



[1] **EU – TYPE EXAMINATION CERTIFICATE**

[2] Component Intended for use on/in an Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU.

[3] EU-Type Examination Certificate Number: **FIDI 24 ATEX 0082U**

Issue: **0**

[4] Product: **FB Remote I/O module**

Type: **FB3202B3**

[5] Manufacturer: **Pepperl+Fuchs SE**

[6] Address: **Lilienthalstrasse 200, 68307 Mannheim, Germany**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] FIDITAS Ltd., Notified Body number 2829 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential Report No: **FIDI 24 CR 100**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-5:2015/A1:2024

EN 60079-11:2012

EN IEC 60079-11:2024

except in respect of those requirements listed at item 18 of the Schedule.

[10] The sign 'U' is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11] This EU-Type Examination Certificate relates only to the design, examination and test of the specified product in accordance with Annex III. Further requirements of the Directive apply to the manufacturing process and supply of this products. These are not covered by this certificate.

[12] The marking of the product shall include the following:



II 2(1)G Ex db q [ia Ga] IIC Gb
II (1)D [Ex ia Da] IIIC

Our ref.: 24.CRT.351

Date: 04.05.2026.



FIDITAS Ltd.

Certification department

Approved:

Stipo Đerek, M.E.Eng.

[13] SCHEDULE
[14] EU - TYPE EXAMINATION CERTIFICATE No.: FIDI 24 ATEX 0082U
[15] Description of product

The component FB IO, type FB3202B3, acts as interface between the hazardous and non-hazardous area with the field wiring leading into the hazardous area. The component FB IO is intended to be mounted in areas requiring EPL Gb on approved backplanes FB BP.

The FB Backplane (FB BP) carries all FB devices/modules and provides the electrical interconnection between them with hot plugging capability.

The component FB IO, type FB3202B3 meets the parameters of type FB IO in "FB concept".

The following types of protection are used for the FB IO suitability for mounting in areas requiring EPL Gb:

- "q" for the enclosure, containing the electronic,
- "d" for the FB backplane contacts and
- "i" for the field circuits (inputs), provide the intrinsically safe electrical connections.

Electrical data
Non-intrinsic safe connections; all SELV/PELV:
FB Backplane connector

Power supply:

Value	Connector Pin 6 [+]; Pin 5 [-]
Nominal voltage (U_n)	+12 V _{DC} (+4% / -2 %)
Maximum voltage (U_m)	30 V (SELV/PELV)

Bus signal (Communication signal):

Value	Connector Pin 3, Pin 2
Nominal voltage (U_n)	±2.5 V _{DC} (Manchester-Signal reference to 2.5 V ±5 %)
Maximum voltage (U_m)	30 V (SELV/PELV)



Intrinsically safe connections; all SELV/PELV:

6 pole front connector

FB3202B3	Between Pins 2/3 – 4/5 Transmitter Supply (2-wire)	Pin 1 - 6 HART Input (2-wire)	Pin 4/5 - 6 Analog Input (2-wire)	Pin 2/3 - Pin 4/5 – Pin 6 Transmitter Supply (3 wire)
Characteristic	Linear	Trapezoid $R_S = 6.73 \text{ k}\Omega$	Trapezoid $R_S = 32.67 \text{ k}\Omega$	Linear
Maximum values:	$U_O = 27 \text{ V}$ $I_O = 92 \text{ mA}$ $P_O = 619 \text{ mW}$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	$U_O = 8.9 \text{ V}$ $I_O = 4 \text{ mA}$ $P_O = 24 \text{ mW}$ $C_i = \text{negligible}$ $L_i = \text{negligible}$	$U_O = 0.7 \text{ V}$ $I_O = 7 \text{ mA}$ $P_O = 5 \text{ mW}$ $C_i = 242 \text{ nF}$ $L_i = \text{negligible}$	$U_O = 27 \text{ V}$ $I_O = 99 \text{ mA} (< 0.7 \text{ V})$ $P_O = 624 \text{ mW}$ $C_i = 242 \text{ nF}$ $L_i = \text{negligible}$
	N.A.	$U_i = 30 \text{ V}_{DC}^{(3)}$ $I_i = 100 \text{ mA}$ $P_i = 890 \text{ mW}^{(3)}$	$U_i = 30 \text{ V}_{DC}^{(1)}$ $I_i = 100 \text{ mA}$ $P_i = 100 \text{ mW}^{(1)}$	N.A.
Ex ia IIC	$C_O = 0.09 \mu\text{F}$ $L_O = 4.2 \text{ mH}$ $L_O/R_O = 57.25 \mu\text{H}/\Omega$	$C_O = 0.89 \mu\text{F}^{(4)}$ $L_O = 5 \text{ mH}^{(4)}$	$C_O = 47.7 \mu\text{F}^{(2)}$ $L_O = 50 \text{ mH}^{(2)}$	N.A.
Ex ia IIB / IIIC	$C_O = 0.705 \mu\text{F}$ $L_O = 16.8 \text{ mH}$ $L_O/R_O = 229.0 \mu\text{H}/\Omega$	$C_O = 3.7 \mu\text{F}^{(4)}$ $L_O = 20 \text{ mH}^{(4)}$	$C_O = 219 \mu\text{F}^{(2)}$ $L_O = 100 \text{ mH}^{(2)}$	$C_O = 0.463 \mu\text{F}$ $L_O = 14.5 \text{ mH}$ $L_O/R_O = 212.8 \mu\text{H}/\Omega$
Ex ia IIA	$C_O = 2.33 \mu\text{F}$ $L_O = 33.6 \text{ mH}$ $L_O/R_O = 458.0 \mu\text{H}/\Omega$	$C_O = 4.9 \mu\text{F}^{(4)}$ $L_O = 50 \text{ mH}^{(4)}$	$C_O = 329 \mu\text{F}^{(2)}$ $L_O = 100 \text{ mH}^{(2)}$	$C_O = 2.08 \mu\text{F}$ $L_O = 29.0 \text{ mH}$ $L_O/R_O = 425.6 \mu\text{H}/\Omega$
Ex ia I	$C_O = 4.12 \mu\text{F}$ $L_O = 55.1 \text{ mH}$ $L_O/R_O = 751.4 \mu\text{H}/\Omega$	$C_O = 6.4 \mu\text{F}^{(4)}$ $L_O = 50 \text{ mH}^{(4)}$	$C_O = 429 \mu\text{F}^{(2)}$ $L_O = 100 \text{ mH}^{(2)}$	$C_O = 3.8 \mu\text{F}$ $L_O = 47.6 \text{ mH}$ $L_O/R_O = 698.3 \mu\text{H}/\Omega$
¹⁾ Voltage is limited to 0.7 V; power dissipation based on current is 100 mW ²⁾ listed values apply only if no external source exceeding $U_O = 0.7 \text{ V}$ ³⁾ Voltage is limited to 8.9 V; power dissipation based on current is 890 mW ⁴⁾ listed values apply only if no external source exceeding $U_O = 8.9 \text{ V}$				

Intrinsically safe circuits with linear characteristic:

- The values of L_O and C_O listed in the table above are allowed if one of the following conditions is met:
 - o The total L_i of the external circuit (excluding the cable) is $< 1 \%$ of the L_O value or
 - o The total C_i of the external circuit (excluding the cable) is $< 1 \%$ of the C_O value.
- The values of L_O and C_O listed in the table below shall be reduced to 50 % when both of the following conditions are met:
 - o The total L_i of the external circuit (excluding the cable) $\geq 1 \%$ of the L_O value and
 - o The total C_i of the external circuit (excluding the cable) $\geq 1 \%$ of the C_O value.
- Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and III, and 600 nF for Group IIC.

Rated data

Service temperature range:	$-40\text{ °C} \leq T_{\text{Service}} \leq 95\text{ °C}$
Maximum surface temperature (@ Tamb = +60 °C):	< +130 °C (temperature class T4)
Ambient temperature range*:	$-40\text{ °C} \leq T_{\text{amb}}^* \leq +60\text{ °C}$
Ingress protection (modules):	IP30 (IP54 surrounding enclosure mandatory, See Schedule of Limitations)
Classification of installation and use:	stationary

*The ambient temperature of an FB-Module is specified in a distance perpendicular 30 mm away to the center of the FB-Module front ("T_{amb} of FB-Module").

Warning markings:

THIS CONTAINER HAS BEEN PERMANENTLY SEALED AND CANNOT BE REPAIRED

[16] Confidential Report No. FIDI 24 CR 100

[16.1] Routine testing

The manufacturer shall carry out the following routine tests:

- The dielectric strength test for the filling material is to be executed prior to each batch before filling process according to clause 5.2.2 of standard IEC 60079-5.
- Routine test for infallible transformer: Dielectric strength test between input and output windings of transformers T01 and T02 with a voltage of $\geq 1500\text{ VAC}$ for 60 s or $\geq 1800\text{ VAC}$ for at least 1 s.

[17] Schedule of Limitations

- The component FB IO shall be installed in an environment that ensures a pollution degree 2 (or better).
- The component FB IO shall only be used together with approved backplanes FB BP, power supply FB PS, gateways FB GW and bus-termination FB BT (if applicable).
- Supply the component FB IO with a source that meets the requirements for Safety Extra Low Voltage (SELV) or Protective Extra Low Voltage (PELV) with a maximum voltage of $U_m = 30\text{ V}$.
- All circuits connected to the device shall comply with overvoltage category II (or better) according to IEC 60664-1.
- Prospective supply short-circuit current for the components is 50 A.
- The component FB IO shall be installed and operated only in surrounding enclosures that comply with the safety requirements for EPL Gb enclosures according to EN IEC 60079-0 and are rated with the degree of protection IP54 according to EN 60529.

[18] Essential Health and Safety Requirements

Covered by the conformity with harmonized standards listed under item 9.



[19] Drawings and Documents

Title:	Drawing No.:	Rev. level:	Date:
Description and Calculations	16-1678FI-00	0	29.07.2024.
Schematics	16-1678FI-01	0	29.07.2024.
List of safety relevant components	16-1678FI-02	0	29.07.2024.
Component set-ups	16-1678FI-03	0	17.12.2024.
Layouts, multilayer	16-1678FI-05	0	17.12.2024.
Transformer	16-1678FI-06	0	29.07.2024.
Safety relevant steps in production	16-1678FI-07	0	29.07.2024.
Instructions	16-1678FI-09	0	29.07.2024.
Type label	16-1678FI-10	0	29.07.2024.