

# 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
Weight per piece (including packing)	139.900 g
Custom tariff number	85389091
Country of origin	Germany

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

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

### 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%)
	1923 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	911 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
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 <sup>2</sup>
Conductor cross section flexible min.	0.20 mm <sup>2</sup>

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## Technical data

### Power supply

Conductor cross section solid max.	2.50 mm <sup>2</sup>
Conductor cross section solid min.	0.20 mm <sup>2</sup>
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 <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
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

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## Technical data

### Standards and Regulations

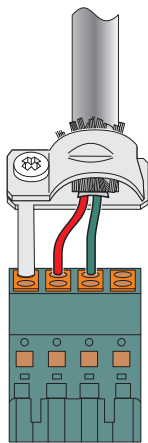
Free from substances that could impair the application of coating	according to P-VW 3.10.7 57 65 0 VW-AUDI-Seat central standard
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Indirect discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz (Test 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 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

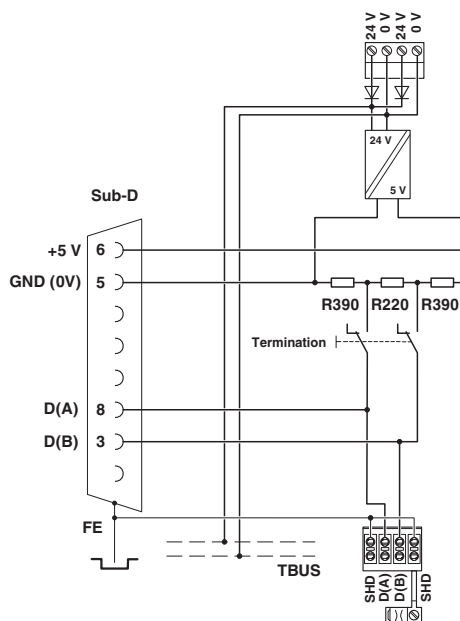
## Drawings

Schematic diagram



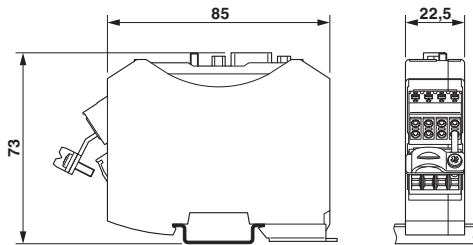
Connecting cables with a shield clamp

Block diagram



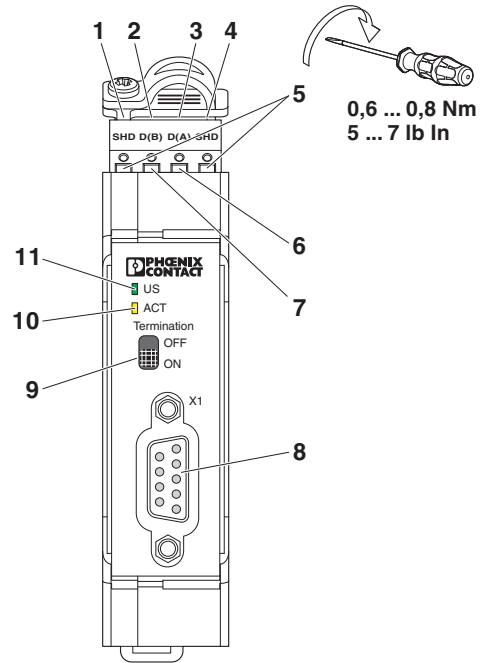
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Dimensional drawing



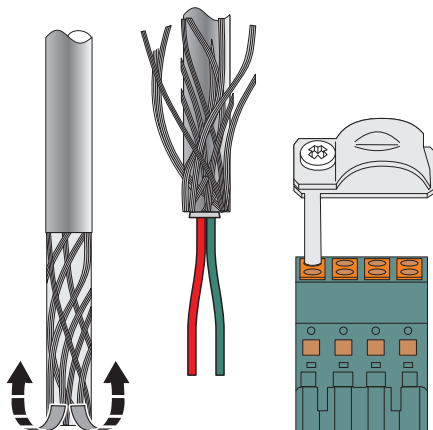
Compact housing

Schematic diagram



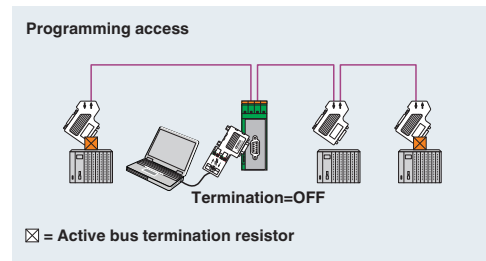
Front view

Schematic diagram



Push the braided shield back

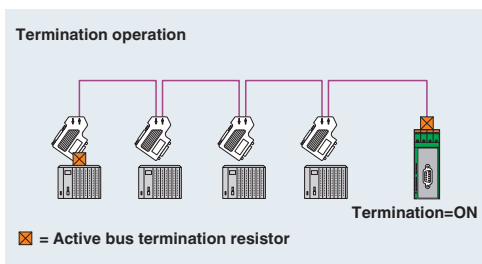
Application drawing



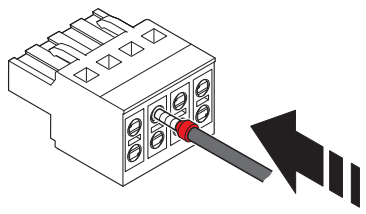
Fixed service interface in (professional) bus system

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Application drawing



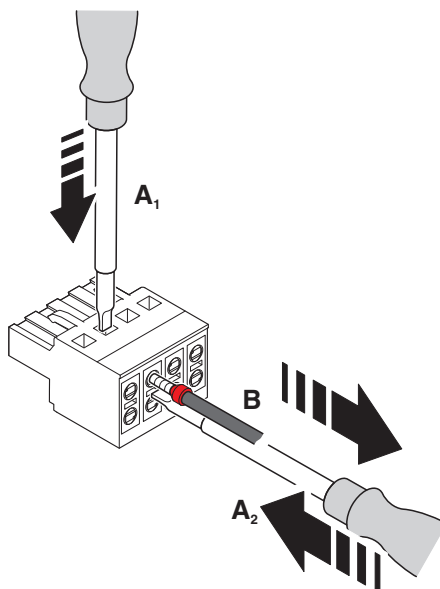
Schematic diagram



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

Install signal cable

Schematic diagram



Deinstall signal cable

## Classifications

eCl@ss

eCl@ss 10.0.1	19070403
eCl@ss 11.0	19070403
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

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## Classifications

### eCl@ss

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

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#### Approvals

UL Listed / cUL Listed / cULus Listed


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#### Ex Approvals

ATEX

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### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
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# Termination resistor - PSI-TERMINATOR-PB-TBUS - 2702636

## Approvals

cULus Listed



## 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

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



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### Accessories

#### 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

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#### 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.

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#### 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.

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



Quick stripping tool for PROFIBUS cable, type Fast Connect

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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

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#### 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

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#### 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

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### DIN rail connector

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



DIN rail connector, color: green, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, Number of positions per row: 5, pitch: 3.81 mm, mounting: DIN rail mounting, Locking: 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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### 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

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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

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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

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### 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

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### 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

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### Stripping tool

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

### Accessories

Stripping pliers - QUICK WIREFOX 6 - 1204384



Stripping tool for cables with PVC insulation, stripping range: 0.08 to 6 mm<sup>2</sup>, wire cutting up to 6 mm<sup>2</sup> flexible or 4 mm<sup>2</sup> rigid