

Instruction Manual

1. Marking

MBHC* Redundant Motherboards, 8 Segments

MBHC-FB-8R (removable screw terminals),
MBHC-FB-8R.1 (removable spring terminals), MBHC-FB-8R.YO (redundant Yokogawa ALF connectors, removable screw terminals),
MBHC-FB-8R.YO.1 (redundant Yokogawa ALF connectors, removable spring terminals),
MBHC-FB-8R.HSC (host connector left, removable screw terminals),
MBHC-FB-8R.HSC.1 (host connector left, removable spring terminals),
MBHC-FB-8R.HSC.R (host connector right, removable screw terminals),
MBHC-FB-8R.HSC.R.1 (host connector right, removable spring terminals),
MBHC-FB-8R.RH (redundant host terminals left),
MBHC-FB-8R.RH.R (redundant Host-Anschlussklemmen rechts)

MBHC* Redundant Motherboards, 4 Segments

MBHC-FB-4R (removable screw terminals),
MBHC-FB-4R.1 (removable spring terminals),
MBHC-FB-4R.YO (host connector left, redundant Yokogawa ALF connectors, removable screw terminals),
MBHC-FB-4R.YO.1 (host connector left, redundant Yokogawa ALF connectors, removable spring terminals),
MBHC-FB-4R.YO.R (host connector right, redundant Yokogawa ALF connectors, removable screw terminals),
MBHC-FB-4R.HSC (host connector left, removable screw terminals),
MBHC-FB-4R.HSC.1 (host connector left, removable spring terminals)

MBHC* Simplex Motherboards, 4 Segments

MBHC-FB-4 (removable screw terminals),
MBHC-FB-4.1 (removable spring terminals),
MBHC-FB-4.YO (Yokogawa ALF connector, removable screw terminals),
MBHC-FB-4.YO.1 (Yokogawa ALF connector, removable spring terminals),
MBHC-FB-4.HSC (host connector left, removable screw terminals),
MBHC-FB-4.HSC.1 (host connector left, removable spring terminals)

Fieldbus Power Supplies

HCD2-FBPS-1.23.500 (23 V)
HCD2-FBPS-1.500 (28 V)

ATEX certificate: TÜV 10 ATEX 555761X
ATEX marking: Ⓔ II 3G Ex ec IIC T4 Gc

IECEx certificate: IECEx TUN 13.0037X
IECEx marking: Ex ec IIC T4 Gc

CCC certificate: 2020322303003509
CCC marking: Ex ec IIC T4 Gc

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2. Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

3. Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismantling lies with the plant operator.
The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismantling of the device. The trained and qualified personnel must have read and understood the instruction manual.
Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

4. Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location.
Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable supplement this document. You can find this information under www.pepperl-fuchs.com.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com/device-information.

Due to constant revisions, documentation is subject to permanent change. Please refer only to the most up-to-date version, which can be found under www.pepperl-fuchs.com.

5. Intended Use

The FieldConnex® Power Hub is designed to power segments of the fieldbus according to IEC/EN 61158-2.

The Power Hub consists of a motherboard and power supply modules. Depending on the configuration, further components are gateways and diagnostic modules. See the respective product documentation for these components.

The device is an electrical apparatus for hazardous areas of Zone 2.

The device may be installed in gas groups IIC, IIB, and IIA.

The device must only be operated in the specified ambient temperature range and at the specified relative humidity without condensation.

6. Improper Use

Protection of personnel and the plant is not ensured if the device is not used according to its intended use.

7. Mounting and Installation

Prior to mounting, installation, and commissioning of the device you should make yourself familiar with the device and carefully read the instruction manual.

Only manipulate the connections within the specified ambient temperature range.

Temperature range	-5 °C to +70 °C
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Observe the installation instructions according to IEC/EN 60079-14.

Do not mount a damaged or polluted device.

The device may be installed in a corrosive atmosphere according to ISA-S71.04, severity level G3.

Observe the tightening torque of the screws.

7.1. Requirements for Cables and Connection Lines

Observe the permissible core cross section of the conductor.

Observe the insulation stripping length.

When using stranded conductors, crimp wire end ferrules on the conductor ends.

7.2. HCD2-FB* Mounting and Installation

The modules are intended for mounting on an appropriate fieldbus Power Hub motherboard.

Requirements for Redundant Systems

Each segment on a redundant motherboard must only be fitted with 2 power modules of the same type.

7.3. HD2-DM* Mounting and Installation

The modules are intended for mounting on an appropriate fieldbus Power Hub motherboard.

The Power Hub motherboard features a special connection slot for HD2-DM* diagnostic modules labeled **Diagnostic Module only**. Do not try to plug any other modules into this connection slot. Other modules may be damaged.

7.4. Hazardous Area

7.4.1. Gas

7.4.1.1. Zone 2

Connection or disconnection of energized non-intrinsically safe circuits is only permitted in the absence of a potentially explosive atmosphere.

The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC/EN 60664-1.

The device must be installed and operated only in surrounding enclosures that

- comply with the requirements for surrounding enclosures according to IEC/EN 60079-0,
- are rated with the degree of protection IP54 according to IEC/EN 60529.

Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.

7.4.2. Type of Protection

7.4.2.1. Type of Protection Ex i

When using FieldConnex® Power Hubs with suitable FieldConnex® Segment Protectors for intrinsically safe field wiring, ensure that the power supply modules used are within the limits of the required output values.

Intrinsically safe circuits of associated apparatus (installed in non-hazardous area) can be led into hazardous areas. Observe the compliance of the separation distances to all non-intrinsically safe circuits according to IEC/EN 60079-14.

If circuits with type of protection Ex ic are operated with non-intrinsically safe circuits, they must no longer be used as circuits with type of protection Ex ic.

Observe the respective peak values of the field device and the associated apparatus with regard to explosion protection when connecting intrinsically safe field devices with intrinsically safe circuits of associated apparatus (verification of intrinsic safety). Also observe IEC/EN 60079-14 and IEC/EN 60079-25.

In order to maintain the separation distances defined in IEC/EN 60079-11 when using the FieldConnex® Power Hub with Segment Protectors to generate intrinsically safe outputs, use the following accessories.

MBHC-FB-4*: Separation wall ACC-MB-SW
MBHC-FB-8*: Connector cover ACC-MB-CC

8. Operation, Maintenance, Repair

Do not repair, modify, or manipulate the device.

Do not use a damaged or polluted device.

If cleaning is necessary while the device is located in a hazardous area, in order to avoid electrostatic charging only use a clean damp cloth.

If there is a defect, always replace the device with an original device.

9. Delivery, Transport, Disposal

Check the packaging and contents for damage.

Check if you have received every item and if the items received are the ones you ordered.

Keep the original packaging. Always store and transport the device in the original packaging.

Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.

The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.