

1 **UNITED KINGDOM CONFORMITY ASSESSMENT**
2 **UK TYPE EXAMINATION CERTIFICATE**

3 **Product Intended for use in Potentially Explosive Atmospheres**
4 **UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1**

5 Type Examination Certificate Number: **ExV 21UKEX1014X** Issue: **0**

6 Product: **Absolute, Relative and Differential Pressure Transmitters Type 33X Ei (LV), Type 35X Ei (LV), Type 36XW Ei (LV), Type PD-33X Ei (LV), Type PD-39X Ei (LV), Type 33X M Ei (LV), Type 36X M Ei (LV)**

7 Manufacturer: **KELLER AG für Druckmesstechnik**

8 Address: **St. Galler Strasse 119, CH 8404 Winterthur, Switzerland**

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

10 ExVeritas Limited Approved Body number 2585, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), 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 Schedule 1 of the Regulations.

11 Compliance with the applicable Essential Health and Safety Requirements has been assured by compliance with:


EN IEC 60079-0: 2018 **EN 60079-11:2012**

Except in respect of those requirements listed at section 16 of the schedule to this certificate.

12 If the sign “X” is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

13 This TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

14 The marking of the equipment shall include the following:

 II 1 G Ex ia IIC T4 ... T6 Ga T_{amb} : Refer to Section 13 'Description of Product'
II 1 D Ex ia IIIC T130 °C Da
I M1 Ex ia I Ma



No. 8613

On behalf of ExVeritas



S Clarke CEng MSc FIET
Managing Director

Certificate: **ExV 21UKEX1014X**

Issue **0**

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Schedule

13 Description of Product

The Absolute, Relative and Differential Pressure Transmitters Type 33X Ei (LV), Type 35X Ei (LV), Type 36XW (LV), Type PD-33X Ei (LV), Type PD-39X Ei (LV), Type 33X M Ei (LV) and Type 36X M Ei (LV) are used for the measurement of absolute, relative or differential pressure. The output is a 4 - 20 mA current signal or a 0 -10 V voltage signal and RS 485 serial communications signals. For each Type there are two versions possible: 'low voltage version' identified by the additional 'LV' behind the Type number and 'standard version', without 'LV'. The transmitter is provided with a permanently connected cable or with a connector for the electrical connections.

Thermal data

For type of protection intrinsic safety Ex ia:

Ambient temperature range:

-40 °C to +90 °C: Temperature class T4, T130 °C and Group I with $P_i = 640$ mW

for all types including Types 33X M Ei (LV) and 36X M Ei (LV).

-40 °C to +90 °C: Temperature class T4, T130 °C with $P_i = 1.3$ W exclusively for LV types

-40 °C to +85 °C: Temperature class T5, T130 °C with $P_i = 640$ mW.

-40 °C to +70 °C: Temperature class T6, T130 °C with $P_i = 640$ mW.

-40 °C to +65 °C: Temperature class T4, T130 °C with $P_i = 1.1$ W.

-40 °C to +40 °C: Temperature class T4, T130 °C with $P_i = 1.3$ W.

The maximum surface temperature of the enclosure T130 °C in relation to the maximum ambient temperature, is applicable to a maximum dust layer thickness of 5 mm.

Electrical data:

For type of protection intrinsic safety Ex ia:

For all standard versions (without 'LV'):

Supply and output circuit and RS 485 interface (terminals 1 to 5):

in type of protection intrinsic safety Ex ia IIC, Ex ia I and Ex ia IIIC only for connection to a certified intrinsically safe circuits, with following

maximum values:

$U_i = 30$ V; $I_i = 200$ mA; $P_i = 640$ mW or $P_i = 1.1$ W or $P_i = 1.3$ W (depending on Thermal data);

$L_i = 0$ mH; $C_i = 1$ nF (supply and current output); $C_i = 1$ nF (RS 485 interface and voltage output).

For all low-voltage versions (with 'LV'):

Supply and output circuit and RS 485 interface (terminals 1 to 5):

in type of protection intrinsic safety Ex ia IIC, Ex ia I, Ex ia IIIC only for connection to a certified intrinsically safe circuits, with following

maximum values:

$U_i = 8.5$ V; $I_i = 200$ mA; $P_i = 640$ mW or $P_i = 1.1$ W or $P_i = 1.3$ W (depending on Thermal data);

$L_i = 0$ mH; $C_i = 6.5$ μ F.

The intrinsically safe supply and output circuits and the RS 485 interface are galvanically connected. The dielectric strength of at least 500 V of the intrinsically safe circuits of the Absolute, Relative and Differential Pressure Transmitters is limited only by the overvoltage protection for LV versions.

14 Descriptive Documents

14.1 Associated Report and Certificate History:

| Report Number | Cert Issue Date | Issue | Comment |
|---------------|-----------------|-------|--|
| R3481/A/1 | 2021-12-16 | 0 | Initial issue of the Prime Certificate |

Certificate: **ExV 21UKEX1014X**

Issue **0**

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Schedule

14.2 Compliance Drawings:

| Title: | Drawing No.: | Rev. Level: | Date: |
|---|--------------|-------------|------------|
| Application document DT151003. Drawing list with the documents listed therein, on page 2 of 2. | DT151003 | 9 | 2014-12-05 |
| Marking Drawing for UKCA Approval in United Kingdom (X-Series) | 04-00013-01 | A | 2021-11-08 |

15 Specific Conditions of Use

15.1 Special Conditions for Safe Use

1. For ambient temperature range see 'Thermal data' in Product Description.
2. For applications in explosive gas or dust atmospheres and where category 1 equipment (Ga and Da) is required, precautions shall be taken to minimize the risk from electrostatic discharge or propagating brush discharges at the transmitter non-metallic label or connector surface. The transmitter shall be cleaned using a damp cloth only.

15.2 Routine tests

- None

16 Essential Health and Safety Requirements (Regulations Schedule 1)

Essential Health and Safety Requirements are addressed by the standards listed in section 9 and where required the report listed in section 14.1

The manufacturer shall inform ExVeritas of any modifications to the design of the product described by this schedule.

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