

Power Hub Motherboard FieldConnex® Fieldbus MB-FB-GTR1*

- For 2 gateway modules
- For PROFIBUS PA
- Redundant configuration
- Installation in Zone 2/Class I, Div. 2
- Spring terminals or screw terminals selectable

Power hub motherboard for protocol gateways modules



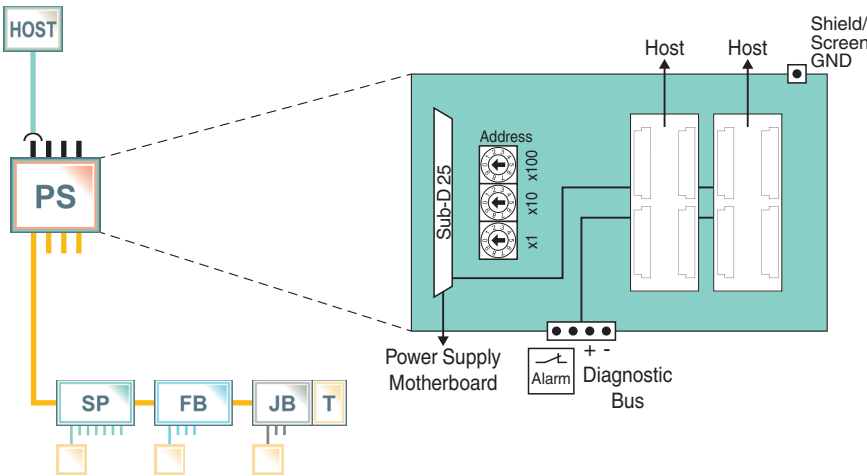
Function

This motherboard is a system component of the FieldConnex® Power Hub. It is the mounting base and wiring interface for 2 communication gateways. In connection with power supply modules and the respective motherboard it forms a complete unit for power supply of segments with data conversion.

Sockets for all modules enable simple installation and replacement without tools. Wire connections can be selected as spring terminals or screw terminals.

The motherboard supports a choice of gateways for different host protocols. A PROFIBUS PA master for each segment enables short bus cycle times. The DCS can access the advanced diagnostic module directly via the gateway without additional wiring or configuration.

Connection



Technical Data

General specifications

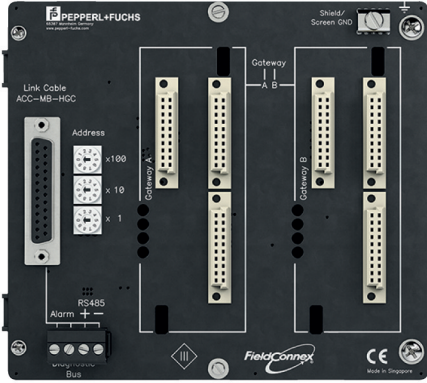
Design / Mounting	Motherboard based		
Installation in hazardous area	Zone 2 / Div. 2		
Supply			
Rated voltage	U_r	19.2 ... 35 V SELV/PELV	
Rated current	I_r	2 ... 3 A	
Indicators/operating means			
Fault signal	VFC alarm output via connectors		
Rotary switch	bus addressing, gateway-specific		
Directive conformity			

Release date: 2024-09-20 Date of issue: 2024-09-20 Filename: t177581_eng.pdf

Technical Data

Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
Standard conformity		
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
Ambient conditions		
Ambient temperature		-40 ... 70 °C (-40 ... 158 °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		
Housing material		Polycarbonate
Degree of protection		IP20
Mass		approx. 300 g
Mounting		DIN rail mounting
Data for application in connection with hazardous areas		
Certificate		TÜV 15 ATEX 7735 X
Marking		Ⓜ II 3 G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN IEC 60079-0:2018+AC:2020 , EN 60079-7:2015+A1:2018
International approvals		
IECEX approval		IECEX TUR 16.0007X
Approved for		Ex ec IIC T4 Gc
Certificates and approvals		
Marine approval		pending
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

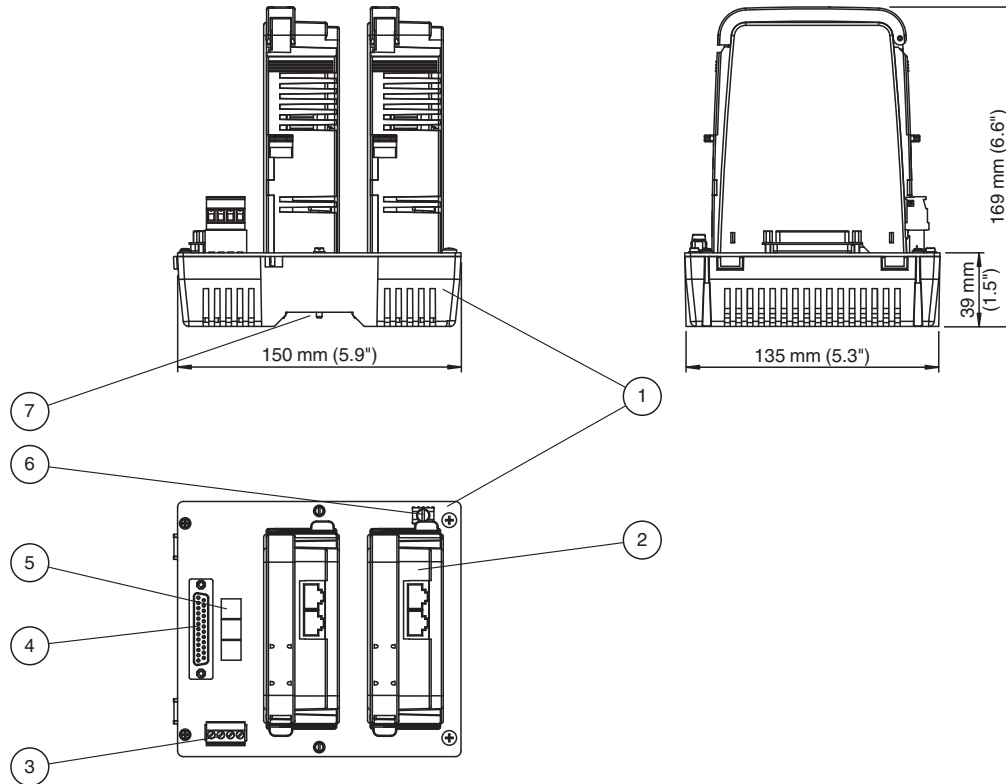
Assembly



Release date: 2024-09-20 Date of issue: 2024-09-20 Filename: t177581_eng.pdf

Additional Information

Dimensions and Assembly



Description:

- 1 Motherboard MB-FB-GTR1*
- 2 Gateway HD2-GTR-4*, see separate datasheet
- 3 Connections: Volt-free contact alarm and diagnostic bus.
Diagnostic link cable ACC-MB-HDC, optional accessory
- 4 SUB-D interface for the connection of Power Hub motherboards
- 5 Rotary switches for gateway addressing, x1, x10, x100
- 6 Earth connection
- 7 Mounting slot for DIN mounting rail

Available PROFIBUS and PROFINET Power Hub System Components

The following list describes all available PROFIBUS and PROFINET Power Hub system components as an overview and quick reference beyond the component described in this datasheet.

Type Code	Description
HD2-GTR-4PA	PROFIBUS DP to PROFIBUS PA gateway module, 4 PROFIBUS PA segments.
HD2-GTR-4PA.PN	PROFINET to PROFIBUS PA gateway module, 4 PROFIBUS PA segments.
HCD2-FBPS-1.500	Power supply module 30 V/500 mA.
HCD2-FBPS-1.23.500	Power supply module 23 V/500 mA.
HD2-DM-A*	Advanced physical layer diagnostic module.
HD2-DM-B	Basic diagnostic module.
MB-FB-GTR1	Motherboard for gateway redundancy, slots for 2 gateway modules.
MBHC-FB-4.GT*	Compact Power Hub motherboard for 4 segments, slots for 4 power supply modules, 1 diagnostic module, and 1 gateway module. Connector options: Removable screw terminals or spring terminals.
MBHC-FB-4.HSC*	Compact Power Hub motherboard for 4 segments, slots for 4 power supply modules and 1 diagnostic module. Connector options: Removable screw terminals or spring terminals.
MBHC-FB-4R.HSC*	Compact Power Hub motherboard for 4 redundant segments, slots for 8 power supply modules and 1 diagnostic module. Connector options: Removable screw terminals or spring terminals.
KT-MB-FB-D-4R.GEN	DART high-density Power Hub with generic interface for 4 redundant segments, slots for 8 power supply modules with 1 diagnostic module.

Applicable Combinations of Gateway Motherboards, System Modules with Motherboards

		GW MBs	GW Modules		Power Supplies		Diagnostic Modules	
		MB-FB-GTR1	HD2-GTR-4PA	HD2-GTR-4PA.PN	HCD2-FBPS-1.23.500	HCD2-FBPS-1.500	HD2-DM-A*	HD2-DM-B
MBs or Power Hub Kits	MBHC-FB-4.HSC*	x			x	x	x	x
	MBHC-FB-4R.HSC*	x			x	x	x	x
	KT-MB-FB-D-4R.GEN	x					x	x
GW MBs	MB-FB-GTR1		x	x				
	MBHC-FB-4.GT		x	x	x	x	x	x

For more details on the components see respective datasheets.

Release date: 2024-09-20 Date of issue: 2024-09-20 Filename: t177581_eng.pdf

Example: Power Hub with Redundancy for 4 Segments

No.	Product Component	Model Type/Order Number
1	Motherboard	MBHC-FB-4R.HSC
8	Power supply modules	HCD2-FBPS-1.500
4	Surge protectors	TPH-LBF-IA1.36.DE*
1	Earth bar for surge protectors	ACC-LBF-EB.4
1	Advanced diagnostic module	HD2-DM-A
1	Gateway motherboard	MB-FB-GTR1
2	PROFIBUS gateway module or	HD2-GTR-4PA
1	PROFINET gateway module	HD2-GTR-4PA.PN