CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 04ATEX1081 X** Issue Number: **5**

(4) Equipment: **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) and Type 36X M Ei (LV).**

(5) Manufacturer: **Keller AG**

(6) Address: **St. Galler Strasse 119, 8404 Winterthur, Switzerland**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR14.0076/00.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2012 **EN 60079-11 : 2012** **EN 60079-26 : 2007**
EN 50303 : 2000

(10) 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.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 1G Ex ia IIC T4 ... T6
I M1 Ex ia I
II 1D Ex ia IIIC T130 °C Da

This certificate is issued on 8 January 2015 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller
Certification Manager

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(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 04ATEX1081 X** Issue No. **5**

(15) **Description**

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 fixed cable or with a connector for the electrical connections.

Thermal data

The temperature class and maximum temperature of the enclosure T130 °C in relation to the maximum ambient temperature, applicable to a maximum dust layer thickness of 5 mm, is as follows:

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.

Electrical data

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-power 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 µF.

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.

(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 04ATEX1081 X** Issue No. **5**

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. NL/DEK/ExTR14.0076/00.

(17) **Special conditions for safe use**

For ambient temperature range see (15).

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. NL/DEK/ExTR14.0076/00.