LSS

PROFIBUS-DP Repeater 1 to 1 and 1 to 5 with optional level converter module

The LSS PROFIBUS-DP repeaters 1 to 1 and 1 to 5 are used for coupling up to six PROFIBUS bus segments in RS 485 bus technology. The bus signals are regenerated in amplitude, signal width and slope during the pass through.

The repeater has six connection areas for the bus segments, which are separate electrical isolated. The connectors of each segment have two screw terminals to connect the bus cable including shielding, a termination switch and a yellow LED for indicating bus activity. Various operating modes can be selected via a selector switch.

For the use of PROFIBUS-DP signals in rail systems, the segments 2 to 6 of the LSS PROFIBUS-DP repeaters 1 to 1 and 1 to 5 can be equipped with an optional level converter module.

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Technical Specifications:

CPU	ALTERA FPGA Cyclone III
PROFIBUS Connectors	6 x via PHOENIX CONTACT 2 pin screw terminals with clamping of the cable shield Additionally 1 x via SUB D-9 connector (female) directly coupled with segment 1
Operation	- Operating mode selector - Termination switch in each segment
Indication	3 x LED to indicate operating voltage 6 x LED in each segment to indicate data/bus activity

Power supply	18 – 36V DC via PHOENIX CONTACT connector 3 pin, 5,08mm pitch
Power consumption	3W (while using level converter max. 20W)
Operating temperature	0° - 60°C (not condensed)
Ambient temperature	0° - 45°C
RoHS	Conform

Design	For mounting on standard profile rail (DIN rail)
Dimensions	280x90x45 (WxHxD mm) without connectors 280x90x60 (WxHxD mm) without connectors while using LSS level converter
Weight	0,5kg
Order number	1 to 1: 5300 1 to 5: 5301 Level converter: 5311
Optional	LSS level converter maximum 5 pieces

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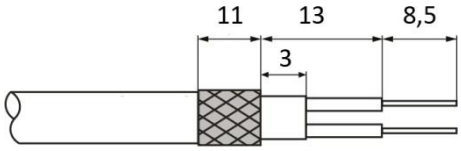
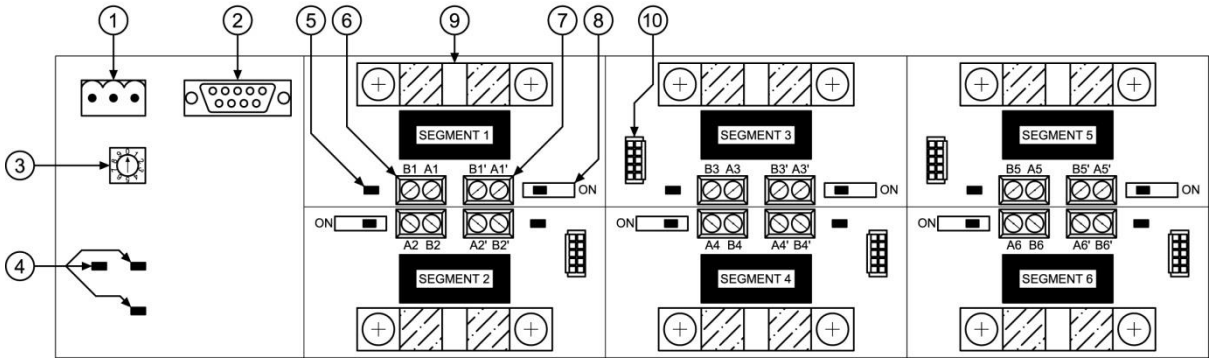
Connect the bus cable

Connect the PROFIBUS bus cable to the RS 485 Repeater as follows:



1. Cut the PROFIBUS cable to the required length.
2. Isolate the PROFIBUS cable as shown in the figure.
   The shield braid must be wrapped around the cable and fixed with a copper tape. Later the shield clamp can serve as a strain relief and as a shield intercepting element, and at the same time a secure connection to the cable shield is ensured.
3. Connect the same wires (green / red for PROFIBUS bus cables) to the same connector A or B (e.g. connect connector A always with green wire and connector B always with red wire).
4. Fasten the shield clamps so that the shield is blank under the shield clamp.

Top view and marking:



1	Power Supply 1: + 24 VDC; 2: - 24 VDC; 3: PE
2	SUB-D 9 connector (female) for PROFIBUS (coupled with segment 1)
3	Rotary switch for operating modes
4	LED for indication of the operating voltage
5	LED for indication of the bus activity
6	PROFIBUS-DP connection
7	Terminable PROFIBUS-DP connection
8	Termination switch
9	Cable shield mounting
10	Connection level converter

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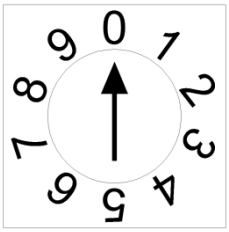
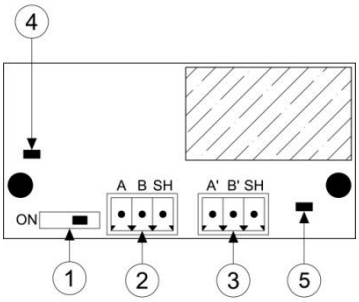
Operation mode selector:



0	Reserved for future applications
1	Segments 2 to 6 are separated from data traffic
2	Reserved for future applications
3	Reserved for future applications
4	Reserved for future applications
5	Baud rate set to [500 kbit/s]
6	Baud rate set to [1,5 Mbit/s]
7	Baud rate set to [3 Mbit/s]
8	Baud rate set to [6 Mbit/s]
9	Baud rate set to [12 Mbit/s]

Optional level converter module

Top view and marking

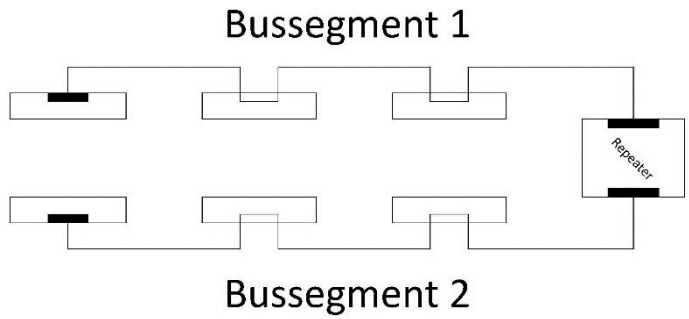


1	Termination switch
2	PROFIBUS-DP connection
3	Terminable PROFIBUS-DP connection
4	LED for indication of the operating voltage
5	LED for indication of the bus activity

Note: When a level converter module is used, the bus connections are no longer available in the segment area where the level converter module is placed!

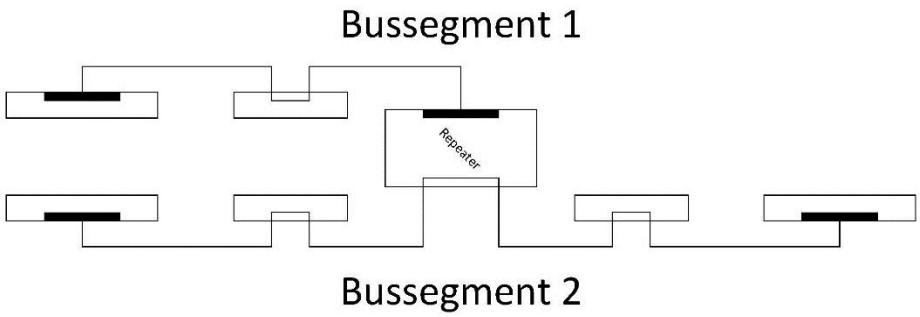
Possibilities to integrate the Profibus repeater into a bus system

1. Both bus segments are terminated



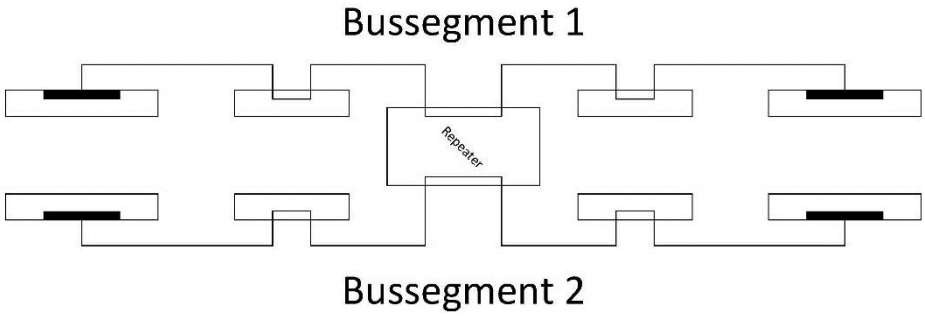
The terminators of both bus segments must be activated.

2. Bus segment 1 is terminated; bus segment 2 is looped through



The terminator of bus system 1 must be activated and deactivated in bus system 2.

3. Both bus segments are looped through



The terminators of both bus segments must be deactivated.

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