

# Repeater - PSM-ME-REP LON485-P - 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



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 907570
GTIN	4017918907570

## Technical data

### Note

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

Caption	Slim design
Width	22.5 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)

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## Technical data

### Ambient conditions

Altitude	5000 m (For restrictions see manufacturer's declaration)
Degree of protection	IP20
Noise immunity	EN 61000-6-2:2005

### General

Transmission channels	2 (1/1), Rx/D, Tx/D, full duplex
Bit distortion	< 1.5 % (applies to device: Distortions caused by system-specific cables are not accounted for)
Electrical isolation	VCC // RS-485 (A) // RS-485 (B)
Test voltage data interfaces	2 kV AC
Test voltage data interface/power supply	2 kV AC
	2 kV
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 50 081-1
Net weight	188.8 g
Housing material	PA
Color	green
MTTF	1808 Years (SN 29500 standard, temperature 25 °C, operating cycle 21 % (5 days a week, 8 hours a day))
	796 Years (SN 29500 standard, temperature 40 °C, operating cycle 34.25 % (5 days a week, 12 hours a day))
	334 Years (SN 29500 standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))
Degree of pollution	2
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc (Please follow the special installation instructions in the documentation!)
IECEX	Ex nA IIC T4 Gc
UL, USA/Canada	508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, AEx nA IIC T4
	Class I, Zone 2, Ex nA IIC T4 Gc X

### Power supply

Nominal supply voltage	24 V AC/DC ±20 %
Max. current consumption	100 mA
Typical current consumption	90 mA (24 V DC)

### Serial interface

Interface 1	RS-485 interface in acc. with EIA/TIA-485, DIN 66259-4
Operating mode	Semi-duplex
Connection method	Pluggable screw connection
File format/coding	Manchester, slip-tolerant
Data direction switching	Automatic control

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## Technical data

### Serial interface

Transmission medium	2-wire twisted pair, shielded
Transmission length	≤ 1200 m (depends on transmission speed, bus system and cable type)
Termination resistor	120 Ω
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
Serial transmission speed	39.1/ 78.1/ 500/ 625/ 1000/ 1250/ 2000 kbps
Interface 2	RS-485 interface in acc. with EIA/TIA-485, DIN 66259-4
Operating mode	Semi-duplex
Connection method	Pluggable screw connection
File format/coding	Manchester, slip-tolerant
Data direction switching	Automatic control
Transmission medium	2-wire twisted pair, shielded
Transmission length	≤ 1200 m (depends on transmission speed, bus system and cable type)
Termination resistor	120 Ω
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
Serial transmission speed	39.1/ 78.1/ 500/ 625/ 1000/ 1250/ 2000 kbps

### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Noise emission	EN 50 081-1
Noise immunity	EN 61000-6-2:2005
Connection in acc. with standard	CUL
Standards/regulations	EN 61000-4-2
Contact discharge	± 6 kV (Test Level 3)
Standards/regulations	EN 61000-4-3
Frequency range	80 MHz ... 3 GHz (Test Level 3)
Standards/regulations	EN 61000-4-4
Comments	Criterion B
Standards/regulations	EN 61000-4-5
Signal	± 2 kV
Standards/regulations	EN 55011
	EN 61000-4-6
Frequency range	0.15 MHz ... 80 MHz
Conformance	CE-compliant
ATEX	# II 3 G Ex nA IIC T4 Gc
IECEX	Ex nA IIC T4 Gc

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## Technical data

### Standards and Regulations

UL, USA/Canada	508 Recognized
	Class I, Div. 2, Groups A, B, C, D
	Class I, Zone 2, AEx nA IIC T4
	Class I, Zone 2, Ex nA IIC T4 Gc X
Noxious gas test	ISA-S71.04-1985 G3 Harsh Group A

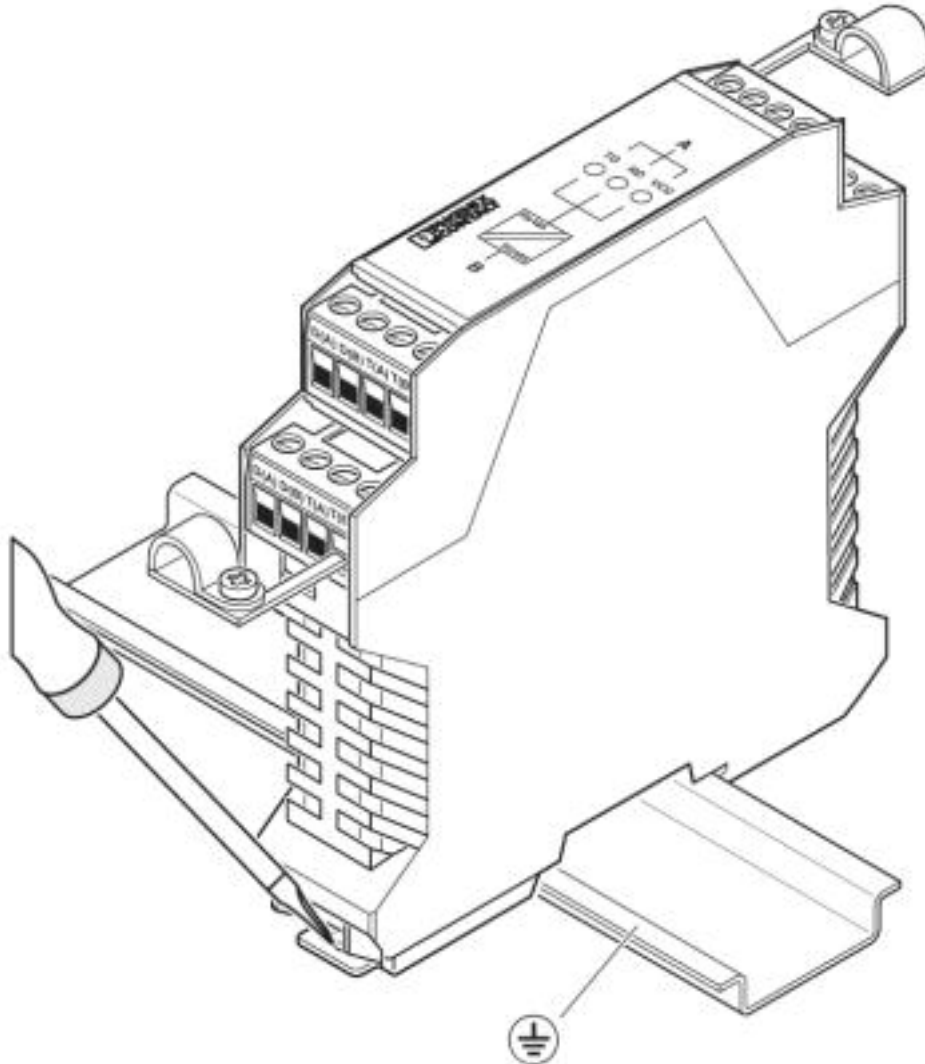
### Environmental Product Compliance

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 - PSM-ME-REP LON485-P - 2708041

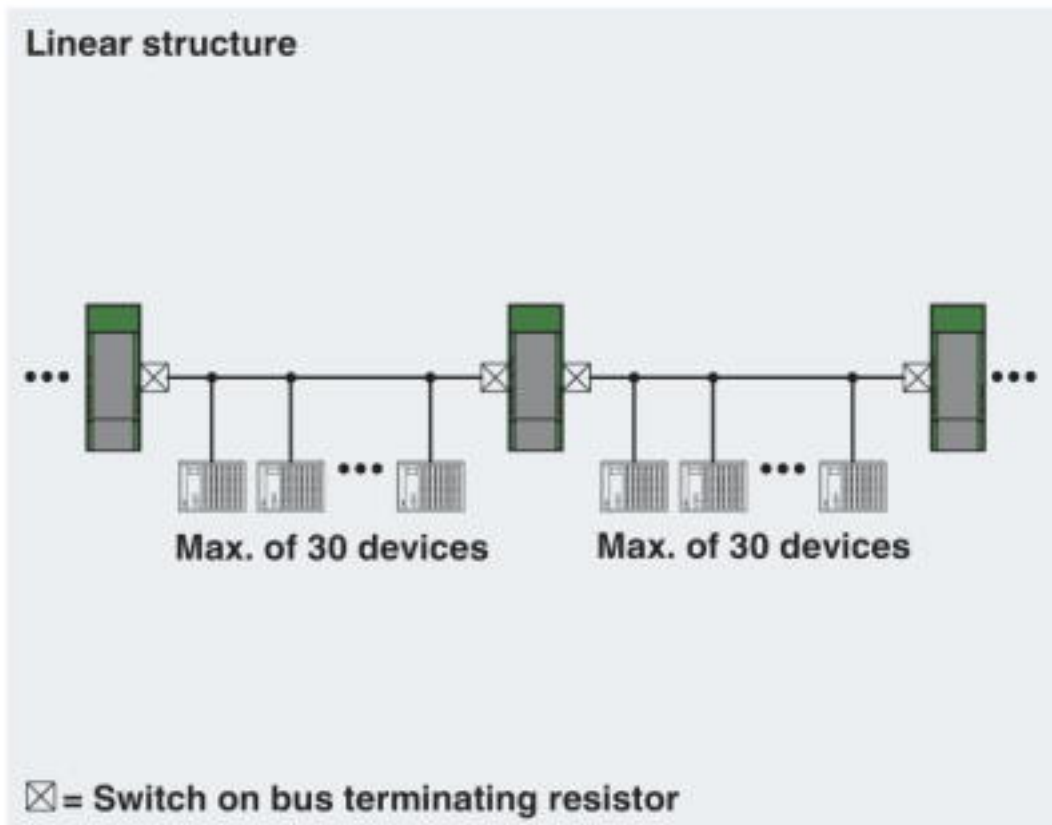
Schematic diagram



Removal

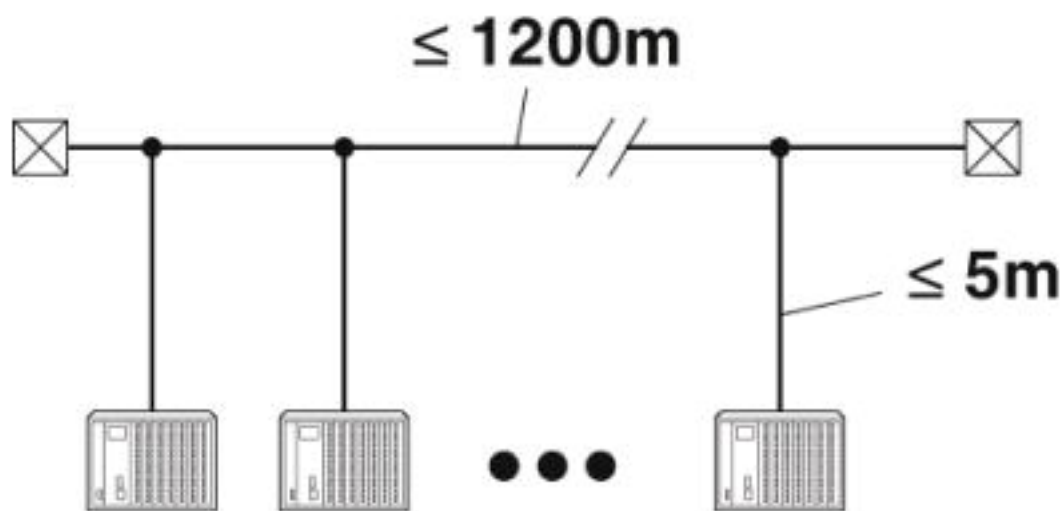
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Application drawing



Line structure

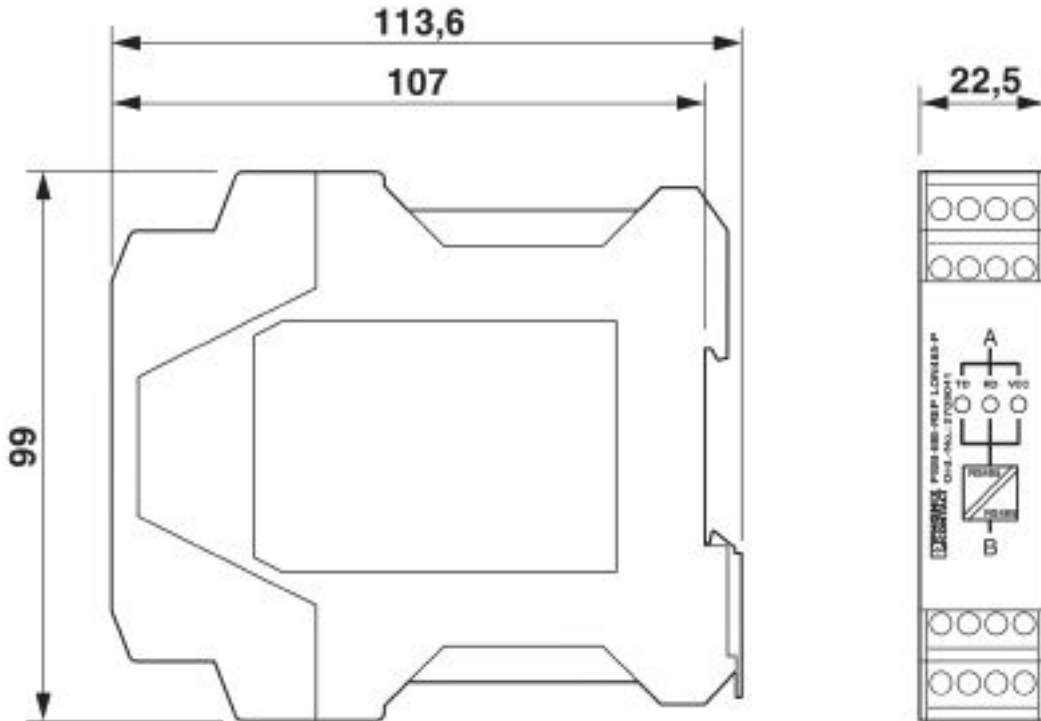
Application drawing



Cable lengths according to the RS-485 standard

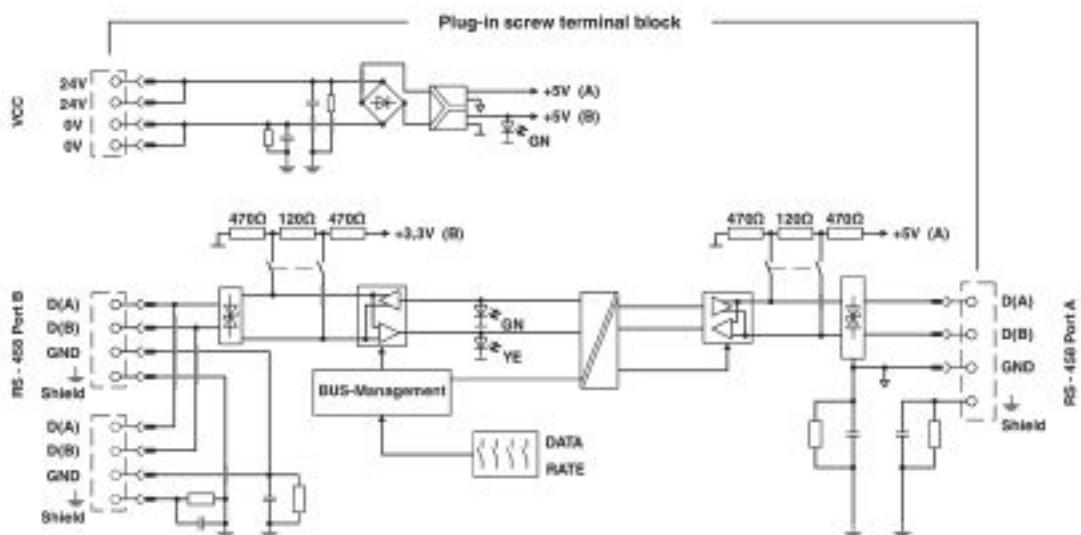
# Repeater - PSM-ME-REP LON485-P - 2708041

Dimensional drawing



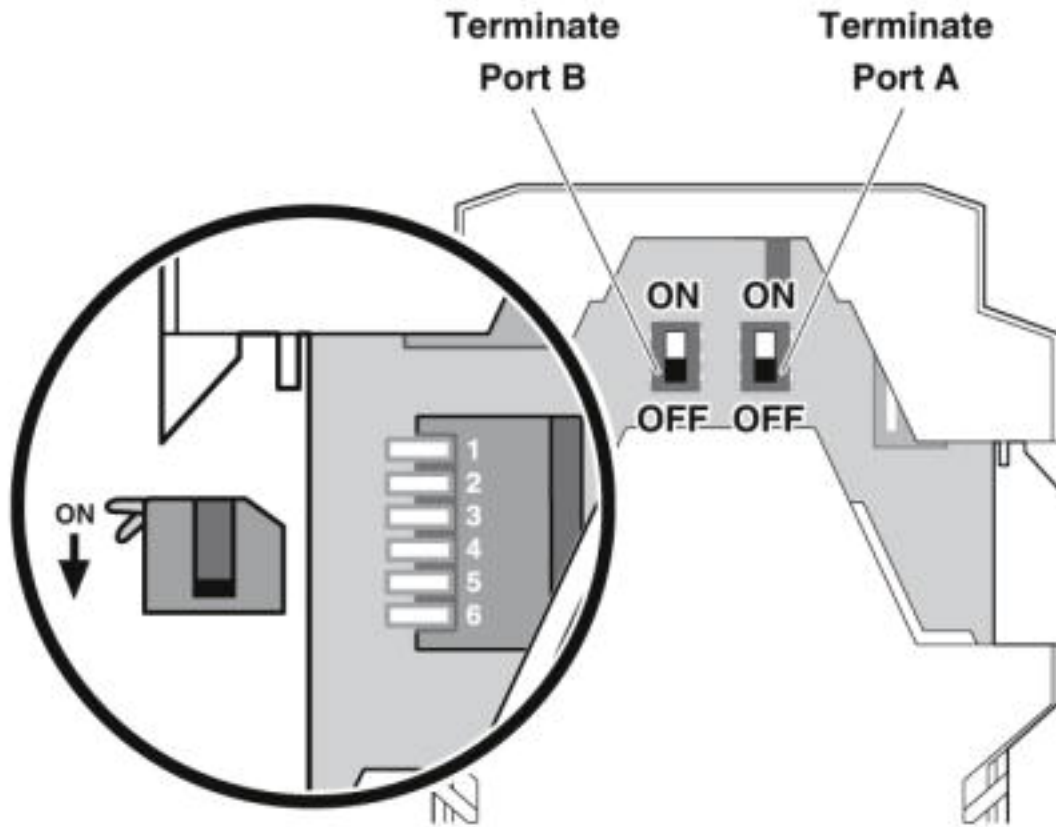
Slim design

Circuit diagram



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Schematic diagram

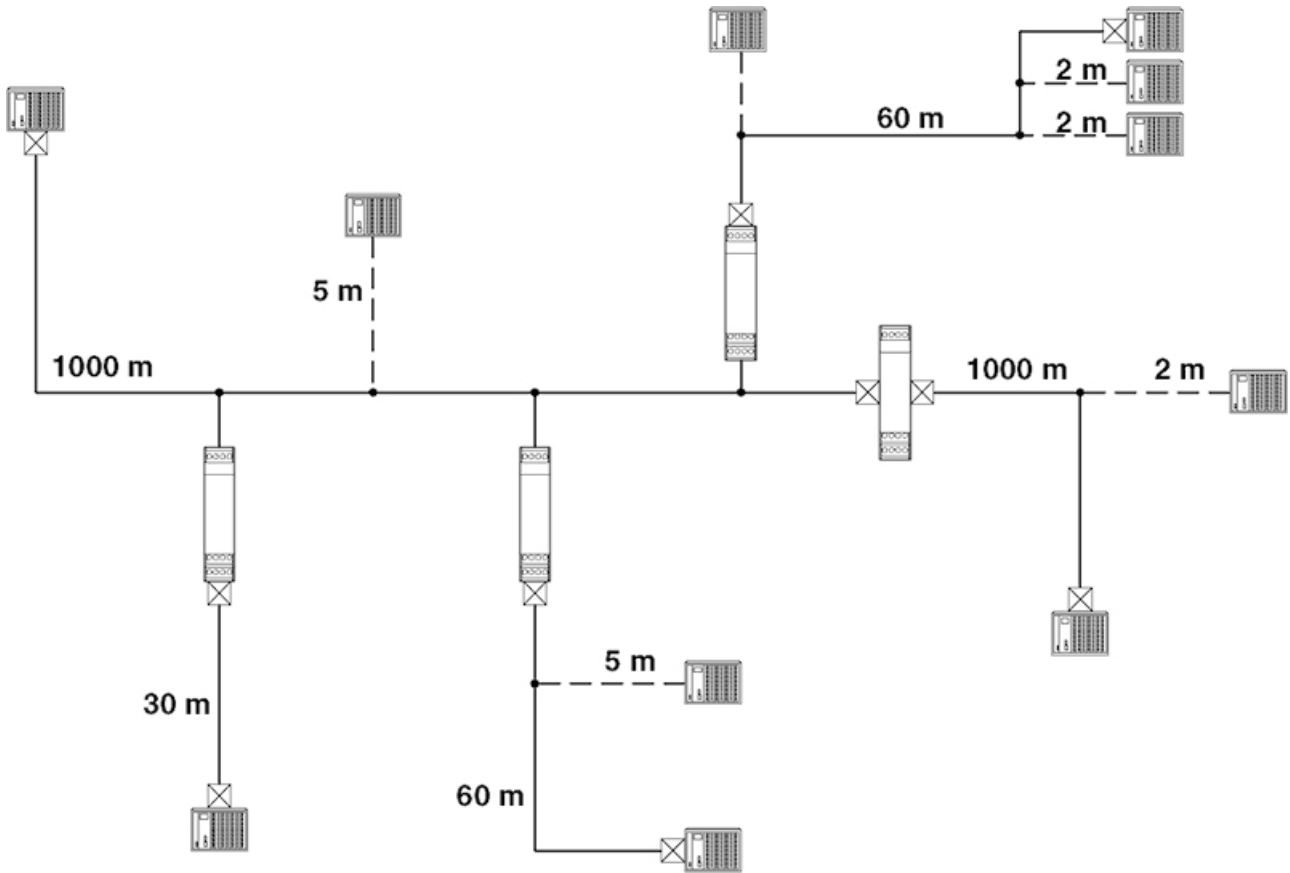


DIP switches



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Application drawing



Cable lengths

Approvals

Approvals

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## Approvals

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### Approvals

UL Recognized / cUL Recognized / EAC / cULus Recognized

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### Ex Approvals

IECEX / ATEX / cUL Recognized / UL Listed / cUL Listed / cULus Listed

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### Approval details

UL Recognized		<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 Recognized		<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			RU *- DE.A*30.B.01735
cULus Recognized			

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