

Termination resistor - PSI-TERMINATOR-PB-TBUS - 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, -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



Key Commercial Data

Packing unit	1 pc
GTIN	4 055626 251530
GTIN	4055626251530
Weight per Piece (excluding packing)	74.650 g
Custom tariff number	85389091
Country of origin	Germany

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Technical data

Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Caption	Compact housing
Width	22.5 mm
Height	92 mm
Depth	73 mm

Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
	≤ 2000 m (Restrictions for ATEX applications)
Degree of protection	IP20

General

Electrical isolation	DIN EN 50178 (RS-485 // VCC)
Test voltage data interface/power supply	1.5 kV AC (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Net weight	74.65 g
Housing material	PA 6.6-FR
Color	green
MTTF	3305 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	1923 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	911 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Degree of pollution	2
Overvoltage category	II

Power supply

Nominal supply voltage	24 V DC (via pluggable COMBICON screw terminal block)
Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
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)
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)
Conductor cross section flexible max.	2.50 mm ²
Conductor cross section flexible min.	0.20 mm ²
Conductor cross section solid max.	2.50 mm ²

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Power supply

Conductor cross section solid min.	0.20 mm ²
Max. AWG conductor cross section, flexible	12
Min. AWG conductor cross section, flexible	24

Interfaces

Interface 1	PROFIBUS acc. to IEC 61158, RS-485 2-conductor
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 solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Serial transmission speed	≤ 12 Mbps
Output nominal voltage	5 V DC

Function

Status and diagnostic indicators	LEDs: US (power supply), ACT (data activity)
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Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	ATEX
Identification	# II 3 G Ex nA IIC T4 Gc X
Additional text	Please follow the special installation instructions in the documentation!
Designation	UL, USA/Canada
Identification	508 Listed
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Type of test	Free fall in acc. with EN 60068-2-31
Test result	1 m
Type of test	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6
Test result	5g, 10...150 Hz, 2.5 h, in XYZ direction
Type of test	Shock in acc. with EN 60068-2-27/IEC 60068-2-27
Test result	25g, 11 ms period, half-sine shock pulse
Free from substances that could impair the application of coating	according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard

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Standards and Regulations

Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV (Data line, asymmetrical)
Standards/regulations	EN 55011
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz

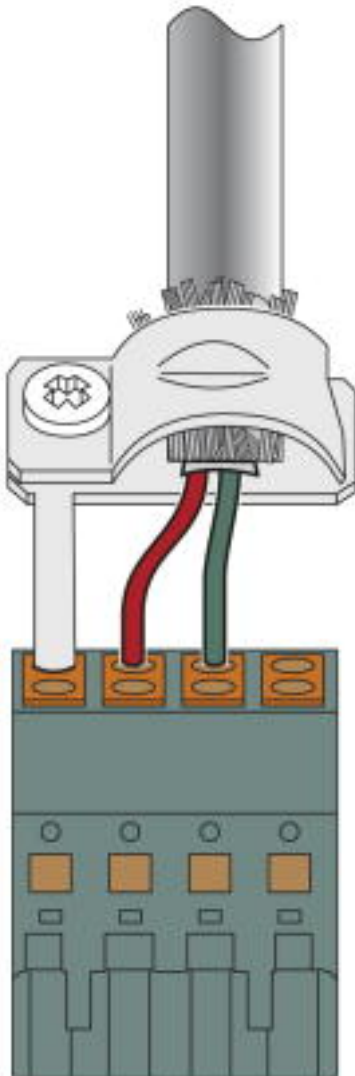
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

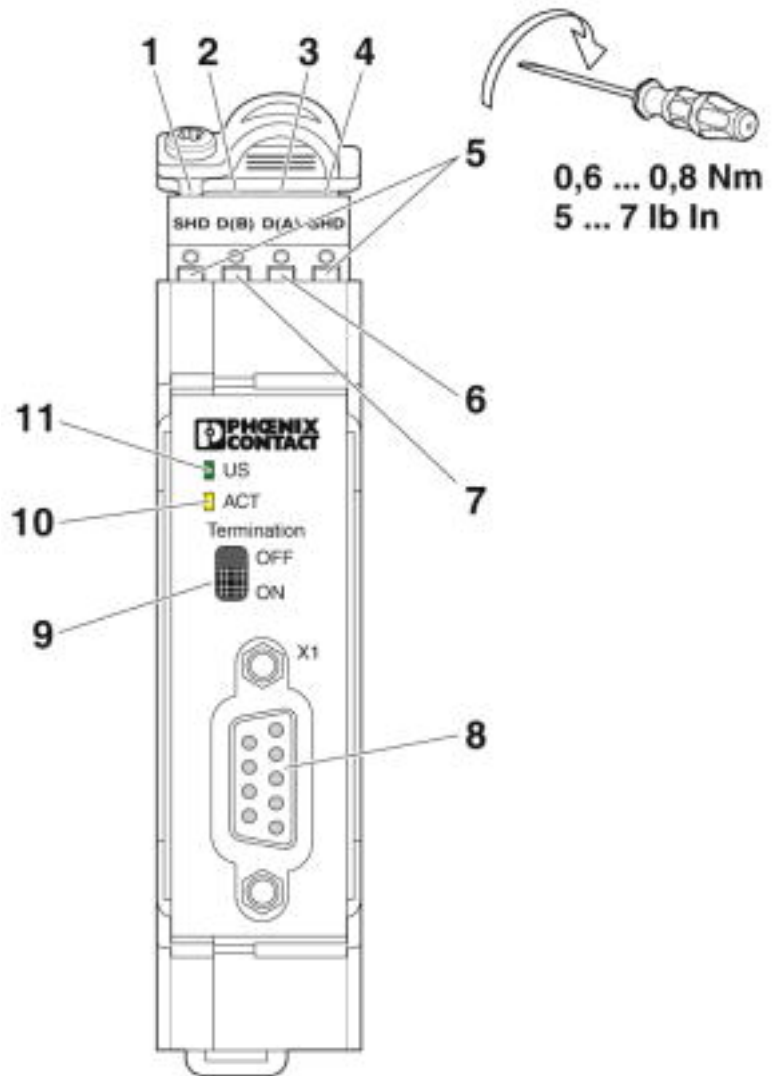
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Schematic diagram



Connecting cables with a shield clip

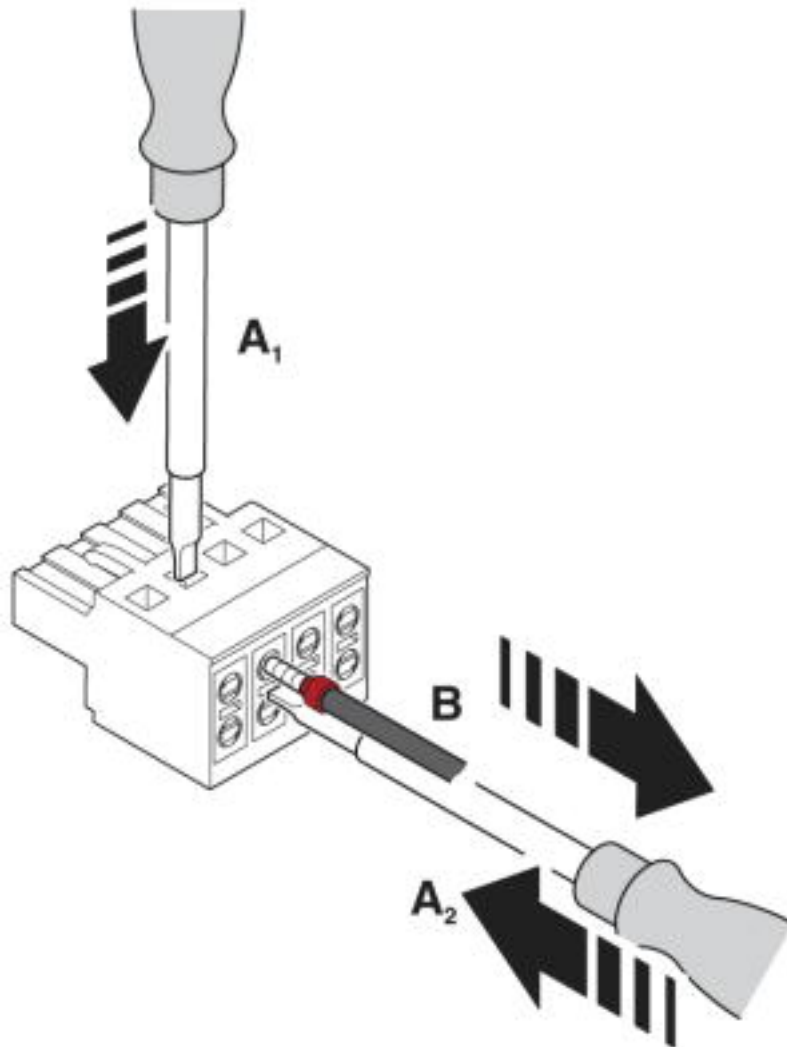
Schematic diagram



Front view

Termination resistor - PSI-TERMINATOR-PB-TBUS - 2702636

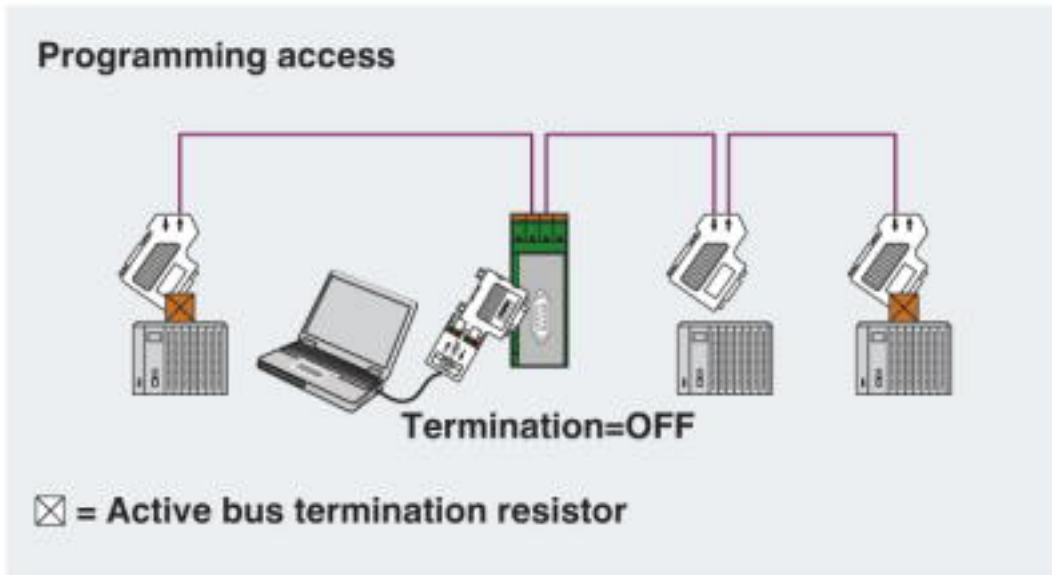
Schematic diagram



Deinstall signal cable

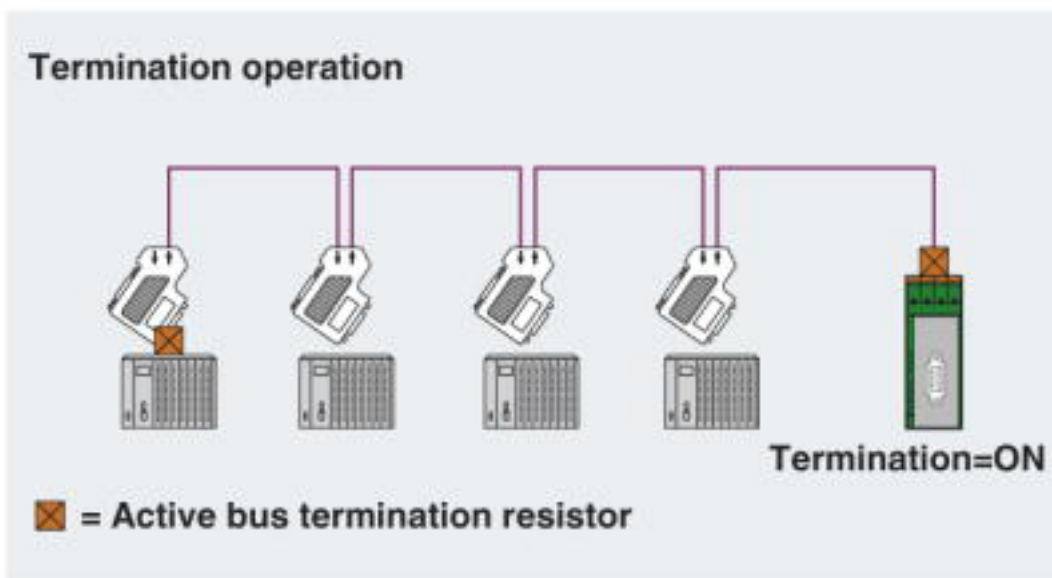
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Application drawing



Fixed service interface in (professional) bus system

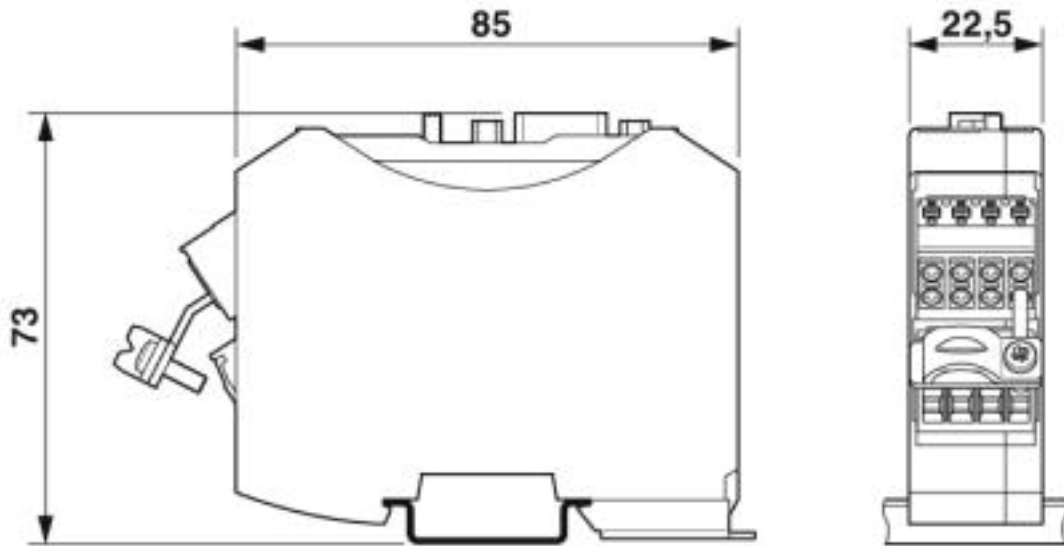
Application drawing



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

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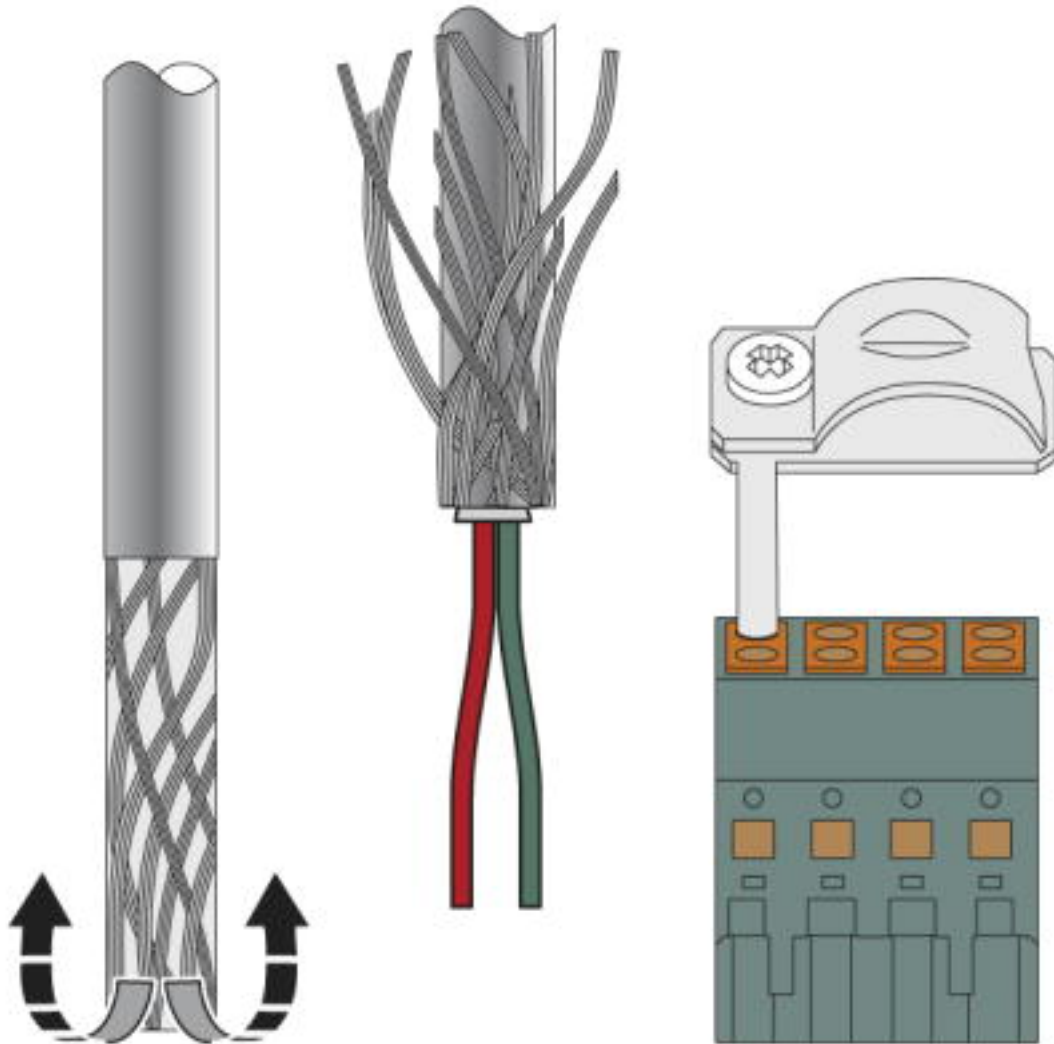
Dimensional drawing



Compact housing

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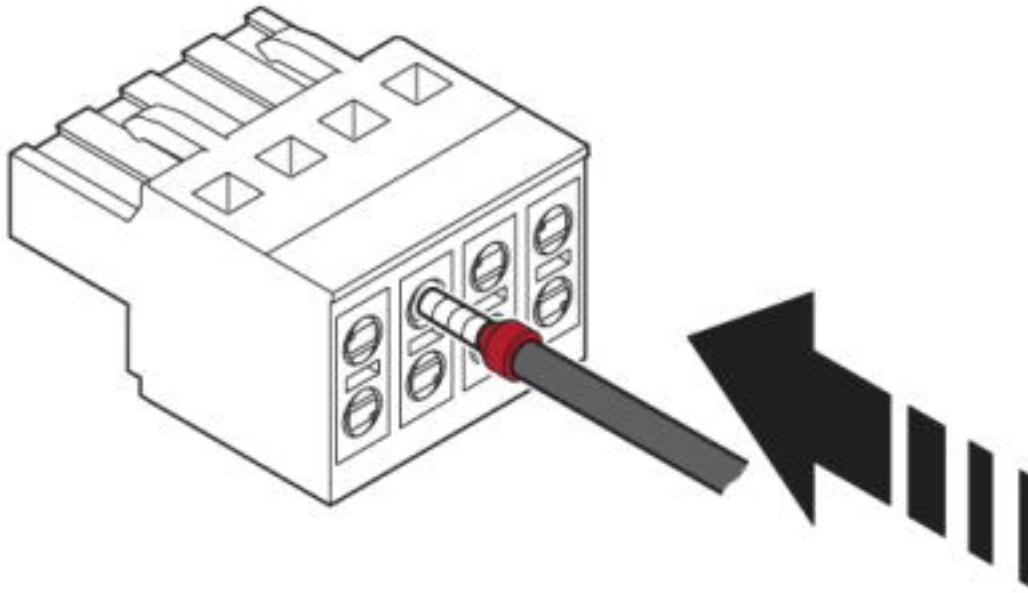
Schematic diagram



Push the braided shield back

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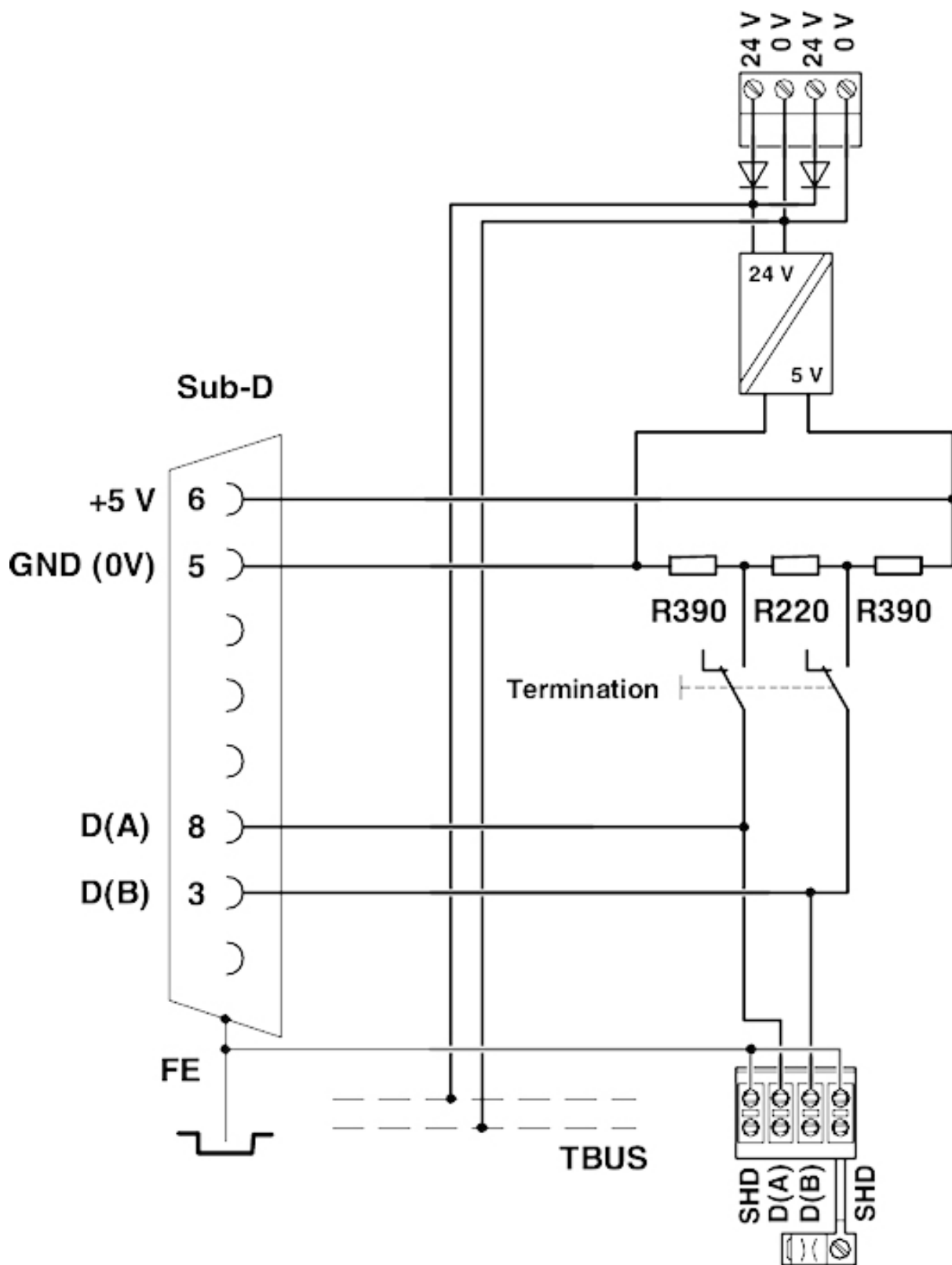
Schematic diagram



Install signal cable

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Block diagram



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Classifications

eCl@ss

eCl@ss 4.0	27240400
eCl@ss 4.1	27240400
eCl@ss 5.0	19070400
eCl@ss 5.1	19070400
eCl@ss 6.0	19070400
eCl@ss 7.0	19070403
eCl@ss 8.0	19070403
eCl@ss 9.0	19070403

ETIM

ETIM 3.0	EC000673
ETIM 4.0	EC000310
ETIM 5.0	EC000448
ETIM 6.0	EC000448
ETIM 7.0	EC000448

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	32121617
UNSPSC 18.0	32121617
UNSPSC 19.0	32121617
UNSPSC 20.0	32121617
UNSPSC 21.0	32121617

Approvals

Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

Ex Approvals

ATEX

Approval details

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Approvals

UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cULus Listed			
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Accessories

Accessories

Data cable by the meter

Bus system cable - PSM-CABLE-PROFIB/FC - 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)

Data plug

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/IDC - 2313672



D-SUB connector, 9-pos., male connector, cable entry < 90°, 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

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/IDC - 2313685



D-SUB connector, 9-pos., male connector, cable entry < 90°, 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

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Accessories

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/SC - 2313698



D-SUB connector, 9-pos., male connector, cable entry < 90°, 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

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/SC - 2313708



D-SUB connector, 9-pos., male connector, cable entry < 90°, 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

D-SUB bus connector - SUBCON-PLUS-PROFIB/35/M12 - 2902320



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

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/M12 - 2902318



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

D-SUB bus connector - SUBCON-PLUS-PROFIB/90X/M12 - 2902729



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

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Accessories

D-SUB bus connector - SUBCON-PLUS-PROFIB/SC2 - 2708232



D-SUB connector, 9-pos., male connector, cable entry < 35°, 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

D-SUB bus connector - SUBCON-PLUS-PROFIB/PG/SC2 - 2708245



D-SUB connector, 9-pos., male connector, cable entry < 35°, 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

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

DIN rail connector

DIN rail bus connectors - ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



DIN rail connector, number of positions: 5, pitch: 3.81 mm, pin layout: Linear pinning, Articles with gold-plated contacts, bus connectors for connecting with electronic housings

Interface converter

Repeater - PSI-REP-PROFIBUS/12MB - 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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Accessories

Repeater - PSI-REP-RS485W2 - 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

Repeater - PSM-ME-RS485/RS485-P - 2744429



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

Interface converter - PSM-ME-RS232/RS485-P - 2744416



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

Power supply

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983



Primary-switched MINI POWER supply for DIN rail mounting, input: 1-phase, output: 24 V DC/1.5 A

Screwdriver tools

Screwdriver - SZF 0-0,4X2,5 - 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

Stripping tool

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Accessories

Stripping pliers - QUICK WIREFOX 6 - 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

Stripping tool - PSM-STRIP-FC/PROFIB - 2744623



Quick stripping tool for PROFIBUS cable, type Fast Connect

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