

TC MGUARD RS2000 3G VPN - Router



2903441

<https://www.phoenixcontact.com/us/products/2903441>

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Security appliance with cellular interface. SD card slot. 2 VPN tunnels, 2-click firewall for easy configuration, router with NAT/1:1 NAT. 4-port switch. 2 SIM card slots. GPS receiver.

Product description

The TC MGUARD... security appliances are industrial mobile network routers with mGuard technology. As such, the routers offer a remote maintenance infrastructure for the secure connection of machines and systems via the Internet. A high-speed mobile network interface and a 4-port switch are integrated into a compact metal housing. Secure remote communication on a global scale takes place via 4G LTE as well as UMTS and CDMA networks. With the help of an SD card as a configuration memory, the devices can be quickly and easily started up or replaced. The devices have a buffered realtime clock and Trusted Platform Module (TPM) for secure key generation and management.

Your advantages

- High-speed cellular interface with provider redundancy
- Integrated 4-port switch
- Maximum security with IPsec protocol on Layer 3
- Web-based management, SNMP
- Replaceable configuration memory
- RS-232 interface with COM server function for integrating serial devices
- Flexible routing
- 2 parallel VPN tunnels
- Supports current certificates such as x509.v3
- Stateful inspection firewall
- Extended temperature rating

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2903441 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN25 |
| Product key | DNC424 |
| Catalog page | Page 405 (C-6-2019) |
| GTIN | 4046356752992 |
| Weight per piece (including packing) | 650.2 g |
| Weight per piece (excluding packing) | 640 g |
| Customs tariff number | 85176200 |

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| | |
|-------------------|----|
| Country of origin | DE |
|-------------------|----|

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Technical data

Dimensions

| | |
|--------|--------|
| Width | 45 mm |
| Height | 130 mm |
| Depth | 114 mm |

Notes

Utilization restriction

| | |
|------------|---|
| CCCex note | Use in potentially explosive areas is not permitted in China. |
|------------|---|

Material specifications

| | |
|----------|-------|
| Material | Metal |
|----------|-------|

Interfaces

| | |
|-----------------|---|
| Signal | Ethernet |
| Web server | yes |
| Basic functions | Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card |

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

| | |
|---------------------|---------------------------------------|
| Transmission speed | 10/100 Mbps (auto negotiation) |
| Connection method | RJ45 |
| No. of channels | 4 |
| Transmission length | 100 m (shielded twisted pair) |
| Protocols supported | TCP/IP, UDP/IP, FTP, HTTP |
| Auxiliary protocols | ARP, DHCP, PING (ICMP), SNMP V1, SMTP |

Data: V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1

| | |
|-----------------------------|--|
| Serial transmission speed | 9.6; 19.2; 38.4; 57.6; 115.2 kbps |
| Connection method | D-SUB 9 plug |
| Transmission length | 15 m |
| File format/coding | UART/NRZ: 8 Data, 1/2 Stop, None/Even/Odd Parity |
| Data flow control/protocols | Software handshake, Xon/Xoff or hardware handshake RTS/CTS |

Wireless

| | |
|-----------------------|-------------------------------------|
| Interface description | GSM / GPRS / EDGE / UMTS / CDMA2000 |
| Frequency range | 800 MHz (UMTS/HSPA B6) |
| | 850 MHz (UMTS/HSPA B5) |
| | 900 MHz (UMTS/HSPA B8) |
| | 1900 MHz (UMTS/HSPA B2) |
| | 2100 MHz (UMTS/HSPA B1) |
| | 800 MHz (CDMA2000 EV-DO) |
| | 1900 MHz (CDMA2000 EV-DO) |
| | 850 MHz (2 W (EGSM)) |

| | |
|---------------------|---|
| Data rate | 900 MHz (2 W (EGSM)) |
| | 1800 MHz (1 W (EGSM)) |
| | 1900 MHz (1 W (EGSM)) |
| | ≤ 14.4 Mbps (HSDPA) |
| | ≤ 5.7 Mbps (HSUPA) |
| | ≤ 3.1 Mbps (DL CDMA2000) |
| | ≤ 1.8 Mbps (UL CDMA2000) |
| Antenna | 50 Ω impedance SMA antenna socket |
| SIM Interface | 1.8 volt, 3 volt |
| | 1.8 volt, 3 volt |
| GPRS | Class 12, Class B |
| | CS1 ... CS4 |
| EDGE | Multislot Class 12 |
| UMTS | HSPA 3GPP R6 |
| Network function | 4 time slots for receiving data, 4 time slots for transmitting data. The PIN is saved in the modem. After a voltage interruption, there is automatic redialing into the network. Integrated TCP/IP stack, firewall and VPN support, independent connection establishment. |
| Network check | LED bar graph to display receive quality |
| Protocols supported | GPS (Global Positioning System), GLONASS |

System properties

Functionality

| | |
|-----------------|---|
| Basic functions | Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card |
|-----------------|---|

System requirements

| | |
|--------------------|------------------------|
| Supported browsers | HTTPS support required |
|--------------------|------------------------|

Input data

Digital

| | |
|--------------------------|---------------------|
| Description of the input | Digital input |
| Number of inputs | 3 |
| Voltage input signal | 10 V DC ... 30 V DC |
| Current input signal | 5 mA |

Output data

Signal

| | |
|-----------------------|--|
| Output name | Digital output |
| Number of outputs | 3 |
| Voltage output signal | 10 V DC ... 30 V DC (depending on the operating voltage) |
| Current output signal | ≤ 125 mA (Short-circuit-proof) |

Product properties

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| | |
|--------------|---|
| Product type | Security router for the DIN rail |
| MTTF | 634 Years (SN 29500 standard, temperature 25°C, operating cycle 21%) |
| | 295 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%) |
| | 125 Years (SN 29500 standard, temperature 40°C, operating cycle 100%) |

Insulation characteristics

| | |
|---------------------|---|
| Degree of pollution | 2 |
|---------------------|---|

Security functions

| | |
|--|---|
| 1:1 Network Address Translation (NAT) in the VPN | Supported |
| Number of VPN tunnels | 2 (Fixed, Ipsec (IETF standard)) |
| Authentication | X.509v3 certificates with RSA or PSK |
| Data integrity | MD5, SHA-1 |
| Dynamic Host Configuration Protocol (DHCP) support | Server or Relay Agent |
| Filtering | Incoming or outgoing traffic |
| Firewall data throughput | max. 124 Mbps (Router mode, default firewall rules, bidirectional throughput) |
| | max. 58 Mbps (Stealth mode, default firewall rules, bidirectional throughput) |
| Firewall rules | Simplified 2-click stateful inspection firewall |
| Basic functions | Router with simplified 2-click firewall and VPN for 2 tunnels (fixed), metal housing, slot for any SD memory card |
| Internet Protocol Security (IPsec) mode | ESP tunnel / ESP transport |
| Link Layer Discovery Protocol (LLDP) | As per protocol 802.2 |
| Network Time Protocol (NTP) client | Client |
| Remote Syslog Logging | On external server |
| Routing | Standard routing, NAT, 1:1-NAT, port forwarding |
| Encryption methods | DES, 3DES, AES-128, -192, -256 |
| Virtual private network (VPN) throughput | max. 40 Mbps (Router mode, VPN bidirectional throughput) |
| | max. 26 Mbps (Stealth mode, VPN bidirectional throughput) |

Electrical properties

| | |
|---|------------------------|
| Electrical isolation | VCC // PE |
| Maximum power dissipation for nominal condition | 4.7 W |
| Mains type | Cellular communication |
| Test voltage data interface/data interface | 1 kV (50 Hz, 1 min.) |
| Test voltage data interface/power supply | 1 kV (50 Hz, 1 min.) |

Supply

| | |
|--|---|
| Supply voltage range | 11 V DC ... 36 V DC (via pluggable COMBICON screw terminal block) |
| Typical current consumption | < 320 mA (24 V DC) |
| Max. current consumption | < 1.8 A (at 11 V DC (incl. 3 x 125 mA for the outputs)) |
| Single conductor/terminal point, rigid | 0.2 mm² ... 2.5 mm² |

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| | |
|--------------------------------------|---------------------|
| Single-wire/terminal point, flexible | 0.2 mm² ... 2.5 mm² |
|--------------------------------------|---------------------|

Function

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

Connection data

Supply

| | |
|---|----------------------|
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 2.5 mm² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm² ... 2.5 mm² |
| Conductor cross section AWG | 24 ... 14 |
| Stripping length | 7 mm |
| Tightening torque | 0.56 Nm ... 0.79 Nm |

Environmental and real-life conditions

Ambient conditions

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

Standards and regulations

| | |
|---|--|
| Free from substances that could impair the application of coating | in accordance with VW-AUDI-Seat central standard P-VW 3.10.7 57 65 0 |
|---|--|

Approvals

CE

| | |
|-------------|--------------|
| Certificate | CE-compliant |
|-------------|--------------|

UL, USA/Canada

| | |
|----------------|------------------------------------|
| Identification | Class I, Div. 2, Groups A, B, C, D |
| Certificate | E357918 |

UL, USA

| | |
|----------------|--------------------------------|
| Identification | Class I, Zone 2, AEx nA IIC T4 |
|----------------|--------------------------------|

UL, Canada

| | |
|----------------|------------------------------------|
| Identification | Class I, Zone 2, Ex nA IIC T4 Gc X |
|----------------|------------------------------------|

Corrosive gas test

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

EMC data

| | |
|-------------------------------|---|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU |
|-------------------------------|---|

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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 | ± 2.2 kV (Test Level 3) |
| Signal | ± 2.2 kV (Test Level 3) |
| Comments | Criterion B |

Surge current load (surge)

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

Surge current load (surge)

| | |
|----------|----------------------------------|
| Input | ± 0.5 kV (DC supply) |
| 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

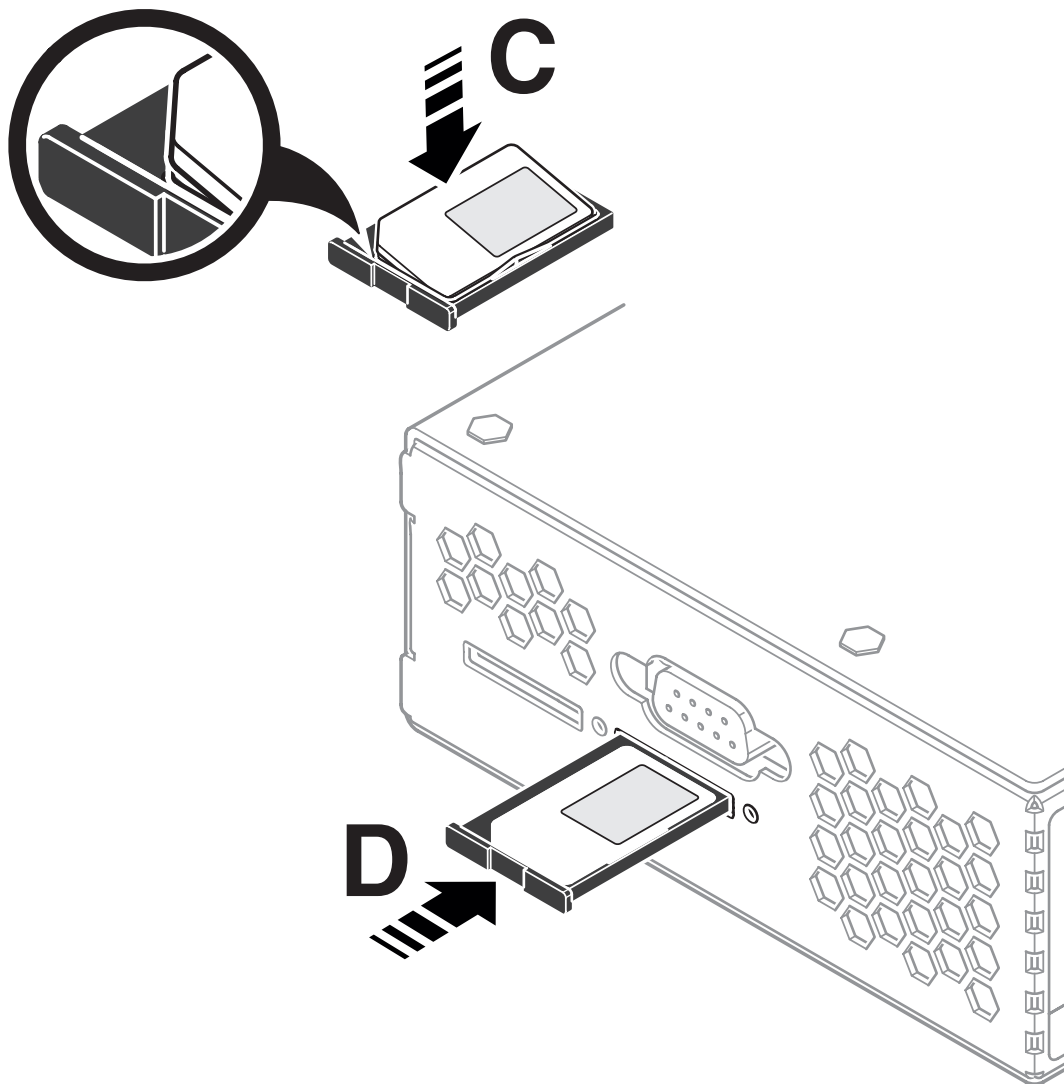
| | |
|--|---|
| Standards/regulations | EN 61000-6-4 |
| Radio interference voltage in acc. with EN 55011 | EN 55011 class A industrial area of application |
| Emitted radio interference in acc. with EN 55011 | EN 55011 class A industrial area of application |

Criteria

| | |
|-------------|--|
| Criterion A | Normal operating behavior within the specified limits. |
| Criterion B | Temporary impairment to operational behavior that is corrected by the device itself. |

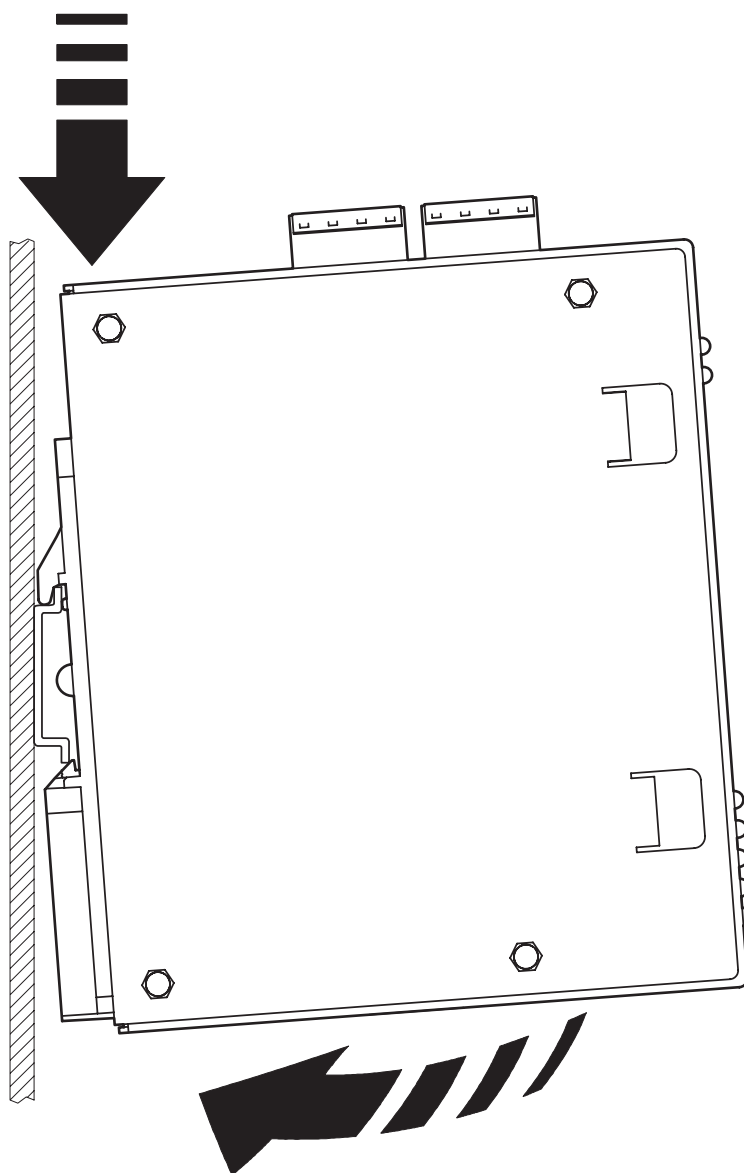
Drawings

Schematic diagram



Insert the SIM card

Schematic diagram



Mounting

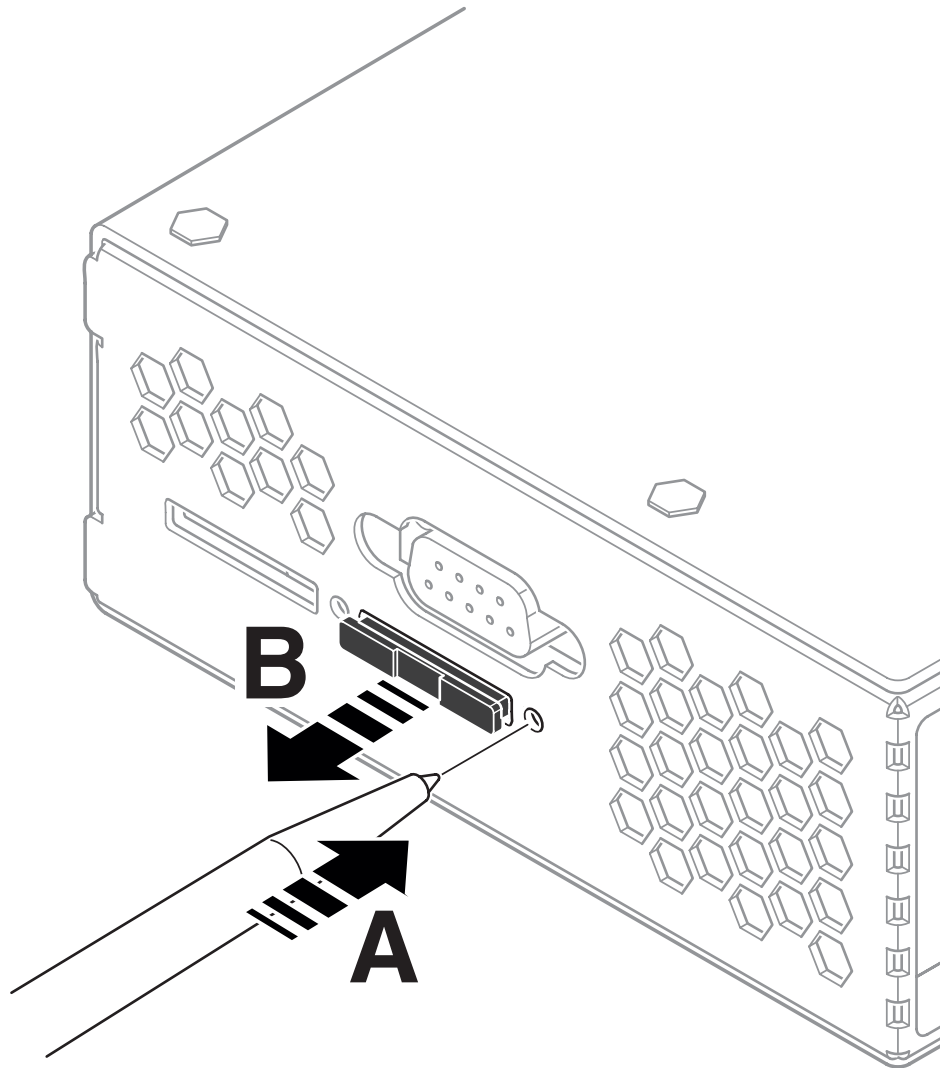
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Schematic diagram



Remove SIM card holder

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 19170406 |
| ECLASS-12.0 | 19170406 |
| ECLASS-13.0 | 19170406 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001478 |
|----------|----------|

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

FL CAT5 PATCH 0,5 - Patch cable

2832263

<https://www.phoenixcontact.com/us/products/2832263>



Patch cable, CAT5, assembled, 0.5 m

FL CAT5 PATCH 2,0 - Patch cable

2832289

<https://www.phoenixcontact.com/us/products/2832289>



Patch cable, CAT5, assembled, 2 m

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FL CAT5 PATCH 10,0 - Patch cable

2832629

<https://www.phoenixcontact.com/us/products/2832629>

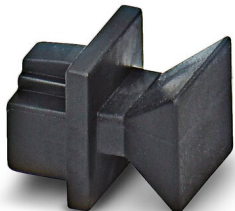


Patch cable, CAT5, assembled, 10 m

FL RJ45 PROTECT CAP - Dust protection

2832991

<https://www.phoenixcontact.com/us/products/2832991>



Dust protection caps for RJ45 socket

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FL PLUG RJ45 GR/2 - RJ45 connector

2744856

<https://www.phoenixcontact.com/us/products/2744856>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: Crimp connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet

FL PLUG RJ45 GN/2 - RJ45 connector

2744571

<https://www.phoenixcontact.com/us/products/2744571>



RJ45 connector, design: RJ45, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Plastic, connection method: Crimp connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet

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FL CRIMPTOOL - Assembly tool

2744869

<https://www.phoenixcontact.com/us/products/2744869>

Crimping pliers, for assembling the RJ45 plugs FL PLUG RJ45..., for assembly on site



FL MC EF 1300 MM SC - FO converters

2902853

<https://www.phoenixcontact.com/us/products/2902853>



FO converter with SC duplex fiber optic connection (1300 nm), for converting 10/100Base-T(X) to multi-mode fiberglass (50/125 μ m). Auto negotiation and auto MDI(X) function. Comprehensive link diagnostics. DIN-rail mountable, 18 ... 30 V DC supply.

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SD FLASH 512MB - Program / configuration memory

2988146

<https://www.phoenixcontact.com/us/products/2988146>

Program and configuration memory, plug-in, 512 Mbyte.



TC ANT MOBILE/GPS - Antenna

2903590

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Combined cellular GPS antenna with omnidirectional characteristic, 2 m antenna cable with SMA round plug (GSM/UMTS) and R-SMA round plug (GPS)



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PSI-GSM/UMTS-QB-ANT - Antenna

2313371

<https://www.phoenixcontact.com/us/products/2313371>

GSM UMTS antenna, with omnidirectional characteristic, 2 m antenna cable with SMA round connector



PSI-CAB-GSM/UMTS- 5M - Antenna cable

2900980

<https://www.phoenixcontact.com/us/products/2900980>

Cellular antenna cable, 5 m in length, SMA (male) -> SMA (female), 50 ohm impedance



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PSI-CAB-GSM/UMTS-10M - Antenna cable

2900981

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Cellular antenna cable, 10 m in length, SMA (male) -> SMA (female), 50 ohm impedance



CSMA-LAMBDA/4-2.0-BS-SET - Surge protection device

2800491

<https://www.phoenixcontact.com/us/products/2800491>

Attachment plug with Lambda/4 technology as surge protection for coaxial signal interfaces. Connection: Male/female SMA connectors.



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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

MGUARD SECURE VPN CLIENT LIC - License

2702579

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



License for mGuard Secure VPN Client v11.x

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FL TIMESERVER NTP - Wireless module

1107132

<https://www.phoenixcontact.com/us/products/1107132>



GNSS receiver and NTP (Network Time Protocol) for Ethernet networks, receives time, date, and location via GPS, GLONASS, or Galileo, web-based management, supply via PoE (af) or 24 V DC, integrated antenna, IP68 housing

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com