Technical Data - 2 Channel Repeater (101-201102)

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Dimensions and weight	
Dimensions L x W x H	137 x 25 x 105 mm (including backplane, per module)
Weight	119 g (excluding plug-able connectors, backplane and packing material)
Mounting DIN-rail type	35mm × 7.5mm (EN 50022, BS 5584, DIN 46277-3)
Ambient conditions	
Ambient operating temperature range	-20° … +60° Celsius (for mounting position see manual) -4° … 158° Fahrenheit
Isolating class	IP 20 (IEC/EN 60529, DIN 40050)
Backplane	
PROFIBUS networks	4 (set by dipswitches or web server)
Modules	10 (positioned in the first 10 slots)
Power supply Typical backplane current consumption Max. backplane current consumption	Provided through the backplane 300 mA (at 5.72 VDC) 500 mA (at 5.72 VDC) At this current consumption the module is switched OFF from backplane. Occurs when module is faulty, e.g. internal short circuit.
Compatible backplane units	101-200011, 101-200022, 101-200023, 101-200024, 101-200027
Protocol specifications	
Supported Protocols	DP-V0, DP- V1, DP-V2, FDL, MPI, FMS, PROFIsafe, PROFIdrive and any other FDL based protocol
Address	NO bus address required
Transmission speed Transmission speed detection	9.6 kbps .. 12 Mbps (including 45.45 kbps) Auto detect (< 10 s detection and 50 s baudrate switchover time)
Data delay time	At baudrate / Normal mode / Redundunt mode 9.6 - 500 kbps / 2.8 Tbit / 13.8 Tbit 1.5 Mbps / 3.2 Tbit / 14.2 Tbit 3 Mbps / 3.9 Tbit / 14.5 Tbit 6 Mbps / 4.6 Tbit / 15.6 Tbit 12 Mbps / 6.4 Tbit / 17.4 Tbit

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Deviation	2 bit times (over the complete message) for received messages is allowed and is corrected to nominal speed when transmitted.
PROFIBUS cable specifications	
Cable lengths	1200 m at 9.6 kbps to 93.75 kbps 1000 m at 187.5 kbps 400 m at 500 kbps 200 m at 1.5 Mbps 100 m at 3 Mbps to 12 Mbps
Wire diameter (for the screw terminals) Wire type	< 2.5 mm^2 Stranded or solid core
Number of devices	Maximum 31 devices per channel (busload)
Termination	Integrated and switchable Powered according to PB RS 485 (390/220/390 Ohms)
Redundancy	Yes, maximum 10 cables activated by switch
Cascading depth	No limit (only limited by busparameter of the master)
Cascading units	With standard busparameters: At baudrate Normal mode[units] 9.6 kbps 7 19.2 kbps 7 45.45 kbps 42 93.75 kbps 7 187.5 kbps 7 500 kbps 17 1.5 Mbps 23 3 Mbps 19 6 Mbps 16 12 Mbps 15 Formula to calculate number of cascading units with adjusted T_{slot} : Cascading units = (T_{slot} - maxT_{sdr}) / (2 × $T_{data\_delay\_time}$) $T_{data\_delay\_time}$ is described in protocol specifications on previous page. Example 1.5 Mbps, normal mode: Cascading units = (300-150) / (2x3.2) = 23

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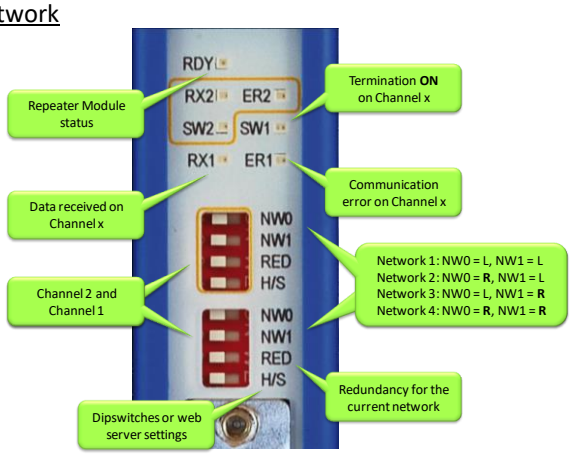
Connector Lay-out	
PROFIBUS SCREW Terminal CH1 and CH2	<u>Plug-able screw terminal, pitch 5,08 mm</u> Pin A: PROFIBUS A (green wire) Pin B: PROFIBUS B (red wire) Pin SH: Shield Pin I: Indirect Shield
PROFIBUS DB9 CH2	<u>D Sub connector, 9 contacts (PROFIBUS specification)</u> Pin 1: N.C. Pin 2: N.C. Pin 3: PROFIBUS - B Pin 4: PROFIBUS - RTS Pin 5: GND Pin 6: VPP Pin 7: N.C. Pin 8: PROFIBUS - A Pin 9: N.C. Housing: Shield *Pin SH is connected internally to the DIN-rail with spring-loaded contact.* *Pin I is connected internally with 10nF/1MOhm to shield.*
LEDs	
RDY : Ready RX : Receiving ER : Error Receiving SW : Switch Network Termination	Module is ready for operation (ON) Receiving telegrams (blinking) No or bad receiving telegrams detected (ON or blinking) Network termination active (ON)
Dipswitches	
<u>NW0 NW1</u> LEFT LEFT RIGHT LEFT LEFT RIGHT RIGHT RIGHT <u>RED</u> LEFT RIGHT <u>H/S</u> LEFT RIGHT	<u>PROFIBUS Network</u> 1 2 3 4 <u>Redundancy</u> OFF ON <u>Settings</u> Hardware Software 

Technical Data - 2 Channel Repeater (101-201102)	
Standard and approvals	
CE	EMC Directive 2014/30/EU, class A Digital Device RoHs Directive 2011/65/EU
FCC	47 CFR 15, Unintentional Radiator, class A Digital Device.
UL	Report reference: E468970 Standards for safety: UL 508 - Industrial Control Equipment, CSA C22.2 No. 142-M1987 - Industrial Control Equipment
Others	
Head Station firmware	ALL
MTBF	1448431 hours, at 30º Celsius, IEC TR 62380
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