

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

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Modular repeater for electrical isolation and range increase for PROFIBUS up to 12 Mbps, 4-way isolation, rail-mountable, supply 24 V DC

Your advantages

- ✓ Automatic data rate detection or fixed data rate setting via DIP switches
- ✓ Suitable for all data rates up to 12 Mbps
- ✓ High-quality 4-way isolation between all interfaces
- ✓ Bit oversampling for reliable detection of sporadic disturbances
- ✓ Bit retiming for unrestricted cascading of devices
- ✓ Filtering of faulty telegrams based on start delimiter detection
- ✓ Can be combined with PSI-MOS FO converters in a modular way thanks to DIN rail connectors



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 078993
GTIN	4046356078993
Weight per Piece (excluding packing)	215.000 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

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Technical data

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
Permissible humidity (operation)	30 % ... 95 % (non-condensing)
Altitude	≤ 5000 m (For restrictions, see the manufacturer's declaration for altitude operation)
	≤ 2000 m (Restrictions for ATEX applications)
Degree of protection	IP20
Noise immunity	EN 61000-4-2

General

Transmission channels	2 (1/1), TD, RD, half duplex
Bit delay	1 bit (Direct mode)
Bit distortion, input	max. ± 35 %
Bit distortion, output	< 6.25 %
Electrical isolation	VCC // TBUS // PROFIBUS (A) // PROFIBUS (B)
Test voltage data interfaces	1.5 kV
Test voltage data interface/power supply	1.5 kV _{rms} (50 Hz, 1 min.)
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011
Net weight	212.4 g
Housing material	PA 6.6-FR
Color	green
MTBF	1136 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	238 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	1638 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	812 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	340 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

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)

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Technical data

Power supply

Typical current consumption	< 90 mA (24 V DC #)
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Serial interface

Interface 1	PROFIBUS acc. to IEC 61158, RS-485 2-conductor
Operating mode	Through PROFIBUS connector
Connection method	D-SUB-9 female connector
File format/coding	UART (11 Bit, 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 and cable type)
Termination resistor	external
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.	14
Output nominal voltage	5 V DC ±5 %
Output current	50 mA

Digital outputs

Output name	Relay output
Output description	Alarm output
Number of outputs	1
Maximum switching voltage	30 V DC (1 A)
	65 V DC (0.46 A)
	150 V AC (0.46 A)

Conformance/approvals

Designation	CE
Identification	CE-compliant
Designation	EAC
Identification	EAC
Designation	ATEX
Identification	# II 3 G Ex nA nC IIC T4 Gc X
Additional text	Please follow the special installation instructions in the documentation!
Designation	UL, USA/Canada
Identification	508 Listed
	Class I, Zone 2, AEx nA nC IIC T6

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Technical data

Conformance/approvals

	Class I, Zone 2, Ex nA nC IIC T6 Gc X
	Class I, Div. 2, Groups A, B, C, D
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

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	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 61000-4-2
Contact discharge	± 6 kV
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 1 kV
Standards/regulations	EN 55011
	EN 61000-4-6
Designation	Air clearances and creepage distances
Standards/regulations	DIN EN 50178, DIN EN 60950

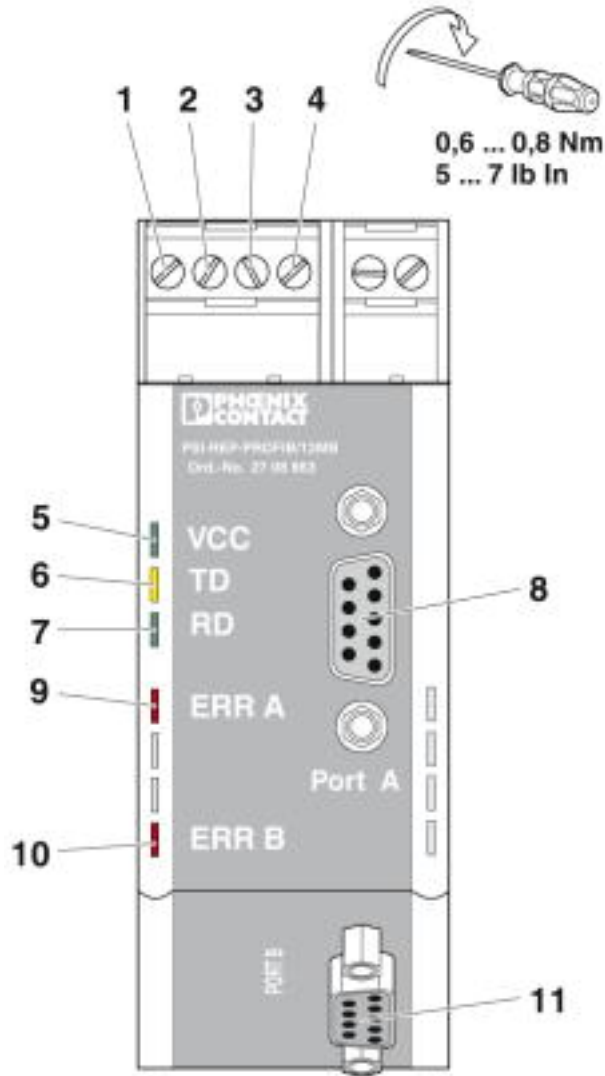
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

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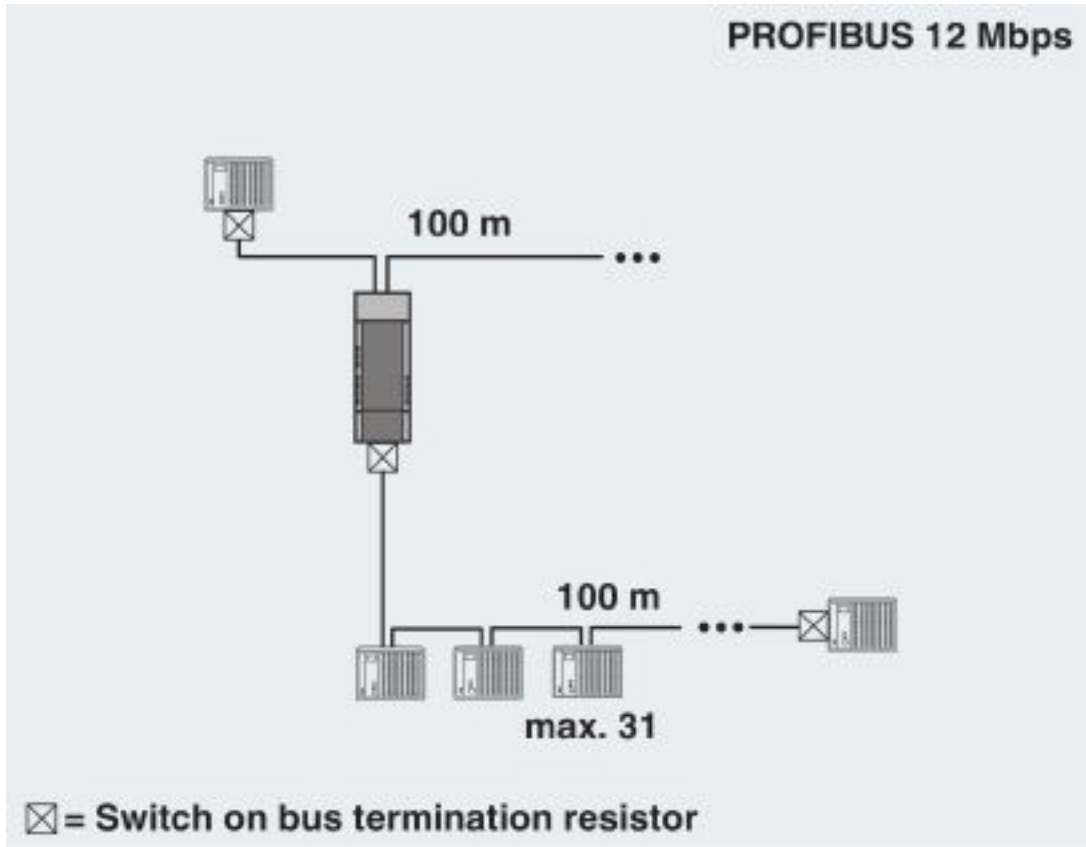
Schematic diagram



Front view

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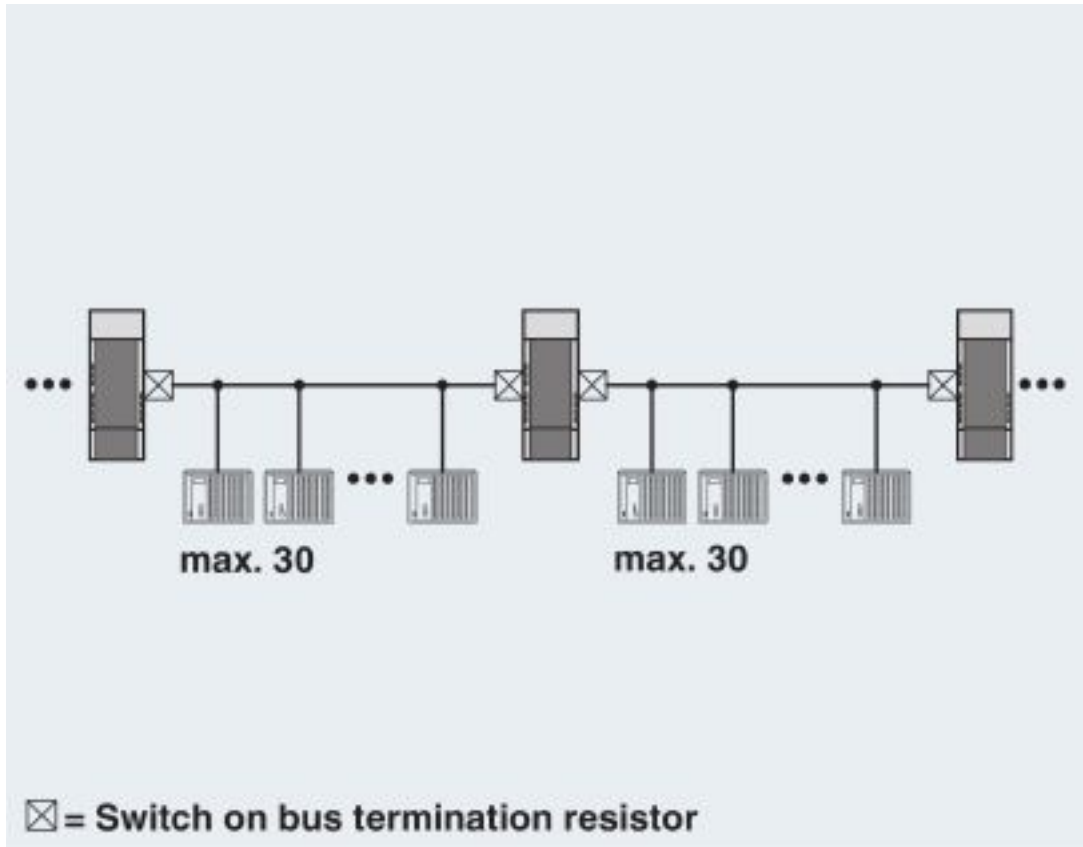
Application drawing



Branch line

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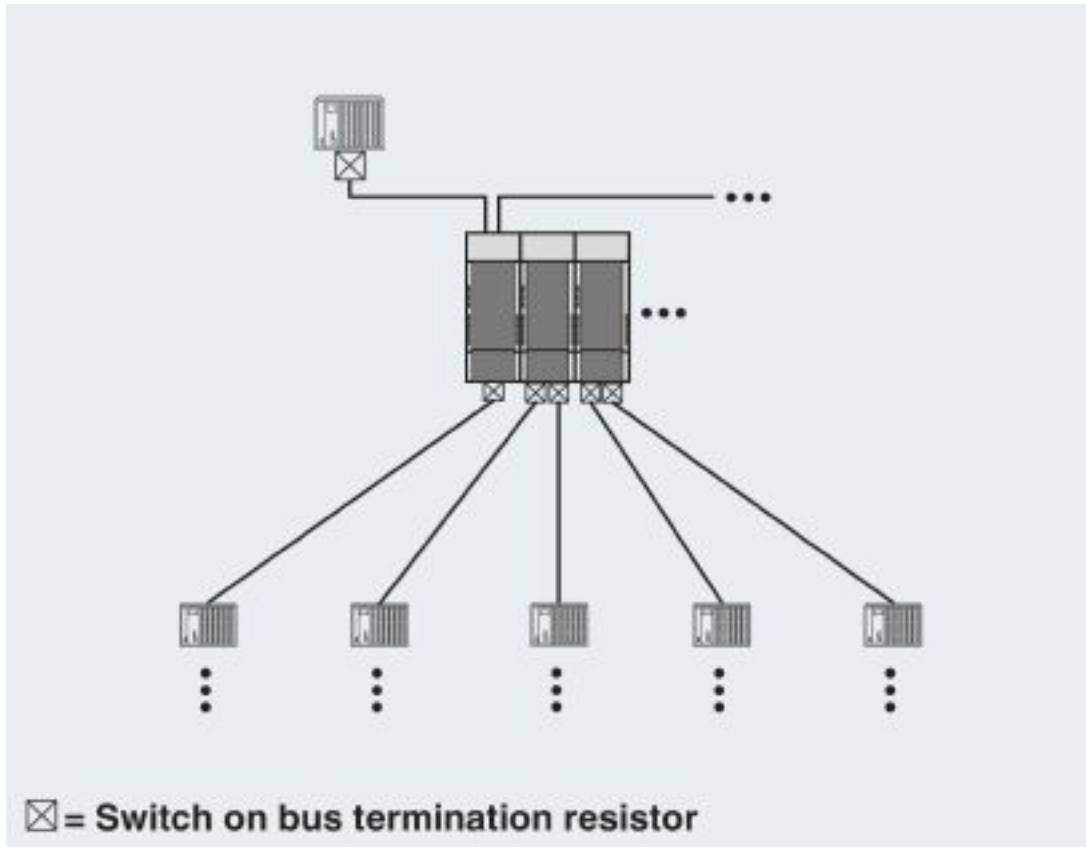
Application drawing



Line structure

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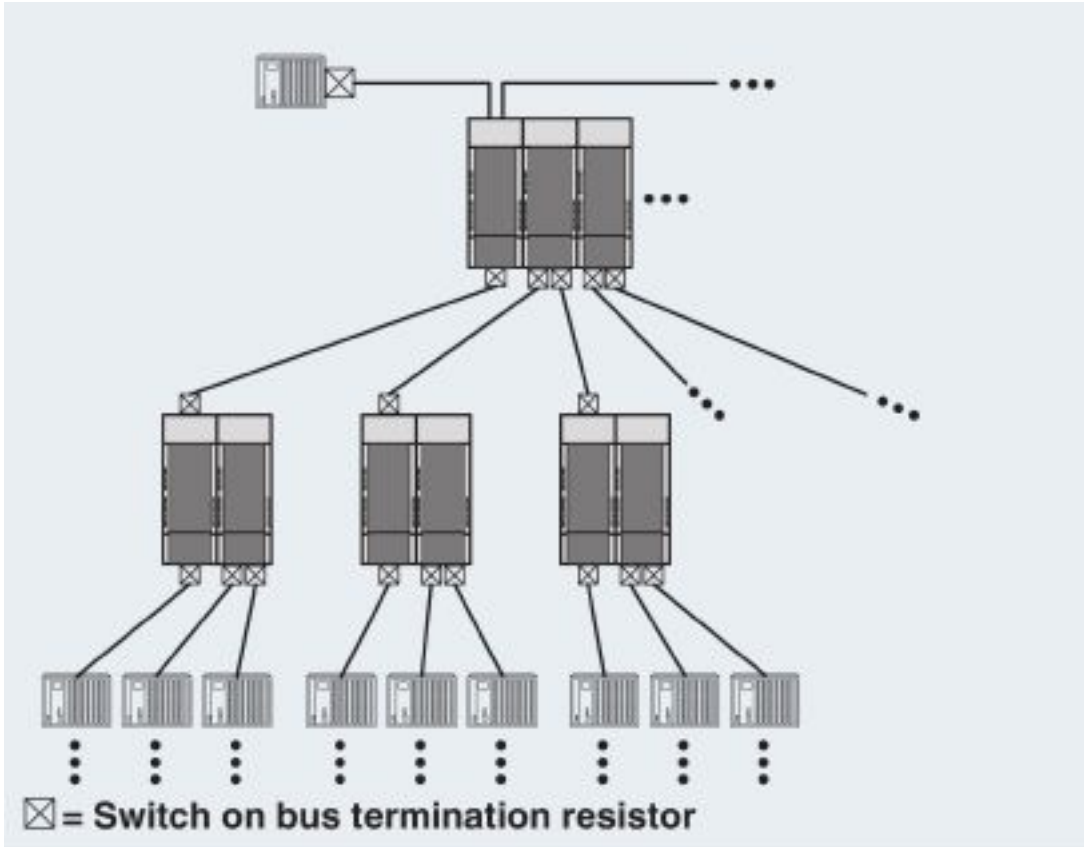
Application drawing



Star structure

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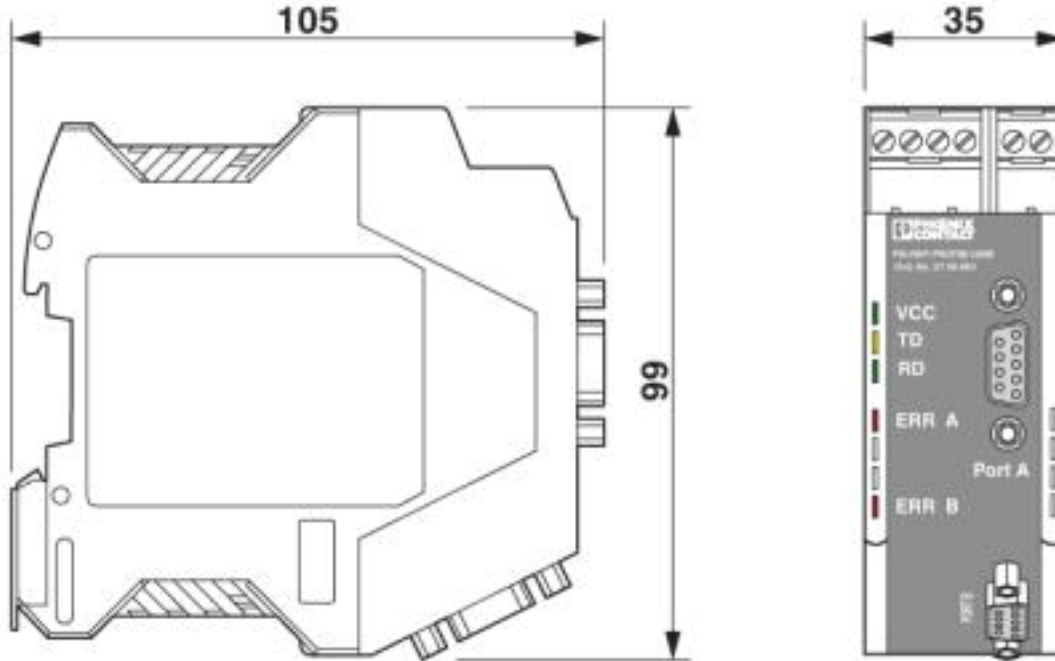
Application drawing



Tree structure

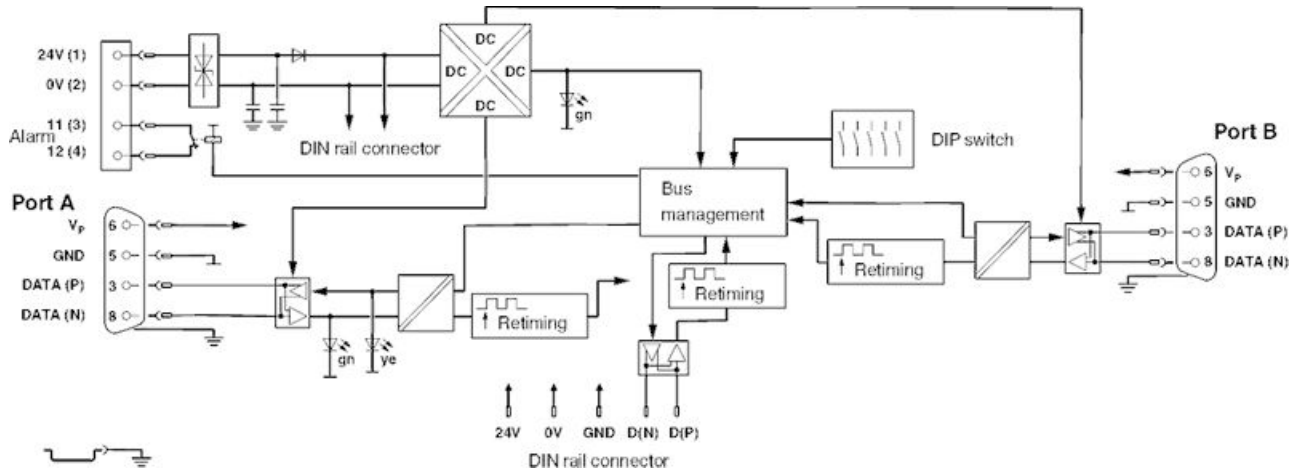
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Dimensional drawing



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Block diagram



Classifications

eCl@ss

eCl@ss 10.0.1	19179290
eCl@ss 4.0	27250300
eCl@ss 4.1	27250300
eCl@ss 5.0	27242200
eCl@ss 5.1	27242200
eCl@ss 6.0	19179200
eCl@ss 7.0	19179290
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

Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Classifications

ETIM

ETIM 6.0	EC000310
ETIM 7.0	EC000310

UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	39121008
UNSPSC 11	39121008
UNSPSC 12.01	39121008
UNSPSC 13.2	43222604

Approvals

Approvals

Approvals

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


Ex Approvals

UL Listed / cUL Listed / ATEX / UL Listed / cUL Listed

Approval details

UL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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cUL Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
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EAC			EAC-Zulassung
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KC		http://eng.kcc.go.kr/user/ehpMain.do	MSIP-REI- PCK-2708863
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<https://www.phoenixcontact.com/us/products/2708863>



Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Approvals

cULus Recognized



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