

Universal Fieldbus Power Hub, Motherboard, Generic Interface

MB-FB-4R.GEN

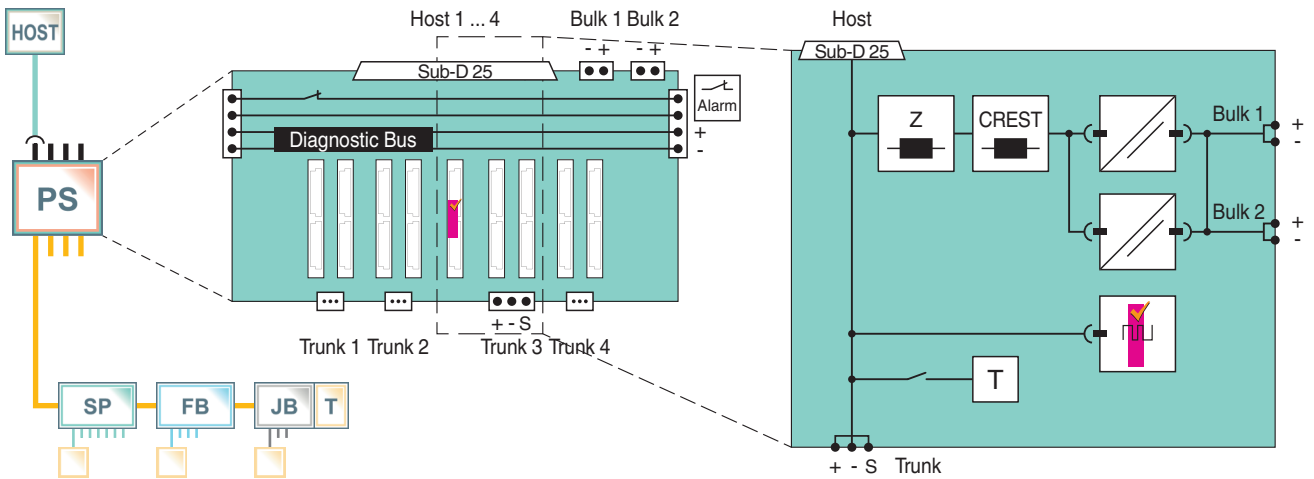
- 4 segments, redundant, individual modules per segment
- Customizable for any host system
- High-power trunk: Live work on devices in any hazardous area
- Features for best signal quality, low heat dissipation
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Optional advanced diagnostics
- Passive impedance and CREST technology for high reliability
- Supports Ex ic/nL voltage limitation
- Installation in Zone 2/Div. 2



Function

The FieldConnex® Universal Power Hub is a modular fieldbus power supply, providing the most options for most reliable communication. It supports explosion protection e.g. the High-Power Trunk for longest cable run and highest device count. The Power Hub supports optional Advanced Diagnostics for fast fieldbus commissioning and online monitoring. The motherboard is the wiring interface and mounting plate with a DB-25 connector for PROFIBUS PA gateway or customizable cable connections to any DCS. Sockets for individual power modules enable simple installation and can be replaced without tools. Certain motherboards enable power redundancy with seamless transfer. Pairs of modules feed each segment. Availability and a long service life are achieved through: only one passive impedance filter per segment with CREST for superior signal transmission, optimized design for low power dissipation and high-availability fieldbus termination. Any mounting direction allows optimized and space-saving cabinet layout.

Connection



Technical Data

Supply	
Connection	redundant
Rated voltage	U_r 19.2 ... 35 V SELV/PELV
Rated current	I_r 16 A
Fieldbus connection	
Number of segments	
Redundant	4
Terminating resistor	selectable 100 Ω

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

Indicators/operating means	
Fault signal	VFC alarm output via connectors
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013
Standard conformity	
Galvanic isolation	IEC 62103
Electromagnetic compatibility	NE 21:2011
Degree of protection	IEC 60529
Fieldbus standard	IEC 61158-2
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Corrosion resistance	acc. to ISA-S71.04-1985, severity level G3
Ambient conditions	
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Relative humidity	< 95 % non-condensing
Shock resistance	15 g , 11 ms
Vibration resistance	1 g , 10 ... 150 Hz
Pollution degree	max. 2, according to IEC 60664
Corrosion resistance	acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications	
Connection type	screw terminals
Core cross section	2.5 mm ²
Housing material	Polycarbonate
Housing width	221 mm
Housing height	220 mm
Housing depth	65 mm
Degree of protection	IP20
Mass	approx. 1.3 kg
Mounting	DIN mounting rail
Coating	conformal coated
Data for application in connection with hazardous areas	
Certificate	TÜV 04 ATEX 2500 X
Marking	Ⓔ II 3 G Ex nA IIC T4 Gc
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010
International approvals	
FM approval	CoC 3024816, CoC 3024816C
Approved for	Class I, Division 2, Groups A, B, C, D, T4 / Class I, Zone 2, AEx/Ex nA IIC T4
IECEx approval	IECEx TUN 13.0038X
Approved for	Ex nA IIC T4 Gc
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

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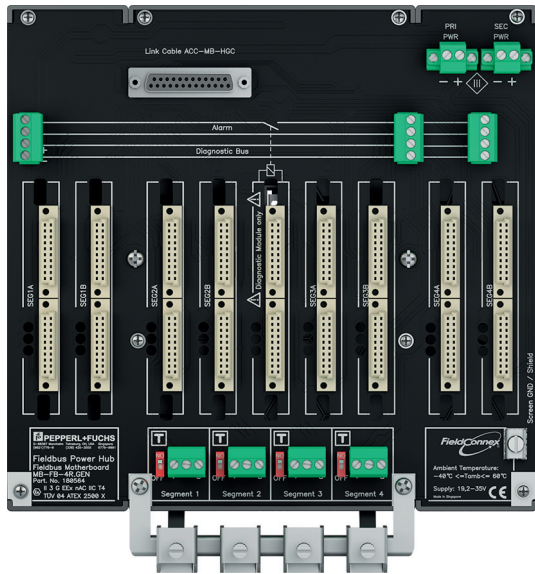
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Assembly



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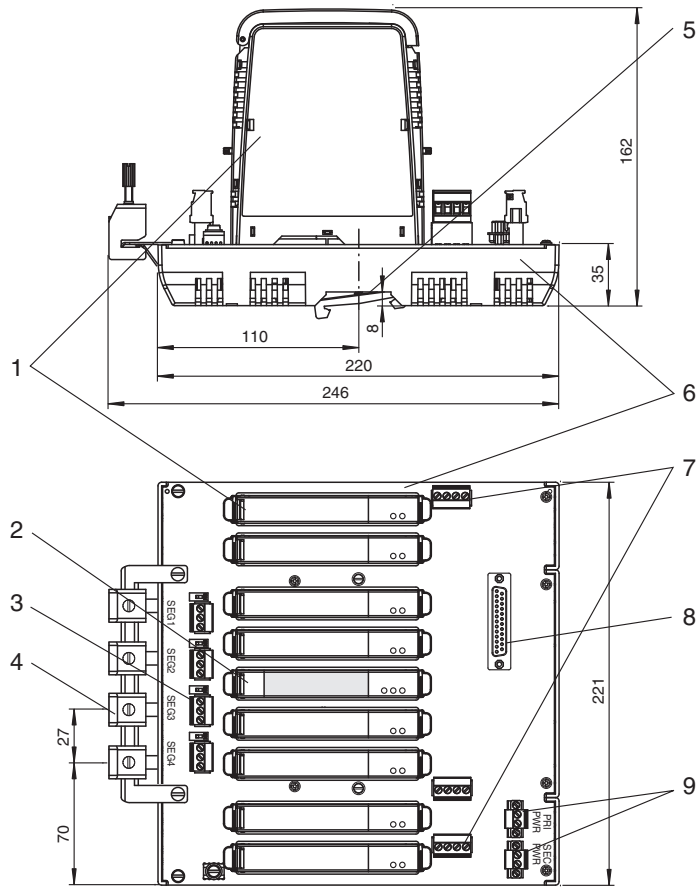
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Additional Information

Dimensions



Description:

- 1 Power Modules, see separate data sheets
- 2 Diagnostic Module, see separate data sheet
- 3 Connections for Fieldbus trunk, terminator switch
- 4 Screening/earthing kit for trunk cables shield, optional accessory
- 5 Mounting slot for DIN rail
- 6 Motherboard MB-FB-4R.GEN
- 7 Connections for alarm voltage free contact and diagnostics bus
Diagnostics link cable, optional accessory
- 8 SUB-D Host/Gateway-Interface
- 9 Connections for redundant bulk power supply

Diagnostic module selection

The following diagnostic modules are compatible with this motherboard.

Type code	Description
HD2-DM-B	Diagnostic Module, basic version
HD2-DM-A	Diagnostic Module, advanced version
HD2-DM-A.RO	Diagnostic Module, advanced version, relay output

The stationary and mobile Advanced Diagnostic Module (ADM) and related components provide measurement tools for the fieldbus physical layer. The ADM monitors many quality indicating values of the fieldbus physical layer. An expert system, which is included, analyzes the values and issues easy to understand messages indicating cause and remedy. The ADM is recommended for:

- **Faster commissioning and plant start-up:** Installation issues are known and corrected before loop check commences
- **Reliable operation through online monitoring:** The quality of the physical layer and installation is monitored making

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fieldbus a manageable asset

- **Efficient troubleshooting:** An expert system guides the user through issues and faults in the fieldbus installation

Many other tools are included that enhance fieldbus installation and upkeep. Please see datasheet on HD2-DM-A.

Connection to DCS

PROFIBUS – motherboard / Sub-D cable connection

PROFIBUS Power Hub Gateway Modules are mounted on a separate motherboard that is connected to the motherboard with the power modules via a Sub-D cable. The Sub-D cable comes with the gateway motherboard.

Type code	Description
Motherboards:	
MB-FB-GT	Gateway Motherboard
MB-FB-GTR	Gateway Motherboard, redundant
Gateway Module:	
HD2-GTR-4.PA	PROFIBUS DP/PA Gateway Module

Invensys – cable connection

The motherboard can be connected to Foxboro I/A Series with FBM228 host modules using a dedicated system cable

Type code	Description
ACC-MB-HGC.FOX.010	FieldConnex Power Hub system cable for Foxboro FBM228, length 1 m
ACC-MB-HGC.FOX.020	FieldConnex Power Hub system cable for Foxboro FBM228, length 2 m
ACC-MB-HGC.FOX.030	FieldConnex Power Hub system cable for Foxboro FBM228, length 3 m
ACC-MB-HGC.FOX.050	FieldConnex Power Hub system cable for Foxboro FBM228, length 5 m
ACC-MB-HGC.FOX.100	FieldConnex Power Hub system cable for Foxboro FBM228, length 10 m
ACC-MB-HGC.FOX.150	FieldConnex Power Hub system cable for Foxboro FBM228, length 15 m
ACC-MB-HGC.FOX.200	FieldConnex Power Hub system cable for Foxboro FBM228, length 20 m

Honeywell – cable connection

The motherboard can be connected to Honeywell Series C with FIM4/FIM8 host modules using a dedicated system cable.

Type code	Description
ACC-MB-HGC.HON.010	FieldConnex Power Hub system cable for Honeywell C300, length 1 m
ACC-MB-HGC.HON.020	FieldConnex Power Hub system cable for Honeywell C300, length 2 m
ACC-MB-HGC.HON.030	FieldConnex Power Hub system cable for Honeywell C300, length 3 m
ACC-MB-HGC.HON.050	FieldConnex Power Hub system cable for Honeywell C300, length 5 m
ACC-MB-HGC.HON.100	FieldConnex Power Hub system cable for Honeywell C300, length 10 m
ACC-MB-HGC.HON.150	FieldConnex Power Hub system cable for Honeywell C300, length 15 m
ACC-MB-HGC.HON.200	FieldConnex Power Hub system cable for Honeywell C300, length 20 m

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