PSI-REP-CNET - Repeater

2313737

https://www.phoenixcontact.com/us/products/2313737

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Modular repeater for electrical isolation and increasing the range for ControlNet, 5 Mbps data rate, 4-way isolation, DIN-rail mountable, 24 V DC power supply

Your advantages

- Bit retiming for unrestricted cascading of devices
- Approved for use in zone 2
- Supply voltage and data signals routed through the DIN rail connectors
- All connections can be plugged in using BNC plugs or a COMBICON screw terminal block
- Can be combined with PSI-MOS FO converters in a modular way using DIN rail connectors
- High-quality electrical isolation between all interfaces (ControlNet (A) // ControlNet (B) // power supply // DIN rail connector)
- Redundant power supply possible by means of optional system power supply unit

Commercial data

Item number	2313737
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DNC124
GTIN	4046356513821
Weight per piece (including packing)	245 g
Weight per piece (excluding packing)	245 g
Country of origin	DE

Technical data

Notes

Utilization restriction

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

Product properties

Product type	Interface converter
MTTF	1856 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	837 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	345 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
MTBF	1187 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	254 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))

Electrical properties

Electrical isolation	VCC // CNET // CNET
Maximum power dissipation for nominal condition	0.91 W
Test voltage data interface/power supply	1.5 kV_{rms} (50 Hz, 1 min.)

Supply

Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Nominal supply voltage	24 V DC
Typical current consumption	38 mA (24 V DC)
Max. current consumption	65 mA
	≤ 2 A (For operation in a joining station, via the DIN rail connector)

Function

Status and diagnostic indicators	Port A (module status indicator), port B (module status indicator)

Output data

Switching

Output name	Relay output
Number of outputs	1
Contact switching type	N/O contact
Minimum switching voltage	18 V DC
Maximum switching voltage	30 V DC
Limiting continuous current	500 mA

Connection data

Supply

Tightening torque	0.56 Nm ... 0.79 Nm

Interfaces

Bit distortion, input	± 35 %
Bit distortion, output	< 6.25 %
Signal	ControlNet™

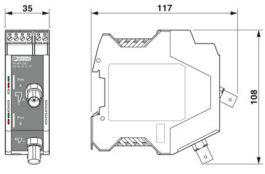
Data: ControlNet interface, in accordance with EN 50170

Serial transmission speed	5 Mbps
Connection method	BNC 75 Ω
Transmission length	≤ 1000 m
Conductor cross-section flexible max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section AWG max.	14
Conductor cross-section AWG min.	24
File format/coding	Serial asynchronous UART/NRZ

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Dimensions

Dimensional drawing	
Width	35 mm
Height	108 mm
Depth	117 mm

Material specifications

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

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	Vibration (operation): 5g, 10...150 Hz, 2.5 h, in XYZ direction
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	Shock (operation): 15g, 11 ms period, half-sine shock pulse

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-20 °C ... 60 °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)	30 % ... 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant

ATEX

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

UL, USA/Canada

Identification	508 Listed

EMC data

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

Noise emission

Standards/regulations	EN 55011

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	± 6 kV
Discharge in air	± 8 kV
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

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

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	± 2 kV
Signal	± 2 kV
Comments	Criterion B

Surge current load (surge)

Standards/regulations	EN 61000-4-5

Surge current load (surge)

Input	± 0.5 kV
Signal	± 1 kV
Comments	Criterion B

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

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.

Standards and regulations

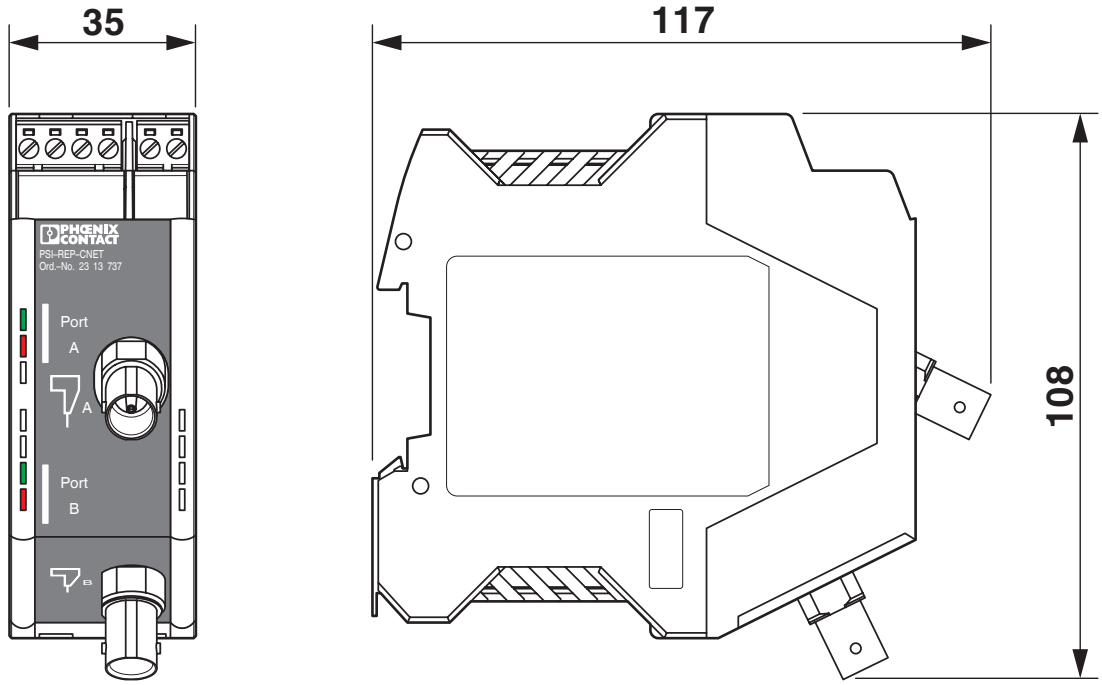
Free from substances that could impair the application of coating	in accordance with VW-AUDI-Seat central standard P-VW 3.10.7 57 65 0

Mounting

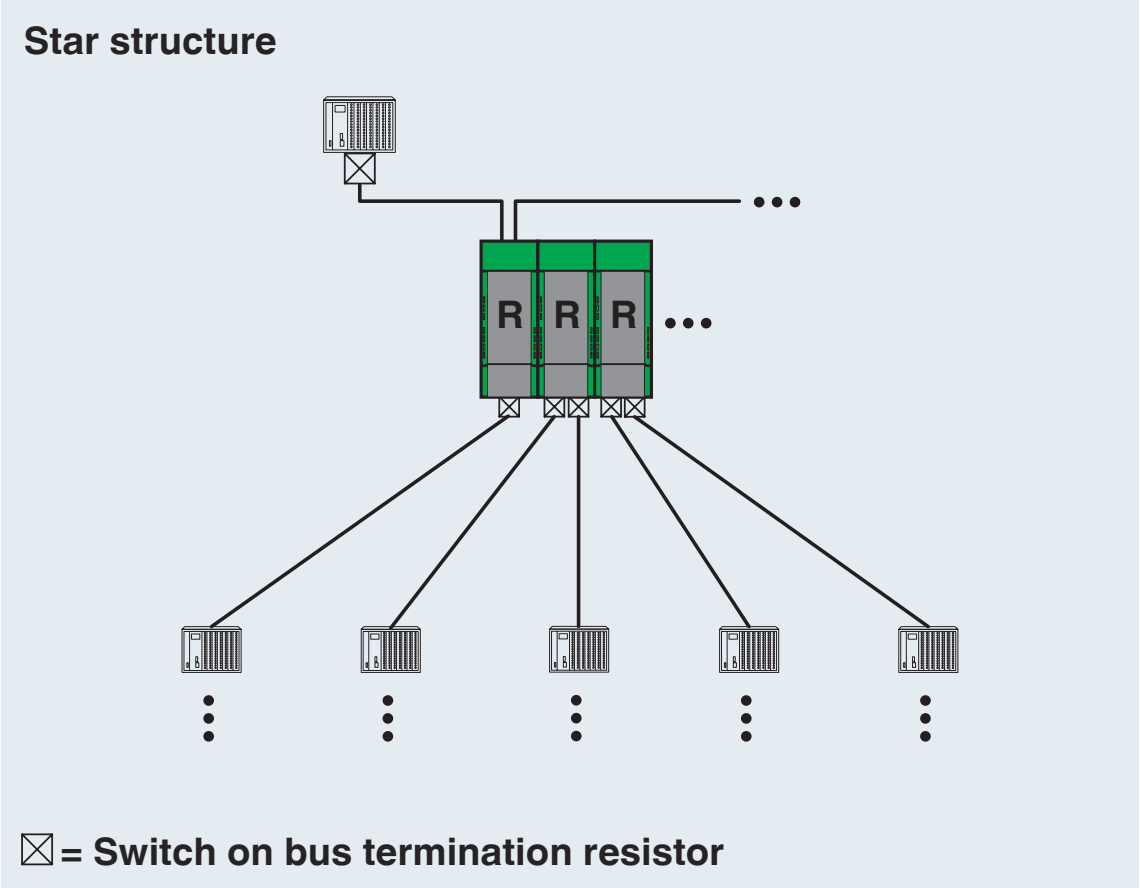
Mounting type	DIN rail mounting

Drawings

Dimensional drawing

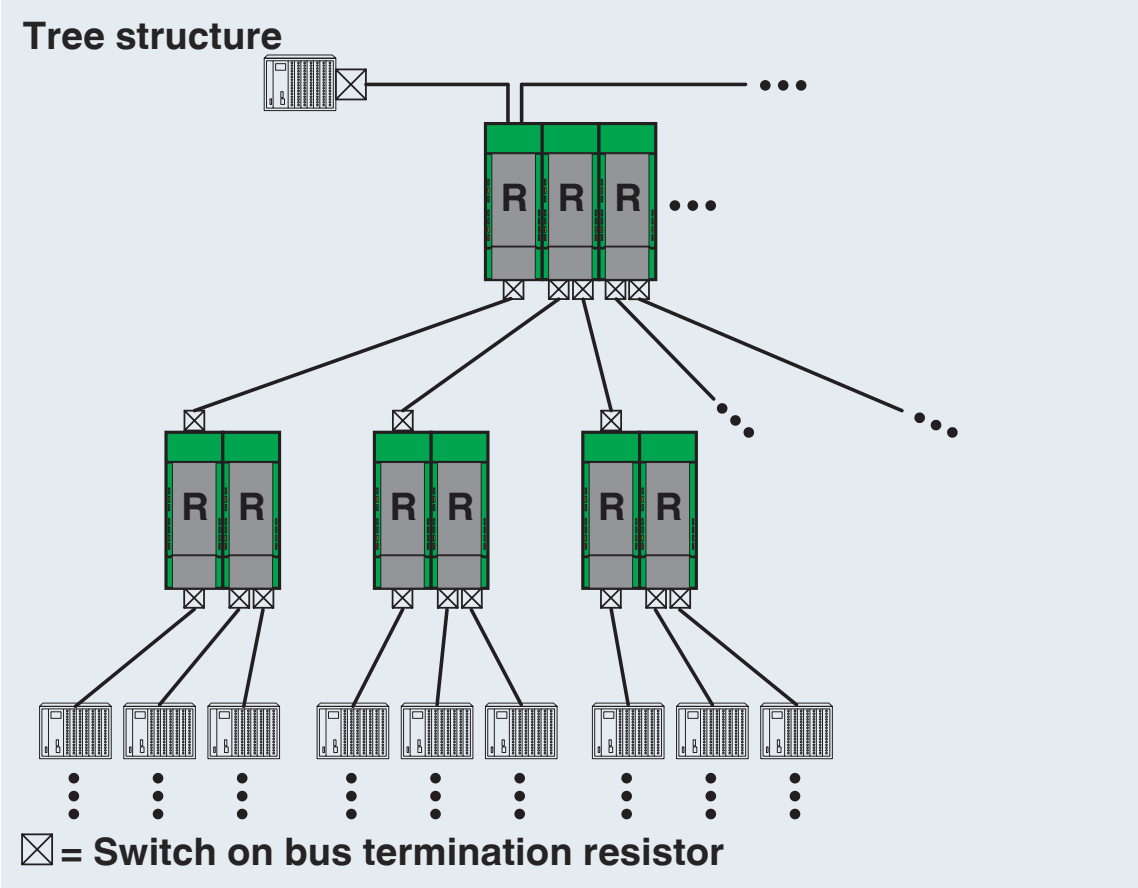


Application drawing



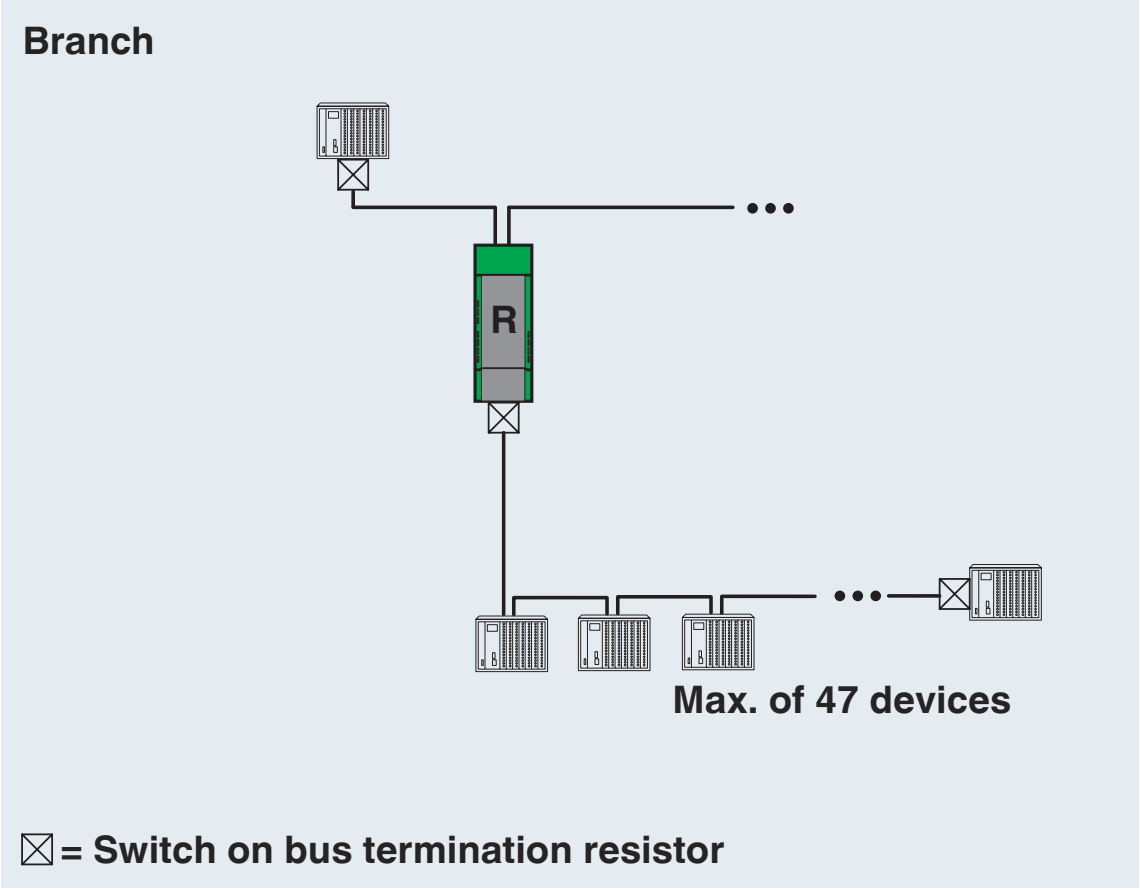
Star structure

Application drawing



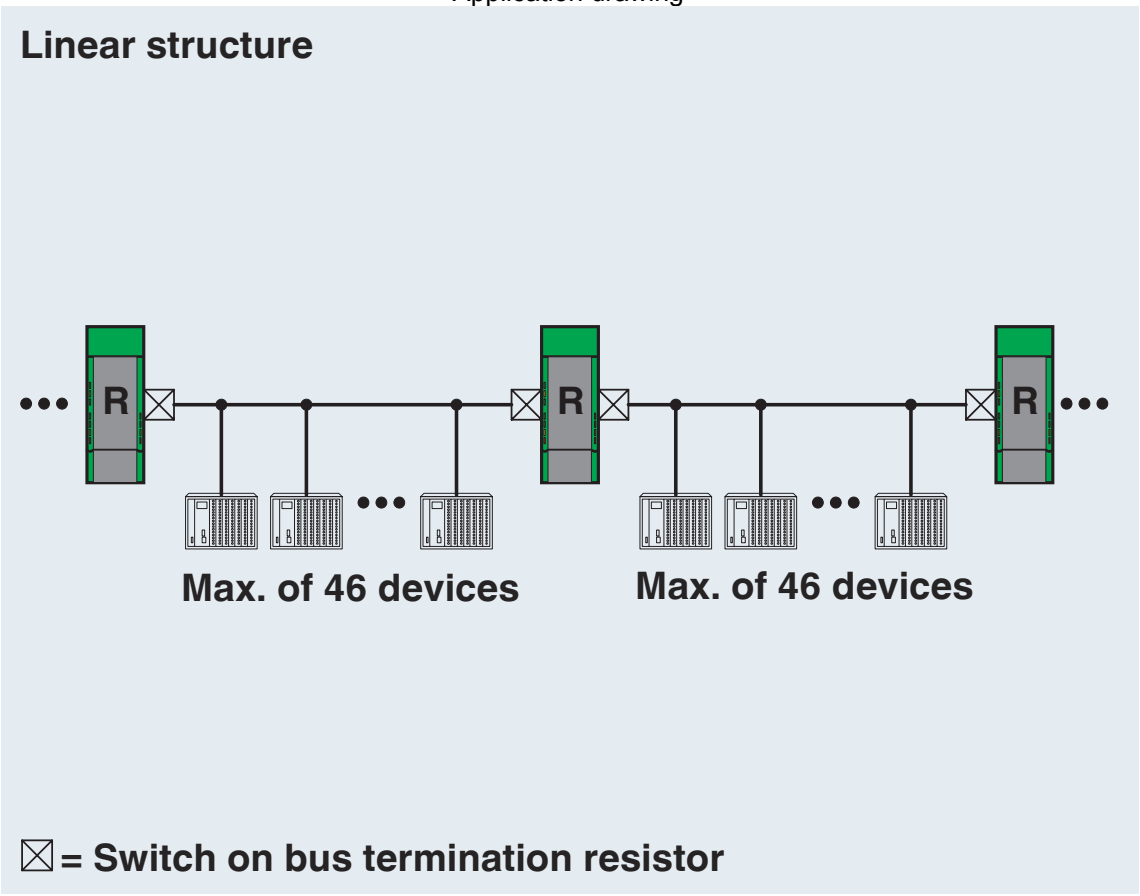
Tree structure

Application drawing



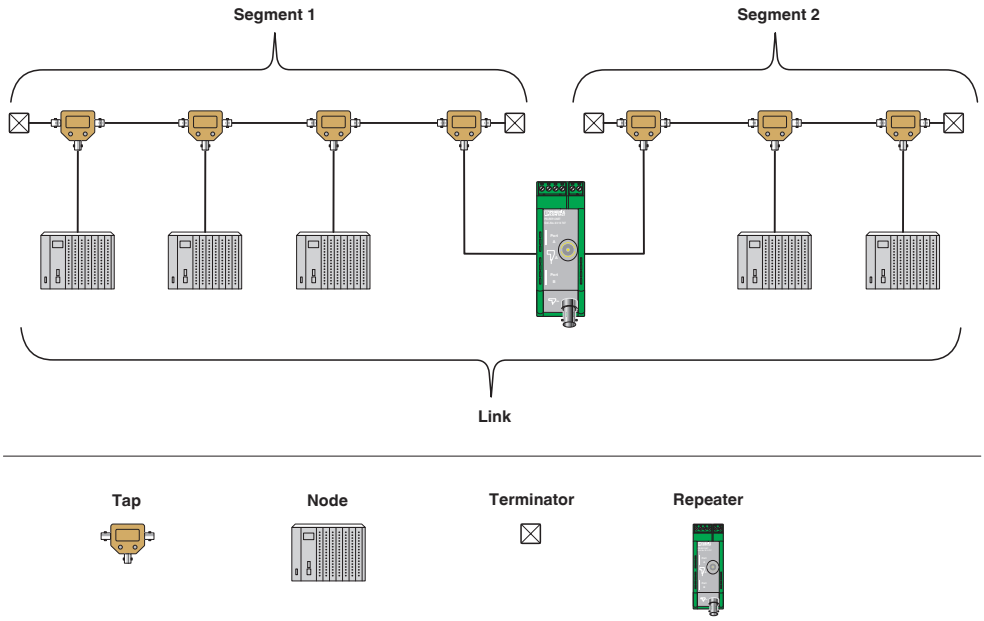
Branch line

Application drawing

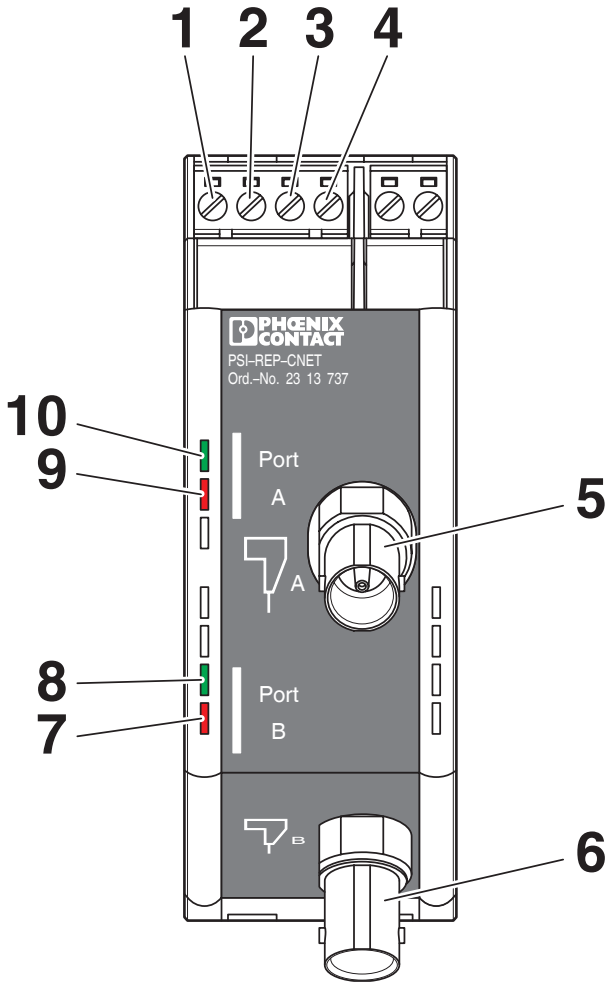


Line structure

Application drawing

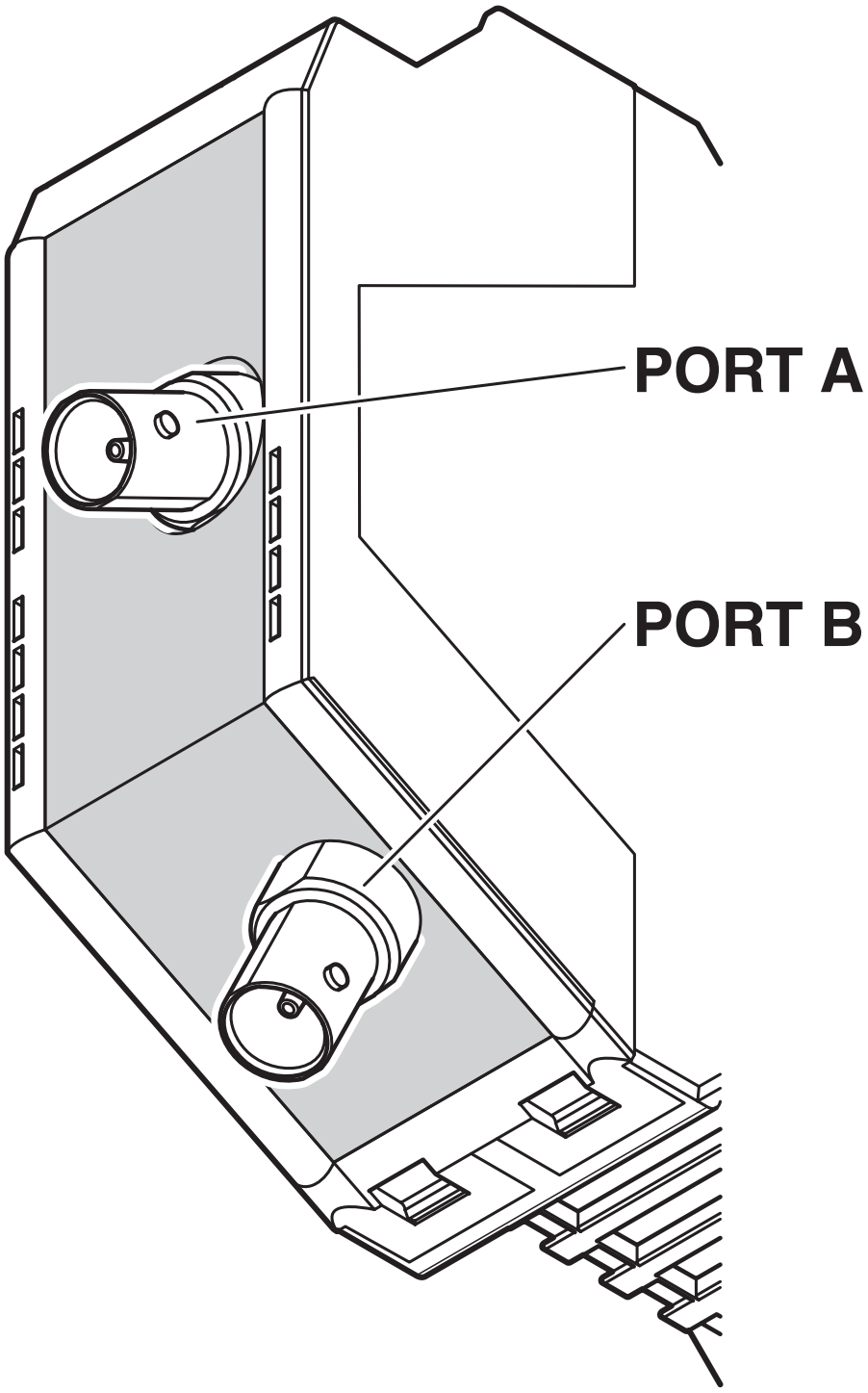


Schematic diagram



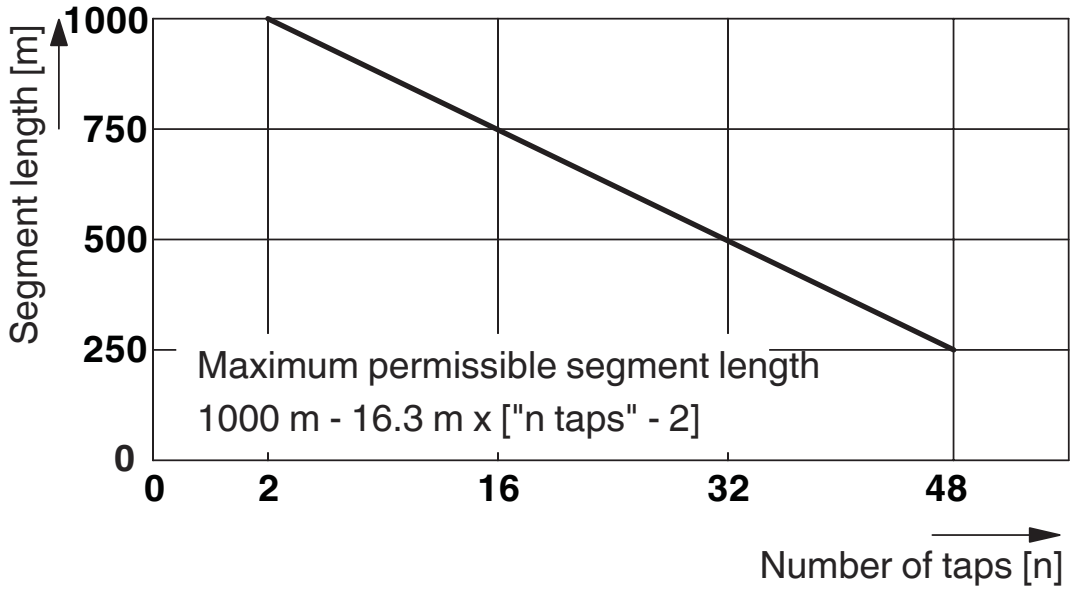
Function elements

Schematic diagram

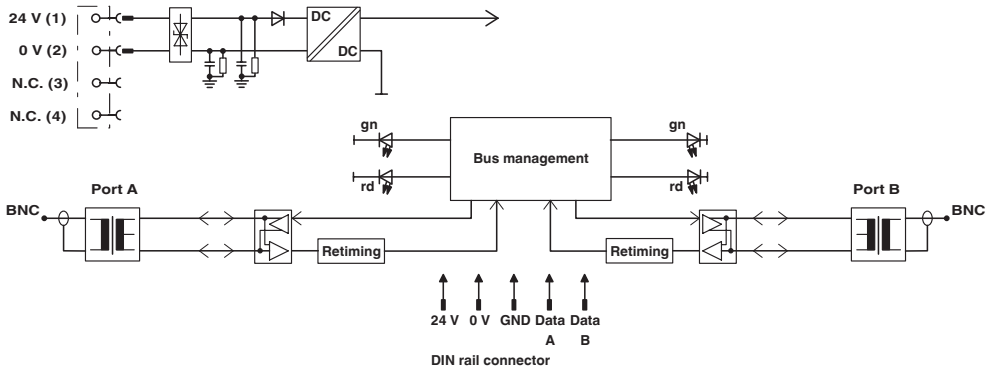


Device connections

Diagram



Block diagram



Environmental product compliance

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.)	No substance above 0.1 wt%

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