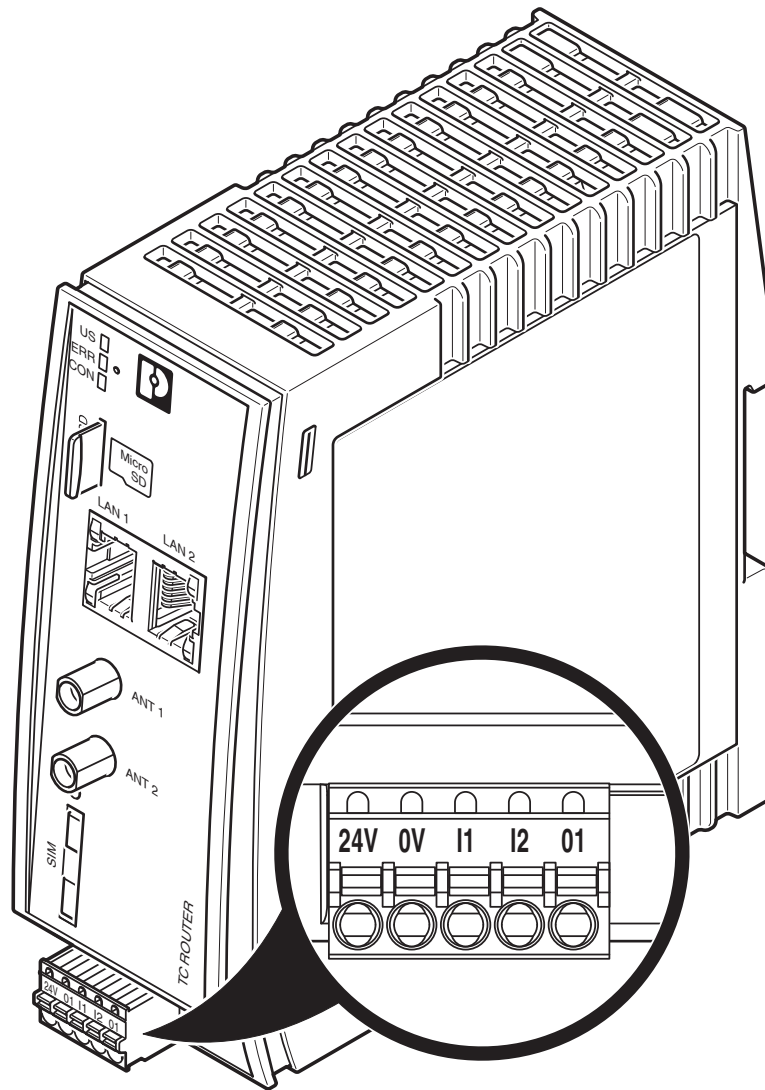
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Schematic diagram



Device connections

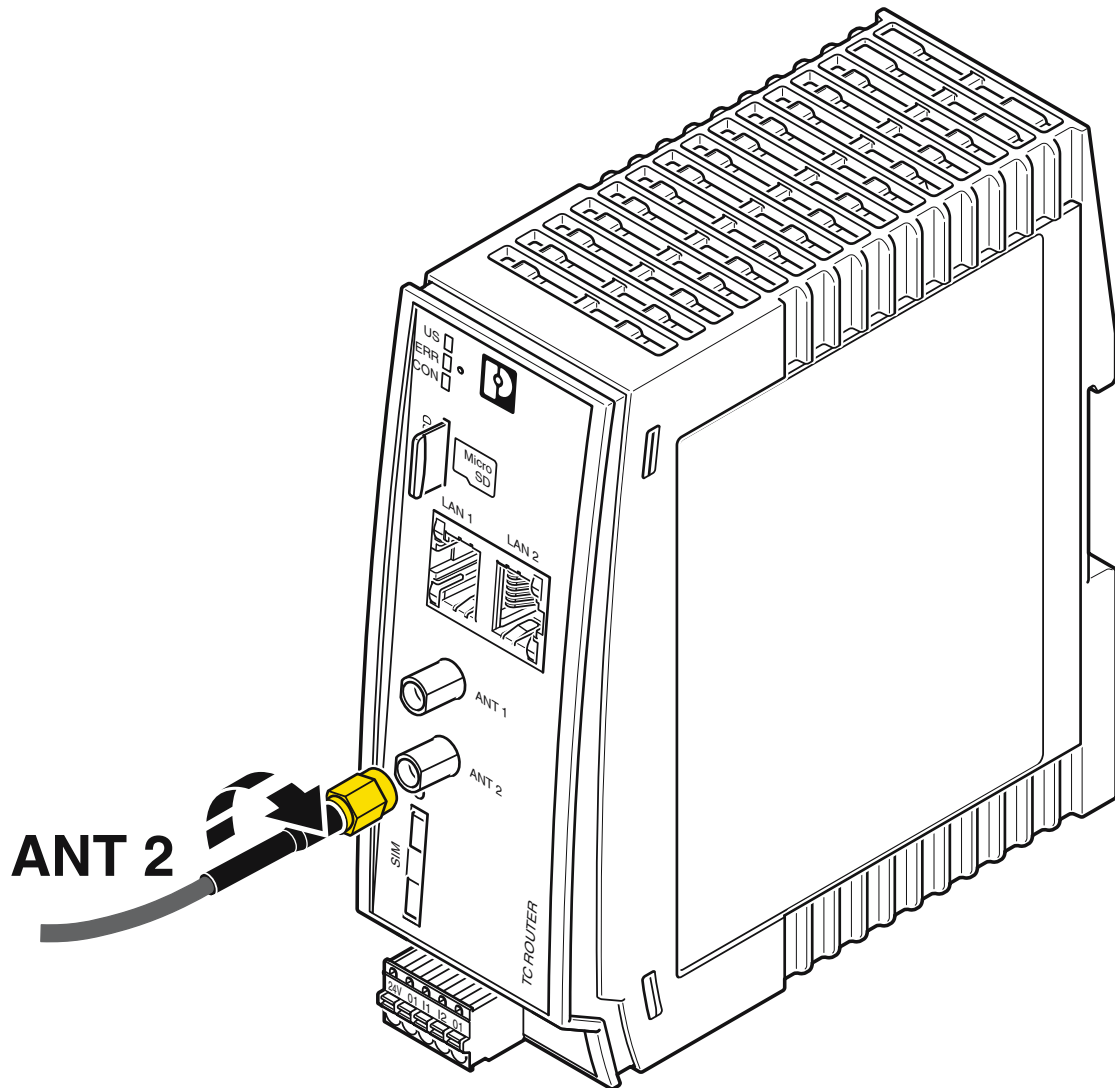
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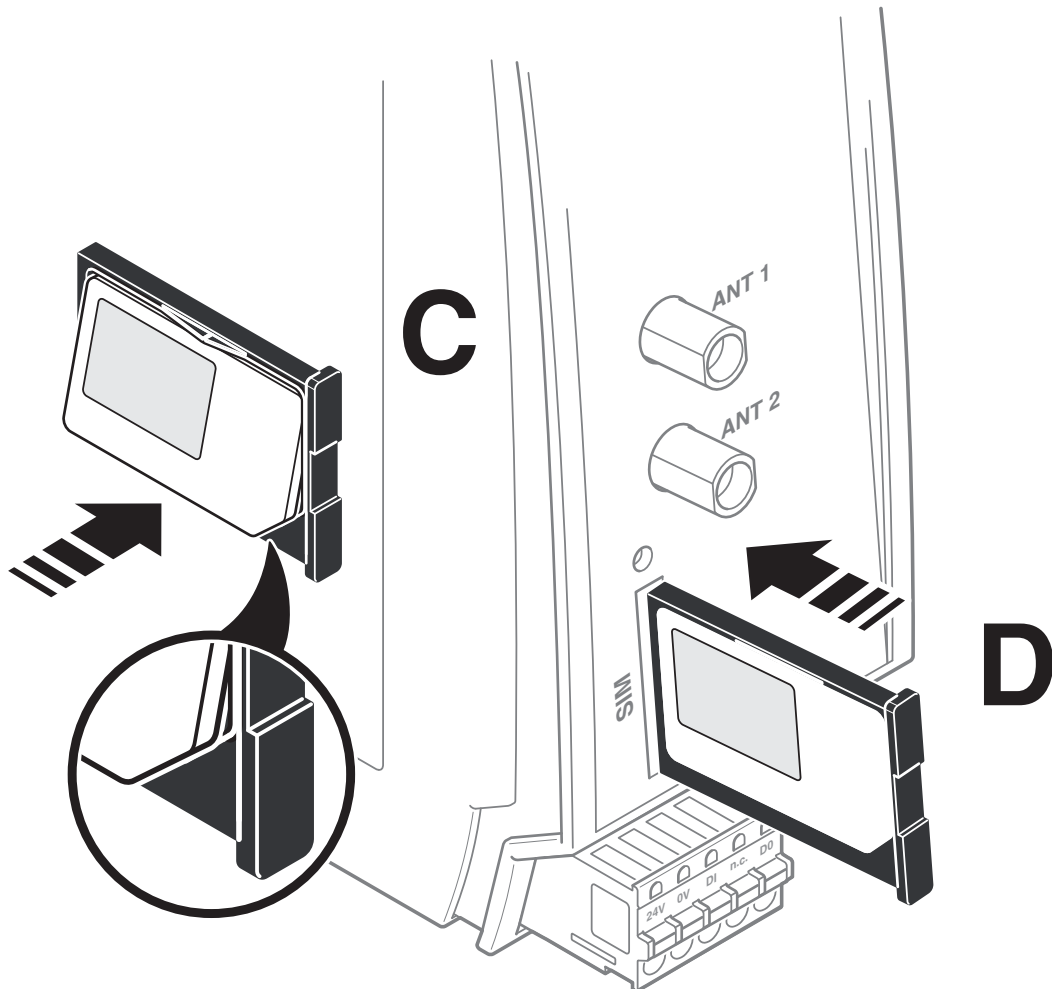


Schematic diagram



Connect the antenna

Schematic diagram



Insert the SIM card

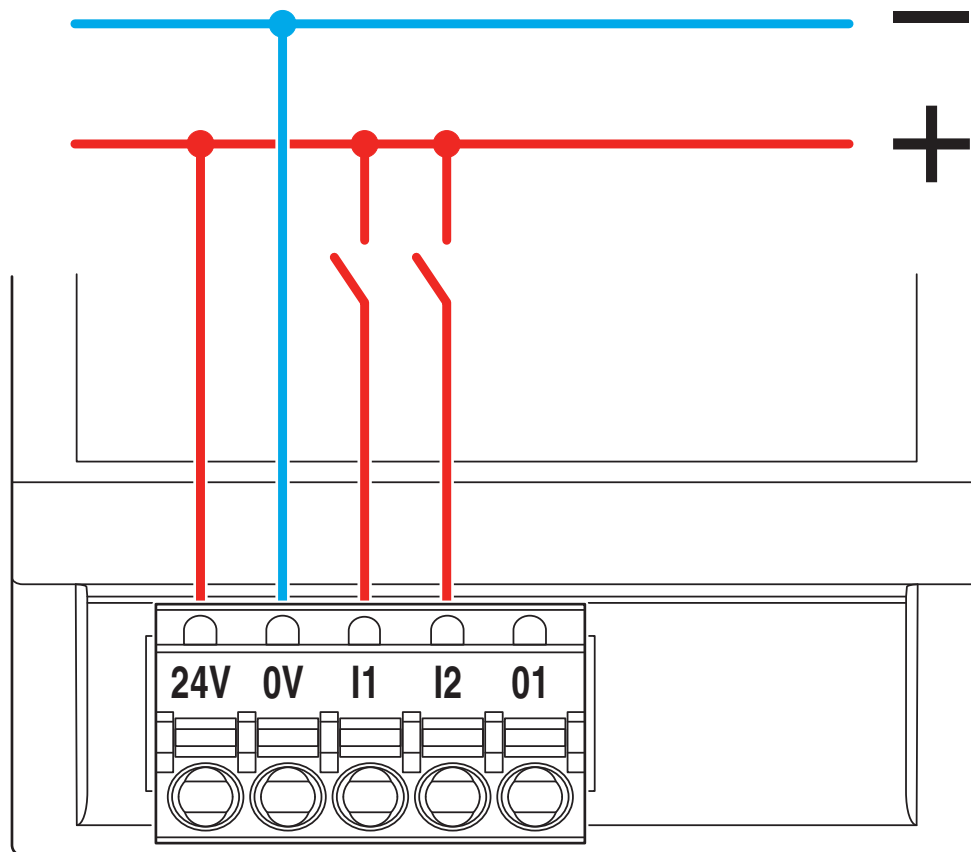
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Connection diagram



Switching inputs

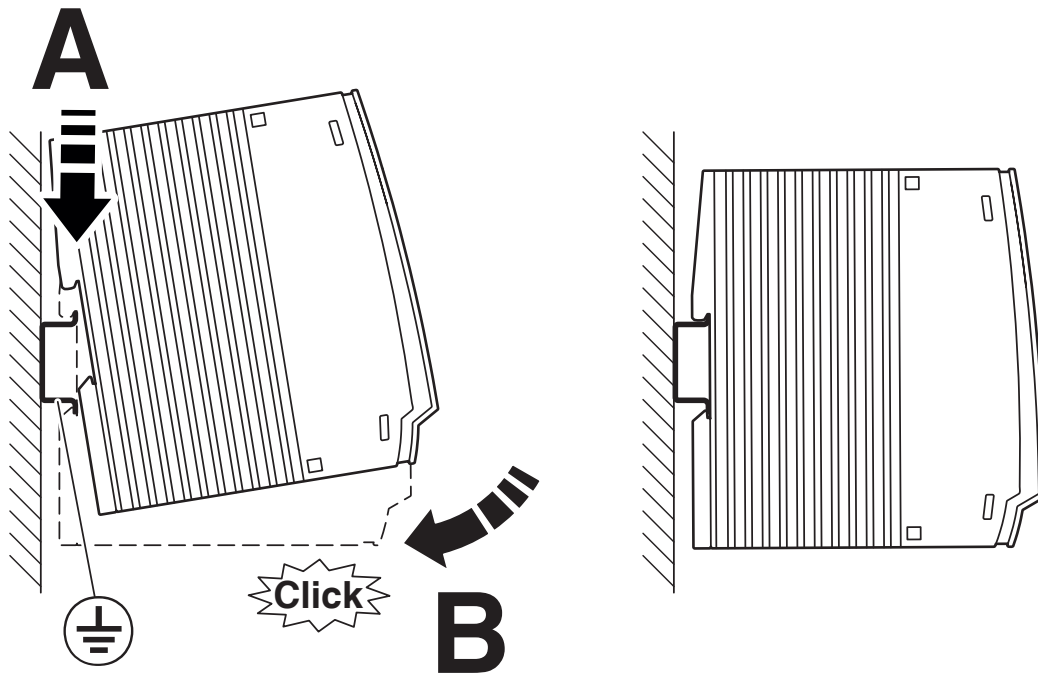
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Schematic diagram



Mounting



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Approvals

	cULus Listed Approval ID: FILE E 238705
	cUL Listed Approval ID: FILE E 366272
	UL Listed Approval ID: FILE E 366272
	cULus Listed

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Classifications

ECLASS

ECLASS-9.0	19170103
ECLASS-10.0.1	19170502
ECLASS-11.0	19170502

ETIM

ETIM 8.0	EC001478
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UNSPSC

UNSPSC 21.0	43222600
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Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

Power supply unit

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

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

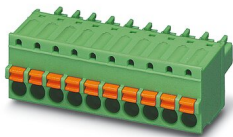


Primary-switched TRIO POWER power supply with push-in connection for DIN rail mounting, input: 1-phase, output: 24 V DC/3 A C2LPS

PCB connector

PCB connector - FK-MCP 1,5/ 8-ST-3,81 GY7035 - 1713311

<https://www.phoenixcontact.com/us/products/1713311>



PCB connector, nominal cross section: 1.5 mm², color: light grey, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: FK-MCP 1,5/...-ST, pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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License

License - MGUARD SECURE VPN CLIENT LIC - 2702579

<https://www.phoenixcontact.com/us/products/2702579>



License for mGuard Secure VPN Client v11.x

Antenna

Antenna - TC ANT MOBILE WALL 0,5M - 2702274

<https://www.phoenixcontact.com/us/products/2702274>



Multiband cellular antenna for wall mounting, 0.5 m antenna cable, with SMA circular connector, suitable for LTE/4G

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Antenna

Antenna - ANT-OMNI-0671-02 - 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)

Antenna

Antenna - ANT-OMNI-0671-01 - 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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Coaxial cable

Coaxial cable - NBC-COX-CNM/0.5-S/COX-CKM - 1340139

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



Coaxial cable, 50 Ω , length: 0.5 m, N(m) - SMA(m), external cable diameter: 2.8 mm, transmission frequency: ≤ 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

Coaxial cable

Coaxial cable - NBC-COX-CNM/1.0-M/COX-CKM - 1340143

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



Coaxial cable, 50 Ω , length: 1 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency: ≤ 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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Coaxial cable

Coaxial cable - NBC-COX-CNM/3.0-M/COX-CKM - 1340144

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



Coaxial cable, 50 Ω , length: 3 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency: ≤ 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

Coaxial cable

Coaxial cable - NBC-COX-CNM/5.0-M/COX-CKM - 1340147

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



Coaxial cable, 50 Ω , length: 5 m, N(m) - SMA(m), external cable diameter: 4.9 mm, transmission frequency: ≤ 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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Antenna cable

Antenna cable - RAD-CAB-EF393- 3M - 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.)



Antenna cable

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

Antenna cable - RAD-CAB-EF393-10M - 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.)



Antenna cable

Antenna cable - RAD-CAB-EF393-15M - 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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Surge protection device

Surge protection device - CN-UB-70DC-6-BB - 2803166

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



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

Adapter

Adapter - RAD-ADP-N/F-N/F - 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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Weather protection tape

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