

PSI-TERMINATOR-PB-TBUS - Termination resistor



2702636

<https://www.phoenixcontact.com/gb/products/2702636>

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Active termination resistor for PROFIBUS and RS-485 bus systems, redundant power supply, routing of the supply voltage via DIN rail connector, electrical isolation, switchable termination, integrated programming interface

Product description

PROFIBUS or other RS-485 networks can be actively terminated at the bus end using the **PSI-TERMINATOR-PB-TBUS**. This ensures safe communication even if the bus device is connected/disconnected during operation. In addition, the connectable termination enables the device to be operated as a service interface at any point in the bus system. For the operation of active programming devices, the required power supply is provided at the alternative D-SUB connection. When several devices are installed in combination, the supply voltage can be conveniently routed through the DIN rail connector.

Your advantages

- Diagnostic LEDs for voltage and data activity
- Interference-free bus communication thanks to active termination
- Compact housing design
- Fixed programming interface in the network
- Termination can be connected externally
- Installation as single device or in combination with other devices
- Extended temperature range of -40 °C ... +70 °C
- Electrical isolation of power supply and data interface
- Redundant power supply
- Supply voltage routed through a DIN rail connector for use in combination with other devices

Commercial data

Item number	2702636
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNC141
Product key	DNC141
Catalog page	Page 424 (C-6-2019)
GTIN	4055626251530
Weight per piece (including packing)	140.2 g
Weight per piece (excluding packing)	134 g
Customs tariff number	85389091
Country of origin	DE

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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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Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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Product properties

Product type	Terminal resistor
MTTF	3305 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	1923 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	911 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

Insulation characteristics

Overvoltage category	II
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Insulation characteristics

Pollution degree	2
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Electrical properties

Electrical isolation	RS-485 // VCC
Maximum power dissipation for nominal condition	0.24 W
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)

Supply

Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Nominal supply voltage	24 V DC (via pluggable COMBICON screw terminal block)
Typical current consumption	10 mA (24 V DC, no load on D-SUB)
	60 mA (24 V DC, current drain at D-SUB of 150 mA)
Max. current consumption	12 mA (18 V DC, no load on D-SUB)
	77 mA (18 V DC, current drain at D-SUB of 150 mA)

Function

Status and diagnostic indicators	LEDs: US (power supply), ACT (data activity)
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Connection data

Supply

Conductor cross section, flexible	0.20 mm ² ... 2.50 mm ²
Conductor cross section, rigid	0.20 mm ² ... 2.50 mm ²

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Conductor cross section, flexible [AWG]	24 ... 12
Tightening torque	0.6 Nm ... 0.8 Nm

Interfaces

Signal	Modbus
	PROFIBUS

Data: PROFIBUS acc. to IEC 61158, RS-485 2-conductor

Serial transmission speed	≤ 12 Mbps
Connection method	D-SUB-9, COMBICON
Transmission length	≤ 1200 m (Depends on transmission speed and cable type)
Termination resistor	390 Ω
	220 Ω
	390 Ω (Can be connected)
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section, rigid max.	1.5 mm ²
Conductor cross section, rigid min.	0.2 mm ²
Max. AWG conductor cross section, flexible	16
Min. AWG conductor cross section, flexible	24
Single-wire/terminal point, rigid AWG max.	16
Single-wire/terminal point, rigid AWG min.	24
Output nominal voltage	5 V DC

Dimensions

Dimensional drawing	
Width	22.5 mm
Height	92 mm
Depth	73 mm

Material specifications

Material	PA 6.6-FR
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)

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	≤ 2000 m (Restrictions for ATEX applications)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Air pressure (operation)	≤ 80 kPa (When used in EX zone 2)

Approvals

CE

Certificate	CE-compliant
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ATEX

Identification	⊕ II 3 G Ex nA IIC T4 Gc X
Note	Please follow the special installation instructions in the documentation!

UL, USA/Canada

Identification	508 Listed
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Corrosive gas test

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

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
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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)
Indirect discharge	± 6 kV
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
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4
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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
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Surge current load (surge)

Input	± 0.5 kV (sym./asym.)
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

Standards/regulations	EN 55011
Comments	Class A, industrial applications

Criteria

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

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
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Mounting

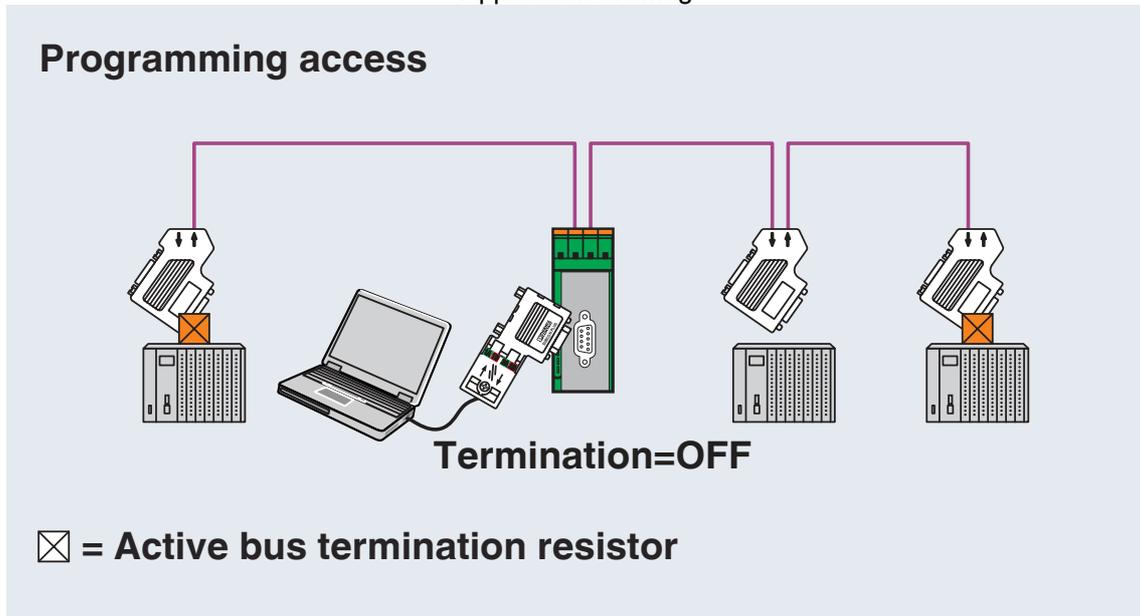
Mounting type	DIN rail mounting
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Drawings

Application drawing



Fixed service interface in (professional) bus system

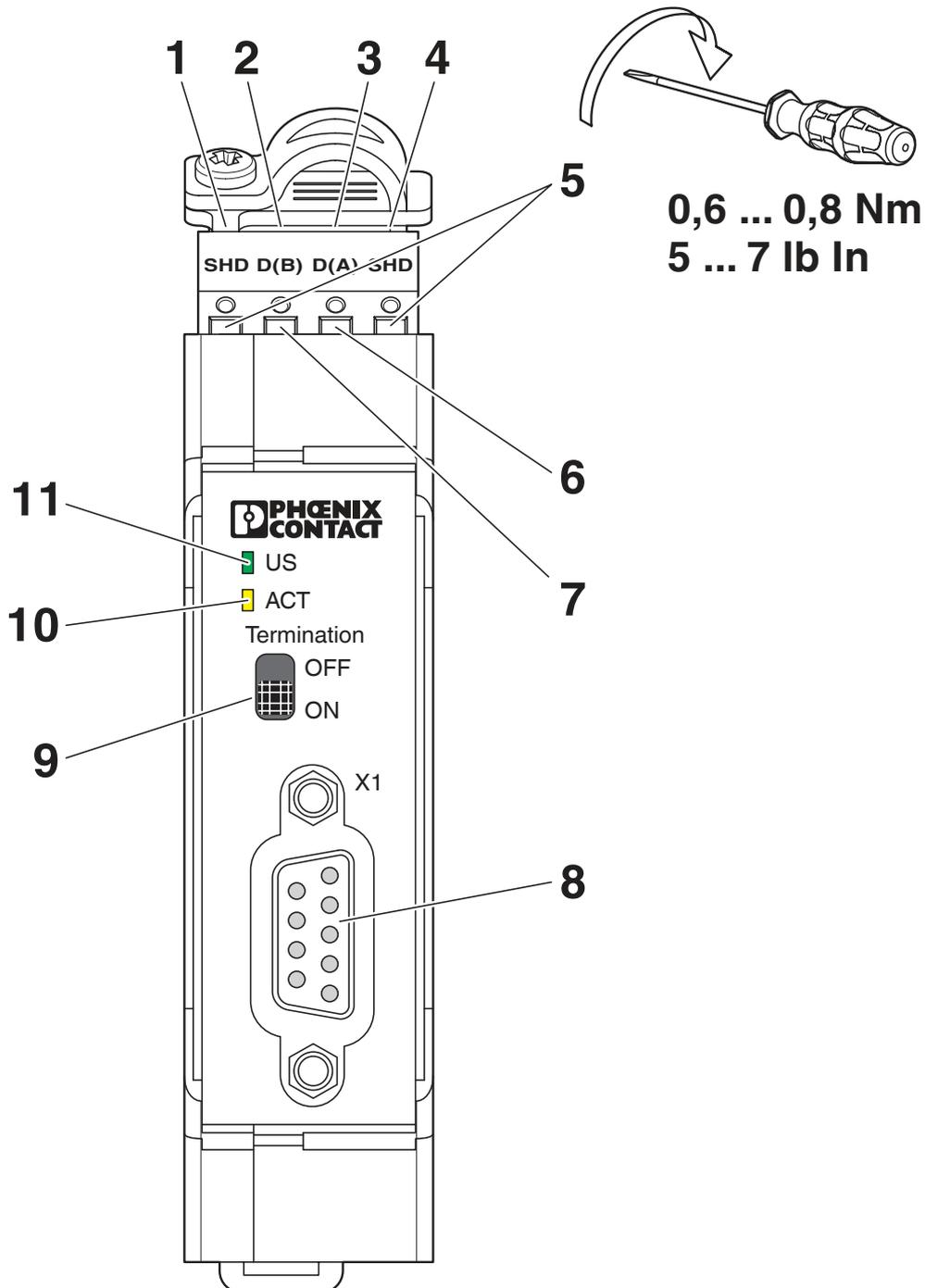
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Schematic diagram

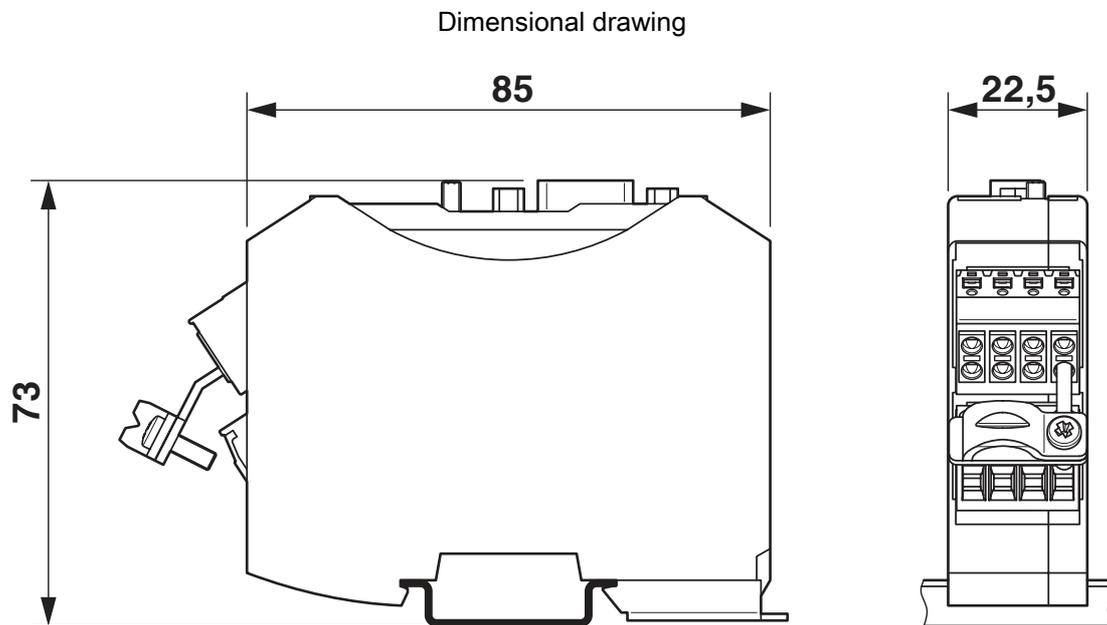


Front view

PSI-TERMINATOR-PB-TBUS - Termination resistor

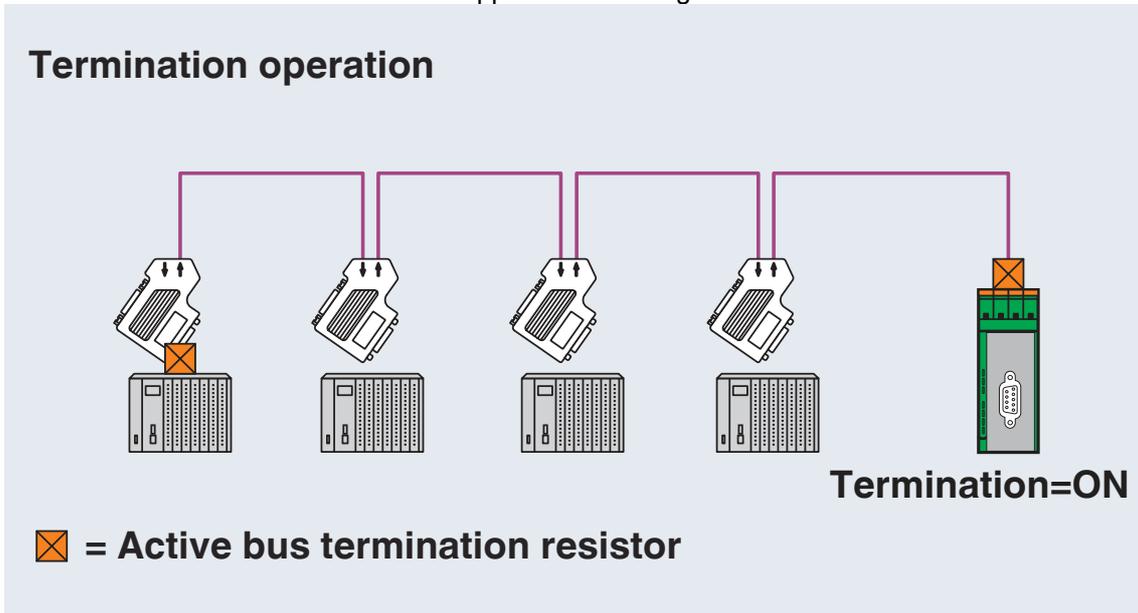
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Compact housing

Application drawing



Permanent termination at the end of the (professional) bus system

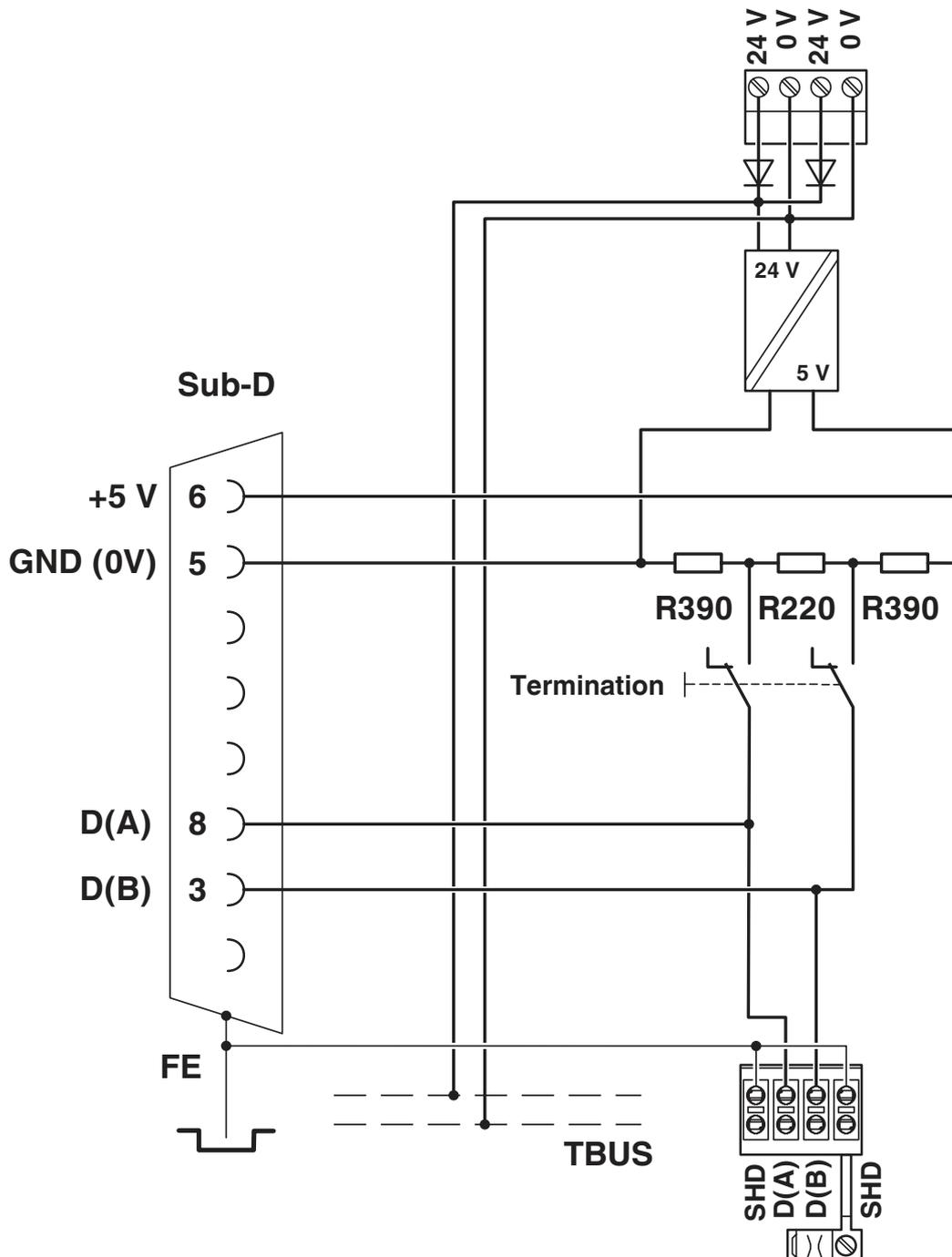
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Block diagram



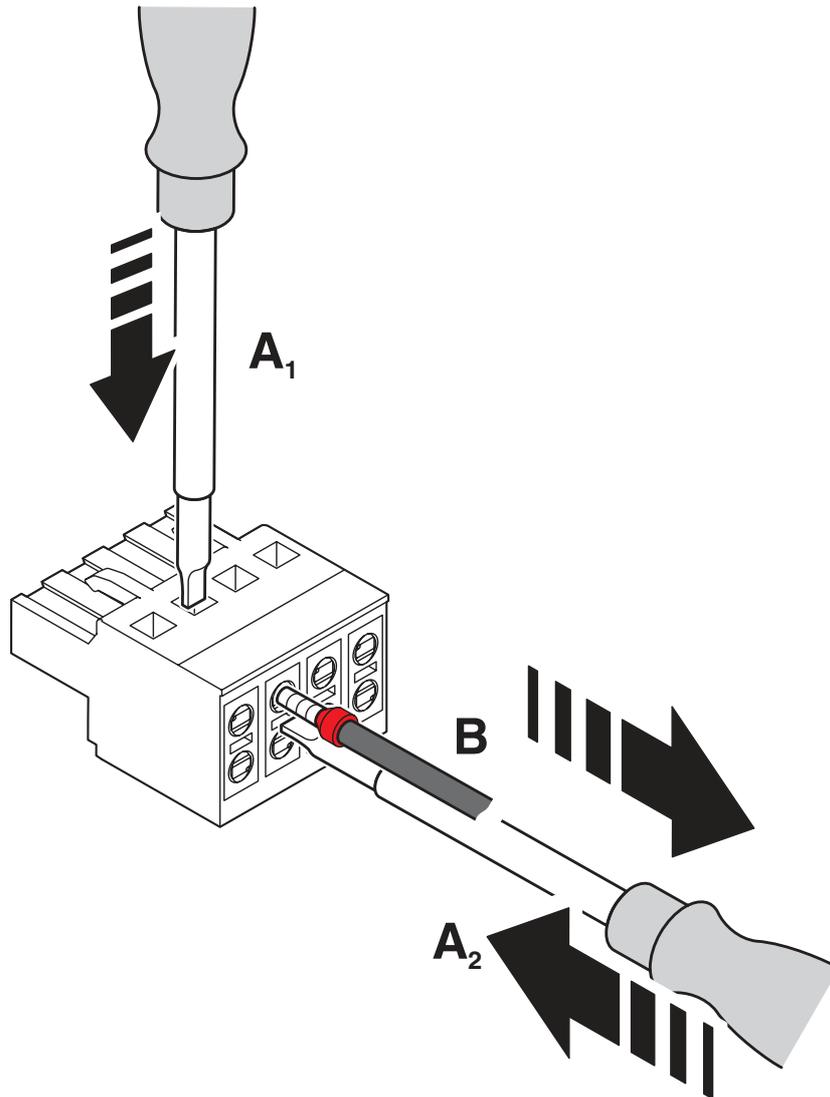
Basic circuit diagram

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Schematic diagram



Deinstall signal cable

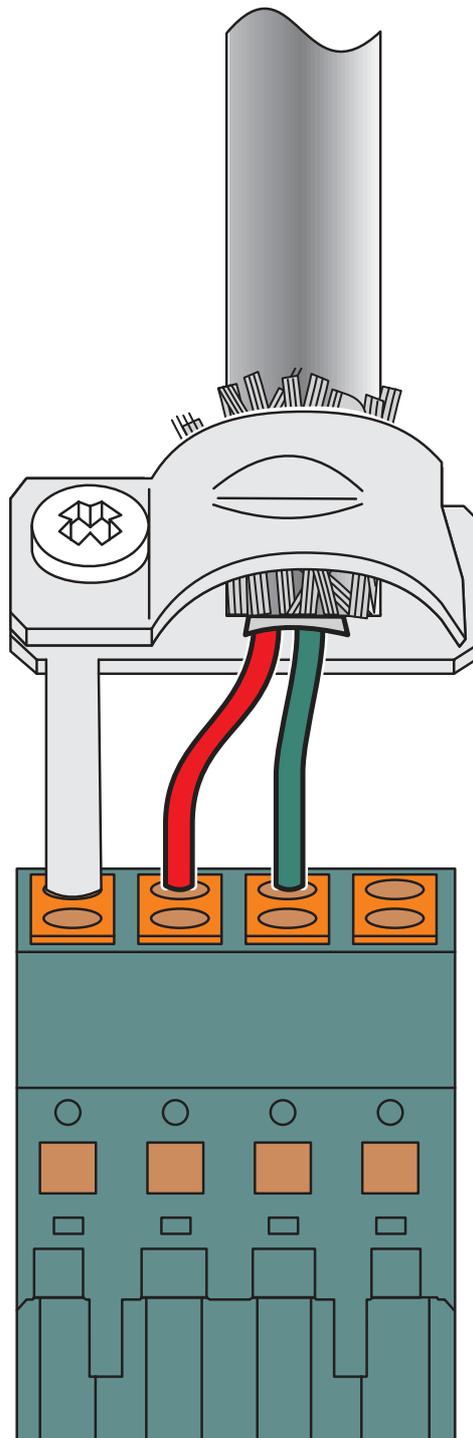
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Schematic diagram



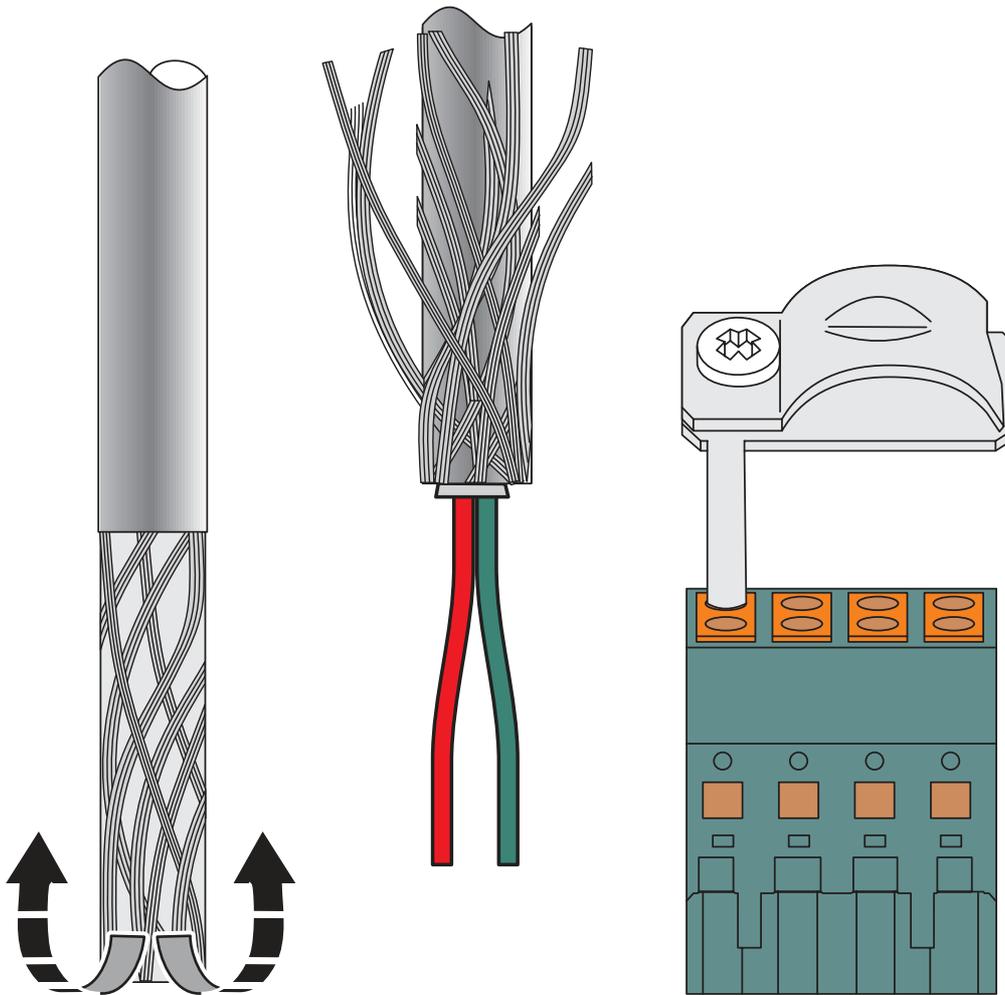
Connecting cables with a shield clamp

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Schematic diagram



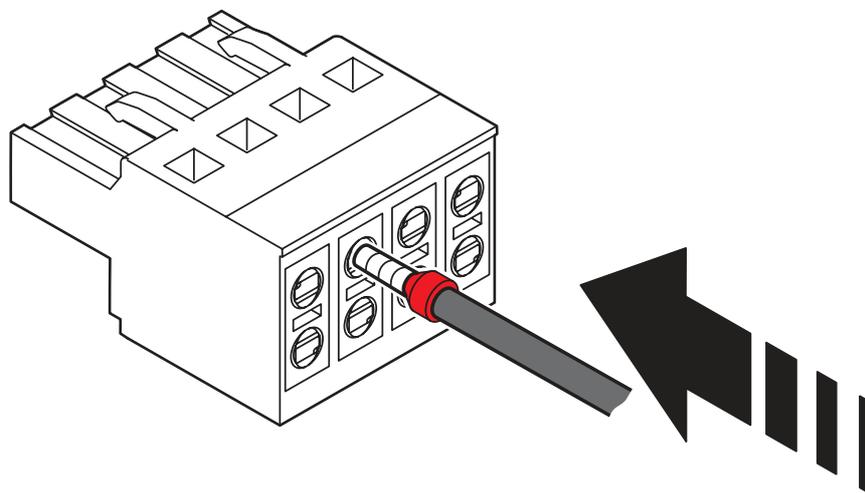
Push the braided shield back

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Schematic diagram



Install signal cable

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/2702636>



UL Listed

Approval ID: FILE E 238705



cUL Listed

Approval ID: FILE E 238705

UAE-RoHS

Approval ID: 23-02-63194



ATEX

Approval ID: PxCIF16ATEX2702636X

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	19070403
ECLASS-12.0	19070403
ECLASS-13.0	19070403

ETIM

ETIM 8.0	EC000448
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UNSPSC

UNSPSC 21.0	32121600
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
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

ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - DIN rail bus connectors

2707437

<https://www.phoenixcontact.com/gb/products/2707437>



DIN rail connector, color: green, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

SUBCON-PLUS-PROFIB/90/IDC - D-SUB bus connector

2313672

<https://www.phoenixcontact.com/gb/products/2313672>



D-SUB connector, 9-pos., male connector, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

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SUBCON-PLUS-PROFIB/90/PG/IDC - D-SUB bus connector

2313685

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D-SUB connector, 9-pos., male connector, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

SUBCON-PLUS-PROFIB/90/SC - D-SUB bus connector

2313698

<https://www.phoenixcontact.com/gb/products/2313698>



D-SUB connector, 9-pos., male connector, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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SUBCON-PLUS-PROFIB/90/PB/SC - D-SUB bus connector

2313708

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D-SUB connector, 9-pos., male connector, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

SUBCON-PLUS-PROFIB/35/M12 - D-SUB bus connector

2902320

<https://www.phoenixcontact.com/gb/products/2902320>



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 35° cable entries M12 (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator.

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SUBCON-PLUS-PROFIB/90/M12 - D-SUB bus connector

2902318

<https://www.phoenixcontact.com/gb/products/2902318>



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 90° M12 cable glands (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator.

SUBCON-PLUS-PROFIB/90X/M12 - D-SUB bus connector

2902729

<https://www.phoenixcontact.com/gb/products/2902729>



D-SUB plug, 9-pos., pin, assignment: 3, 5, 6, 8; two 90° cable entries M12 (B-coded). Bus system: PROFIBUS DP up to 12 Mbps. Termination resistor via separate M12 terminator. Long version; S7-compatible.

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PSM-CABLE-PROFIB/FC - Bus system cable

2744652

<https://www.phoenixcontact.com/gb/products/2744652>



By the meter, Bus system cable, PROFIBUS (12 Mbps), shielded, PVC FR VI/PVC, violet, 2-wire (1x2xAWG22/1), color single wire: red, green, cable length: Free entry (1.0 ... 1000.0 m)

SZF 0-0,4X2,5 - Screwdriver

1204504

<https://www.phoenixcontact.com/gb/products/1204504>



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

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PSM-STRIP-FC/PROFIB - Stripping tool

2744623

<https://www.phoenixcontact.com/gb/products/2744623>

Quick stripping tool for PROFIBUS cable, type Fast Connect



QUICK WIREFOX 6 - Stripping pliers

1204384

<https://www.phoenixcontact.com/gb/products/1204384>

Stripping tool for cables with PVC insulation, stripping range: 0.08 to 6 mm², wire cutting up to 6 mm² flexible or 4 mm² rigid



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SUBCON-PLUS-PROFIB/SC2 - D-SUB bus connector

2708232

<https://www.phoenixcontact.com/gb/products/2708232>



D-SUB connector, 9-pos., male connector, 35° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

SUBCON-PLUS-PROFIB/PG/SC2 - D-SUB bus connector

2708245

<https://www.phoenixcontact.com/gb/products/2708245>



D-SUB connector, 9-pos., male connector, 35° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

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SUBCON-PLUS-PROFIB/AX/SC - D-SUB bus connector

2744380

<https://www.phoenixcontact.com/gb/products/2744380>



D-SUB connector, 9-pos., male connector, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

PSI-REP-PROFIBUS/12MB - Repeater

2708863

<https://www.phoenixcontact.com/gb/products/2708863>



Modular repeater for electrical isolation and range increase for PROFIBUS up to 12 Mbps, 4-way isolation, rail-mountable, supply 24 V DC

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PSI-REP-RS485W2 - Repeater

2313096

<https://www.phoenixcontact.com/gb/products/2313096>



Modular repeater for electrical isolation and range increase in RS-485 2-wire bus systems up to 500 kbps, 4-way isolation, rail-mountable, supply 24 V DC

PSM-ME-RS485/RS485-P - Repeater

2744429

<https://www.phoenixcontact.com/gb/products/2744429>



Repeater, for potential separation and range increase in RS-485 2-wire bus systems, 3-way isolation, rail-mountable

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PSM-ME-RS232/RS485-P - Interface converter

2744416

<https://www.phoenixcontact.com/gb/products/2744416>



Interface converter, for converting RS-232 (V.24) to RS-422 (V.11) and RS-485, with electrical isolation, 2 channels, rail-mountable

QUINT4-SYS-PS/1AC/24DC/2.5/SC - Power supply unit

2904614

<https://www.phoenixcontact.com/gb/products/2904614>



Primary-switched power supply, QUINT POWER, screw connection, DIN rail mounting, supply of devices possible via the TBUS DIN rail connector, protective coating, input: single-phase, output: 24 V DC/2.5 A

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ME 17,5 TBUS 1,5/ 5-ST-3,81 KMGY - DIN rail bus connectors

2713645

<https://www.phoenixcontact.com/gb/products/2713645>



DIN rail connector, color: light grey, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

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