

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



2744416

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

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



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

- Mounting on standard EN DIN rails
- Transmission speed of 4.8 Kbps ... 115.2 Kbps
- High-quality 3-way isolation between power supply, RS-232, and RS-422/RS-485 for safe decoupling of potentials with 2 kV
- 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
- Integrated data indicator for dynamic indication of transmit and receive data
- Integrated surge protection with transient discharge to the DIN rail
- Shipbuilding approval in accordance with DNV GL

Commercial data

Item number	2744416
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN11
Product key	DNC111
GTIN	4017918171780
Weight per piece (including packing)	206 g
Weight per piece (excluding packing)	196.1 g
Customs tariff number	85176200
Country of origin	DE

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



2744416

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

Technical data

Notes

Note on application

Note on application	Only for industrial use
---------------------	-------------------------

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
----------	---

Utilization restriction

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

Product properties

Product type	Interface converter
Application	RS-232
	RS-422
	RS-485
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%)
MTBF	10 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

Insulation characteristics

Pollution degree	2
------------------	---

Electrical properties

Electrical isolation	VCC // V.24 (RS-232) // RS-485
Maximum power dissipation for nominal condition	2.04 W
Test voltage data interface/power supply	1.5 kV AC
	1.5 kV AC
Test voltage data interfaces	1.5 kV AC

Supply

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

Connection data

Supply

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



2744416

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

Single conductor/terminal point, rigid	0.2 mm² ... 2.5 mm²
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Conductor cross section, flexible [AWG]	24 ... 12
Tightening torque	0.56 Nm ... 0.79 Nm

Interfaces

Interface	RS-232/-485
Bit distortion	≤ 5 %
Bit delay	≤ 2.5 µs
Signal	Modbus
Transmission channels	2 (1/1), RxD, TxD, full duplex

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

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
Connection method	D-SUB 9 plug
Pin assignment	DTE/DCE switchover via switch
Transmission length	15 m (shielded twisted pair)
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross section, flexible	12
Min. AWG conductor cross section, flexible	24
Protocols supported	transparent protocol

Data: RS-422 interface in acc. with ITU-T V.11, EIA/TIA-422, DIN 66348-1

Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps
Connection method	Pluggable screw connection
Transmission length	1200 m (shielded twisted pair)
Termination resistor	390 Ω 150 Ω 390 Ω (Can be connected)
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross section, flexible	13
Min. AWG conductor cross section, flexible	24
Protocols supported	transparent protocol

Data: RS-485 interface in acc. with EIA/TIA-485, DIN 66259-1

Serial transmission speed	1.2; 2.4; 4.8; 9.6; 19.2; 38.4; 57.6; 75; 93.75; 115.2 kbps
Connection method	Pluggable screw connection
Transmission length	1200 m (shielded twisted pair)
Termination resistor	390 Ω 150 Ω 390 Ω (Can be connected)
Single-wire/terminal point, flexible	0.2 mm² ... 2.5 mm²
Max. AWG conductor cross section, flexible	14
Min. AWG conductor cross section, flexible	24
Data direction switching	Automatic control or via RTS/CTS

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

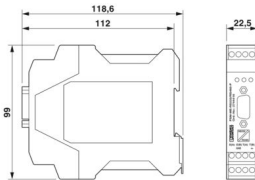


2744416

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

Protocols supported	transparent protocol
---------------------	----------------------

Dimensions

Dimensional drawing	
Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA 6.6-FR

Mechanical tests

Free fall in accordance with IEC 60068-2-32	: 1 m
Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	: 5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 25g, 11 ms period, half-sine shock pulse

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)
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

Approvals

CE

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

ATEX

Identification	Ⓔ II 3 G Ex nA IIC T4 Gc
Certificate	IBExU16ATEXB004 X
Note	Please follow the special installation instructions in the documentation!

IECEx

Identification	Ex nA IIC T4 Gc
Certificate	IECEx IBE 15.0034X

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



2744416

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

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

KC approval for South Korea

Certificate	MSIP-REI-PCK-ME2744416
-------------	------------------------

Corrosive gas test

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

Shipbuilding

Identification	DNV GL
----------------	--------

Shipbuilding data

Temperature	B
Humidity	A
Vibration	A
EMC	B
Enclosure	Required protection according to the Rules shall be provided upon installation on board

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise immunity	EN 61000-6-2:2005

Noise emission

Standards/regulations	EN 61000-6-4
-----------------------	--------------

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	26 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 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.

Mounting

Mounting type	DIN rail mounting
---------------	-------------------

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

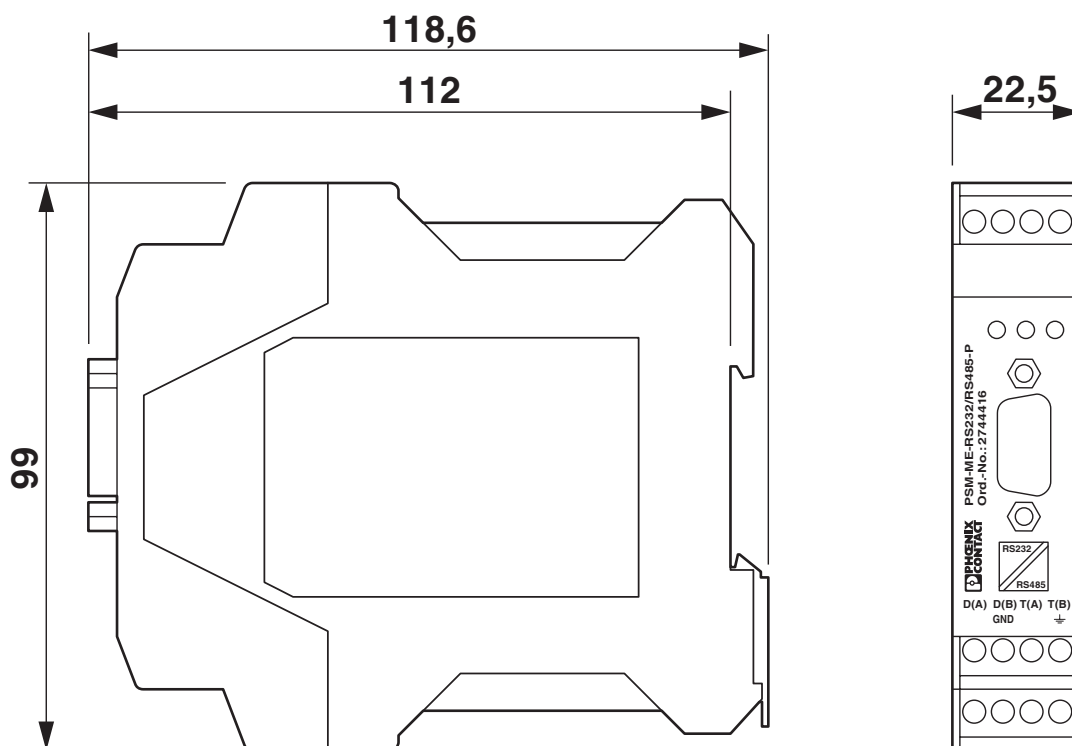
2744416

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



Drawings

Dimensional drawing



Slim design

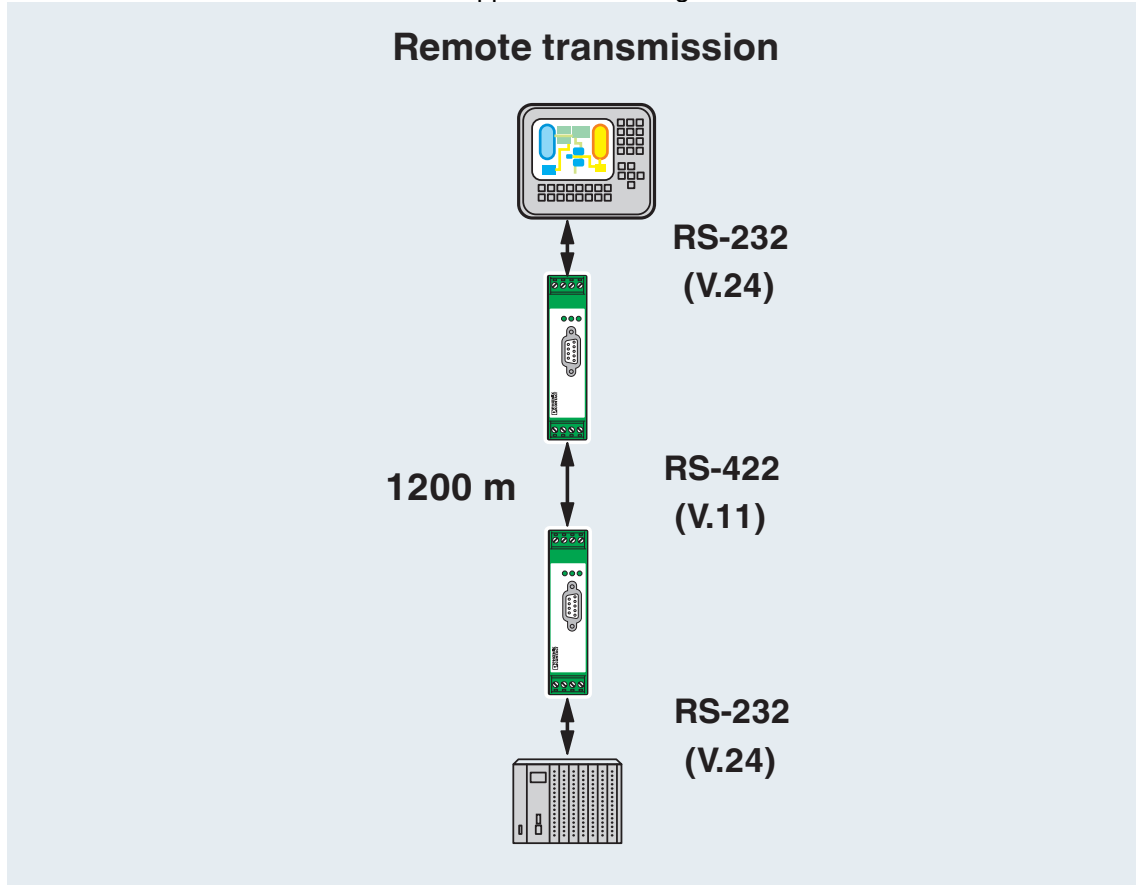
PSM-ME-RS232/RS485-P - Interface converter



2744416

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

Application drawing



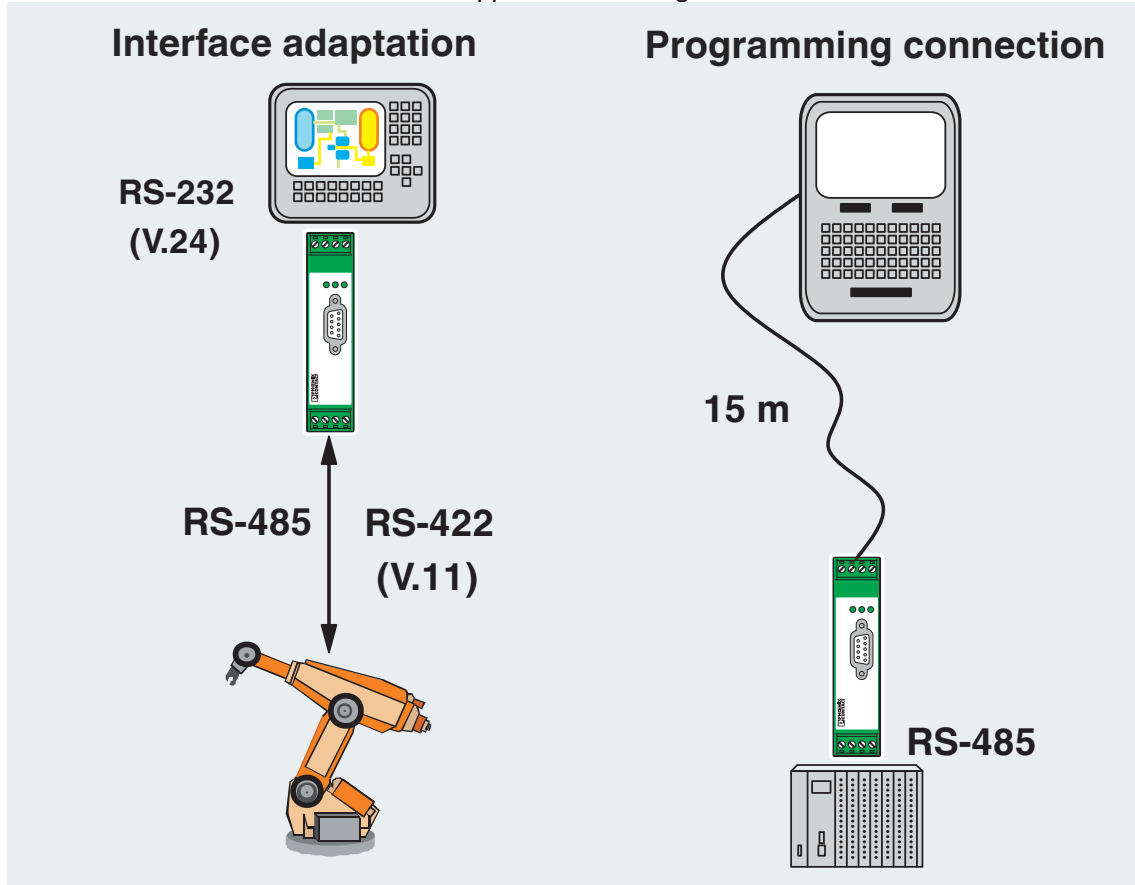
Remote transmission

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

2744416

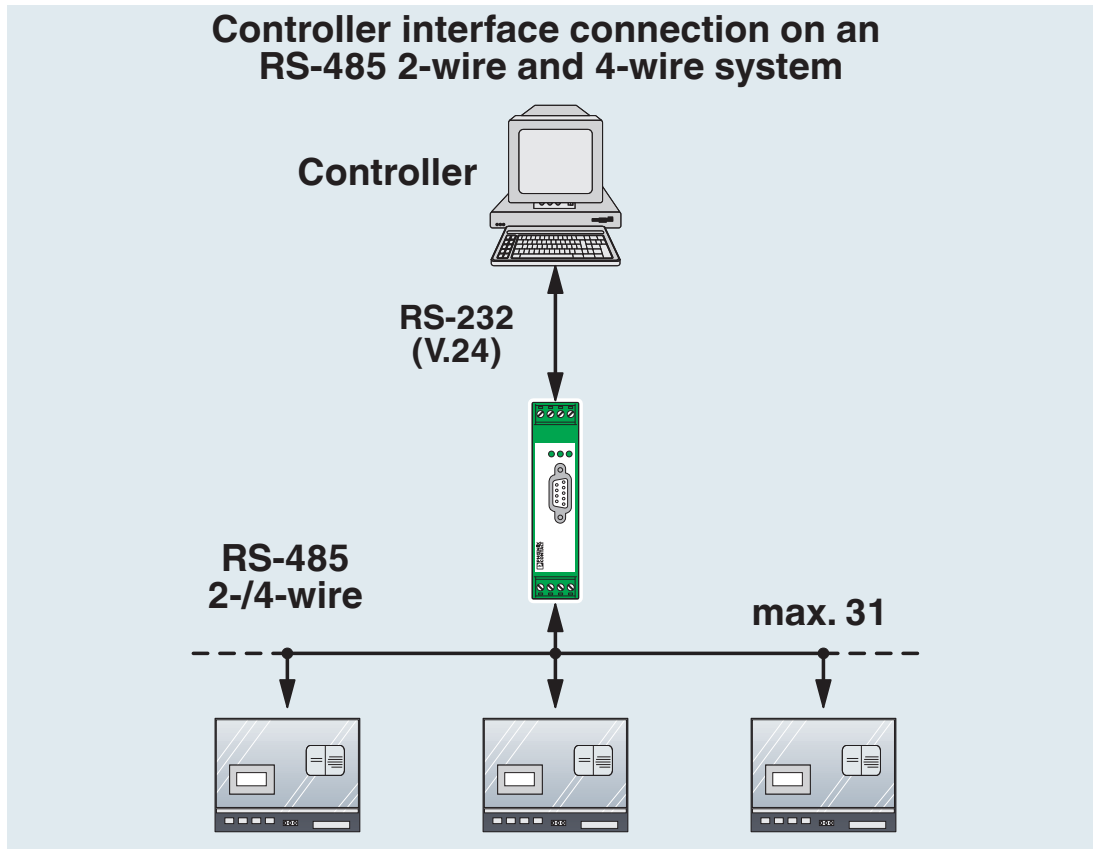
<https://www.phoenixcontact.com/us/products/2744416>

Application drawing



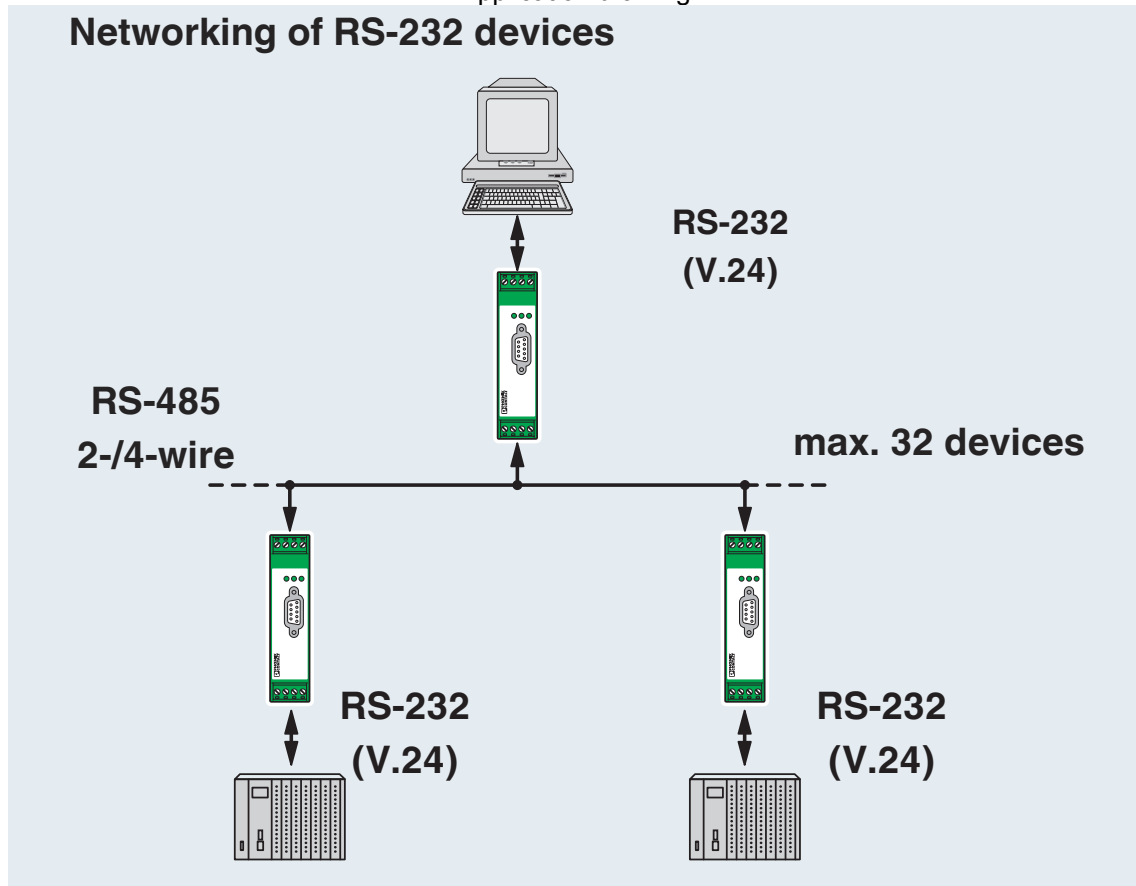
Interface adaptation or programming connection

Application drawing



Controller interface

Application drawing



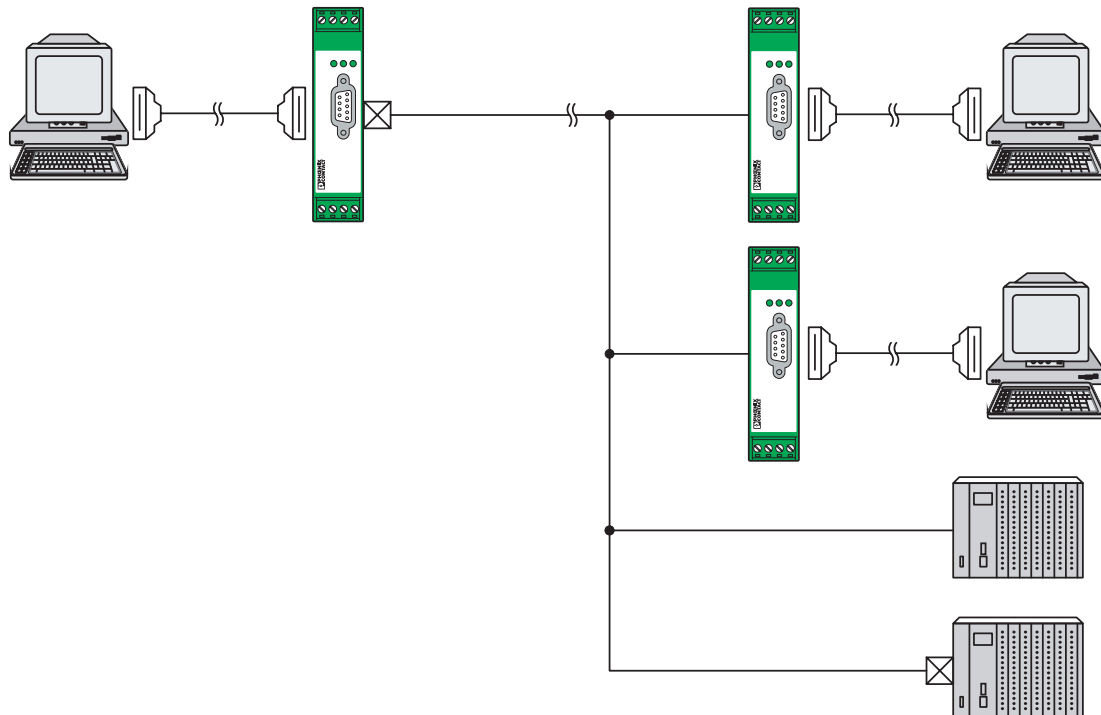
Networking of RS-232 devices

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

2744416

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

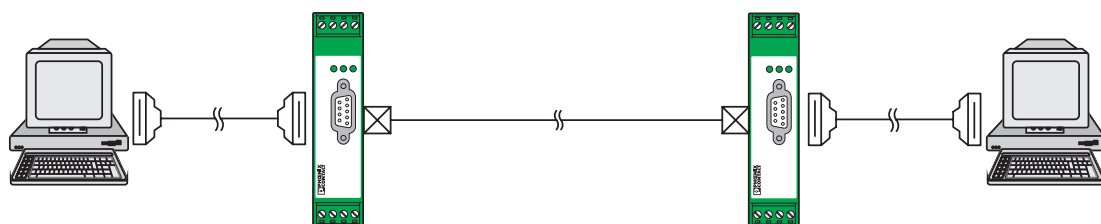
Application drawing



 = Switch on bus terminating resistor

Activate termination resistors - RS-485

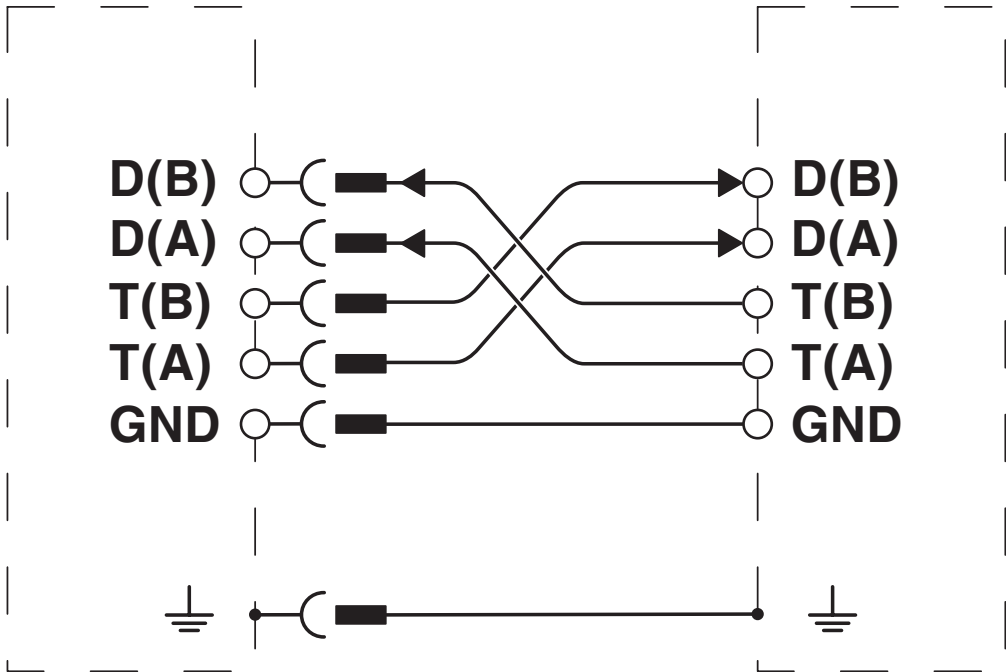
Application drawing



 = Switch on bus terminating resistor

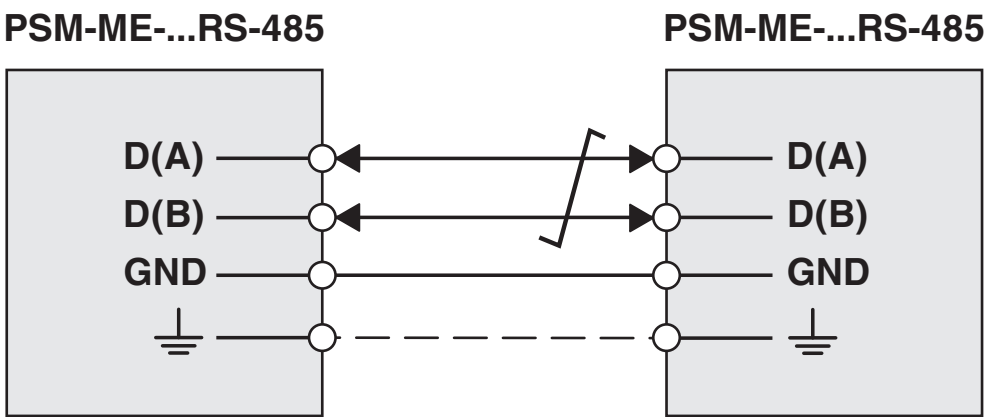
Activate termination resistors - RS-422

Connection diagram



RS-422/RS-485 4-wire

Connection diagram



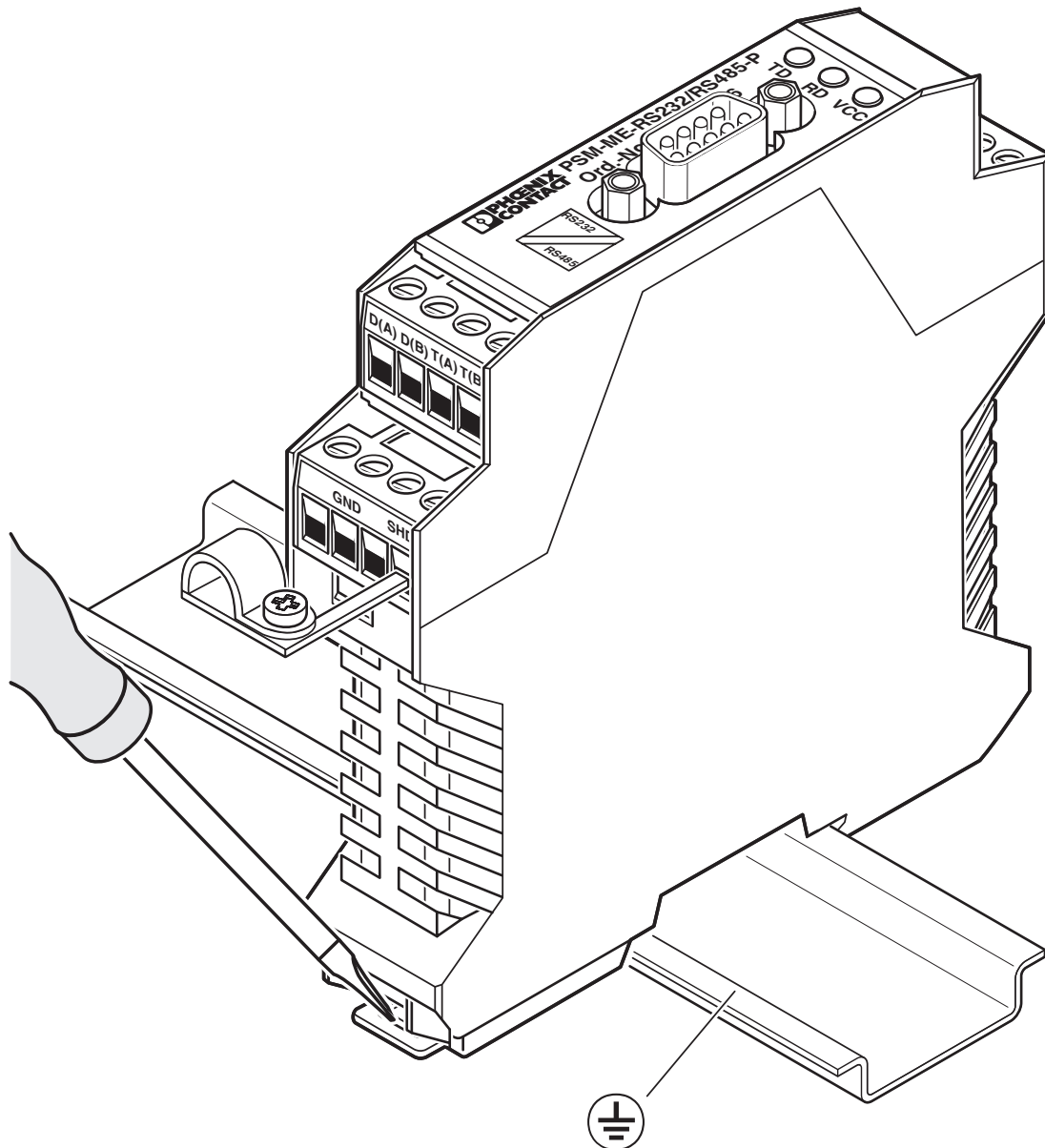
RS-485 interface

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

2744416

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

Schematic diagram



Removal

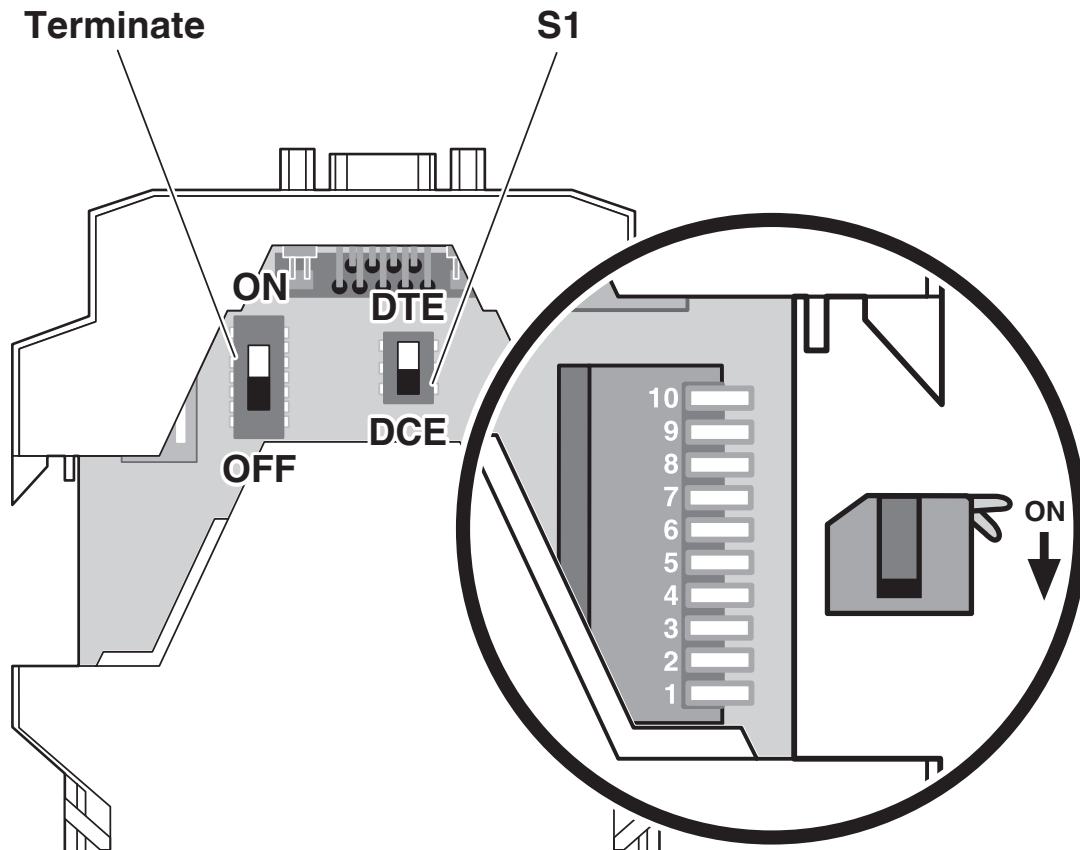
PSM-ME-RS232/RS485-P - Interface converter

2744416

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

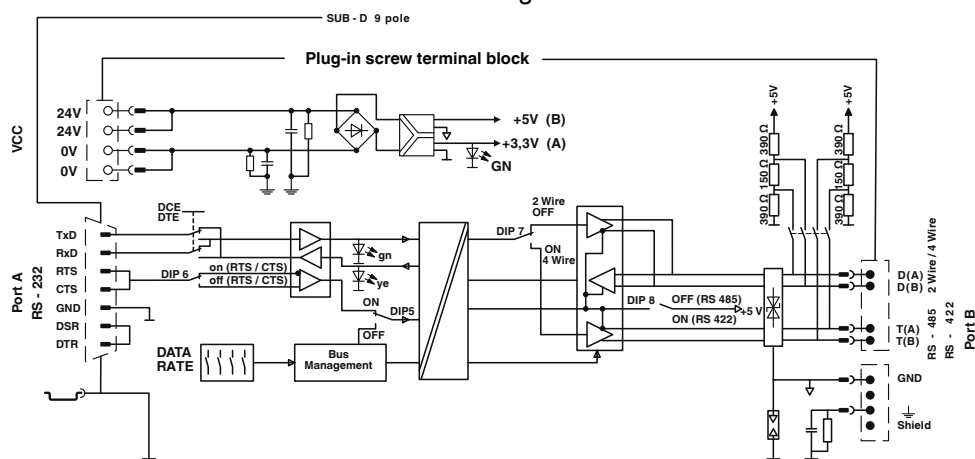


Schematic diagram



DIP switches

Circuit diagram



Basic circuit diagram

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



2744416

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

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2744416>



cUL Recognized
Approval ID: E238705



UL Recognized
Approval ID: E238705



DNV GL
Approval ID: TAA00001KR



KC
Approval ID: MSIP-REI-PCK-ME27444



cUL Recognized
Approval ID: E199827

Nominal voltage U_N

Nominal current I_N

Cross section AWG

Cross section mm^2

24 V

0.085 A

-

-



IECEx
Approval ID: IECEx IBE 15.0034 X



cUL Listed
Approval ID: E199827



UL Listed
Approval ID: E199827



ATEX
Approval ID: IBExU 16 ATEX B004 X

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



2744416

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

Classifications

ECLASS

ECLASS-13.0	27242208
-------------	----------

ETIM

ETIM 9.0	EC001423
----------	----------

UNSPSC

UNSPSC 21.0	32151700
-------------	----------

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



2744416

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

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	0975dfe5-6e5e-4de1-b8e2-f94de5c2b5d6

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

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