

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

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

Product Features

- Transmission speeds of up to 1.5 Mbps
- Space-saving slim 22.5 mm device
- High-quality 3-way isolation between all interfaces
- Integrated, connectable termination resistors
- All connections can be plugged in using a COMBICON screw terminal block
- Shipbuilding approval according to DNV



Key Commercial Data

Packing unit	1 pc
Weight per Piece (excluding packing)	202.0 g
Custom tariff number	85176200
Country of origin	Germany

Technical data

Note

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

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

Ambient conditions

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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 manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 50 082-2

General

Transmission channels	2 (1/1), TD, RD, half duplex
Bit delay	< 200 ns
Bit distortion	< 1.5 %
Bit distortion, input	max. ± 35 %
Bit distortion, output	< 3.6 %
Electrical isolation	VCC // RS-485 (A) // RS-485 (B)
Test voltage data interfaces	1.5 kV AC
Test voltage data interface/power supply	1.5 kV AC
	1.5 kV _{rms} (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 50 081-1
Net weight	188.8 g
Housing material	PA 6.6-FR
Color	green
MTTF	1808 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day))
	796 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	334 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))
Degree of pollution	2
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc (Please follow the special installation instructions in the documentation!)
IECEX	Ex nA IIC T4 Gc
UL, USA / Canada	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

Power supply

Nominal supply voltage	24 V AC/DC
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Power supply

Supply voltage range	18 V AC/DC ... 30 V AC/DC (via pluggable COMBICON screw terminal block)
Typical current consumption	90 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
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

Serial interface

Interface 1	RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire
Operating mode	Semi-duplex
Connection method	Pluggable screw connection
File format/coding	UART (11/10 bit switchable; NRZ)
Data direction switching	Automatic control, min. station response time 1 bits
Transmission medium	2-wire twisted pair, shielded
Transmission length	≤ 1200 m (depends on transmission speed, bus system and cable type)
Cascadability	9 (4,8 ... 93,75 kbps)
	8 (115.2 kbps)
	7 (136 kbps)
	6 (187.5 kbps)
	5 (375 ... 1500 kbps)
Termination resistor	390 Ω
	180 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.	12
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 / 136 / 187.5 / 375 / 500 / 1500 kbps
Interface 2	RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire
Operating mode	Semi-duplex
File format/coding	UART (11/10 bit switchable; NRZ)

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Serial interface

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Conductor cross section flexible min.	0.2 mm ²
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Conductor cross section AWG min.	24
Conductor cross section AWG max.	12
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 / 136 / 187.5 / 375 / 500 / 1500 kbps

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
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-5
	EN 61000-4-6
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc
IECEX	Ex nA IIC T4 Gc
UL, USA / Canada	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

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Classifications

eCl@ss

eCl@ss 4.0	27250312
eCl@ss 4.1	27250312
eCl@ss 5.0	27242208
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
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

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43201553

Approvals

Approvals

Approvals

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

Ex Approvals

cUL Recognized / UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

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

Approvals

UL Recognized

cUL Recognized

DNV

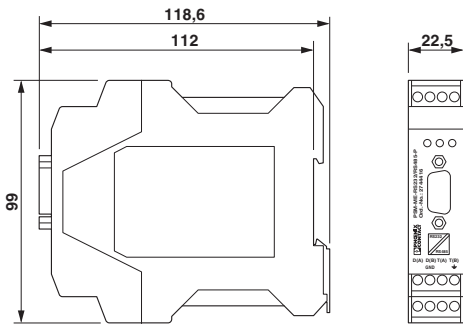
EAC

KC

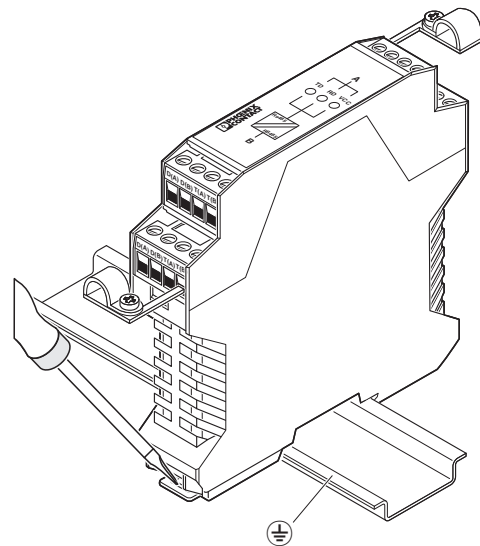
cULus Recognized

Drawings

Dimensional drawing

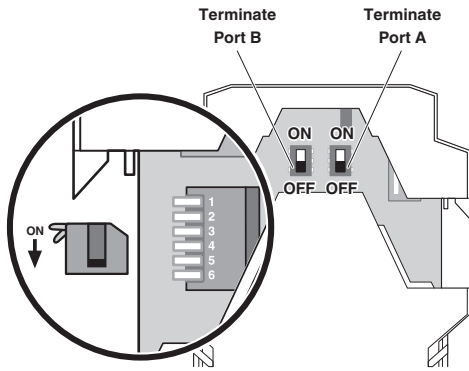


Schematic diagram

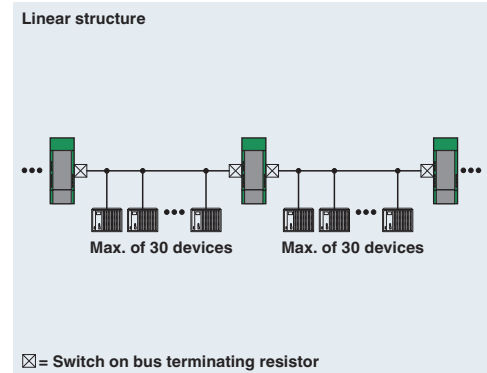


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Schematic diagram



Application drawing



DIP switches

Line structure

Circuit diagram

