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Repeater - PSI-REP-RS485W2 - 2313096

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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

Why buy this product

- Data rates of up to 500 kbps (adjustable via DIP switches)
- High-quality 4-way isolation between all interfaces
- Bit oversampling for reliable detection of sporadic disturbances
- Bit retiming for unrestricted cascading of devices
- Integrated, connectable termination resistors
- Can be combined with PSI-MOS FO converters in a modular way thanks to DIN rail connectors
- Approved for use in zone 2



Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 098816

Technical data

Note

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

Width	35 mm
Height	99 mm
Depth	105 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

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Technical data

Ambient conditions

Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-4-2

General

Transmission channels	2 (1/1), TD, RD, half duplex
Bit delay	< 1 Bit
Bit distortion, input	max. ± 35 %
Bit distortion, output	< 6.25 %
Electrical isolation	VCC // TBUS // RS-485 (A) // RS-485 (B)
Test voltage data interfaces	1.5 kV
Test voltage data interface/power supply	1.5 kV (50 Hz, 1 min.)
Standards/regulations	DIN EN 50178, DIN EN 60950
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
Noise emission	EN 55011
Net weight	240.8 g
Housing material	PA 6.6-FR
Color	green
MTBF	1247 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	261 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	1439 Years (SN 29500 standard, temperature 25°C, operating cycle 21 % (5 days a week, 8 hours a day))
	717 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	305 Years (SN 29500 standard, temperature 40°C, operating cycle 100 % (7 days a week, 24 hours a day))
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X (Please follow the special installation instructions in the documentation!)
UL, USA / Canada	508 recognized
	Class I, Zone 2, AEx nA IIC T6
	Class I, Zone 2, Ex nA IIC T6 Gc X
	Class I, Div. 2, Groups A, B, C, D

Power supply

Nominal supply voltage	24 V DC (With UL approval)
Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Typical current consumption	75 mA (24 V DC)

Serial interface

Interface 1	RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire
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Technical data

Serial interface

Connection method	Pluggable screw connection
File format/coding	UART (11/10 bit switchable; NRZ)
Data direction switching	Automatic control, min. station response time 2 bits
Transmission medium	2-wire twisted pair, shielded
Transmission length	≤ 1200 m (depends on transmission speed, bus system and cable type)
Termination resistor	390 Ω (Can be connected to port A and B)
	150 Ω
	390 Ω
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
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

Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC (valid until 19.04.2016) / 2014/30/EU (valid from 20.04.2016)
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	15g, 11 ms period, half-sine shock pulse
Noise emission	EN 55011
Noise immunity	EN 61000-4-2
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
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-3
	EN 61000-4-4
	EN 61000-4-6
Designation	Air clearances and creepage distances
Standards/regulations	DIN EN 50178, DIN EN 60950
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA / Canada	508 recognized
	Class I, Zone 2, AEx nA IIC T6
	Class I, Zone 2, Ex nA IIC T6 Gc X
	Class I, Div. 2, Groups A, B, C, D

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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

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 / EAC / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized 

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Approvals

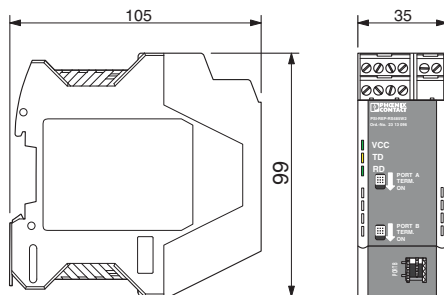
cUL Recognized

EAC

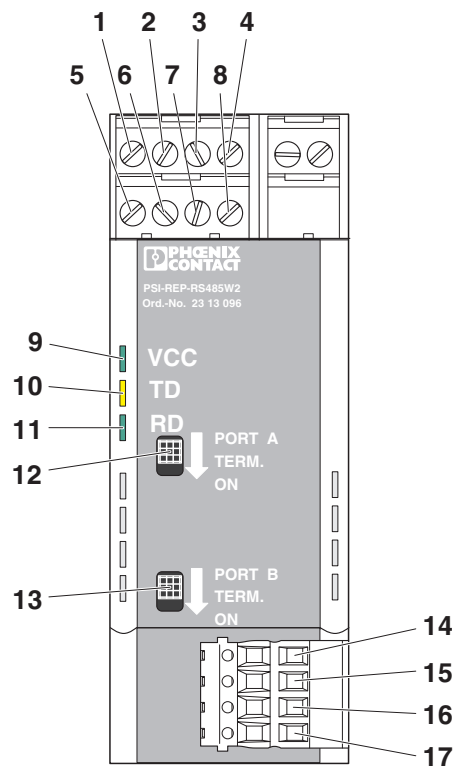
cULus Recognized

Drawings

Dimensional drawing



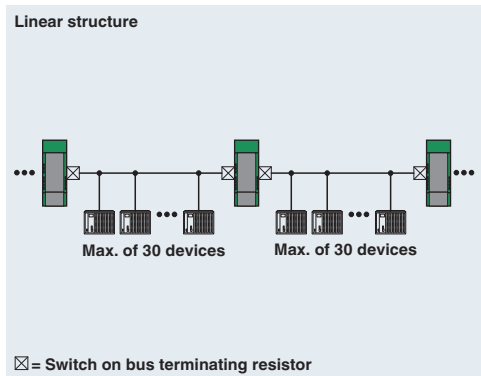
Schematic diagram



Front view

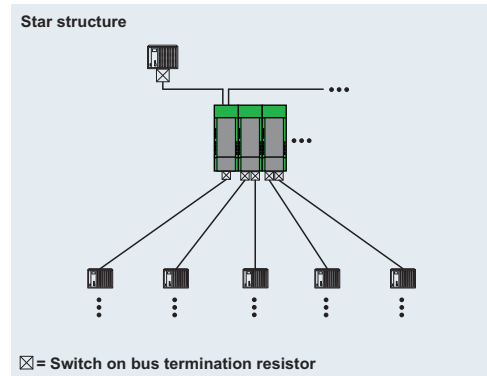
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Application drawing



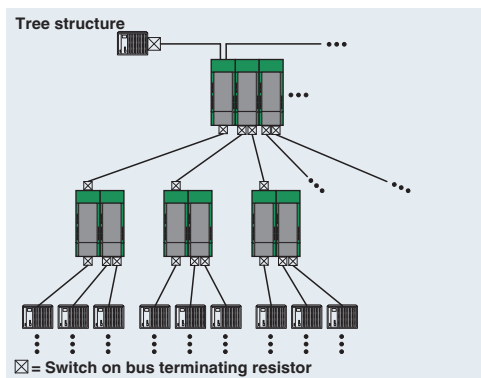
Line structure

Application drawing



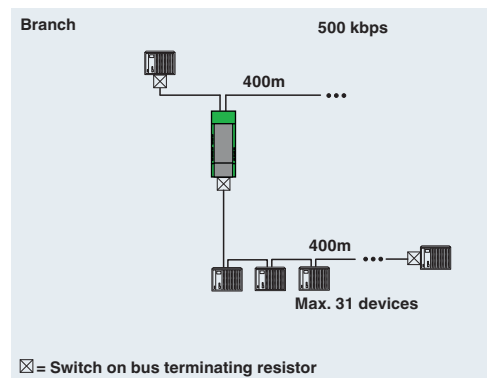
Star structure

Application drawing



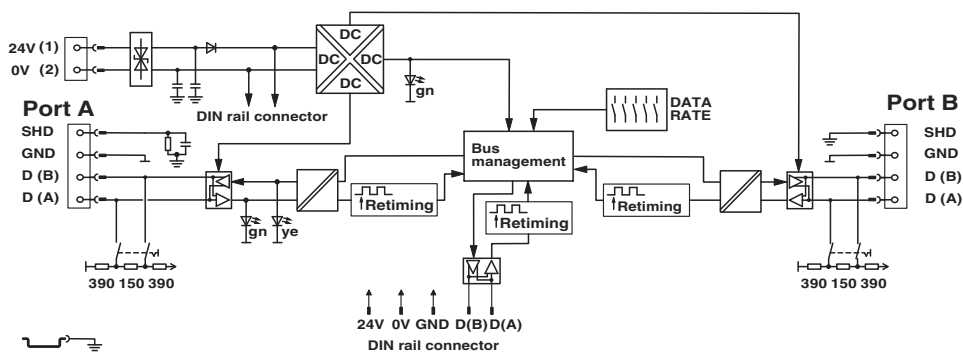
Tree structure

Application drawing



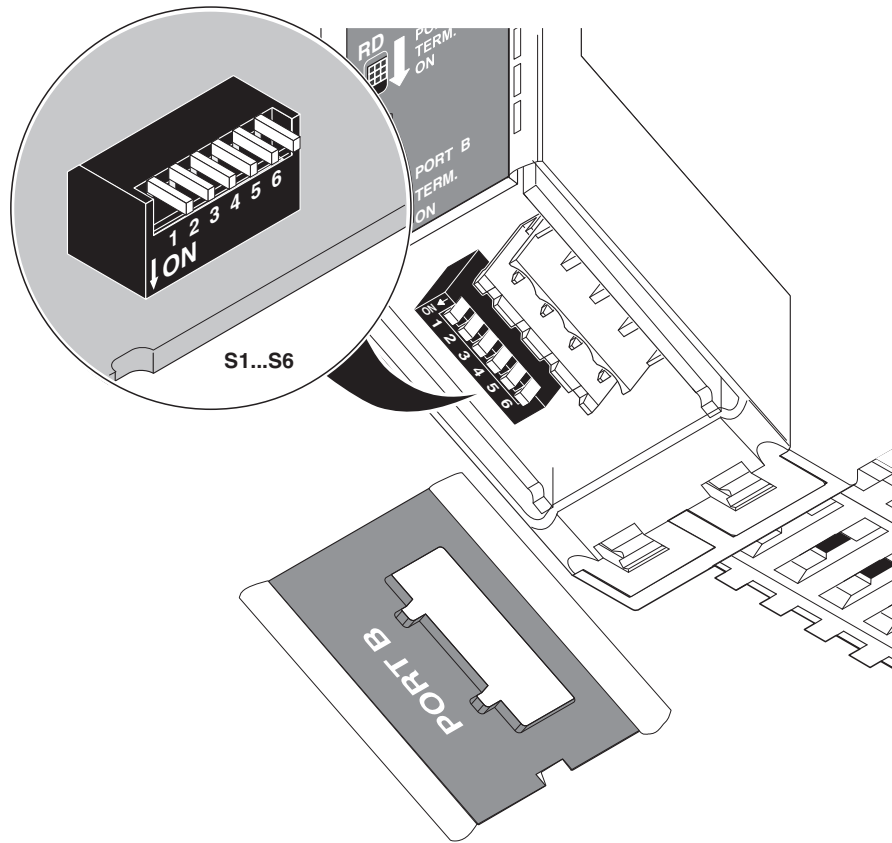
Branch/bus segmentation

Block diagram



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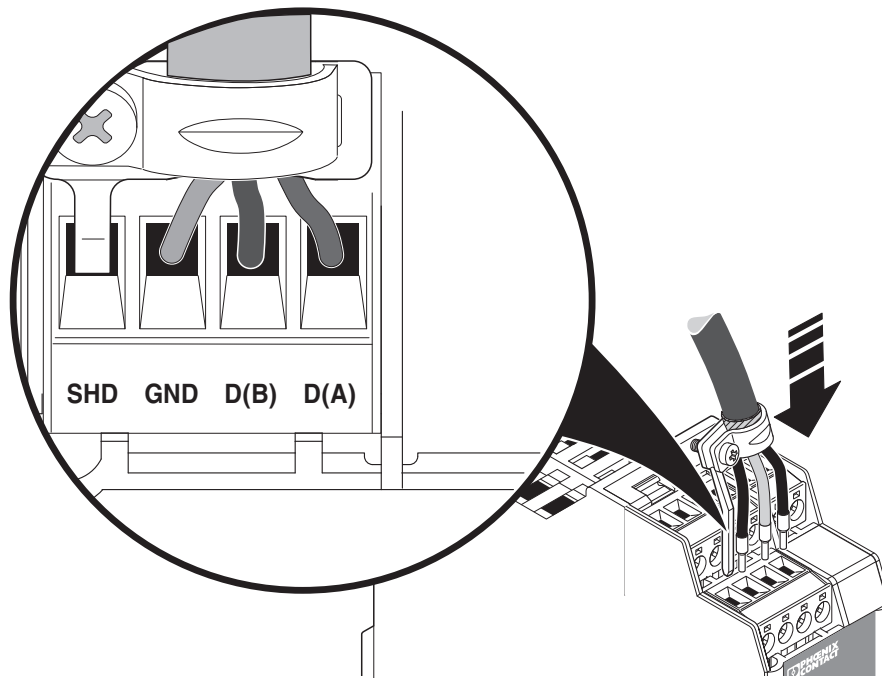
Schematic diagram



DIP switches

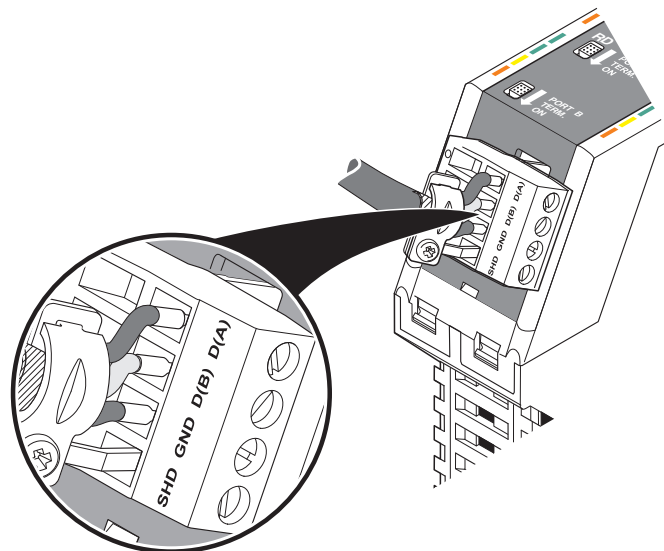
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Schematic diagram



Connecting the cables

Schematic diagram



Connecting the cables

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Product	Code	Reference	Product link
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