Instruction Manual

Marking

MBHD* Fieldbus Motherboards

MBHD-FB1-4R (universal motherboard), MBHD-FB1-4R.YO (Yokogawa motherboard)

table 1

Pepperl+Fuchs GmbH Lilienthalstraße 200, 68307 Mannheim, Germany

table 2

EC-type examination certificate: TÜV 06 ATEX 553229 X Ex II 3 G Ex nA IIC T4 Gc
IECEx TUN 11.0003X Ex nA IIC T4 Gc

table 3

MB* Redundant Fieldbus Motherboards

MB-FB-4R (generic, 4 segments), MB-FB-4R.YO (Yokogawa, 4 segments), MB-FB-4R.GEN (motherboard, 4 segments, redundant) MB-FB-1R (generic, 1 segment), MB-FB-2R (generic, 2 segments),

table 4

MB* Simplex Fieldbus Motherboards

MB-FB-4 (generic, 4 segments), MB-FB-4.YO (Yokogawa, 4 segments), MB-FB-4.GEN (motherboard, 4 segments, simplex)

table 5

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table 6

EC-type-examination certificate: TÜV 04 ATEX 2500 X Ex II 3 G Ex nA IIC T4 Gc
IECEx TUN 13.0038X Ex nA IIC T4 Gc

table 7

HD2-FBPS-1.25.360 Fieldbus Power Supply

HD2-FBPS-1.25.360 (power supply module)

table 8

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table 9

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IECEx TUN 11.0003X Ex nA IIC T4 Gc

table 10

HD2-FBPS* Fieldbus Power Supplies

HD2-FBPS-1.500 (power supply module), HD2-FBPS-1.23.500 (power supply module), HD2-FBPS-1.17.500 (power supply module)

table 11

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table 12

EC-type examination certificate: TÜV 04 ATEX 2500 X Ex II 3 G Ex nA IIC T4 Gc
IECEx TUN 13.0038X Ex nA IIC T4 Gc

table 13

HD2-FBCL* Fieldbus Power Conditioner

HD2-FBCL-1.500 (power conditioner module)

table 14

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table 15

EC-type examination certificate: TÜV 04 ATEX 2500 X Ex II 3 G Ex nA IIC T4 Gc
IECEx TUN 13.0038X Ex nA IIC T4 Gc

table 16

Validity

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

Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

Mounting, installation, commissioning, operation, maintenance and dismounting of the device may only be carried out by appropriate trained and qualified personnel. The instruction manual must be read and understood.

Reference to Further Documentation

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

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

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.

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.

Improper Use

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

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

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° ... +70 C°

table 17

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-S71.04-1985, severity level G3.

Observe the tightening torque of the screws.

Requirements for Cables and Connection Lines

Observe the following points when installing cables and connection lines:

Observe the permissible core cross-section of the conductor.

The insulation stripping length must be considered.

If you use stranded conductors, crimp wire end ferrules on the conductor ends.

HD2-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.

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.

Hazardous Area

Gas

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 an 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 or operating the device.

Type of Protection Ex i Applicable Combinations

Applicable Combinations for Ex i:	
MBHD-FB1-4R MBHD-FB1-4R.YO	HD2-FBPS-1.500 HD2-FBPS-1.23.500 HD2-FBPS-1.17.500

table 18

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.

The respective peak values of the field device and the associated apparatus with regard to explosion protection should be considered when connecting intrinsically safe field devices with intrinsically safe circuits of associated apparatus (verification of intrinsic safety). Make sure to 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 specified accessories.

MBHD-FB*: Connector cover ACC-MB-CC

table 19

Single conductors must not protrude > 30 mm from the cable sheath of the cables and connection lines. Ensure that exceedingly protruding single conductors are tied together with a cable tie or a heat-shrinkable tube.

Operation, Maintenance, Repair

Prior to using the device you should make yourself familiar with the device and carefully read the instruction manual.

The device must not be repaired, changed or manipulated.

If there is a defect, always replace the device with an original device from Pepperl+Fuchs.

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 (see datasheet) must be considered.

Disposing of device, packaging, and possibly contained batteries must be in compliance with the applicable laws and guidelines of the respective country.