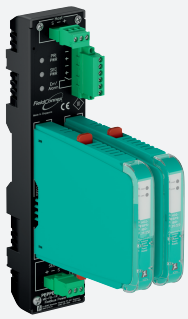


Universal Fieldbus Power Hub, Motherboard, Common Interface

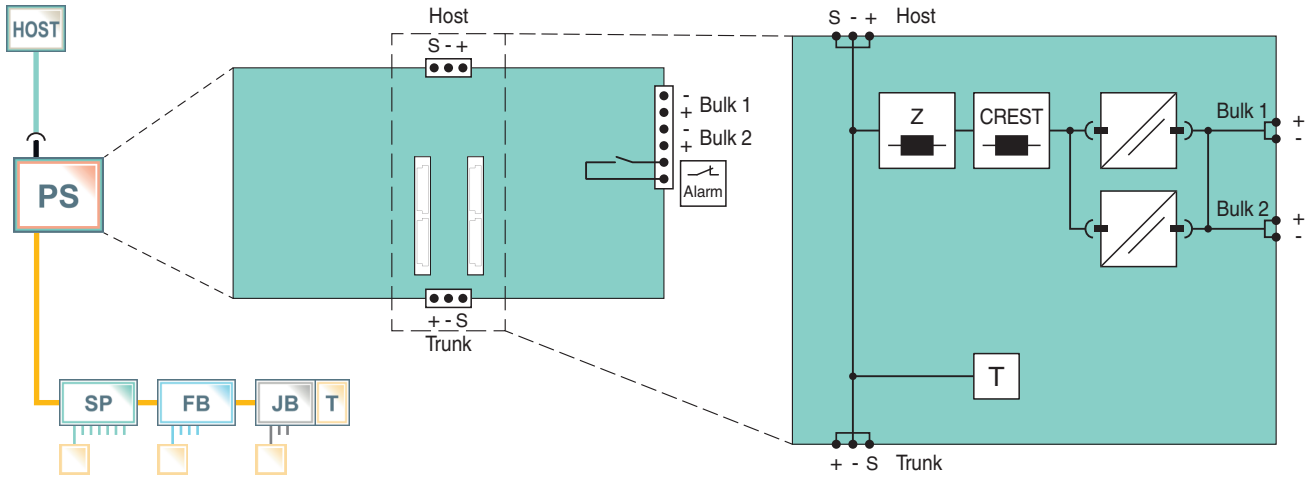
MB-FB-1R

- 1 segment, redundant
- Supports all PLC and PCS hosts
- 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 common screw terminals for all DCS and PLC host systems. Sockets for all modules enable simple installation and replacement 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
Power dissipation		0.5 W
Fieldbus connection		
Number of segments		
Redundant		1

Release date: 2022-07-04 Date of issue: 2022-07-04 Filename: 183483_eng.pdf

Technical Data

Host-side		general purpose host
Terminating resistor		fixed 100 Ω
Indicators/operating means		
LED PRI PWR		green: on, primary bulk power supply connected
LED SEC PWR		green: on, secondary bulk power supply connected
LED ERR		red: 2 Hz flashing, power supply fault (short-circuit, undervoltage), redundancy fault
Fault signal		VFC alarm 1 A, 50 V DC, normally closed
Galvanic isolation		
Fieldbus segment/Supply		functional insulation acc. to DIN EN 50178, rated insulation voltage 50 V_{eff}
Directive conformity		
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
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		48 mm
Housing height		220 mm
Housing depth		65 mm
Degree of protection		IP20
Mass		approx. 500 g
Mounting		DIN mounting rail
Coating		conformal coated
Data for application in connection with hazardous areas		
Certificate		TÜV 04 ATEX 2500 X
Marking		⟨Ex⟩ 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.

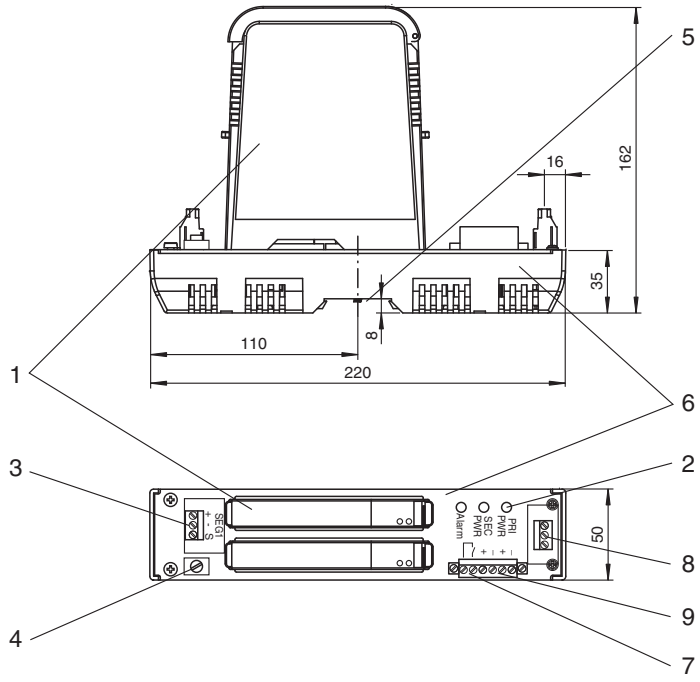
Release date: 2022-07-04 Date of issue: 2022-07-04 Filename: 183483_eng.pdf

Assembly

Release date: 2022-07-04 Date of issue: 2022-07-04 Filename: 183483_eng.pdf

Additional Information

Dimensions



Description:
1 Power Supply Modules, see separate data sheets
2 Diagnostic LEDs
3 Connections for fieldbus trunk
4 Screening/earthing clamp for trunk cable shield
5 Mounting slot for DIN rail
6 Motherboard MB-FB-1R
7 Connections for alarm voltage free contact
8 Connections for host
9 Connections for redundant bulk power supply

Compatible power modules

		HD2-FBPS-1.17.500	HD2-FBPS-1.23.500	HD2-FBPS-1.25.360	HD2-FBPS-1.500	HD2-FBCL-1.500	
Power Output							
Voltage (V)		15 ... 17	21 ... 23	25 ... 28	28 ... 30	-[1]	
Current (mA)		500	500	360	500	500	
Limit U_0 (V)		17.5	24	-	-	-	
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
Zone 2	Intrinsically safe Ex ic (FISCO)	■					Selected Segment Protectors
Zone 2	Intrinsically safe Ex ic (Entity)		■				Selected Segment Protectors
Div. 2	Non-incendive	■	■	■	■		Any Segment Protector; power module selection depends on voltage of field device
Safe Area	No specific type of protection			■	■	■	Segment Protector recommended

[1] follows bulk power supply

Release date: 2022-07-04 Date of issue: 2022-07-04 Filename: 183483_eng.pdf

Additional Information

Accessories

Type code	Description
DM-AM-KIT	Advanced Diagnostic Module, mobile version

Installation note

see manual

Release date: 2022-07-04 Date of issue: 2022-07-04 Filename: 183483_eng.pdf