

Fieldbus Power Hub, High-density Motherboard for Yokogawa ALF 111



Motherboard for power supply of four fieldbus segments with redundancy and custom interface

- Output: 25 ... 28 V/360 mA
- For FOUNDATION Fieldbus H1
- Redundant Power Supply Modules
- Passive impedance generation for high reliability
- Smallest Footprint
- Any mounting direction
- Optional: Advanced Diagnostic Module for the physical layer including fieldbus oscilloscope

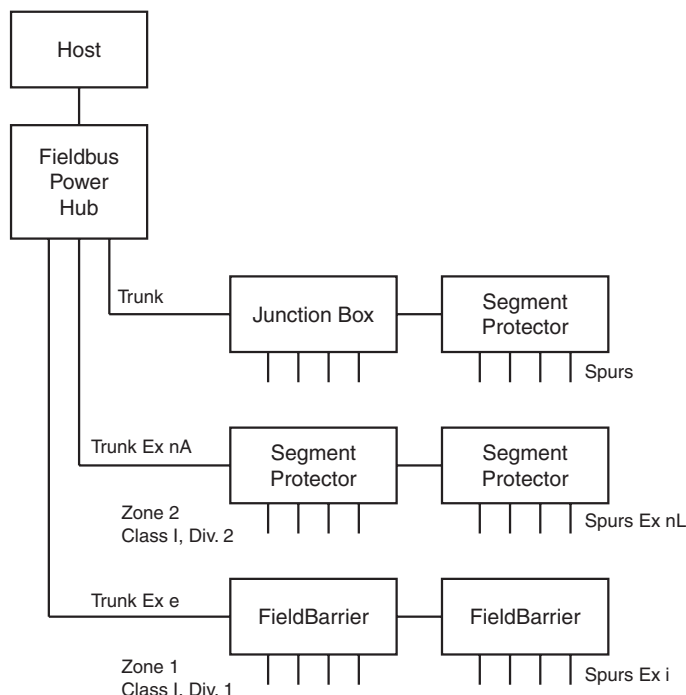
Function

The High Density Power Hub is a system platform based on motherboards for power supply of fieldbus networks according to IEC 61158-2. Two redundant Power Supply Modules with galvanic isolation per segment and the passive impedance generation are standard and ensure highest system availability. Electric circuit design optimized for low power dissipation allows any mounting direction of the motherboard. This design and the small footprint ensure optimum usage of cabinet space.

Additional features are: Built-in fieldbus termination in high-availability configuration. Plug-in connectors with fastening screws are unyielding to vibrations and prevent accidental disconnect. The host side is adapted for direct connection to Yokogawa's ALF111 controller. The optional Advanced Diagnostic Module monitors the fieldbus physical layer allowing faster commissioning and online monitoring of data transmission quality.

The High Density Power Hub feeds the High Power Trunk for maximum cable lengths and highest number of devices in any explosive area: High energy level on the trunk line is limited at each spur connection via active FieldBarriers or Segment Protectors. Field devices can be installed in Zone 1/Div. 1 and maintained while the system is energized.

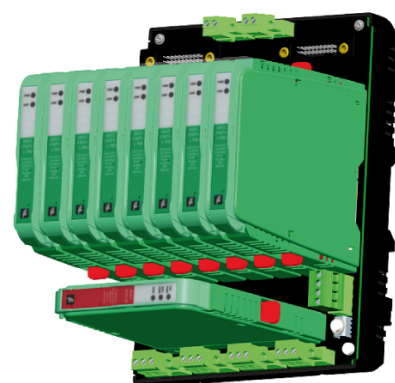
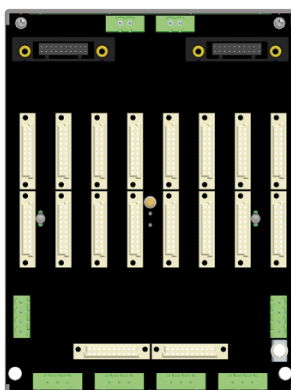
Connection



Composition




Fieldbus Power Hub, Motherboard MBHD-FB-4R.YO with redundant AKB336 sockets



Fieldbus Power Hub, Motherboard with AKB336 socket, fully equipped with Diagnostic Module and Power Modules

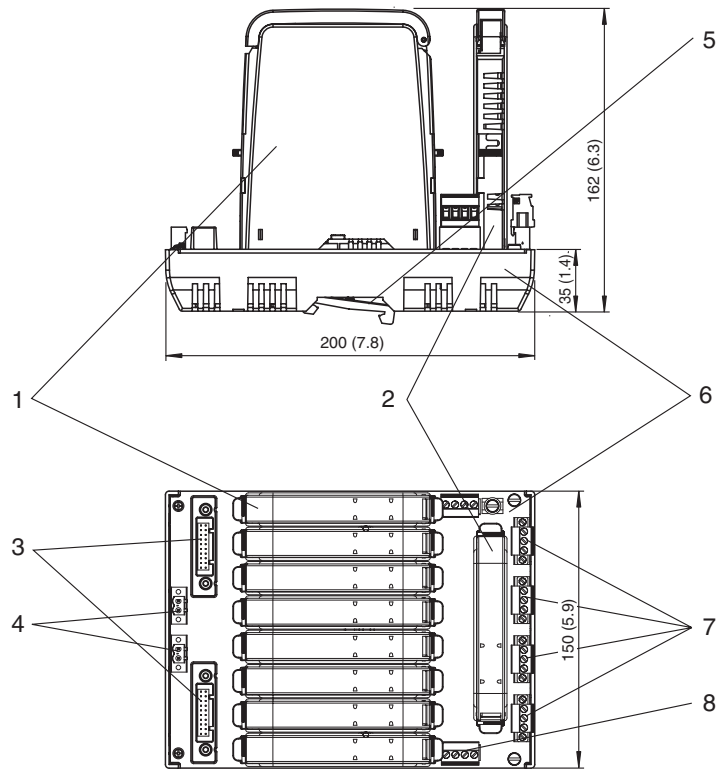
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Supply	
Connection	redundant
Rated voltage	19.2 ... 35 V
Rated current	16 A
Power loss	typ. 0.2 W per segment
Fieldbus interface	
Number of segments	4 redundant
Host-side	redundant Yokogawa ALF111 with AKB336 interface cables
Terminating resistor	100 Ω integrated
Indicators/operating means	
Fault signal	VFC alarm output via connectors
Electrical isolation	
Fieldbus segment/Fieldbus segment	functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{rms}
Fieldbus segment/Supply	functional isolation acc. to IEC 62103, rated insulation voltage 250 V _{rms}
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Standard conformity	
Electromagnetic compatibility	NE 21:2006
Protection degree	IEC 60529
Fieldbus standard	IEC 61158-2
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Ambient conditions	
Ambient temperature	-40 ... 60 °C (233 ... 333 K)
Storage temperature	-40 ... 85 °C (233 ... 358 K)
Relative humidity	< 95 % non-condensing
Shock resistance	15 g , 11 ms
Vibration resistance	1 g , 10 ... 150 Hz
Mechanical specifications	
Connection type	plug with screw flange
Core cross-section	2.5 mm ²
Housing material	Polycarbonate
Housing width	150 mm
Height of housing	200 mm
Housing depth	65 mm
Protection degree	IP20
Mass	approx. 670 g
Mounting	DIN rail
Data for application in conjunction with hazardous areas	
Statement of conformity	TÜV 06 ATEX 553229 X
Group, category, type of protection, temperature classification	 II 3 G Ex nA II T4
Directive conformity	
Directive 94/9 EC	EN 60079-15:2005 , EN 60079-0:2004
International approvals	
FM approval	CoC 3024816, CoC 3024816C
Approved for	Class I, Div 2, ABCD, T4 / Class I, Zone 2, AEx/Ex nA IIC T4

Supplementary information

Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

Dimensions



All dimensions in millimeters and inches (values in brackets) and without tolerance indication.

Description:

- 1 Power Supply Modules, see separate data sheet
- 2 Diagnostic Module, see separate data sheets
- 3 Redundant Yokogawa AKB336 system cable socket
- 4 Connections for bulk power supply, redundant
- 5 Mounting slot for DIN rail
- 6 Motherboard
- 7 Connections for fieldbus trunk
- 8 Connections for alarm voltage free contact and diagnostic bus
Diagnostic link cable, optional accessory

Installation note

see manual

Accessories

ACC-MB-HDC: Diagnostic link cable, length 6 cm.