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

Why buy this product

- 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
Weight per Piece (excluding packing)	212.4 g
Weight per piece (including packing)	233.9 g
Custom tariff number	85176200
Country of origin	Germany
Sales Key	M1 - Communication Techn.

Technical data

Note:

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

Dimensions

Width	35 mm
Height	99 mm

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Technical data

Dimensions

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 manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-4-2

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 mm²
Conductor cross section solid max.	2.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	2.5 mm²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Output nominal voltage	5 V DC ±5 %
Output current	50 mA

Fault warning output

Maximum switching voltage	30 V DC (1 A)
	65 V DC (0.46 A)
	150 V AC (0.46 A)

Power supply

Supply voltage range	18 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Typical current consumption	90 mA (24 V DC)

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))

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Technical data

General

Test voltage data interfaces	1.5 kV
Test voltage data interface/power supply	1.5 kV_{rms} (50 Hz, 1 min.)
Standards/regulations	DIN EN 50178, DIN EN 60950
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Noise emission	EN 55011
Net weight	200 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))
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc X
UL, USA / Canada	cULus listed UL 508
	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

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	27143129

ETIM

ETIM 2.0	EC000698
ETIM 3.0	EC000698
ETIM 4.0	EC000698
ETIM 5.0	EC000698

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Classifications

UNSPSC

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

Approvals

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UL Recognized / cUL Recognized / cULus Recognized

Ex Approvals

UL Listed / cUL Listed / UL Listed / cUL Listed / cULus Listed

Approvals submitted

Approval details

UL Recognized

cUL Recognized

cULus Recognized

Accessories

Accessories

Data cable by the meter

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

Accessories

Cable - PSM-CABLE-PROFIB/FC - 2744652

PROFIBUS cable, Fast Connect type, up to 12 Mbps (02YSY (ST)CY 1x2x22 AWG)

Data plug

D-SUB bus connector - SUBCON-PLUS-PROFIB/PG/SC2 - 2708245

D-SUB connector, 9-pos., male connector, cable entry < 35°, bus system: PROFIBUS DP up to 12 Mbps with Pg D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/SC - 2313708

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; screw connection terminal blocks

D-SUB bus connector - SUBCON-PLUS-PROFIB/90/PG/IDC - 2313685

D-SUB connector, 9-pos., male connector, cable entry < 90°, bus system: PROFIBUS DP up to 12 Mbps with Pg D-SUB socket for connecting a programming device, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8; IDC terminal block connection

DIN rail connector

Electronic housing - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561

DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

Interface converter

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

Accessories

Interface converter - PSM-ME-RS485/RS485-P - 2744429

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

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Media converter

FO converters - PSI-MOS-PROFIB/FO 660 T - 2708287

FO converter with integrated optical diagnosis, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (FSMA), 660 nm, for polymer/HCS fiber cable

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FO converters - PSI-MOS-PROFIB/FO 660 E - 2708290

FO converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, termination device with an FO interface (FSMA), 660 nm, for polymer/HCS fiber cable

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FO converters - PSI-MOS-PROFIB/FO 850 T - 2708261

FO converter with integrated optical diagnosis, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two FO interfaces (BFOC), 850 nm, for fiber glass cable

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FO converters - PSI-MOS-PROFIB/FO 850 E - 2708274

FO converter with integrated optical diagnosis, alarm contact, for PROFIBUS up to 12 Mbps, terminal equipment with an FO interface (BFOC), 850 nm, for fiber glass cable

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Accessories

FO converters - PSI-MOS-PROFIB/FO1300 T - 2708892

Fiber optic converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, T-coupler with two fiber optic interfaces (SC-Duplex), 1300 nm, for fiberglass cable

FO converters - PSI-MOS-PROFIB/FO1300 E - 2708559

Fiber optic converter with integrated optical diagnostics, alarm contact, for PROFIBUS up to 12 Mbps, termination device with one fiber optic interface (SC-Duplex), 1300 nm, for fiberglass cable

Power supply

Power supply unit - MINI-SYS-PS-100-240AC/24DC/1.5 - 2866983

DIN rail power supply unit, primary-switched mode, slim design, output: 24 V DC / 1.5 A

Terminal resistor

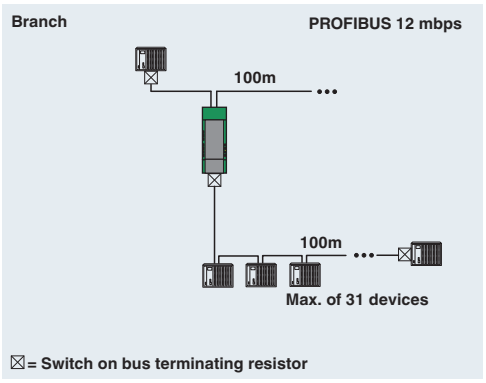
Termination resistor - PSI-TERMINATOR-PB - 2313944

Active termination resistor with redundant voltage supply for PROFIBUS and RS-485 bus systems. Compact design. Electrical isolation between supply and data interface. Bus termination can be switched. Integrated programming interface.

Drawings

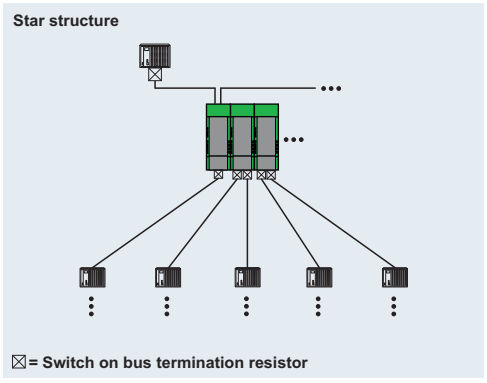
Repeater - PSI-REP-PROFIBUS/12MB - 2708863

Application drawing



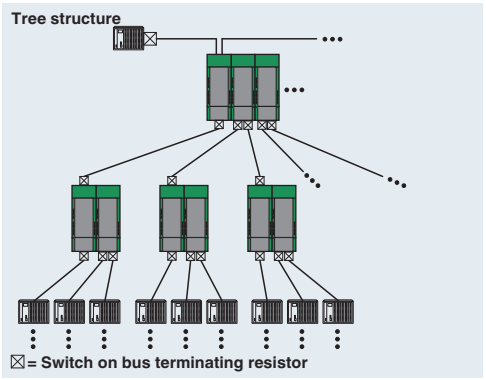
Branch line

Application drawing



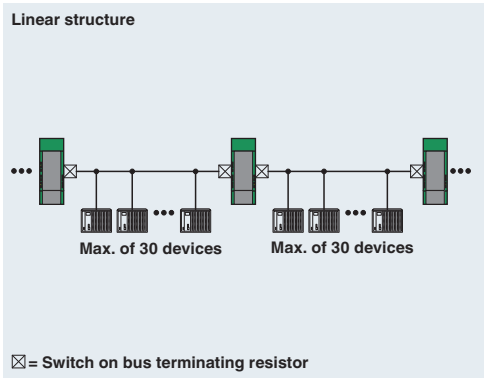
Star structure

Application drawing



Tree structure

Application drawing



Line structure

Block diagram