

# CERTIFICATE

## (1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **KEMA 10ATEX0042 X** Issue Number: **3**

(4) Product: **Differential Pressure Transmitters DELTABAR M Model PMD55 and Pressure Transmitters CERABAR M Model PMP51 and Model PMP55**

(5) Manufacturer: **Endress+Hauser SE+Co. KG**

(6) Address: **Hauptstraße 1, 79689 Maulburg, Germany**

(7) This product 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 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 to the Directive.

The examination and test results are recorded in confidential test report number 212824900, issue 3.

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

**EN IEC 60079-0 : 2018**  
**EN 60079-26 : 2015**

**EN 60079-1 : 2014**

**EN 60079-11 : 2012**

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

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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



**II 1/2 G**  
**II 2 G**

**Ex ia IIC T6 ... T4 Ga/Gb**  
**Ex db IIC T6 ... T4 Gb**

Date of certification: 29 March 2022

DEKRA Certification B.V.

R. Schuller  
Certification Manager



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 10ATEX0042 X**

Issue No. 3

(15) **Description**

Differential Pressure Transmitters DELTABAR M Model PMD55 and Pressure Transmitters CERABAR M Model PMP51 and Model PMP55 are used in potentially explosive atmospheres caused by the presence of flammable gases, liquids or vapours for the measurement of level, flow, differential pressure, over- and under pressure.

The pressure signal at the metal sensor is converted into an electrical signal.

The output of the Pressure or Differential Pressure Transmitter is a 4 - 20 mA current output signal with or without a superimposed HART digital signal, or the transmitter is intended to be connected to a fieldbus system (Profibus PA or Foundation Fieldbus).

The several versions of the Pressure and Differential Pressure Transmitters differ in type of sensor, type of enclosure, process connection, etc.

Optionally all versions of the Pressure and Differential Pressure Transmitters may be provided with an indicator.

The transmitters are selectable for use as apparatus either in type of protection intrinsic safety "i" or in type of protection flameproof enclosures "d". Once selected, the type of protection selected is indicated durably and may not be changed afterwards.

**Type designation**

Refer to the annex to this certificate.

**Thermal data**

Ambient temperature range:

-50 °C to +70 °C (type of protection intrinsic safety)

-50 °C to +75 °C (type of protection flameproof enclosures)

The relation between temperature class, ambient temperature and process temperature for the different models and for the type of protection selected is given in the following table.

Temperature class	Maximum ambient temperature		Process temperature
	Ex ia version	Ex d version	
T6	+40 °C	+75 °C	-50 °C ≤ Tp ≤ 80 °C
T4	+70 °C	+75 °C	-50 °C ≤ Tp ≤ 125 °C

NOTE: Depending on the diaphragm seal used in model PMP55, a higher process temperature is permitted. For details, refer to the relevant equipment manuals.

**Electrical data**

Transmitters in type of protection Ex ia

Interface 4 - 20 mA (with or without HART communication):

Supply and output circuit (terminals + and - or connector):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 300 \text{ mA}$ ;  $P_i = 1 \text{ W}$ ;  $L_i = 0 \text{ mH}$ ;  $C_i = 10 \text{ nF}$ .

(13) **SCHEDULE**

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Interface Profibus PA or Foundation Fieldbus:

Supply and data circuit (terminals + and - or connector):

in type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 24 \text{ V}$ ;  $I_i = 250 \text{ mA}$ ;  $P_i = 1.2 \text{ W}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;  $C_i = 5 \text{ nF}$ ;

or to an intrinsically safe fieldbus in accordance with FISCO, with the following maximum values:

$U_i = 17.5 \text{ V}$ ;  $I_i = 500 \text{ mA}$ ;  $P_i = 5.5 \text{ W}$ ;  $L_i = 10 \text{ }\mu\text{H}$ ;  $C_i = 5 \text{ nF}$ .

Transmitters in type of protection Ex d

Supply voltage: 45 Vdc max (4 - 20 mA, HART)

32 Vdc max (PA/FF)

Power dissipation: 1,1 W max (4 - 20 mA, HART)

1,25 W max (PA/FF)

**Installation instructions**

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

(16) **Report Number**

No. 212824900, issue 3.

(17) **Specific conditions of use**

For maximum surface temperature, ambient temperature range and maximum process temperatures see Thermal data in class (15) and safety instructions.

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

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 212824900, issue 3.

(20) **Certificate history**

Issue 1 - 212824900	initial certificate
Issue 2 - 214833700	assessment to EN 60079-0:2009 and extension with versions with a fieldbus interface (Profibus PA or Foundation Fieldbus).
Issue 3 - 226350500	change of manufacturers name; assessment to latest editions of standards; specific condition introduced