



Anybus ProfiHub B5+

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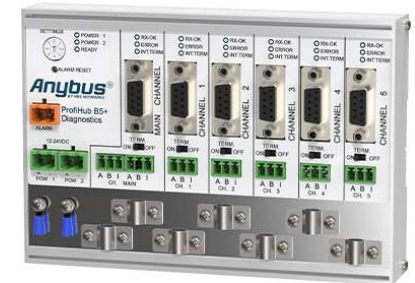
The B5+ saves costs through the reduction of traditional PROFIBUS repeaters. This product is equipped with 5 galvanically isolated transparent repeaters on a single unit (offering 6 segments). Each segment can handle 31 devices and a cable length equal to the main bus. To save costs on plugs and offer flexibility, it contains screw terminals as well as DB9 connectors. The DB9 connectors are also perfect measurement points for ProfiTrace to quickly measure all segments. Termination for each segment is on-board and switchable.

For PROFIBUS network designs, the ProfiHub B5+ offers a reliable and robust backbone solution with robust message checking and selectable redundancy on communication and power supply. The extensive monitoring of messages in combination with redundancy on the communication and voltage, makes the ProfiHub the perfect access port for network components. An alarm contact is linked to events based on the status of the power supply and the bus redundancy if this is enabled. Unlimited cascading of repeaters is possible with 1200 meter spur lines.

The ProfiHub B5 is a powerful package to ensure reduced installation complexity, increased time utilization and better deployment of project resources. The ProfiHub B5+ is used in several application areas worldwide.

Distinctive features

- 5 galvanically isolated channels (6 segments)
- Configurable grounding system
- Redundant power supply
- Bus redundancy option
- Star, tree and bus structured networks
- Alarm contact
- Monitoring port per channel

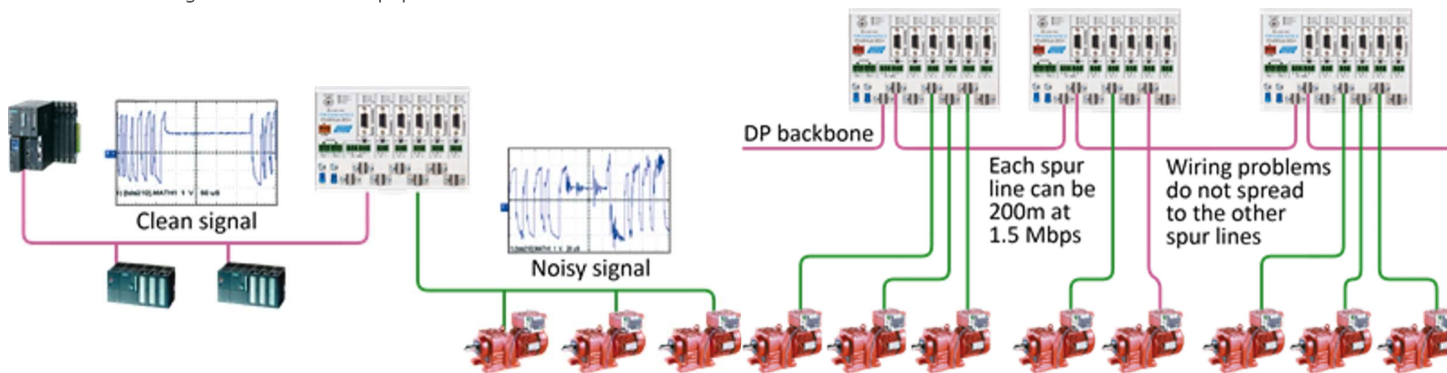


Your benefits

- Hot slave insertion/removal during operation
- Short circuit protection on each channel
- Compact and robust construction
- Screw terminals and DB9 connectors can be mixed
- Conveniently arranged networks
- Extendable installations
- Cost saving

Application examples:

- Dynamic spur lines to devices
- Star, tree and bus structured networks
- Removable drives and motors
- Pull/Plug motor control centers
- EMC sensitive applications
- Barrier for non-galvanic isolated equipment



Dimensions and weight

L x H x H (mm):

167 x 113 x 35 mm (excluding DIN-rail and plug-able connectors)

Weight:	650 g (excluding plug-able connectors, cable brackets and packing material).
Mounting DIN-rail type	35mm × 7,5mm (EN 50022, BS 5584, DIN 46277-3)

Ambient conditions

Operating temperature range	-25 to +70o Celsius -13 to +158o Fahrenheit
Isolation class	IP 20 (IEC/EN 60529, DIN 40050)

Protocol specification

Supported Protocols	DP-V0, DP- V1, DP-V2, FDL, MPI, FMS, PROFIsafe, PROFIdrive and any other FDL based protocol.				
Transmission speed	9.6 kbps to 12 Mbps (including 45.45 kbps)				
Transmission speed detection	Auto detect				
Transmission speed detection time	< 10 s detection and 50 s baudrate switchover time.				
Transmission speed switch	Rotary switch	Auto detect	Robust repeating	Redundancy	Diagnostic slave
	0	•			
	1	•	•		
	2	•	•	•	
	3	•			•
	4	•	•		•

	5				
	Other				
	For older ProfiHubs refer to paragraph 2.10.1				
Data delay time	At baudrate	Normal mode	Robust mode		
	9.6 - 500 kbps	3.0 Tbit	14 Tbit		
	1.5 Mbps	4.0 Tbit	15 Tbit		
	3 Mbps	4.5 Tbit	15 Tbit		
	6 Mbps	5.0 Tbit	16 Tbit		
	12 Mbps	7.0 Tbit	18 Tbit		
Jitter per message frame	0.0625 Tbit at 9.6 Kbps - 3 Mbps				
	0.125 Tbit at 6 Mbps				
	0.25 Tbit at 12 Mbps				
Deviation	2 bit times (over the complete message) for received messages is allowed and is corrected to nominal speed when transmitted.				

PROFIBUS Diagnostics Device specifications

Supported Protocol	DP-V0
Ident Number	6970
GSD filename	PROC6970.gsd
Bus address	0-126 (software address only, set by software, default 126)
Transmission speed	9.6 kbps to 12 Mbps (including 45.45 kbps)
Transmission speed detection	Auto Detect

Maximum transferrable data	85 bytes input and 5 bytes output
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PROFIBUS cable specifications

Cable lengths	<p>1200 m at 9.6 kbps to 93.75 kbps</p> <p>1000 m at 187.5 kbps</p> <p>400 m at 500 kbps</p> <p>200 m at 1.5 Mbps</p> <p>100 m at 3 Mbps to 12 Mbps</p>																								
Cable thickness	10 mm (when the ground rail is used)																								
Wire diameter (for the screw terminals)	< 2.5 mm ²																								
Wire type	Stranded or solid core																								
Number of devices	Maximum 31 per Channel (including ProfiHubs, OLMs, Laptops/PCs, etc.)																								
Termination	<p>Integrated and switchable.</p> <p>Powered according to IEC 61158 (390/220/390 Ohms)</p> <ul style="list-style-type: none"> - All Channels (default on) - Main-Channel (default off) 																								
Redundancy	Yes (Channel 4 and 5)																								
Cascading depth	No limit (only limited by busparameter of the master)																								
Cascading units	<p>With standard busparameters:</p> <table border="1"> <thead> <tr> <th>At baudrate</th> <th>Normal mode[units]</th> <th>Robust mode[units]</th> </tr> </thead> <tbody> <tr> <td>9.6 kbps 6</td> <td>6</td> <td>1</td> </tr> <tr> <td>19.2 kbps 6</td> <td>6</td> <td>1</td> </tr> <tr> <td>45.45 kbps 39</td> <td>39</td> <td>8</td> </tr> <tr> <td>93.75 kbps 6</td> <td>6</td> <td>1</td> </tr> <tr> <td>187.5 kbps 6</td> <td>6</td> <td>1</td> </tr> <tr> <td>500 kbps 16</td> <td>16</td> <td>3</td> </tr> <tr> <td>1.5 Mbps 20</td> <td>20</td> <td>5</td> </tr> </tbody> </table>	At baudrate	Normal mode[units]	Robust mode[units]	9.6 kbps 6	6	1	19.2 kbps 6	6	1	45.45 kbps 39	39	8	93.75 kbps 6	6	1	187.5 kbps 6	6	1	500 kbps 16	16	3	1.5 Mbps 20	20	5
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	3 Mbps	17	5
	6 Mbps	13	4
	12 Mbps	13	5

Power supply specifications

Power supply operating voltage	12 to 24 VDC
Power supply absolute max rated voltage	9 to 31 VDC
Redundant power supply	Yes
Current consumption	275 mA at 24 V power supply (all Channels fully loaded)
Power dissipation	Max. 2.8 W
Reverse polarity protection	Yes
Wire diameter	< 2.5 mm ²

Alarm contact

Voltage	Max. 24 VDC
Current	Max. 0.5 A

Connector Lay-out

2x Power supply POW 1 and POW 2	Plug-able screw connector, pitch 5,08 mm Pin + : 12 to 24 VDC Pin - : 0 V Screw: Shield
Alarm Contact	Plug-able screw connector, pitch 5,08 mm Pin 1: relay contact (potential-free) Pin 2: relay contact (potential-free)

PROFIBUS screw terminals Main Channel and Channel 1 to 5	<p>Plug-able screw terminal, pitch 3,81 mm</p> <p>Pin A: PROFIBUS A (green wire)</p> <p>Pin B: PROFIBUS B (red wire)</p> <p>Pin I : Indirect shield</p>
PROFIBUS DB9 Main Channel and Channel 1 to 5	<p>D Sub connector, 9 contacts (PROFIBUS specification)</p> <p>Pin 1: N.C.</p> <p>Pin 2: N.C.</p> <p>Pin 3: PROFIBUS - B</p> <p>Pin 4: PROFIBUS - RTS</p> <p>Pin 5: GND</p> <p>Pin 6: VPP</p> <p>Pin 7: N.C.</p> <p>Pin 8: PROFIBUS - A</p> <p>Pin 9: N.C.</p> <p>Housing: Shield</p> <p>Shield is connected internally to the DIN-rail</p> <p>Pin I is connected internally with 10nF/1MOhm to shield.</p>

Standard and approvals

CE	<p>EMC Directive 2014/30/EU, class B Digital Device</p> <p>RoHs Directive 2011/65/EU</p>
FCC	47 CFR 15, Unintentional Radiator, class B Digital Device.
UL	<p>Report reference: E365044-A1-UL</p> <p>Standards for safety: UL 60950-1, Information Technology Equipment - Safety - Part 1 General Requirements</p> <p>CAN/CSA C22.2 No. 60950-1-07, Information Technology Equipment - Safety - Part 1: General Requirements</p>
DNV	<p>Certificate number: A-13659 Location classes:</p> <ul style="list-style-type: none"> • Temperature: D • Humidity: B • Vibration: A • EMC: B • Enclosure: IP20 (IEC/EN 60529,DIN 40050)

MTBF	398723 hours according to IEC-62380 (RDF2000/UTE C 80-180)
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File	Version	Size	Read online
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Ordering Information

Order Codes	17020R
Included Components	Anybus ProfiHub B5+
Warranty	1 year

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