



防爆合格证

证 号: GYJ24.1280X

制 造 商 Endress+Hauser SE+Co. KG

(地址: Hauptstrasse 1, 79689 Maulburg Germany)

产 品 名 称 差压/压力变送器

型 号 规 格 Deltabar PMD50, Cerabar PMP50

防 爆 标 志 见本证书附件

产 品 标 准 /

图 样 编 号 961006892, 961006895, 961006898

经图样及技术文件的审查和样品检验, 确认上述产品符合下列标准:
GB/T 3836.1-2021, GB/T 3836.2-2021, GB/T 3836.4-2021, GB/T 3836.31-2021
特颁发此证。

本证书有效期: 2024 年 11 月 27 日 至 2029 年 11 月 26 日

备 注

1. 安全使用注意事项见本证书附件。
2. 证书编号后缀“X”表明产品具有安全使用特殊条件, 内容见本证书附件。
3. 电气安全参数见本证书附件。
4. 本证书同时适用于恩德斯豪斯(苏州)自动化仪表有限公司(地址: 苏州工业园区苏虹中路 491 号)生产的同型号产品。

批 准

上海仪器仪表自控系统检验测试所有限公司
国家级仪器仪表防爆安全监督检验站
颁 发 日 期 二 〇 二 四 年 十 一 月 二 十 七 日

本证书仅对与认可文件和样品一致的产品有效。



SitiAs
Worldwide Access

EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert No. GYJ24.1280X

Manufacturer	Endress+Hauser SE+Co. KG (Address:Hauptstrasse 1 , 79689 Maulburg Germany)
Product	Differential/ Pressure Transmitter
Model	Deltabar PMD50, Cerabar PMP50
Ex marking	Specified in the attachment(s) to this certificate.
Product standard	/
Drawing number	961006892, 961006895, 961006898

The product was found to comply with the following standard(s):

GB/T 3836.1-2021, GB/T 3836.2-2021, GB/T 3836.4-2021, GB/T 3836.31-2021

Valid until: 2029.11.26

Remarks

- 1.Conditions for safe use are specified in the attachment(s) to this certificate.
- 2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.
- 3.Safe parameters specified in the attachment(s) to this certificate.
- 4.This certificate is also applicable for the product with the same type manufactured by Endress+Hauser (Suzhou) Automation Instrumentation Co., Ltd. (address: Su Hong Zhong Lu No.491, Suzhou-SIP, China)

Approval

**Shanghai Inspection and Testing Institute of
Instruments and Automation Systems Co., Ltd.**
**National Supervision and Inspection Center for
Explosion Protection and Safety of Instrumentation**
Date of issue 2024.11.27

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.



(GYJ24.1280X)

(Attachment I)

GYJ24.1280X 防爆合格证附件 I

由 Endress+Hauser SE+Co. KG 生产的 Deltabar PMD50, Cerabar PMP50 系列差压/压力变送器, 经检验, 符合下列标准:

GB/T 3836.1-2021 爆炸性环境 第 1 部分: 设备 通用要求

GB/T 3836.2-2021 爆炸性环境 第 2 部分: 由隔爆外壳“d”保护的设备

GB/T 3836.4-2021 爆炸性环境 第 4 部分: 由本质安全型“i”保护的设备

GB/T 3836.31-2021 爆炸性环境 第 31 部分: 由防粉尘点燃外壳“t”保护的设备

产品防爆标志详见型号规格, 防爆合格证号 GYJ24.1280X。

本证书认可的产品型号规格如下:

Deltabar PMD50

PMD50-**aa bb c d e f gg h i kkk l m n + oo pp qq rr ss tt uu vv ww xx yy zz**

aa 表示 NEPSI 认证代码, 可为 NA (Ex ia IIC T4...T1 Ga)、NB (Ex ia IIC T4...T1 Ga, Ex ia IIC T4...T1 Ga/Gb)、NF (Ex db IIC T6...T1 Gb)、NG (Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T100°C Db)、NH (Ex ia IIIC T135°C Db, Ex ia IIIC T135°C Da/Db)、NK (Ex ia IIC T4...T1 Ga/Gb, Ex ia IIIC T135°C Da/Db, Ex ia IIC T4...T1 Gb, Ex ia IIIC T135°C Db)、NN (Ex ia IIC T4...T1 Ga/Gb, Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T100°C Db, Ex db IIC T6...T1 Gb);

bb 表示输出, 可为 BA (2-wire, 4...20mA HART);

c 表示显示/操作, 可为 A (盲盖)、C (彩色显示无按键);

d 表示外壳/材料, 可为 J (双腔, 铝合金)、K (双腔, 316L)、Y (基于上述的微调, 与防爆无关);

e 表示电气连接, 可为 A (Gland M20, plastic, IP66/68 NEMA Type 4X/6P)、B (Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P)、C (Gland M20, 316L, IP66/68 NEMA Type 4X/6P)、F (Thread M20, IP66/68 NEMA Type 4X/6P)、G (Thread G1/2, IP66/68 NEMA Type 4X/6P)、H (Thread NPT1/2, IP66/68 NEMA Type 4X/6P)、J (Gland M20, plastic, blue color, IP66/68 NEMA Type 4X/6P)、Y (基于上述的微调, 与防爆无关);

f 表示压力类型, 可为 3 (差压)、6 (Gauge);

gg 表示传感器量程, 可为 7x (Dp pressure ranges up to 40 bar)、9Y (基于上述的微调, 与防爆无关);

h 表示校验, 可为 A to Z (不同单位的传感器量程)、9 (基于上述的微调, 与防爆无关);

i 表示安装, 可为 A to Z (引压管的位置和过程连接)、Y (客户定制, 与防爆无关);

kkk 表示过程连接, 可为 AAA to ZZZ (标准工业过程连接)、9YY (基于上述的微调, 与防爆无关);

I 表示膜片材质，可为 A...D (316L, Alloy C276, Tantalum, Monel(Alloy400))、Y (客户定制防腐材质，与防爆无关)；

m 表示灌油，可为 1 to 8 (灌油)、Y (客户定制，与防爆无关)；

n 表示密封，可为 A to Z (工艺连接密封材料，与防爆无关)、Y (客户定制，与防爆无关)；

oo 表示膜片镀层 (可选项)，可为 CC (金)、C9 (客户定制，与防爆无关) 或者空白；

pp 表示精度 (可选项)，可为 FA (白金级)、FY (客户定制，与防爆无关) 或者空白；

qq 表示校验 (可选项)，可为 Fx (校证书)、F9 (客户定制，与防爆无关) 或者空白；

rr 表示扩展公称压力 (可选项)，可为 Gx (250bar/25MPa/3750psi)、G9 (客户定制，与防爆无关) 或者空白；

ss 表示服务 (可选项)，可为 HA (清除油和油脂)、HB (验证清洁)、HJ (ANSI 安全红色端子盖)、Ix (定制参数)、I9 (基于上述的微调，与防爆无关) 或者空白；

tt 表示测试/认证/声明 (可选项)，可为 Jx, Kx (与防爆无关)、K9 (基于上述的微调，与防爆无关) 或者空白；

uu 表示附加认证 (可选项)，可为 Lx (其他认证，与防爆无关)、L9 (基于上述的微调，与防爆无关) 或者空白；

vv 表示附件安装 (可选项)，可为 NA (过压保护)、Nx, Ox (阀组，与防爆无关)、OB (Blind plug Exd marked)、O9 (基于上述的微调，与防爆无关) 或者空白；

ww 表示附带配件 (可选项)，可为 Qx (安装支架，与防爆无关)、R7 (排气阀)、R9 (基于上述的微调，与防爆无关) 或者空白；

xx 表示国家/地区 (可选项)，可为 Vx (任意字母或数字) 或者空白；

yy 表示硬件版本 (可选项)，可为 7x (软件版本) 或者空白；

zz 表示标识 (可选项)，可为 Zx (Tagging，与防爆无关) 或者空白。

Cerabar PMP50

PMP50-**aa bb c d e f g h ii k ll mmm n o + pp qq rr ss tt uu vv ww xx yy zz**

aa 表示 NEPSI 认证代码，可为 NA (Ex ia IIC T4...T1 Ga)、NB (Ex ia IIC T4...T1 Ga/Gb, Ex ia IIC T4...T1 Gb)、NF (Ex db IIC T6...T1 Gb)、NG (Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T125°C Db)、NH (Ex ia IIIC T135°C Da/Db, Ex ia IIIC T135°C Db)、NK (Ex ia IIC T4...T1 Ga/Gb, Ex ia IIIC T135°C Da/Db, Ex ia IIC T4...T1 Gb, Ex ia IIIC T135°C Db)、NN (Ex ia IIC T4...T1 Ga/Gb, Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T125°C Db, Ex db IIC T6...T1 Gb)；

bb 表示输出，可为 BA (2-wire, 4...20mA HART)；

c 表示显示/操作，可为 A (盲盖)、C (彩色显示无按键)；

d 表示外壳/材料，可为 J (双腔，铝合金)、K (双腔，316L)、Y (基于上述的微调，与防爆无关)；

e 表示电气连接，可为 A (Gland M20, plastic, IP66/68 NEMA Type 4X/6P)、B (Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P)、C (Gland M20, 316L, IP66/68

NEMA Type 4X/6P)、F (Thread M20, IP66/68 NEMA Type 4X/6P)、G (Thread G1/2, IP66/68 NEMA Type 4X/6P)、H (Thread NPT1/2, IP66/68 NEMA Type 4X/6P)、J (Gland M20, plastic, blue color, IP66/68 NEMA Type 4X/6P)、Y (基于上述的微调, 与防爆无关);

f 表示压力类型, 可为 6 (Gauge)、8 (Absolute);

g 表示应用, 可为 A (标准)、B (隔膜密封);

h 表示隔膜, 可为 A (W/o)、D (一体式)、G (温度隔离)、Y (特殊版本);

ii 表示传感器量程, 可为 3x (pressure ranges up to 400 bar)、9Y (基于上述的微调, 与防爆无关);

k 表示校验, 可为 A to Z (不同单位的传感器量程)、9 (基于上述的微调, 与防爆无关);

ll 表示过程连接, 密封面, 可为 AA to ZZ (标准过程连接)、99 (基于上述的微调, 与防爆无关);

mmm 表示过程连接, 可为 AAA to ZZZ (标准过程连接)、9YY (基于上述的微调, 与防爆无关);

n 表示膜片材质, 可为 A to Z (不同的膜片材质, 如 316L, Alloy C276, Tantalum, Monel (Alloy400))、Y (客户定制防腐材质, 与防爆无关) 或者空白;

o 表示灌油, 可为 1 to 8 (灌油)、Y (客户定制, 与防爆无关) 或者空白;

pp 表示膜片镀层 (可选项), 可为 Cx (金)、C9 (客户定制, 与防爆无关) 或者空白;

qq 表示精度 (可选项), 可为 FA (白金级)、FY (客户定制, 与防爆无关) 或者空白;

rr 表示校验 (可选项), 可为 Fx (校证书)、F9 (客户定制, 与防爆无关) 或者空白;

ss 表示服务 (可选项), 可为 HA (清除油和油脂)、HB (验证清洁)、HJ (安全红色端子盖)、Ix (定制参数)、I9 (基于上述的微调, 与防爆无关) 或者空白;

tt 表示测试/认证/声明 (可选项), 可为 Jx, Kx (与防爆无关)、K9 (基于上述的微调, 与防爆无关) 或者空白;

uu 表示附加认证 (可选项), 可为 Lx (其他认证, 与防爆无关)、L9 (基于上述的微调, 与防爆无关) 或者空白;

vv 表示附件安装 (可选项), 可为 NA (过压保护)、Nx, Ox (阀组, 与防爆无关)、OB (Blind plug Exd marked)、O9 (基于上述的微调, 与防爆无关) 或者空白;

ww 表示附带配件 (可选项), 可为 Q1 (Mounting bracket, wall/pipe, 316L)、Q3 (Mounting bracket, manifold, wall/pipe, 316L)、R9 (基于上述的微调, 与防爆无关) 或者空白;

xx 表示国家/地区 (可选项), 可为 Vx (任意字母或数字) 或者空白;

yy 表示硬件版本 (可选项), 可为 7x (软件版本) 或者空白;

zz 表示标识 (可选项), 可为 Zx (Tagging, 与防爆无关) 或者空白。

一、产品安全使用特殊条件

产品防爆合格证号后缀“X”表示产品有安全使用特殊要求, 具体内容如下:

- 1、避免塑料表面带静电, 禁止用干布擦拭表面。
- 2、避免因冲击和摩擦而产生火花。
- 3、如果外壳或其他金属部件需要额外或替代的特殊涂层: 注意静电充电和放电的危险;

不要安装在产生强静电荷的工艺 ($\leq 0.5\text{m}$) 附近。

- 4、各种环境和工艺温度范围请参考温度表。
- 5、对于隔爆型产品，涉及隔爆接合面的维修须联系产品制造商。
- 6、对于粉尘型产品，设备运行必须配 100mA 的熔断器。
- 7、对于本安型产品，隔离部件的材质规格：玻璃馈通件 ($>1\text{mm}$)，边缘为不锈钢材质 ($>1\text{mm}$)，玻璃馈通件和不锈钢之间为焊缝 ($>0.3\text{mm}$)。
- 8、产品型号规格、使用环境温度范围及过程温度范围的关系如下：

型号规格	使用环境温度范围	过程温度范围
Deltabar PMD50	$-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$	$-40^{\circ}\text{C} \sim +100^{\circ}\text{C}$
Cerabar PMP50		$-40^{\circ}\text{C} \sim +400^{\circ}\text{C}$

二、产品使用注意事项

- 1、产品外壳设有接地端子，用户在安装使用时应可靠接地。

2、产品电气参数：

输入电压 10.5...35 Vdc，功率 900 mW，电信号 4...20mA HART

3、本安参数：

$U_i \leq 30\text{Vdc}$ ； $I_i \leq 100\text{mA}$ ； $P_i \leq 700\text{mW}$ ； $C_i \leq 10\text{nF}$ ； $L_i = 0\text{mH}$ （气体）

$U_i \leq 30\text{Vdc}$ ； $I_i \leq 100\text{mA}$ ； $P_i \leq 650\text{mW}$ ； $C_i \leq 10\text{nF}$ ； $L_i = 0\text{mH}$ （粉尘）

4、产品电缆引入口须配用经防爆检验认可的、符合相应防爆型式和等级的电缆引入装置或封堵件；安装后外壳防护等级不得低于 GB/T 4208-2017 规定的 IP66/IP68。选用的电缆引入装置或封堵件应与产品的工作条件相适应。

5、本安型产品必须与已通过防爆认证的关联装置配套共同组成本安防爆系统方可用于爆炸性环境。其系统接线必须同时遵守本产品 and 所配关联装置的使用说明书要求，接线端子不得接错。产品与关联装置的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。

6、隔爆型和粉尘型产品现场使用和维护时，必须遵守“断电源后开盖”的原则。

7、产品在粉尘环境使用维护时，应定期采取清洁措施，以防止表面积聚粉尘。

8、用户不得自行随意更换该产品的电气零部件，应会同产品制造商共同解决运行中出现的故障，以免影响防爆性能和损坏现象的发生。

9、产品的安装、使用和维护应同时遵守产品使用说明书及以下相关标准、规范的要求：

GB/T 3836.13-2021 爆炸性环境 第 13 部分：设备的修理、检修、修复和改造

GB/T 3836.15-2017 爆炸性环境 第 15 部分：电气装置的设计、选型和安装

GB/T 3836.16-2022 爆炸性环境 第 16 部分：电气装置的检查与维护

GB/T 3836.18-2017 爆炸性环境 第 18 部分：本质安全电气系统

GB 50257-2014 电气设备安装工程爆炸和火灾危险环境电气装置施工及验收规范

GB 15577-2018 粉尘防爆安全规程

三、制造厂责任

- 1、产品制造厂必须将上述使用注意事项纳入产品使用说明书或相关技术文件中；
- 2、制造厂必须严格按照 NEPSI 认可的文件资料生产；

- 3、产品铭牌中应至少包括下列内容：
- a) NEPSI 认可标志（见防爆合格证书）
 - b) 产品防爆标志
 - c) 防爆合格证号
 - d) 使用环境温度
 - e) 电气参数/本安参数

上海仪器仪表自控系统检验测试所有限公司

国家级仪器仪表防爆安全监督检验站

二〇二四年十一月二十七日



(GYJ24.1280X)

(Attachment I)

Attachment I to GYJ24.1280X

1. Description

Deltabar PMD50, Cerabar PMP50 series Differential/ Pressure Transmitter, manufactured by Endress+Hauser SE+Co.KG, has been certified and accords with following standards:

GB/T 3836.1-2021 Explosive atmospheres-Part 1: Equipment-General requirements

GB/T 3836.2-2021 Explosive atmospheres-Part 2: Equipment protection by flameproof enclosure "d"

GB/T 3836.4-2021 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety "i"

GB/T 3836.31-2021 Explosive atmospheres-Part 31: Equipment dust ignition protection by enclosure "t"

The Ex marking is detailed in the model specifications, its certificate number is GYJ24.1280X.

Type approved in this certificate is shown as below:

Deltabar PMD50

PMD50-aa bb c d e f gg h i kkk l m n + oo pp qq rr ss tt uu vv ww xx yy zz

aa indicates Approval, which can be NA (Ex ia II C T4...T1 Ga), NB (Ex ia II C T4...T1 Ga, Ex ia II C T4...T1 Ga/Gb), NF (Ex db II C T6...T1 Gb), NG (Ex ta IIIC T200 100°C Da, Ex tb IIIC T100°C Db), NH (Ex ia IIIC T135°C Db, Ex ia IIIC T135°C Da/Db), NK (Ex ia II C T4...T1 Ga/Gb, Ex ia IIIC T135°C Da/Db, Ex ia II C T4...T1 Gb, Ex ia IIIC T135°C Db), NN (Ex ia II C T4...T1 Ga/Gb, Ex ta IIIC T200 100°C Da, Ex tb IIIC T100°C Db, Ex db II C T6...T1 Gb);

bb indicates Output, including BA (2-wire, 4...20mA HART);

c indicates Display/Operating, including A (Blind cover), C (color display w/o buttons);

d indicates Housing/Material, including J (Dual compartment; Alu, coated), K (Dual compartment; 316L), Y (Modification of the above options, Changes not explosion protection relevant);

e indicates Electrical Connection, including A (Gland M20, plastic, IP66/68 NEMA Type 4X/6P), B (Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P), C (Gland M20, 316L, IP66/68 NEMA Type 4X/6P), F (Thread M20, IP66/68 NEMA Type 4X/6P), G (Thread G1/2, IP66/68 NEMA Type 4X/6P), H (Thread NPT1/2, IP66/68 NEMA Type 4X/6P), J (Gland M20, plastic, blue color, IP66/68, NEMA Type 4X/6P), Y (Modification of the above options, Changes not explosion protection relevant);

f indicates Pressure Type, including 3 (Differential), 6 (Gauge);

gg indicates Sensor Range, including 7x (Dp pressure ranges up to 40 bar), 9Y (Modification of the above options, Changes not explosion protection relevant);

h indicates Calibration/Unit, including A to Z (Sensor range in different units), 9 (Modification of the above options, Changes not explosion protection relevant);

i indicates Installation, including A to Z (Position of impulse line and process connection), Y (Customer specific configuration, Changes not explosion protection relevant);

kkk indicates Process Connection, including AAA to ZZZ (Standard industrial process connection), 9YY (Modification of the above options, Changes not explosion protection relevant);

l indicates Membrane material, including A...D (316L, Alloy C276, Tantalum, Monel (Alloy400)), Y (Customer specific corrosion resistant material, Changes not explosion protection relevant);

m indicates Fill fluid, including 1 to 8 (fill oil), Y (Customer specific oil, Changes not explosion protection relevant);

n indicates Seal, including A to Z (Process connected seal material; not relevant for explosion protection), Y (Special version, Changes not explosion protection relevant);

oo indicates Membrane Coating (optional), including CC (Gold, 25µm), C9 (Customer specific variants, Changes not explosion protection relevant), or blank;

pp indicates Reference Accuracy (optional), including FA (Platinum), FY (customer specific variation, Changes not explosion protection relevant), or blank;

qq indicates Calibration (optional), including Fx (Calibration certificate), F9 (Special version, Changes not explosion protection relevant), or blank;

rr indicates Extended Nominal Pressure (optional), including Gx (250bar/25MPa/3750psi), G9 (Special version, Changes not explosion protection relevant), or blank;

ss indicates Service (optional), including HA (Cleaned from oil+grease (wetted parts)), HB (Verified cleaned, O2 service suitable (wetted parts), declaration), HJ (ANSI Safety Red coating terminal cover coated), Ix (Customized parameter setting), I9 (Modification of the above options, Changes not explosion protection relevant), or blank;

tt indicates Test, Certificate, Declaration (optional), including Jx, Kx (not relevant for safety), K9 (Modification of the above options, Changes not explosion protection relevant), or blank;

uu indicates Additional Approval (optional), including Lx (additional approvals, no influence to explosion protection), L9 (Modification of the above options, Changes not explosion protection relevant), or blank;

vv indicates Accessory Mounted (optional), including NA (Overvoltage protection), Nx, Ox (mounting position, not relevant for explosion protection), OB (Blind plug Exd marked), O9 (Modification of the above options, Changes not explosion protection relevant), or blank;

ww indicates Accessory Enclosed (optional), including Qx (Mounting brackets, not relevant for explosion protection), R7 (vent valves, 316L), R9 (Modification of the above options, Changes not explosion protection relevant), or blank;

xx indicates Country, regional adaption (optional), including Vx (definition of country specific requirements (e.g. marking, logo) any letter or number), or blank;

yy indicates Firmware Version (optional), including 7x (Softwareversion and Type of Software), or blank;

zz indicates Marking (optional), including Zx (Tagging acc. Customer order, not relevant for safety), or blank.

Cerabar PMP50

PMP50-**aa bb c d e f g h ii k ll mmm n o + pp qq rr ss tt uu vv ww xx yy zz**

aa indicates Approval, which can be NA (Ex ia II C T4...T1 Ga), NB (Ex ia II C T4...T1 Gb, Ex ia II C T4...T1 Ga/Gb), NF (Ex db II C T6...T1 Gb), NG (Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T125°C Db), NH (Ex ia IIIC T135°C Db, Ex ia IIIC T135°C Da/Db), NK (Ex ia II C T4...T1 Ga/Gb, Ex ia IIIC T135°C Da/Db, Ex ia II C T4...T1 Gb, Ex ia IIIC T135°C Db), NN (Ex ia II C T4...T1 Ga/Gb, Ex ta IIIC T₂₀₀ 100°C Da, Ex tb IIIC T125°C Db, Ex db II C T6...T1 Gb);

bb indicates Output, including BA (2-wire, 4...20mA HART);

c indicates Display/Operating, including A (Blind cover), C (color display w/o buttons);

d indicates Housing/Material, including J (Dual compartment; Alu, coated), K (Dual compartment; 316L), Y (Modification of the above options, Changes not explosion protection relevant);

e indicates Electrical Connection, including A (Gland M20, plastic, IP66/68 NEMA Type 4X/6P), B (Gland M20, brass nickel plated, IP66/68 NEMA Type 4X/6P), C (Gland M20, 316L, IP66/68 NEMA Type 4X/6P), F (Thread M20, IP66/68 NEMA Type 4X/6P), G (Thread G1/2, IP66/68 NEMA Type 4X/6P), H (Thread NPT1/2, IP66/68 NEMA Type 4X/6P), J (Gland M20, plastic, blue color, IP66/68, NEMA Type 4X/6P), Y (Modification of the above options, Changes not explosion protection relevant);

f indicates Pressure Type, including 6 (Gauge), 8 (Absolute);

g indicates Application, including A (Standard), B (Diaphragm seal);

h indicates Diaphragm seal, including A (W/o), D (Compact), G (Temperature isolator), Y (Special version);

ii indicates Sensor Range, including 3x (pressure ranges up to 400 bar), 9Y (Modification of the above options, Changes not explosion protection relevant);

k indicates Calibration/Unit, including A to Z (Sensor range in different units), 9 (Modification of the above options, Changes not explosion protection relevant);

ll indicates Process Connection, including AA to ZZ (Standard industrial process connection), 99 (Modification of the above options, Changes not explosion protection relevant);

mmm indicates Process Connection, including AAA to ZZZ (Standard industrial process connection), 9YY (Modification of the above options, Changes not explosion protection relevant);

n indicates Membrane material, including A to Z (different membrane materials, e.g. 316L, Alloy C276, Tantalum, Monel (Alloy400)), Y (Customer specific corrosion resistant material, Changes not explosion protection relevant), or blank;

o indicates Fill fluid, including 1 to 8 (fill oil), Y (Customer specific oil, Changes not explosion protection relevant);

pp indicates Membrane Coating (optional), including Cx (Gold), C9 (Customer specific variants, Changes not explosion protection relevant), or blank;

qq indicates Reference Accuracy (optional), including FA (Platinum), FY (customer specific variation, Changes not explosion protection relevant), or blank;

rr indicates Calibration (optional), including Fx (Calibration certificate), F9 (Special version, Changes not explosion protection relevant), or blank;

ss indicates Service (optional), including HA (Cleaned from oil+grease (wetted parts)), HB (Verified cleaned, O2 service suitable (wetted parts), declaration), HJ (ANSI Safety Red coating terminal cover coated), lx (Customized parameter setting), l9 (Modification of the above options, Changes not explosion protection relevant), or blank;

tt indicates Test, Certificate, Declaration (optional), including Jx, Kx (not relevant for safety), K9 (Modification of the above options, Changes not explosion protection relevant), or blank;

uu indicates Additional Approval (optional), including Lx (additional approvals, no influence to explosion protection), L9 (Modification of the above options, Changes not explosion protection relevant), or blank;

vv indicates Accessory Mounted (optional), including NA (Overvoltage protection), Nx, Ox (mounting position, not relevant for explosion protection), OB (Blind plug Exd marked), O9 (Modification of the above options, Changes not explosion protection relevant), or blank;

ww indicates Accessory Enclosed (optional), including Q1 (Mounting bracket, wall/pipe, 316L), Q3 (Mounting bracket, manifold, wall/pipe, 316L), R9 (Modification of the above options, Changes not explosion protection relevant), or blank;

xx indicates Country, regional adaption (optional), including Vx (definition of country specific requirements (e.g. marking, logo) any letter or number), or blank;

yy indicates Firmware Version (optional), including 7x (Softwareversion and Type of Software), or blank;

zz indicates Marking (optional), including Zx (Tagging acc. Customer order, not relevant for safety), or blank.

2. Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use specified as follows:

2.1 Avoid electrostatic charging of the plastic surfaces. Do not rub surfaces with a dry cloth.

2.2 Avoid sparks caused by impact and friction.

2.3 In the event of additional or alternative special varnishing on the enclosure or other metal parts or for adhesive plates: Observe the danger of electrostatic charging and discharge. Do not install in the vicinity of processes (≤ 0.5 m) generating strong electrostatic charges.

2.4 Refer to temperature tables for various ambient and process temperature ranges.

2.5 For information on the dimensions of the flameproof joints contact the manufacturer (Ex db).

2.6 The device must be operated with a 100 mA fuse (Ex ta, Ex tb).

2.7 Material specification of the separating element: > 1 mm glass feedthrough edged with > 1 mm stainless steel and ≥ 0.3 mm welds between the glass feedthrough and the stainless steel (Ex ia).

2.8 The relationship between product type, ambient temperature range and process temperature range is shown as below:

Product type	Ambient temperature range	Process temperature range
Deltabar PMD50	-40℃ ~ +70℃	-40℃ ~ +100℃
Cerabar PMP50		-40℃ ~ +400℃

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably.

3.2 Electrical data:

10.5 Vdc minimum to 35 Vdc maximum input voltage ($\pm 10\%$), 900 mW of power, Electrical signal is

4...20mA HART

3.3 Intrinsically safe parameters:

$U_i \leq 30\text{Vdc}$; $I_i \leq 100\text{mA}$; $P_i \leq 700\text{mW}$; $C_i \leq 10\text{nF}$; $L_i = 0\text{mH}$ (For gas)

$U_i \leq 30\text{Vdc}$; $I_i \leq 100\text{mA}$; $P_i \leq 650\text{mW}$; $C_i \leq 10\text{nF}$; $L_i = 0\text{mH}$ (For dust)

3.4 Suitable certified cable gland and blanking plug approved by ExTL and meets the corresponding explosion-proof type and grade shall be used and correctly installed; after installation, degree of protection of enclosure is at least IP66/IP68 according to GB/T 4208-2017. The cable glands and blanking plugs to be used shall suitable for the product working conditions.

3.5 This product should be used in explosive atmospheres together with approved associated apparatus, follow the instruction manual of this product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly. Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.

3.6 Obey the warning "Keep tight when the circuit is alive" when the area is known to be hazardous (Ex db & Ex tb product).

3.7 Clean the surface of this product termly when using in combustible dust atmosphere.

3.8 The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.

3.9 For installation, use and maintenance of this product, the end user shall observe the instruction manual and the following standards:

GB/T 3836.13-2021 "Explosive atmospheres- Part 13: Equipment repair, overhaul, reclamation and modification".

GB/T 3836.15-2017 "Explosive atmospheres- Part 15: Electrical installations design, selection and erection".

GB/T 3836.16-2022 “Explosive atmospheres- Part 16: Electrical installations inspection and maintenance”.

GB/T 3836.18-2017 “Explosive atmospheres-Part 18: Intrinsically safe electrical systems”.

GB 50257-2014 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”.

GB 15577–2018 “Safety regulations for dust explosion prevention and protection”.

4. Manufacturer’s Responsibility

4.1 Conditions for safe use, as specified above, should be included in the documentation the user is provided with.

4.2 Manufacturing should be done according to the documentation approved by NEPSI.

4.3 Nameplate should include these contents listed below:

- 1) NEPSI logo 
- 2) Ex marking
- 3) Certificate number
- 4) Ambient temperature range
- 5) Electrical data/ Intrinsically safe parameters

Shanghai Inspection and Testing
Institute of Instruments and Automation Systems Co. Ltd.
National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation

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