

# PSM-ME-REP LON485-P - Repeater



2708041

<https://www.phoenixcontact.com/us/products/2708041>

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Repeater, for potential isolation and increasing the range in RS-485 2-wire LON bus systems, 3-way isolation, rail-mountable

## Your advantages

- Integrated surge protection with transient discharge to the DIN rail
- 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



## Commercial data

Item number	2708041
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN11
Product key	DNC111
GTIN	4017918907570
Weight per piece (including packing)	200.9 g
Weight per piece (excluding packing)	188.8 g
Customs tariff number	85176200
Country of origin	DE

## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Product properties

Product type	Interface converter
Application	RS-485
MTTF	1808 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	796 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	334 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)

#### Insulation characteristics

Pollution degree	2
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### Electrical properties

Electrical isolation	VCC // RS-485 (A) // RS-485 (B)
Maximum power dissipation for nominal condition	2.16 W
Test voltage data interface/power supply	1.5 kV <sub>rms</sub> (50 Hz, 1 min.)

#### Supply

Supply voltage range	19.2 V AC/DC ... 28.8 V AC/DC
Nominal supply voltage	24 V AC/DC ±20 %
Typical current consumption	25 mA (24 V DC)

### Connection data

#### Supply

Single conductor/terminal point, rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Single-wire/terminal point, flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Stripping length	7.00 mm
Tightening torque	0.56 Nm ... 0.79 Nm

### Interfaces

Bit distortion	< 1.5 % (applies to device: Distortions caused by system-specific cables are not accounted for)
Signal	LON
Transmission channels	2 (1/1), RxD, TxD, full duplex

Data: RS-485 interface, in acc. with EIA/TIA-485, DIN 66259-4/RS-485 2-wire

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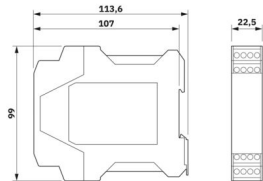
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Serial transmission speed	39.1/ 78.1/ 500/ 625/ 1000/ 1250/ 2000 kbps
Connection method	Pluggable screw connection
Tightening torque	0.5 Nm ... 0.6 Nm (Shield clamp)
Transmission length	≤ 1200 m (depends on transmission speed, bus system and cable type)
Termination resistor	120 Ω
Single conductor/terminal point, rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Single-wire/terminal point, flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Max. AWG conductor cross-section, flexible	14
Min. AWG conductor cross-section, flexible	24
Stripping length	7 mm
Transmission medium	2-wire twisted pair, shielded
File format/coding	Manchester, slip-tolerant
Data direction switching	Automatic control

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Data direction switching	Automatic control

## Dimensions

Dimensional drawing	
Width	22.5 mm
Height	99 mm
Depth	114.5 mm

## Material specifications

Color (Housing)	green (RAL 6021)
Material (Housing)	PA

## Environmental and real-life conditions

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## 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
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### ATEX

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

### IECEX

Identification	Ex ec IIC T4 Gc
Certificate	IECEX IBE 15.0034X

### UL, USA/Canada

Identification	508 Recognized
	Class I, Zone 2, AEx nA IIC T4
	Ex nA IIC T4 Gc X
	Class I, Div. 2, Groups A, B, C, D T4

### Corrosive gas test

Identification	ISA-S71.04-1985 G3 Harsh Group A
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## 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
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### Electrostatic discharge

Standards/regulations	EN 61000-4-2
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### Electrostatic discharge

Contact discharge	± 6 kV (Test Level 3)
Discharge in air	± 8 kV (Test Level 3)
Comments	Criterion B

### Electromagnetic HF field

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Standards/regulations	EN 61000-4-3
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## Electromagnetic HF field

Frequency range	80 MHz ... 3 GHz (Test Level 3)
Field intensity	10 V/m
Comments	Criterion A

## Fast transients (burst)

Standards/regulations	EN 61000-4-4
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## Fast transients (burst)

Input	$\pm 4$ kV (Test Level 3)
Signal	$\pm 2$ kV (Test Level 3)
Comments	Criterion B

## Surge current load (surge)

Standards/regulations	EN 61000-4-5
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## Surge current load (surge)

Input	$\pm 0.5$ kV
Signal	$\pm 2$ kV
Comments	Criterion B

## Conducted interference

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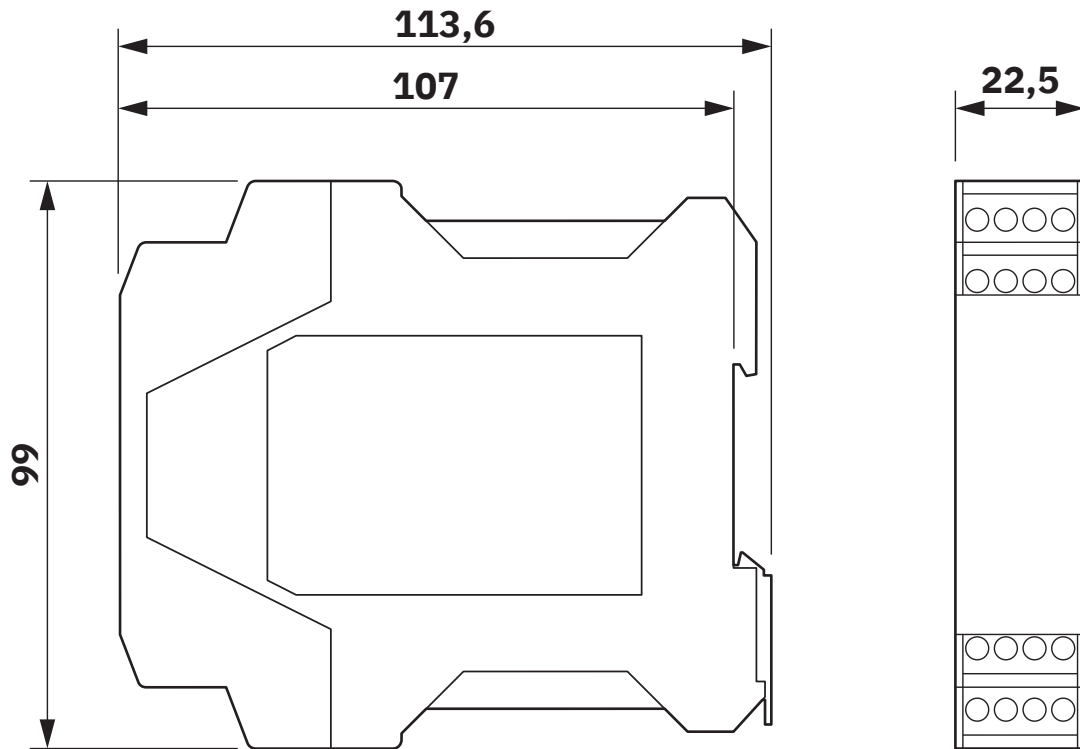
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## Drawings

Dimensional drawing



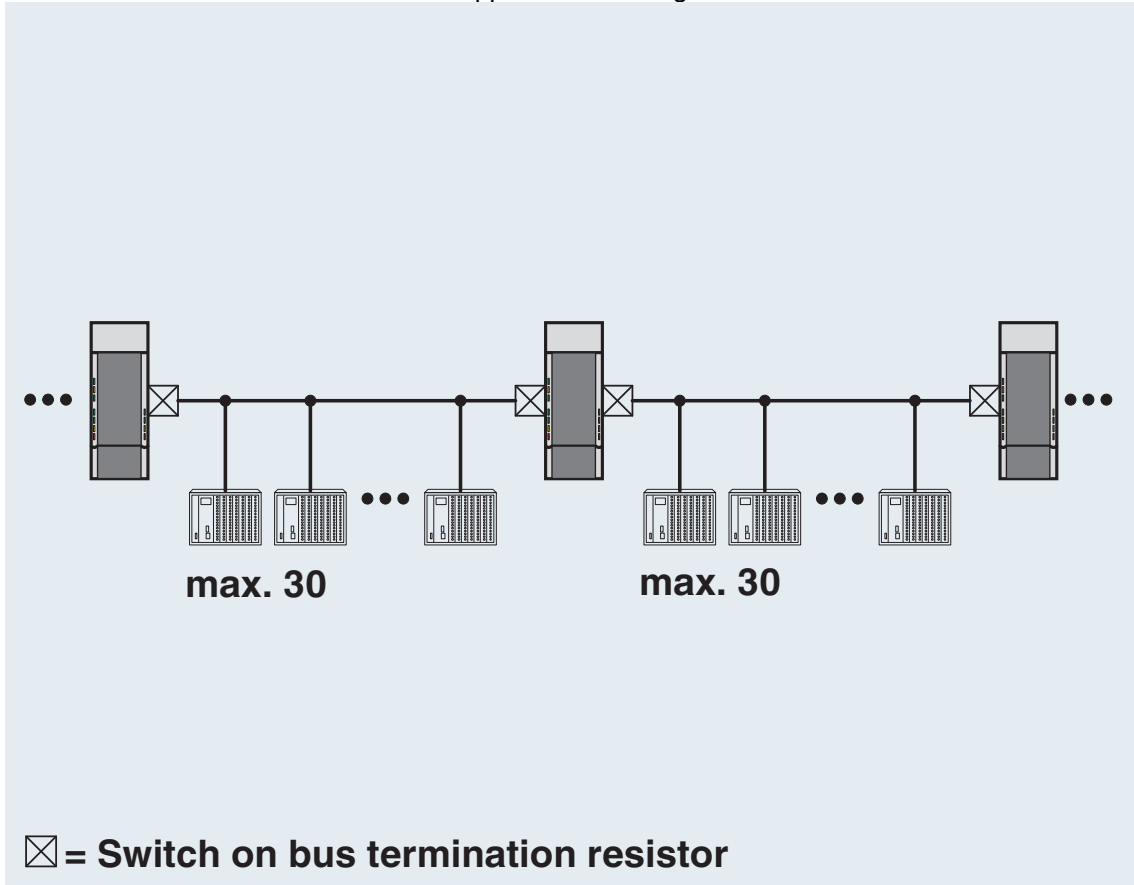
Slim design

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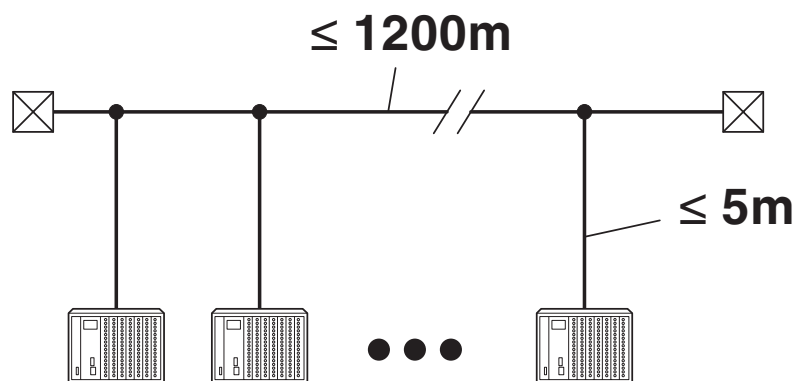
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Application drawing



Line structure

Application drawing



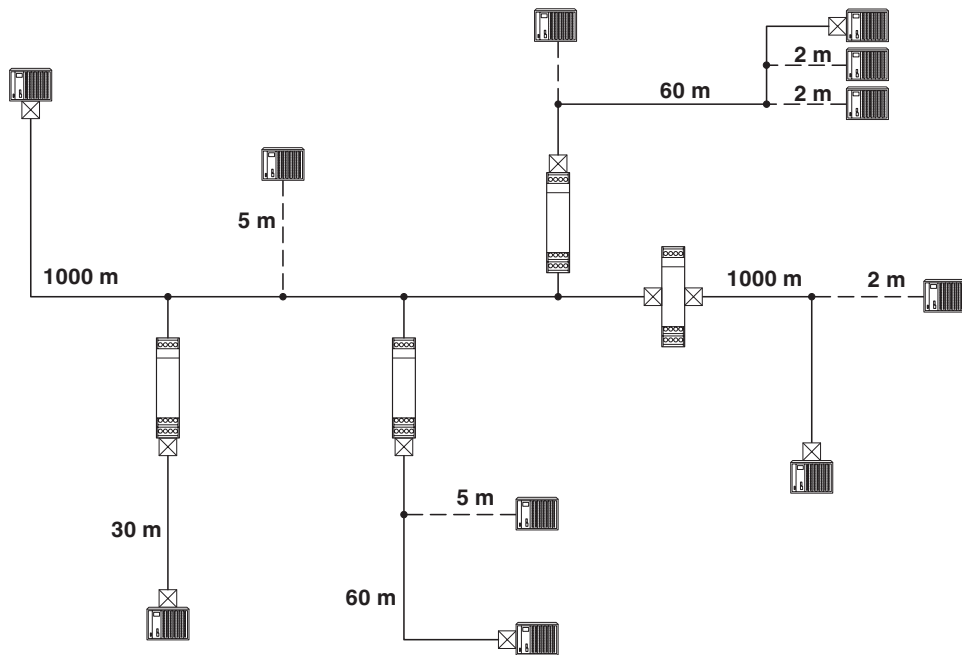
Cable lengths according to the RS-485 standard

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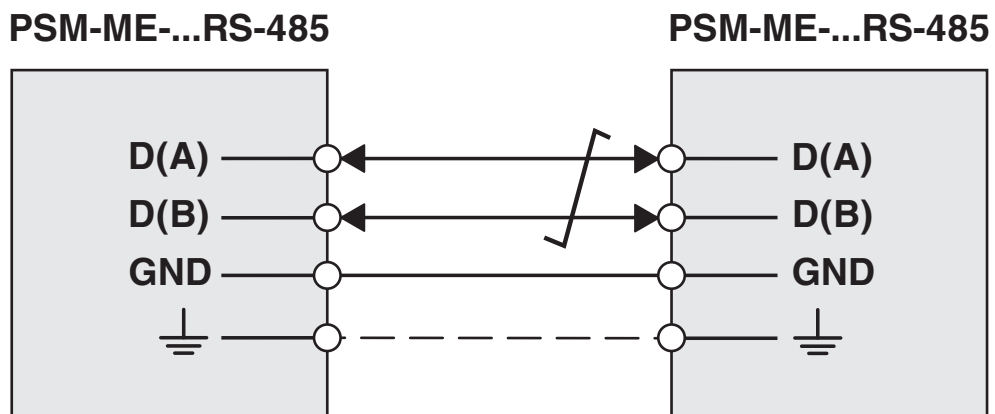
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Application drawing



Cable lengths

Connection diagram



RS-485 interface

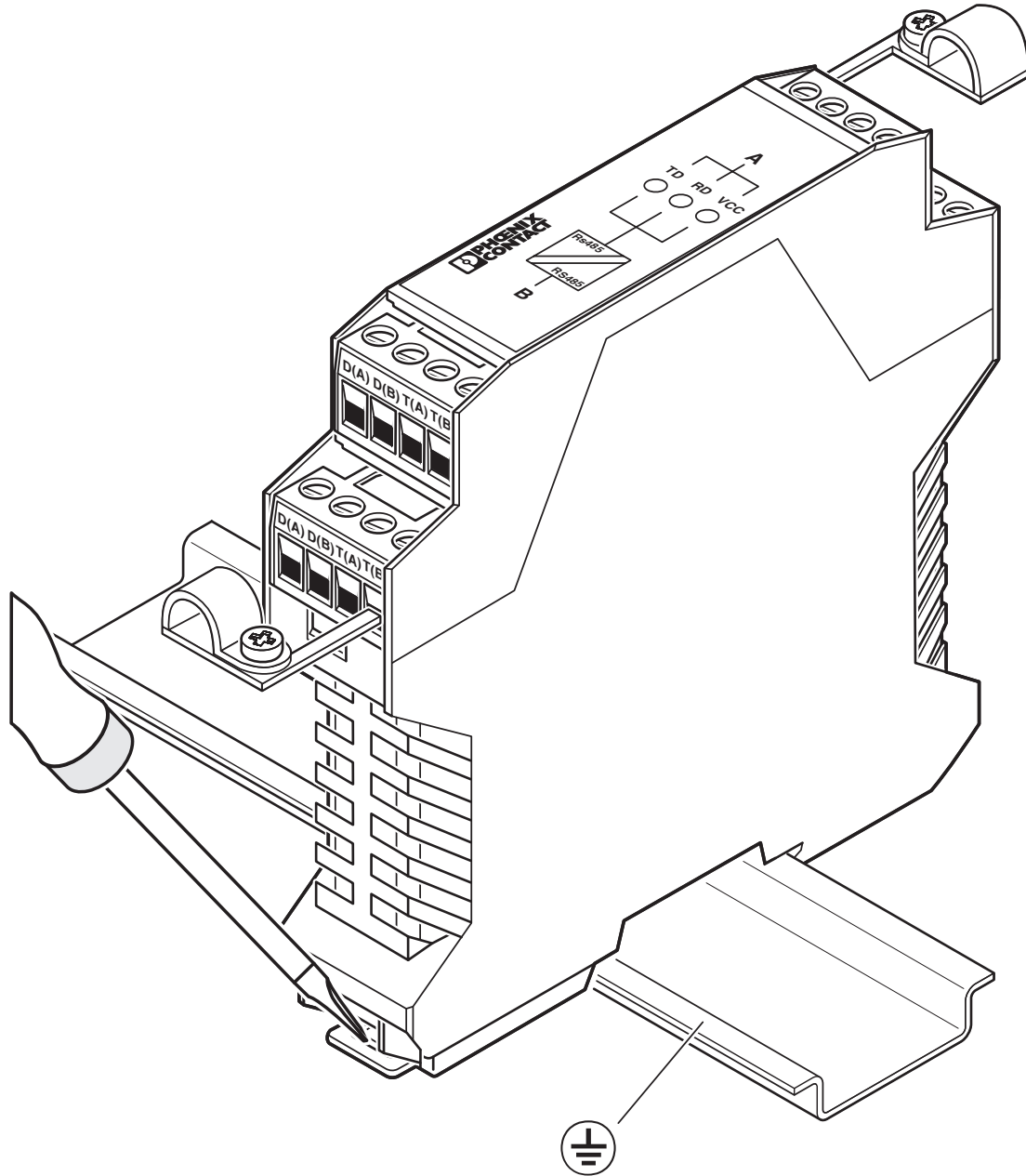
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Schematic diagram



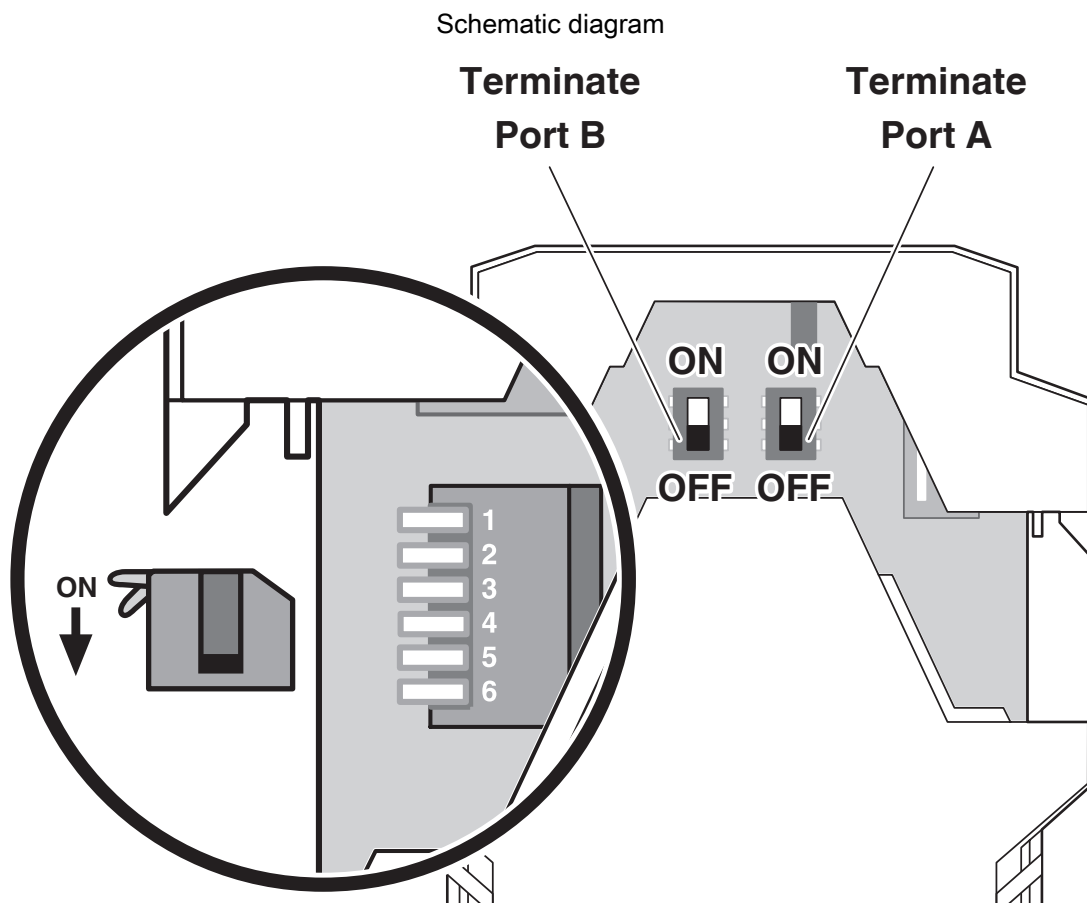
Removal

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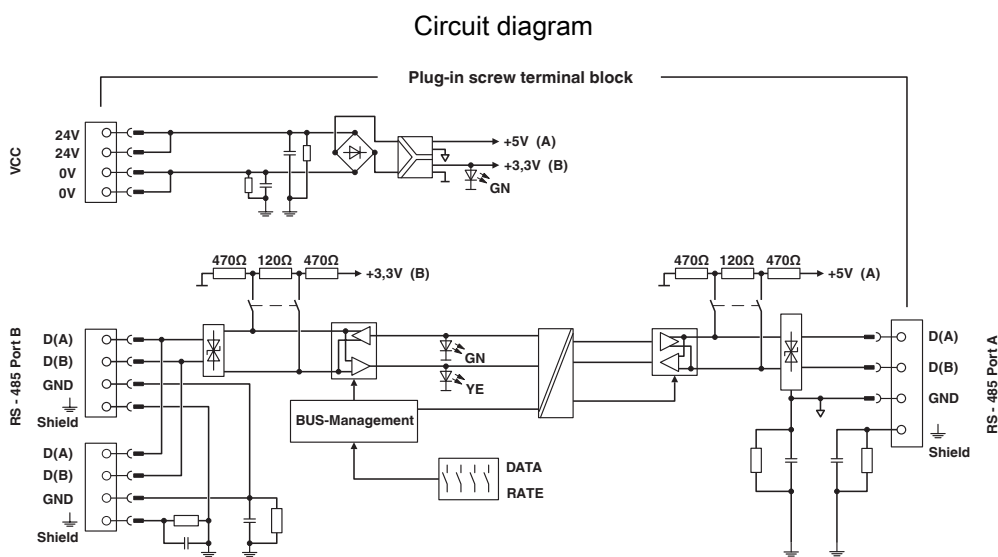


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DIP switches



Basic circuit diagram

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## Approvals

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**cUL Recognized**  
Approval ID: E238705



**UL Recognized**  
Approval ID: E238705



**cUL Recognized**  
Approval ID: E199827

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	24 V	0.075 A	-	-



**cUL Listed**  
Approval ID: E199827



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## Classifications

### ECLASS

ECLASS-13.0	27242208
ECLASS-15.0	27242208

### UNSPSC

UNSPSC 21.0	43222600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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	1a6ace2e-f988-42c7-9e94-a0e16f23b5e2

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