

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

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

Product Description

The RS-485 standard allows more than two devices to communicate with one another. Converting the V.24 (RS-232) point-to-point interface into the bus-capable RS-485 standard makes it possible to network up to 32 devices via a 2- or 4-wire cable.

Your advantages

- ✓ RS-422 4-wire point-to-point operation
- ✓ RS-485 2-wire operation, half duplex
- ✓ RS-485 4-wire operation, full duplex
- ✓ Automatic RS-485 transmit/receive changeover
- ✓ Transmission speed of 4.8 kbps to 115.2 kbps
- ✓ Integrated data indicator for dynamic indication of transmit and receive data
- ✓ High-quality 3-way isolation between power supply, RS-232, and RS-422/RS-485 for safe decoupling of potentials with 2 kV
- ✓ Integrated surge protection with transient discharge to the DIN rail
- ✓ Shipbuilding approval in accordance with DNV GL and ABS



Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4017918171780

Technical data

Note

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

Caption	Slim design
Width	22.5 mm

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Technical data

Dimensions

Height	99 mm
Depth	114.5 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)
Degree of protection	IP20
Noise immunity	EN 50 082-2

General

Transmission channels	2 (1/1), Rx/D, Tx/D, full duplex
Bit delay	≤ 2.5 μs
Bit distortion	≤ 5 %
Electrical isolation	VCC // V.24 (RS-232) // RS-485
Test voltage data interfaces	1.5 kV AC
Test voltage data interface/power supply	1.5 kV AC
	1.5 kV AC
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 50 081-1
Net weight	196.1 g
Housing material	PA 6.6-FR
Color	green
MTBF	10 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
MTTF	1654 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	746 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	310 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
Degree of pollution	2

Power supply

Nominal supply voltage	24 V AC/DC
Supply voltage range	18 V AC/DC ... 30 V AC/DC (via pluggable COMBICON screw terminal block)
Max. current consumption	100 mA
Typical current consumption	85 mA (24 V DC)
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
Conductor cross section AWG max.	12
Conductor cross section AWG min.	24

Interfaces

Interface 1	V.24 (RS-232) interface in acc. with ITU-T V.28, EIA/TIA-232, DIN 66259-1
Connection method	D-SUB 9 plug
Transmission length	15 m (shielded twisted pair)
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
Pin assignment	DTE/DCE switchover via switch
Protocols supported	transparent protocol
Serial transmission speed	1.2; 2.4; 4.8; 7.2; 9.6; 19.2; 31.25; 38.4; 57.6; 75; 93.75; 115.2 kbps
Interface 2	RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1
Connection method	Pluggable screw connection
Transmission length	1200 m (shielded twisted pair)
Termination resistor	390 Ω
	150 Ω
	390 Ω (Can be connected)
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	13
Protocols supported	transparent protocol
Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps
Interface 3	RS-485 interface in acc. with EIA/TIA-485, DIN 66259-1
Connection method	Pluggable screw connection
Data direction switching	Automatic control or via RTS/CTS
Transmission length	1200 m (shielded twisted pair)
Termination resistor	390 Ω
	150 Ω
	390 Ω (Can be connected)
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section AWG max.	14
Conductor cross section AWG min.	24

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Interfaces

Protocols supported	transparent protocol
Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	EAC
Identification	EAC
Designation	ATEX
Identification	# II 3 G Ex nA IIC T4 Gc
Certificate	IBExU16ATEXB004 X
Additional text	Please follow the special installation instructions in the documentation!
Designation	IECEX
Identification	Ex nA IIC T4 Gc
Certificate	IECEX IBE 15.0034X
Designation	UL, USA/Canada
Identification	508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, AEx nA IIC T4
	Class I, Zone 2, Ex nA IIC T4 Gc X
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A
Designation	Shipbuilding
Identification	DNV GL
	ABS
Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Type of test	Free fall in acc. with IEC 60068-2-32
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
Noise emission	EN 50 081-1
Noise immunity	EN 50 082-2

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Standards and Regulations

Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Standards/regulations	EN 61000-4-3
Frequency range	26 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

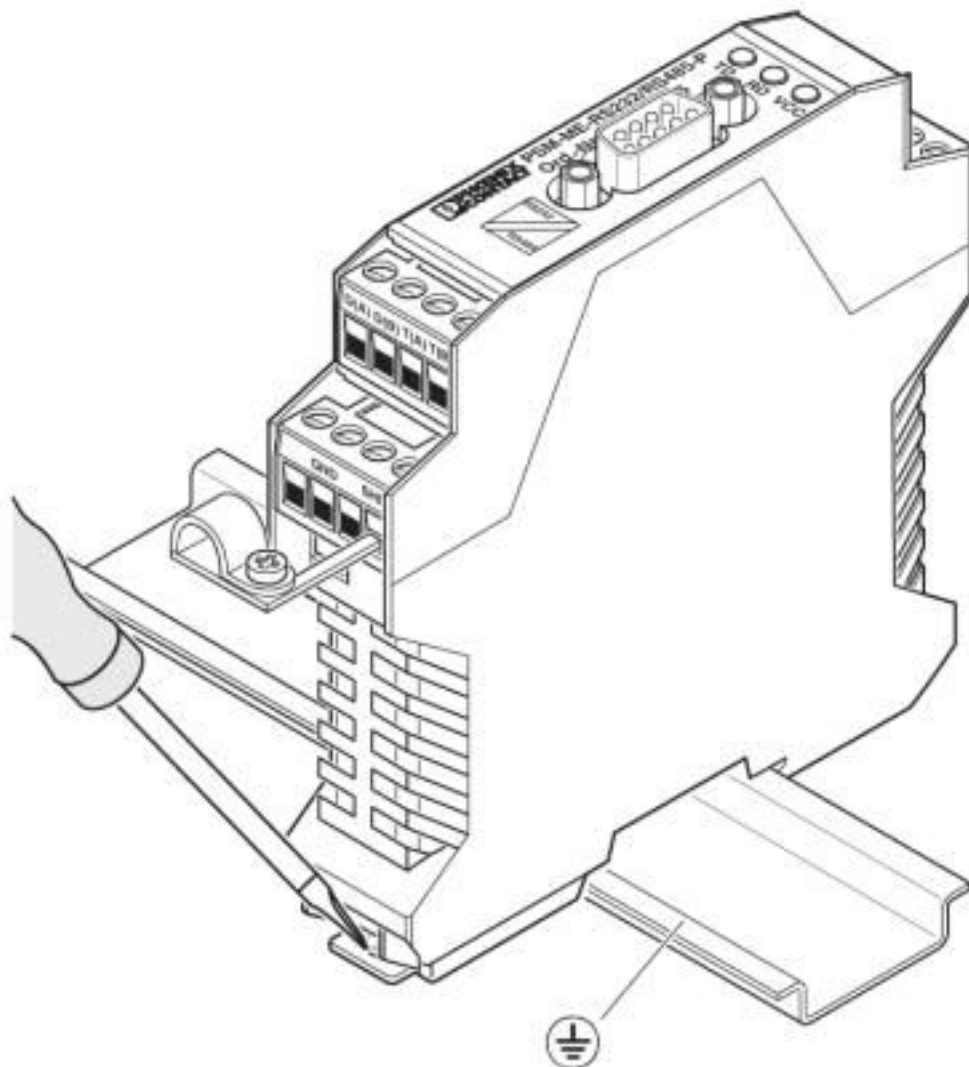
Environmental Product Compliance

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

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

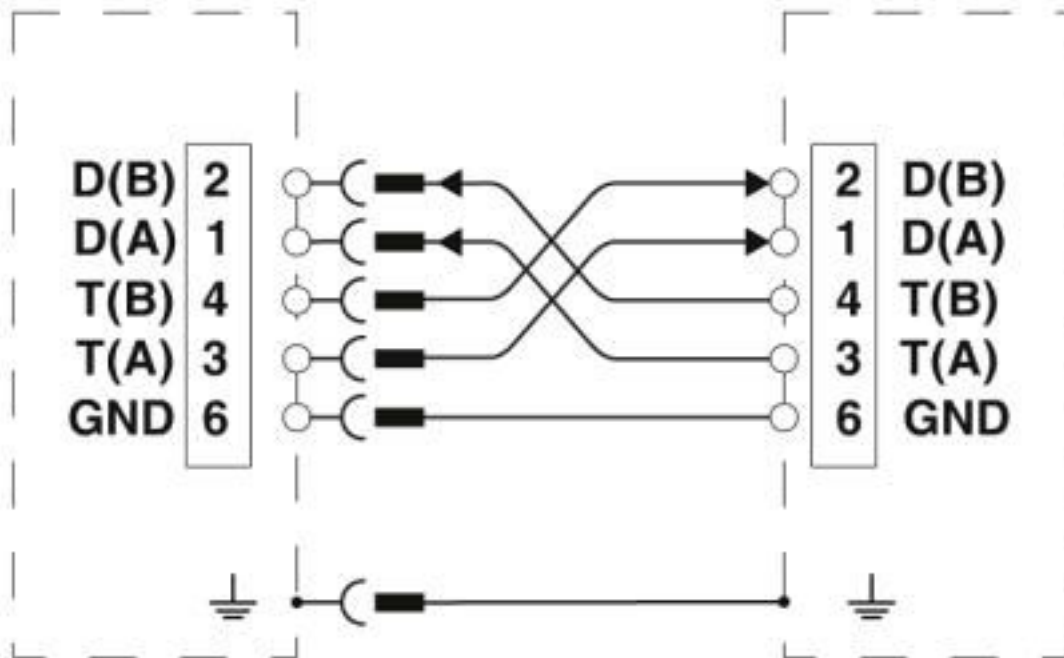
Schematic diagram



Removal

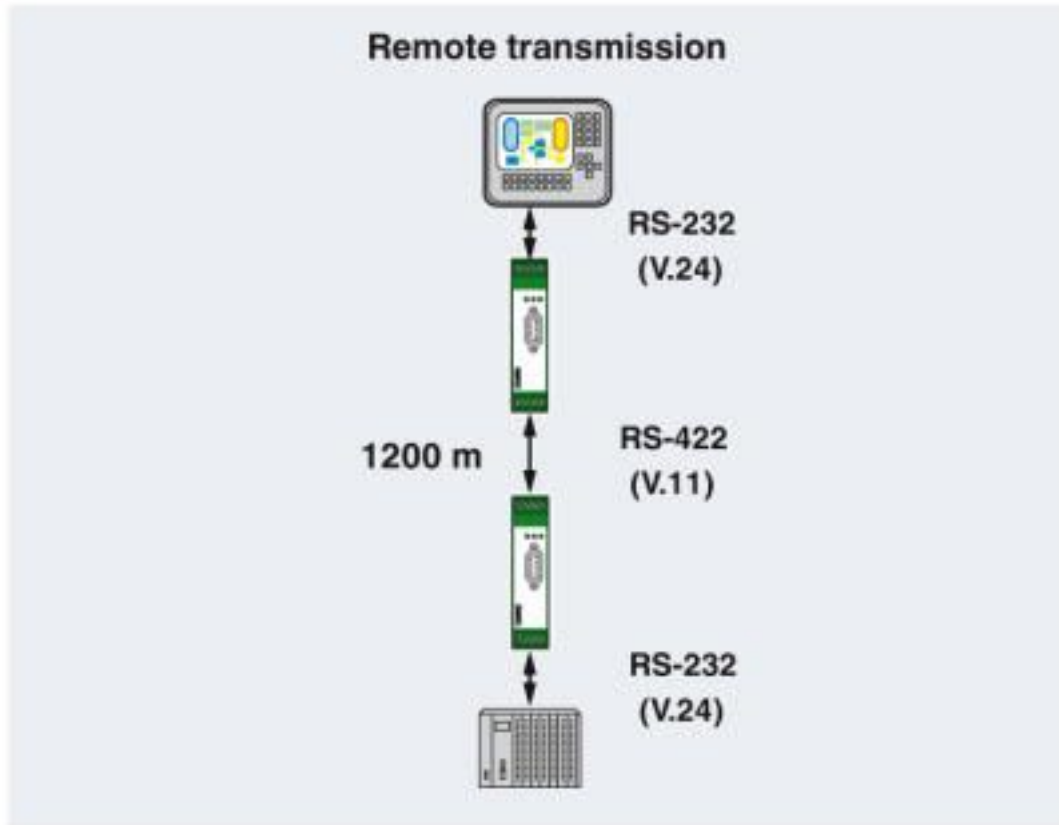
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Connection diagram



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

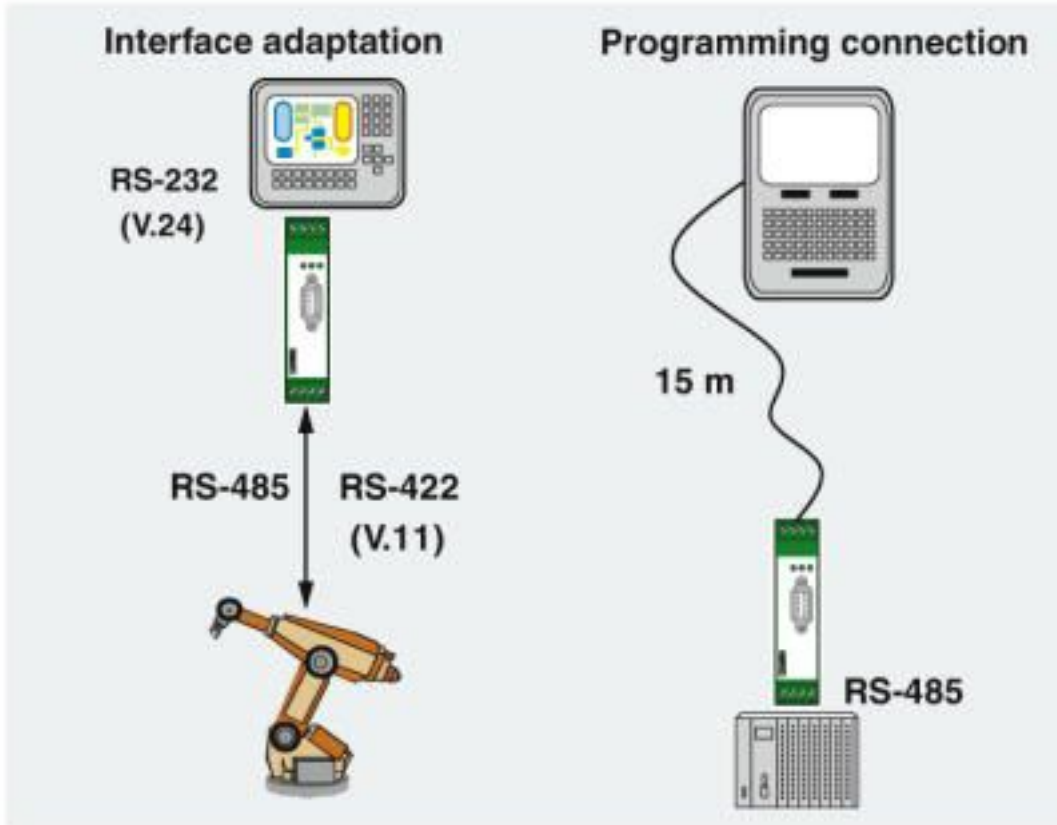
Application drawing



Remote transmission

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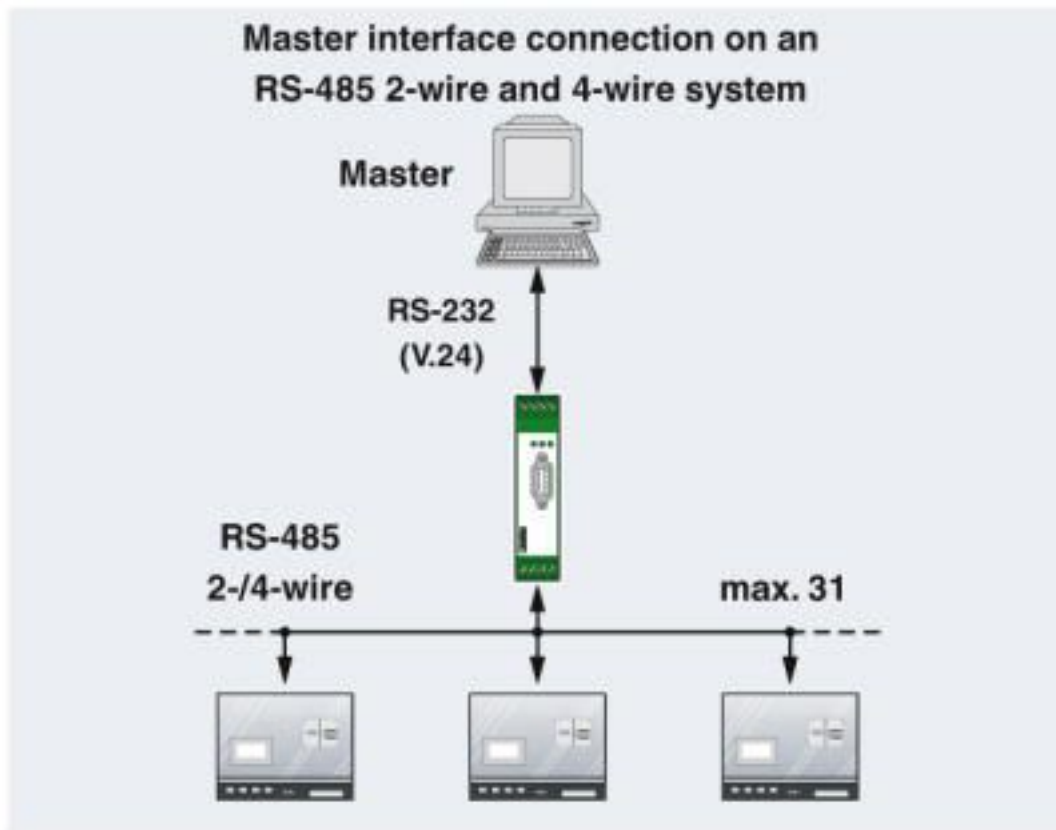
Application drawing



Interface adaptation or programming connection

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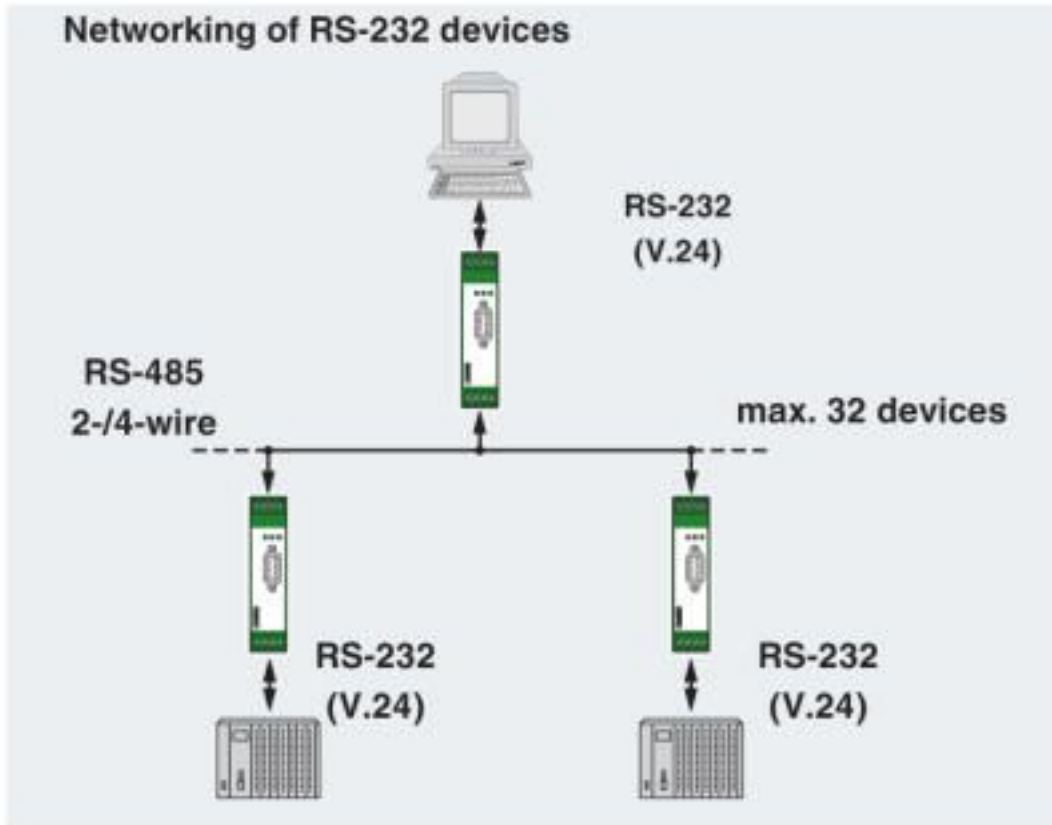
Application drawing



Master interface connection

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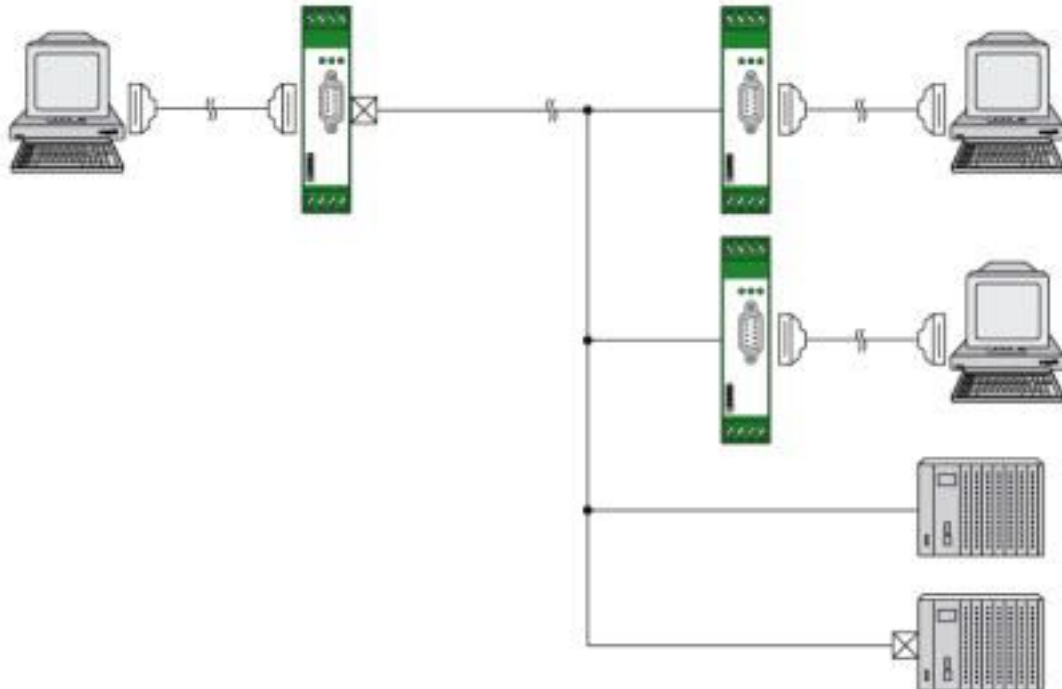
Application drawing




Networking of RS-232 devices

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Application drawing




 = Switch on bus terminating resistor

Activate termination resistors - RS-485

Application drawing

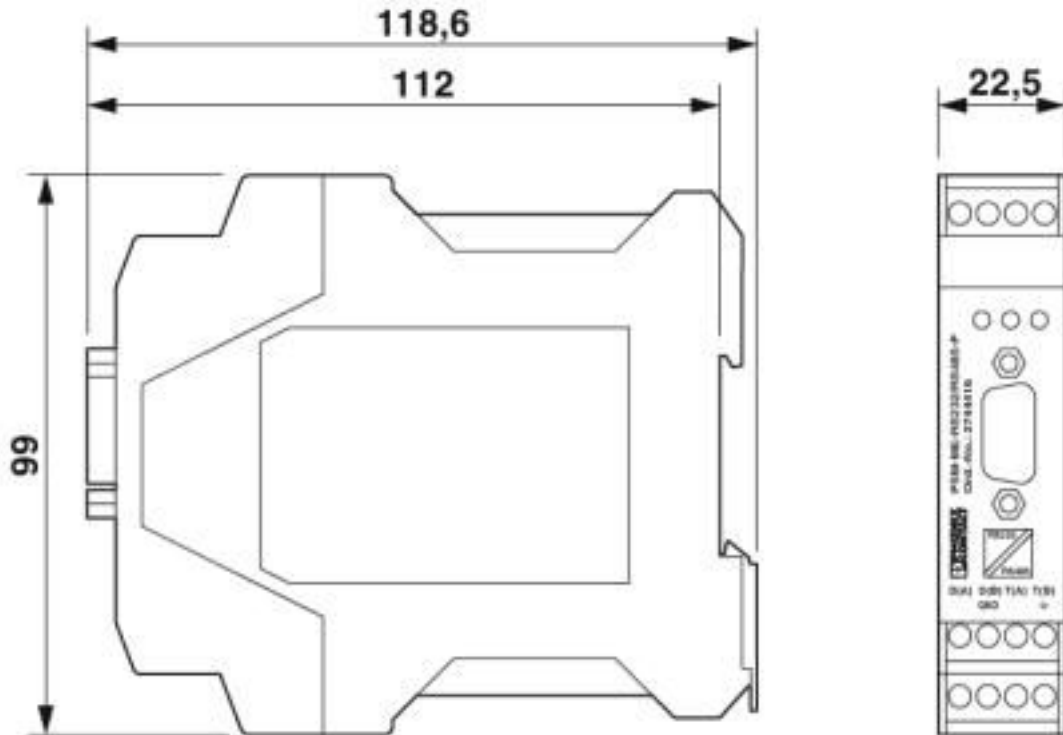


 = Switch on bus terminating resistor

Activate termination resistors - RS-422

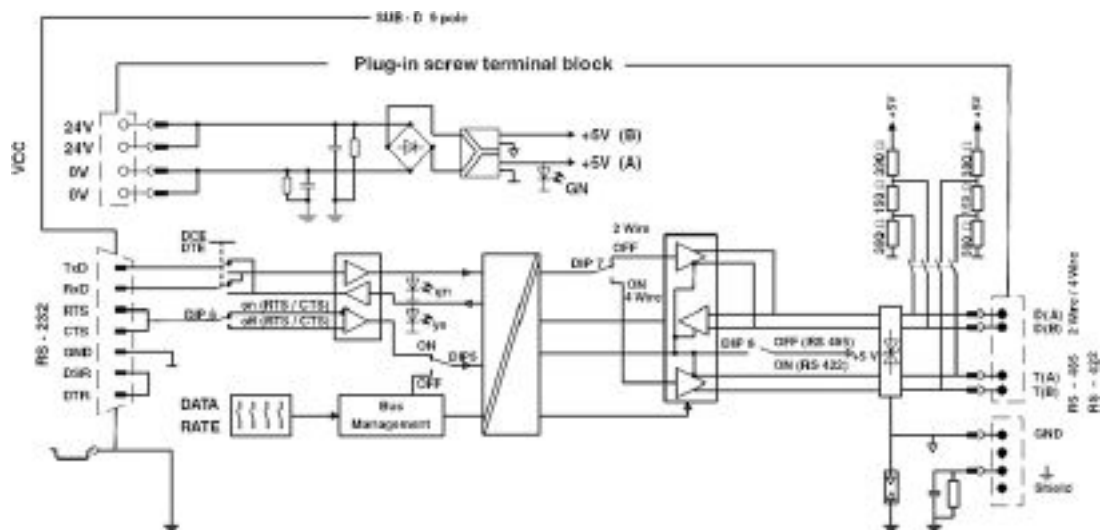
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Dimensional drawing



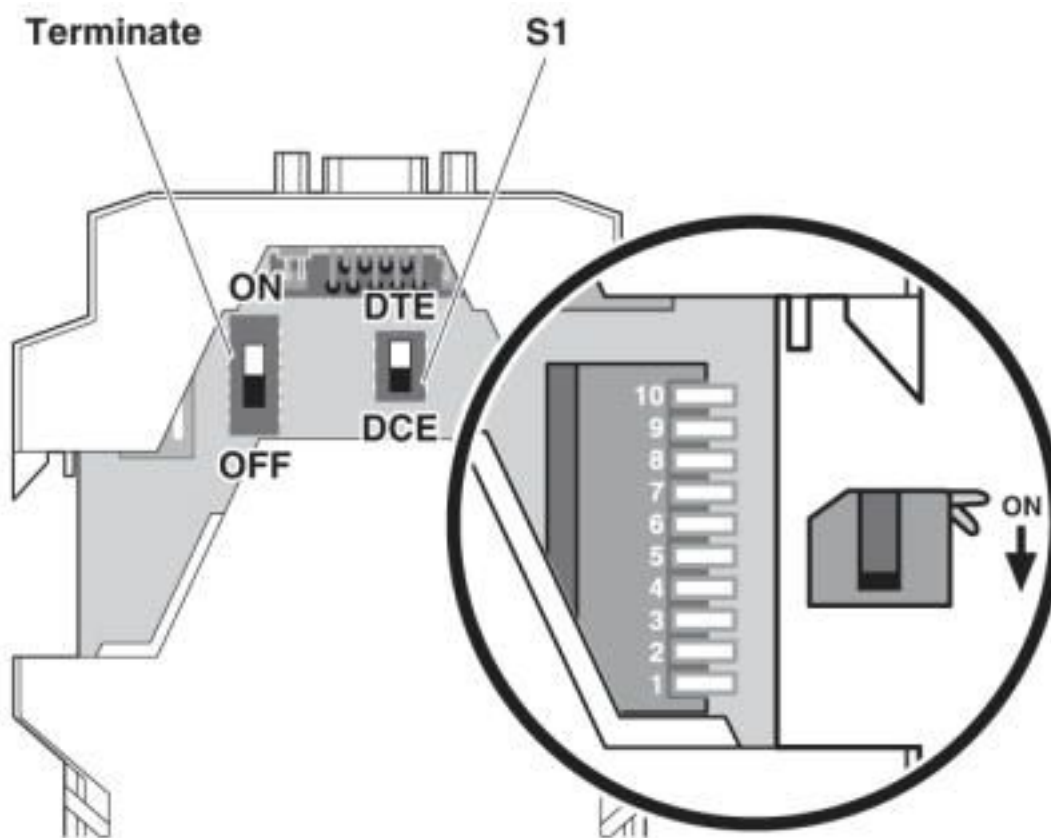
Slim design

Circuit diagram



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Schematic diagram



DIP switches

Classifications

eCl@ss

eCl@ss 10.0.1	19179290
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27242200
eCl@ss 5.1	27242200
eCl@ss 6.0	19179200
eCl@ss 7.0	19179290
eCl@ss 8.0	19179290
eCl@ss 9.0	19179290

ETIM

ETIM 2.0	EC000698
ETIM 3.0	EC000698
ETIM 4.0	EC000698
ETIM 5.0	EC000310

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Classifications

ETIM

ETIM 6.0	EC000310
ETIM 7.0	EC000310

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222604
UNSPSC 18.0	43222604
UNSPSC 19.0	43222604
UNSPSC 20.0	43222604
UNSPSC 21.0	43222604

Approvals

Approvals

Approvals

DNV GL / ABS / UL Recognized / cUL Recognized / EAC / KC / cULus Recognized

Ex Approvals

IECEx / ATEX / cUL Recognized / UL Listed / cUL Listed / cULus Listed

Approval details

DNV GL		https://approvalfinder.dnvgl.com/	TAA00001KR
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ABS		http://www.eagle.org/eagleExternalPortalWEB/	17-HG1637705-PDA
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UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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Approvals

EAC		EAC-Zulassung
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KC		http://eng.kcc.go.kr/user/ehpMain.do	MSIP-REI- PCK-ME27444
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cULus Recognized		
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Accessories

Accessories

Adapter cable

Data cable - PSM-KA9SUB9/BB/2METER - 2799474



RS-232 cable, 9-pos. D-SUB socket on 9-pos. D-SUB socket, 9-wire, 1:1

Data plug

D-SUB bus connector - SUBCON 9/F-SH - 2761499



D-SUB plug, 9-pos. female connector, one cable entry < 35°, universal type for all systems, pin assignment: 1, 2, 3, 4, 5, 6, 7, 8, 9 to screw connection terminal block

Mounting material

Shield connection clamp - ME-SAS - 2853899



Shield connection clamp for printed circuit terminal block

Screwdriver tools

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Accessories

Screwdriver - SZF 1-0,6X3,5 - 1204517



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

Terminal resistor

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



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

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