

**Features**

- 4 segments, individual modules per segment
- Customized for Yokogawa, ALF 111
- High-power trunk: Live work on devices in any hazardous area
- Features for best signal quality, low heat dissipation
- For FOUNDATION Fieldbus H1
- Optional advanced diagnostics
- Passive impedance and CREST technology for high reliability
- Supports Ex ic/nL voltage limitation
- Installation in Zone 2/Div. 2

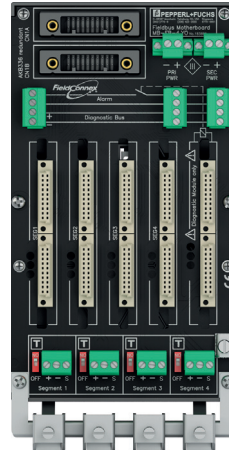
**Function**

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.

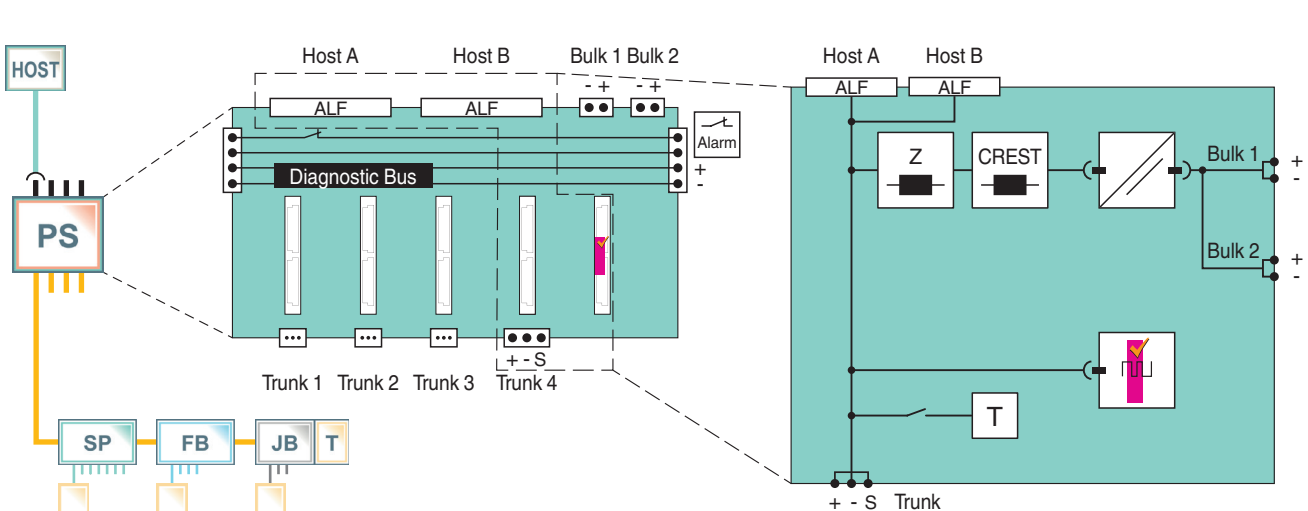
The motherboard is the wiring interface with connectors for direct DCS hook-up via the AKB 336 system cable. Sockets for all modules enable simple installation and replacement without tools. For power redundancy with seamless transfer, pairs of modules feed each segment.

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.

**Assembly**



**Connection**



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

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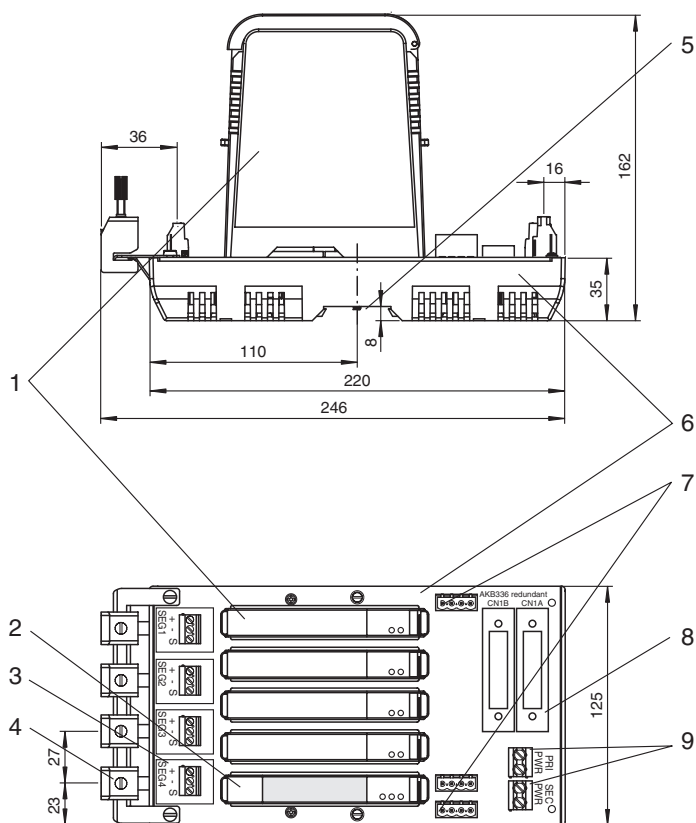
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|   |       |   |
|---|-------|---|
| <b>Supply</b>   |       |   |
| Connection  |       | redundant   |
| Rated voltage   | $U_n$ | 19.2 ... 35 V SELV/PELV   |
| Rated current   | $I_n$ | 16 A  |
| <b>Fieldbus interface</b>                               |       |   |
| Number of segments                                      |       |   |
| Simplex   |       | 4   |
| Host-side   |       | redundant Yokogawa ALF111 for AKB336 interface cable  |
| Terminating resistor                                    |       | selectable 100 $\Omega$   |
| <b>Indicators/operating means</b>                       |       |   |
| Fault signal  |       | VFC alarm output via connectors   |
| <b>Electrical isolation</b>                             |       |   |
| Fieldbus segment/Fieldbus segment                       |       | functional insulation acc. to DIN EN 50178, rated insulation voltage 50 $V_{eff}$   |
| Fieldbus segment/Supply                                 |       | functional insulation acc. to DIN EN 50178, rated insulation voltage 50 $V_{eff}$   |
| <b>Directive conformity</b>                             |       |   |
| Electromagnetic compatibility                           |       |   |
| Directive 2014/30/EU                                    |       | EN 61326-1:2013   |
| <b>Standard conformity</b>                              |       |   |
| 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  |
| <b>Ambient conditions</b>                               |       |   |
| 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  |
| <b>Mechanical specifications</b>                        |       |   |
| Connection type   |       | screw terminals   |
| Core cross-section                                      |       | 2.5 mm <sup>2</sup>   |
| Housing material  |       | Polycarbonate   |
| Housing width   |       | 125 mm  |
| Housing height  |       | 220 mm  |
| Housing depth   |       | 65 mm   |
| Degree of protection                                    |       | IP20  |
| Mass  |       | approx. 850 g   |
| Mounting  |       | DIN mounting rail   |
| Coating   |       | conformal coated  |
| <b>Data for application in connection with Ex-areas</b> |       |   |
| Statement of conformity                                 |       | TÜV 04 ATEX 2500 X  |
| Group, category, type of protection, temperature class  |       |  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   |
| <b>International approvals</b>                          |       |   |
| 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   |
| <b>Certificates and approvals</b>                       |       |   |
| FOUNDATION Fieldbus                                     |       | FF-830  |
| <b>General information</b>                              |       |   |
| Supplementary information                               |       | Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> . |

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Dimensions



Description:

- 1 Power Supply 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-4.YO
- 7 Connections for alarm voltage free contact and diagnostics bus  
Diagnostic link cable, optional accessory
- 8 redundant Yokogawa AKB336 system cable sockets
- 9 Connections for redundant bulk power supply

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**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 |  |                               |
|--------------------------|-----------------------------------|-------------------|-------------------|----------------|----------------|--|-------------------------------|
| <b>Power Output</b>      |                                   |                   |                   |                |                |  |                               |
| Voltage (V)              | 15 ... 17                         | 21 ... 23         | 25 ... 28         | 28 ... 30      | - <sup>1</sup> |  |                               |
| Current (mA)             | 500                               | 500               | 360               | 500            | 500            |  |                               |
| Limit U <sub>0</sub> (V) | 17.5                              | 24                | -                 | -              | -              |  |                               |
| <b>Device in ...</b>     | <b>Type of Protection</b>         |                   |                   |                |                | <b>Required Installation Components</b>  |                               |
| 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 |

<sup>1</sup> follows 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 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-HSK | Screening/earthing kit             |
| ACC-MB-HDC | Diagnostic link cable, length 6 cm |

**Installation note**

see manual

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