Features

- 8 segments, redundant, individual modules per segment
- Customized for Invensys, FBM228
- High-power trunk: Live work on devices in any hazardous area
- Best quality, smallest size and lowest heat dissipation
- For FOUNDATION Fieldbus H1
- Optional advanced diagnostics
- Passive impedance for high reliability
- Dual, redundant bulk power connections

Function

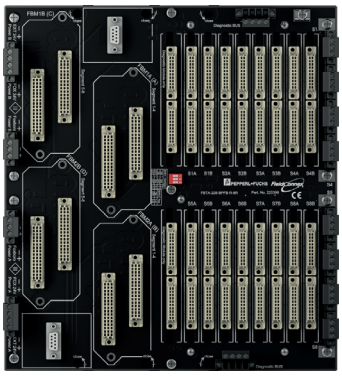
The FieldConnex® Compact Power Hub is a modular fieldbus power supply for eight segments with lowest power dissipation and smallest foot print. It supports explosion protection e.g. the High-Power Trunk for longest cable run and highest device count. The Power Hub supports optional Advanced Diagnostics for fast fieldbus commissioning and online monitoring.

The motherboard is the wiring interface and mounting plate with sockets for redundant FBM-228 host modules. Individual power modules enable simple installation and replacement without tools. For power redundancy with seamless transfer, pairs of modules feed each segment. Dual, redundant bulk power connections are configurable. They permit common or separate supply to FBM and power modules via Invensys or external power source.

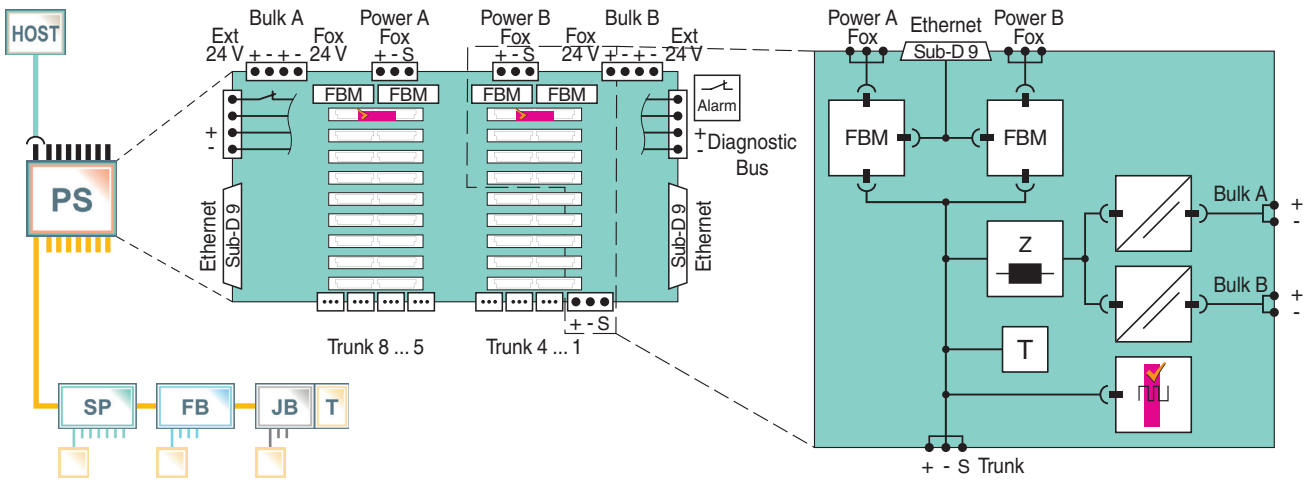
This design allows the most compact cabinet layout for large scale projects. Excellent availability and a very long service life is achieved through: passive impedance filter per segment, high-availability fieldbus termination and plug-in connectors with retaining screws and electronics optimized for lowest power dissipation and compactness.

Assembly





Connection

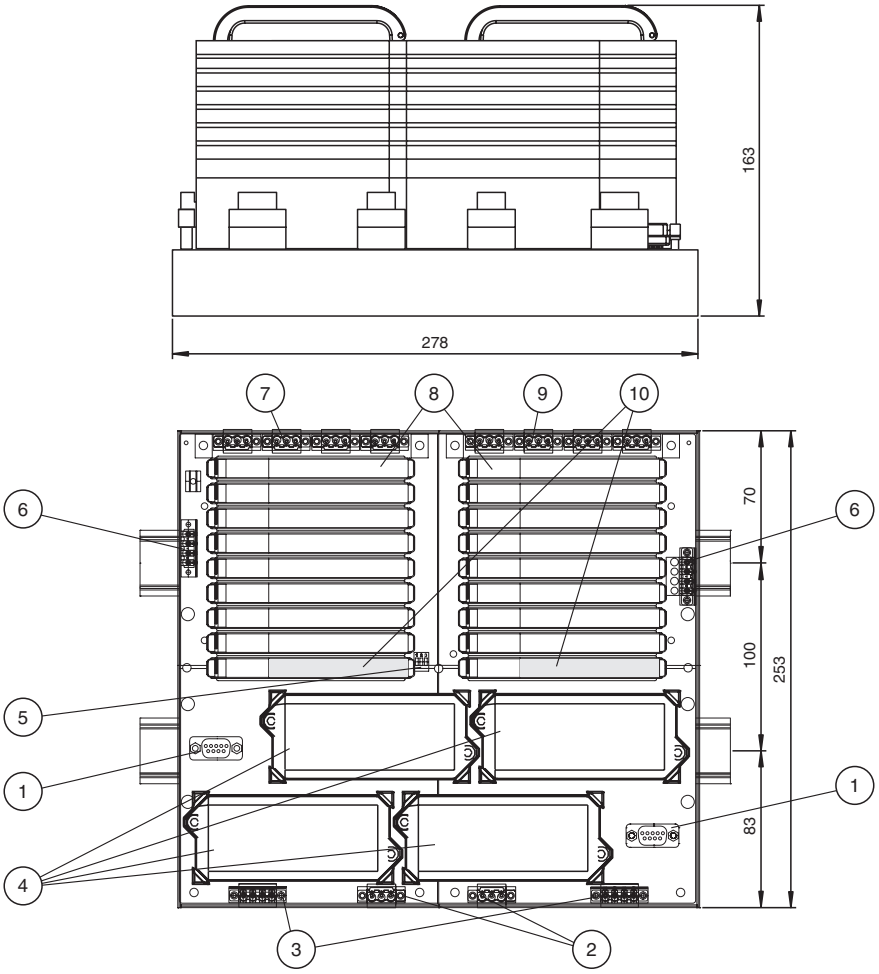


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General specifications		
Design / Mounting		Motherboard based
Supply		
Connection		redundant
Rated voltage	U_r	21.6 ... 25.2 V Input for Power Hub selectable: Option 1: from regular Foxboro power supplies Option 2: one or two external bulk power supplies
Rated current	I_r	16 A
Power dissipation		typ. 0.4 W per segment
Fieldbus interface		
Number of segments		
Redundant		8
Host-side		redundant Invensys FBM 228
Main cable (Trunk)		
Rated current		≤ 500 mA per segment
Terminating resistor		100 Ω integrated
Indicators/operating means		
Fault signal		VFC alarm output via connectors
Galvanic isolation		
Fieldbus segment/Fieldbus segment		functional insulation acc. to IEC 62103, rated insulation voltage 50 V_{eff}
Fieldbus segment/Supply		functional insulation acc. to IEC 62103, rated insulation voltage 250 V_{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Standard conformity		
Electromagnetic compatibility		NE 21:2006
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		-20 ... 60 °C (-4 ... 140 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		< 95 % non-condensing
Shock resistance		10 g , 11 ms
Vibration resistance		1 g , 10 ... 150 Hz
Mechanical specifications		
Housing material		Steel, coated
Housing width		278 mm
Housing height		253 mm
Housing depth		69 mm
Degree of protection		IP20
Mass		3200 g
Mounting		two DIN rails
International approvals		
FM approval		
FM certificate		FM 19 US 0015 X and FM 19 CA 0011 X
FM marking		AEx/Ex ec IIC T4
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

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Dimensions



Description:
1 Ehternet trunk fieldbus connection
2 Connections for Foxboro A&B power supply
3 Connections for external bulk power supply for power supply modules
4 INVENSYS FBM 228 FOUNDATION fieldbus modules
5 ID Dip Switch array
6 Fault output (relay) and diagnostic bus
7 Fieldbus trunk connections 5-8
8 Power supply modules
9 Fieldbus trunk connections 1-4
10 Diagnostic modules

Power module

		HCD2-FBPS-1.500	
Power Output			
Voltage (V)		28 ... 30	
Current (mA)		500	
Device in ...	**Type of Protection**		**Required Installation Components**
Zone 0/Div. 1	Intrinsically safe Ex ia	■	FieldBarrier
Zone 1/Div. 1	Intrinsically safe Ex ia	■	FieldBarrier
Zone 1/Div. 1	Flameproof Ex d	■	Segment Protector R-SP-E12 or any Segment Protector installed in Zone 2
Safe Area	No specific type of protection	■	Segment Protector recommended

Diagnostic module selection

The following diagnostic modules are compatible with this motherboard.

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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 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.

Accessories

Type code	Description
ACC-MB-HDC	Diagnostic link cable, length 6 cm

Installation note

see manual

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