

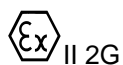
**UK Type Examination Certificate    CML 23UKEX2152U    Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment    **FB PS model: FB9206\*;**  
                  **FB BT model: FB9293\*, FB9294\* and FB9295\***
- 3 Manufacturer **Pepperl+Fuchs SE**
- 4 Address       **Lilienthalstrasse 200**  
                  **68307 Mannheim**  
                  **Germany**

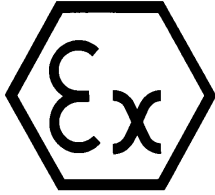
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:  
EN IEC 60079-0:2018                      EN 60079-1:2014                      EN 60079-5:2015  
EN IEC 60079-7:2015+A1:2018
- 10 The equipment shall be marked with the following:



Ex db eb q IIC Gb



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## 11 Description

The components FBPS, models FB9206\*, and components FB BT models FB9293\*, FB9294\*, and FB9295\*, provide non-intrinsically safe functionality.

The components FBPS and FB BT are intended to be mounted in areas requiring EPL Gb (Zone 1) on approved backplanes FB BP(FB-Backplane).

The component FBPS is also called “FB-Module”, type Power Supply, and component FB BT is called “FB-Module”, type Bus Termination.

The components FBPS and FB BT listed in this document meet the relevant parameters of “FB concept”.

### Type designation

FB9206\*; FB9293/4/5\*

### Electrical Data

All Non-IS signals listed below are Extra-low voltage supply system signals, type: SELV or PELV. The power supply FB PS is supposed to provide power directly (and indirectly–via FB internal communication circuitry) to other FB components.

All circuits connected to the components FB PS and FB BT must meet overvoltage category II (or better). Voltage  $U_m$  (e.g. 60V) shall apply as a common mode failure voltage (in respect to PA / PE) only. As differential mode failure voltage the rated voltage  $U_r$  (e.g. +12.48V) has to be applied.

### Non-intrinsically safe connections:

Power supply (FB PS):

Input, Value	Backplane Connector Pin2[+], Pin1[-]
Nominal voltage ( $U_n$ )	24VDC, SELV/PELV
Rated voltage ( $U_r$ )	[18...32VDC]
Maximum common mode voltage ( $U_m$ )	60VDC
Output 1 (12 V output), Value	Backplane Connector Pin6[+], Pin5[-]
Nominal voltage ( $U_n$ )	12VDC (-2/+4%), SELV/PELV
Rated voltage ( $U_r$ )	12.48VDC
Maximum voltage ( $U_m$ )-common mode only	30V
Output 2 (5.4 V output), Value	Backplane Connector Pin4[+], Pin5[-]
Nominal voltage ( $U_n$ )	5.4VDC ( $\pm 5\%$ ), SELV/PELV
Rated voltage ( $U_r$ )	12.48VDC
Maximum voltage ( $U_m$ )-common mode only	30V



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Signal at Pin 3 of backplane connectors is Earth (named PE) used for EMC purposes only. Signal at Pin 7 is Power good out (open collector output, referenced to Pin 5)

Bus-Termination (FB BT):

<b>Supply Value</b>	<b>Backplane Connector, Pin4[+], Pin5[-]</b>
Nominal voltage (Un)	+5.4VDC SELV/PELV derived from FB-power supply (e.g. FB9206*)
Rated voltage (Ur)	+5.4VDC (+5/+5%) SELV/PELV
Maximum common voltage (Um)	30V
<b>Field-Bus, Value</b>	<b>Backplane Connector, Pin2 to 3and/or 6 to 7</b>
Nominal voltage (Un)	+5V (e.g.RS-485) SELV/PELV
Rated voltage (Ur)	Fieldbus: 11.4V SELV/PELV, Service-bus: 8.4V SELV/PELV
Maximum common voltage (Um)	30V

### Degrees of protection (IP Code)

IP20 (if mounted on backplane).

### Temperature range:

$-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

Ambient temperature range is referenced to measurement point in a distance of 30 mm perpendicular to the centre of the front of the component FBPS or FB BT.

Service temperature range of Ex components:  $-40^{\circ}\text{C} \leq T_{\text{s}} \leq +100.1^{\circ}\text{C}$

## 12 Certificate history and evaluation reports

<b>Issue</b>	<b>Date</b>	<b>Associated report</b>	<b>Notes</b>
0	13 Apr 2023	R16366F/00	Issue of Prime Certificate

Note: Drawings that describe the equipment are listed or referred to in the Annex.

## 13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. A dielectric strength test in accordance with EN 60079-5:2015 is required for each batch of the filling material before the filling process is carried out.



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#### 14 Schedule of Limitations

The following conditions relate to safe installation and/or use of the component.

- i. The components FB PS and FB BT shall be provided with protection that ensures a pollution degree 2 (or better).
- ii. The components FB PS and FB BT shall only be used together with approved backplanes FB BP.
- iii. Supply the component FB BT with a power supply FB PS that meets the requirements for safety extra-low voltage (SELV) or protected extra-low voltage (PELV) with a maximum voltage of  $U_m=60V$
- iv. All circuits connected to the device shall comply with the overvoltage category II (or better) according to EN 60664-1.
- v. Permitted supply short-circuit current for the components FB BT is 50A.
- vi. Permitted supply short-circuit current for the components FB BT is 1500A.

Installation in areas requiring category 2G/EPL Gb equipment:

- i. The components FB PS and FB BT shall be installed and operated only in surrounding enclosures that comply with the safety requirements for EPL Gb enclosures according to EN 60079-0 and are rated with the degree of protection IP54 according to EN 60529.

## Certificate Annex



**Certificate Number** CML 23UKEX2152U  
**Equipment** FB PS model: FB9206\*;  
FB BT model: FB9293\*, FB9294\* and FB9295\*  
**Manufacturer** Pepperl+Fuchs SE

The following documents describe the equipment defined in this certificate:

### Issue 0

For drawings describing the equipment, refer to attached certificate Presafe 19 ATEX 14059U. In addition to the drawings listed on Presafe 19 ATEX 14059U, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
16-1555CM-10	1 to 2	0	13 Apr 2023	Additional Marking Requirements for UKCA