

Instruction Manual

1. Marking

HART Transmitter Power Supply, Input Isolator FB3202B3
ATEX certificate: FI 24 ATEX 0082 U ATEX marking: Ⓔ II 2(1)G Ex db q [ia Ga] IIC Gb Ⓔ II (1)D [Ex ia Da] IIIC
IECEx certificate: IECEx FI 24.0018U IECEx marking: Ex db q [ia Ga] IIC Gb, [Ex ia Da] IIIC
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2. 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.

3. Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location.

The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, and control drawings if applicable (see datasheet) are an integral part of 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.

4. 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.

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

Only use the device stationary.

Take the intended use of the installed devices from the corresponding documentation.

Take the intended use of the connected devices from the corresponding documentation.

The device is an associated apparatus according to IEC/EN 60079-11.

The I/O modules of the remote I/O system act as an interface between signals from the hazardous area and the non-hazardous area.

The I/O modules, com units, power supplies, and bus termination modules of the remote I/O system must only be used together with the associated backplanes.

The backplane connections are non-intrinsically safe.

5. Improper Use

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

The device is not suitable for isolating signals in power installations unless this is noted separately in the corresponding datasheet.

6. 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.

Observe the installation instructions according to IEC/EN 60079-14.

Observe the instruction manuals for the associated backplanes.

You can find the data for electrical values and parameters in the corresponding datasheets.

Observe the tightening torque of the screws.

The device must be installed and operated only in an environment of overvoltage category II (or better) according to IEC/EN 60664-1.

Only connect safety extra-low voltage circuits (SELV) or protective extra-low voltage circuits (PELV) to the device.

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.

Do not mount the device at locations where an aggressive atmosphere may be present.

Do not mount a damaged or polluted device.

Do not push the modules into the slots with too much force. The rear connections of the devices may be damaged if using excessive force. In this case the explosion protection can no longer be ensured.

Protect the circuit against overvoltage (e. g., lightning).

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

An electrostatic charge poses an ignition hazard in case of discharge.

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

The device may only be installed and operated in Zone 1 if mounted in a surrounding enclosure, which corresponds to equipment protection level Gb.

If intrinsically safe and non-intrinsically safe circuits are being operated together, the connections of the non-intrinsically safe circuits must be covered. The cover must comply with degree of protection IP30 according to IEC/EN 60529.

A field circuit must not be permanently short-circuited. Eliminate the short circuit.

Requirements for Cables and Connection Lines

Observe the permissible core cross section of the conductor.

Observe the insulation stripping length.

When installing the conductors the insulation must reach up to the terminal.

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

Connectors for non-intrinsically safe circuits must be mechanically secured.

Never pull the cable. A wire could become loose from the terminal and protection against electric shock can no longer be ensured. Always pull the terminal.

Unused cables and connection lines must be either connected to terminals or securely tied down and isolated.

Requirements for Usage as Associated Apparatus

If the device replaces a predecessor device, the documentation for the verification of intrinsic safety must be adjusted.

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

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.

Observe the compliance of the separation distances between two adjacent intrinsically safe circuits according to IEC/EN 60079-14.

Observe the maximum values of the device, when connecting the device to intrinsically safe apparatus.

The permitted supply short-circuit current for the components is 50 A.

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.

If more channels of one device are connected in parallel, ensure the parallel connection is made directly at the terminals of the device. When verifying the intrinsic safety, observe the maximum values for the parallel connection.

If no L_o and C_o values are specified for the simultaneous appearance of lumped inductances and capacitances, the following rule applies.

- The specified value for L_o and C_o is used if one of the following conditions applies:
 - The circuit has distributed inductances and capacitances only, e. g., in cables and connection lines.
 - The total value of L_i (excluding cable) of the circuit is $< 1\%$ of the specified L_o value.
 - The total value of C_i (excluding cable) of the circuit is $< 1\%$ of the specified C_o value.
- A maximum of 50 % of the specified value for L_o and C_o is used if the following condition applies:
 - The total value of L_i (excluding cable) of the circuit is $\geq 1\%$ of the specified L_o value.
 - The total value of C_i (excluding cable) of the circuit is $\geq 1\%$ of the specified C_o value.
- The reduced capacitance for gas groups I, IIA, and IIB must not exceed the value of 1 μF (including cable). The reduced capacitance for gas group IIC must not exceed the value of 600 nF (including cable).

Requirements for Surrounding Enclosures

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.

Ensure that the surrounding enclosure is not damaged, distorted, or corroded.

Ensure that all seals are clean, undamaged, and correctly fitted.

Tighten all screws of the surrounding enclosure/surrounding enclosure cover with the appropriate torque.

For cable glands only use incoming cable diameters of the appropriate size.

Tighten all cable glands with the appropriate torque.

Close all unused cable glands with the appropriate sealing plugs.

Observe the warning markings.

Place warning marking "Warning – Refer to instruction manuals!" visibly on the surrounding enclosure.

Place warning marking "Warning – Avoid electrostatic charge!" visibly on the surrounding enclosure.

Place warning marking "Warning – Non-intrinsically safe circuits protected by internal cover with a degree of protection IP30!" visibly on the surrounding enclosure.

Place warning marking "Warning – Do not connect or disconnect increased safety circuits when the circuits are energized and a potentially explosive atmosphere is present!" visibly on the surrounding enclosure.

Do not remove the warning markings.

7. Operation, Maintenance, Repair

Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

Do not use a damaged or polluted device.

Only use accessories specified by the manufacturer.

The device must not be repaired, changed, or manipulated. In case of failure, always replace the device with an original device.

Substitution of components may impair intrinsic safety.

Observe IEC/EN 60079-17 for maintenance and inspection.

The device must only be operated at the specified relative humidity without condensation.

If cleaning is required, use a clean damp cloth.

If the device has already been operated in general electrical installations, the device may subsequently no longer be installed in electrical installations used in combination with hazardous areas.

Only remove the device with the integrated removal system. The integrated removal system requires a two-step removal process.

1 . Unlock and wait (refer to table for wait time)

2 . Remove

Device	Wait time
Power supplies	7 min
Other devices	6 s

The surrounding enclosure may be opened for maintenance while energized in Zone 1 provided that the following conditions are met:

- The connections of the non-intrinsically safe circuits must be protected by a cover with a degree of protection IP30.
- All other devices in the surrounding enclosure must permit the opening of the surrounding enclosure while energized in Zone 1.
- An appropriate marking is placed on the surrounding enclosure.

Except for FB modules with front side Ex e connections, all FB I/O modules, FB power supplies, FB bus termination modules, and FB com units may be swapped in Zone 1 while energized (hot swap).

8. 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.