

## Repeater - PSI-REP-DNET CAN - 2313423

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Modular repeater for electrical isolation and increasing the range for DeviceNet/SDS/CANopen, data rate of up to 1 Mbps. High-quality electrical isolation between the interfaces, DIN-rail mountable, 24 V DC supply.

### Why buy this product

- Automatic data rate detection or fixed data rate setting via DIP switches
- Data rates of up to 1 Mbps
- High-quality 4-way isolation between all interfaces
- Can be combined with PSI-MOS FO converters in a modular way thanks to DIN rail connectors
- All connections can be plugged in using a COMBICON screw terminal block
- Approved for use in zone 2



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 428392
GTIN	4046356428392

### 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	111 mm
Depth	121 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)	30 % ... 95 % (non-condensing)
Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-6-2

### Serial interface

Interface 1	CAN interface, in accordance with ISO/IS 11898 for DeviceNet, CAN, CANopen
Operating mode	Semi-duplex
No. of ports	2 (CAN_High / CAN_Low)
Connection method	COMBICON plug-in screw terminal block
File format/coding	Bit stuffing, NRZ
Transmission medium	2-wire twisted pair, shielded
Transmission method	CSMA/CA
Transmission length	≤ 5000 m (Dependent on the data rate and the protocol used)
Number of bus devices	≤ 64 (per potential segment)
	≤ 63 (DeviceNet™, can be addressed logically)
	≤ 128 (CANopen®, can be addressed logically)
Termination resistor	124 Ω (Integrated and ready to be switched)
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Interface 2	CAN interface, in accordance with ISO/IS 11898 for DeviceNet, CAN, CANopen
Operating mode	Semi-duplex
No. of ports	2 (CAN_High / CAN_Low)
Connection method	COMBICON plug-in screw terminal block
File format/coding	Bit stuffing, NRZ
Transmission medium	2-wire twisted pair, shielded
Transmission method	CSMA/CA
Transmission length	≤ 5000 m (Dependent on the data rate and the protocol used)
Number of bus devices	≤ 64 (per potential segment)
	≤ 63 (DeviceNet™, can be addressed logically)
	≤ 128 (CANopen®, can be addressed logically)
Termination resistor	124 Ω (Integrated and ready to be switched)
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## Technical data

### Serial interface

Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14

### Digital outputs

Output name	Relay output
Number of outputs	1
Contact type	N/O contact
Minimum switching voltage	10 V DC
Maximum switching voltage	30 V DC
Limiting continuous current	500 mA

### Power supply

Nominal supply voltage	24 V DC
Supply voltage range	10 V DC ... 30 V DC (via pluggable COMBICON screw terminal block)
Max. current consumption	80 mA
Typical current consumption	55 mA (24 V DC)

### General

Bit delay	One telegram length (EXTENDED)
Bit distortion, input	± 35 %
Bit distortion, output	< 6.25 %
Electrical isolation	according to EN 60950
	VCC // TBUS // CAN A // CAN B
Test voltage data interface/power supply	1.5 kV <sub>rms</sub> (50 Hz, 1 min.)
Standards/regulations	DIN EN 50178, DIN EN 60950
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 55011
Net weight	233.6 g
Housing material	PA 6.6-FR
Color	green
MTBF	823 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	170 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
MTTF	1091 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	514 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	208 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!)

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## Technical data

### General

UL, USA/Canada	508 Listed
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### 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 61000-6-2
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
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
Electrical isolation	according to EN 60950
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc X
UL, USA/Canada	508 Listed
Noxious gas test	ISA-S71.04-1985 G3 Harsh Group A

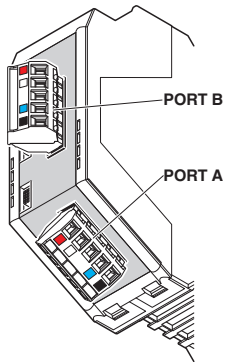
### Environmental Product Compliance

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"

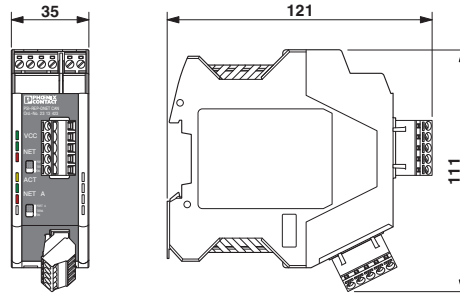
## Drawings

# Repeater - PSI-REP-DNET CAN - 2313423

Schematic diagram

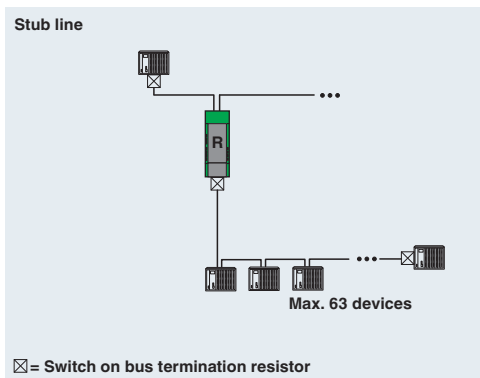


Dimensional drawing

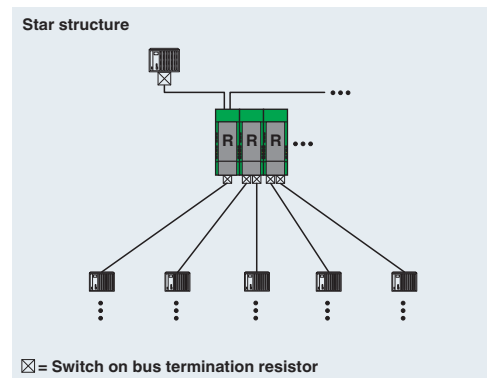


Device connections

Application drawing

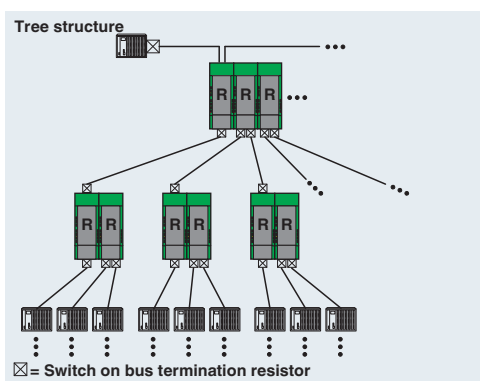


Application drawing



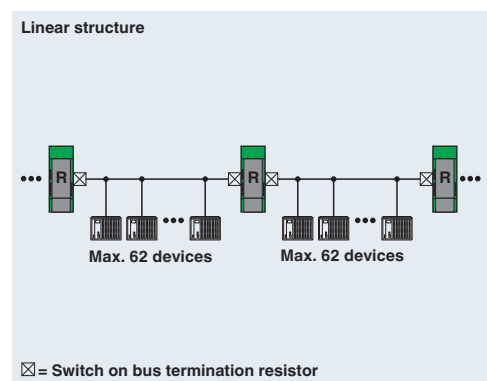
Branch line

Application drawing



Star structure

Application drawing

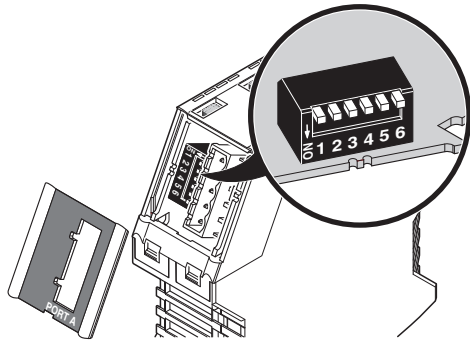


Tree structure

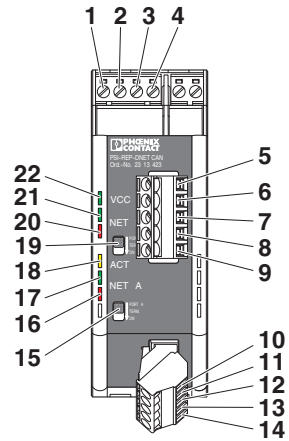
Line structure

# Repeater - PSI-REP-DNET CAN - 2313423

Schematic diagram



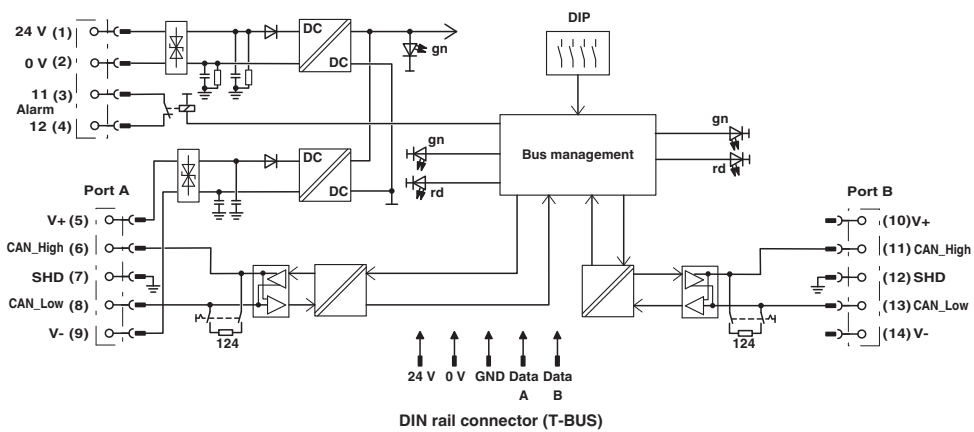
Schematic diagram



DIP switches

Front view

Block diagram



## Approvals

Approvals

Approvals

UL Listed / cUL Listed / EAC / EAC / DNV GL / cULus Listed






Ex Approvals

ATEX

## Approval details

# Repeater - PSI-REP-DNET CAN - 2313423

## Approvals

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
EAC			EAC-Zulassung
EAC			RU *- DE.A*30.B.01735
DNV GL		<a href="http://exchange.dnv.com/tari/">http://exchange.dnv.com/tari/</a>	TAA00001KR
cULus Listed			

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