防爆合格证

证 号：GYJ17.1465X

由 恩德斯+豪斯公司 制造的产品：

（地址： Hauptstrasse 1, D-79689 Maulburg, Germany）

名 称 Prosonic M 超声波物位仪

型号规格 Prosonic M FMU 43系列

防爆标志 Ex tD A20/22 IP6X T84℃~T104℃、Ex tD A20/21 IP6X T84℃~T115℃

产品标准 /

图样编号 960523-0004-A

经图样及技术文件的审查和样品检验，确认上述产品符合 GB 12476.1-2013、GB 12476.5-2013 标准，特颁发此证。

本证书有效期：2017 年 11 月 9 日至 2022 年 11 月 8 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. 型号规格说明见本证书附件。
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。

站长

国家级仪器仪表防爆安全监督检验站

颁发日期二〇一七年十一月 九 日

本证书仅对与认可文件和样品一致的产品有效。

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EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYJ17.1465X

This is to certify that the product

Prosonic M Ultrasonic Level Transmitter

manufactured by Endress + Hauser GmbH + Co. KG

(Address:Hauptstrasse 1, D-79689 Maulburg, Germany)

which model is Prosonic M FMU 43 Series

Ex marking Ex tD A20/22 IP6X T84℃~T104℃、Ex tD A20/21 IP6X T84℃~T115℃

product standard /

drawing number 960523-0004-A

has been inspected and certified by NEPSI, and that it conforms to GB 12476.1-2013,GB 12476.5-2013

This Approval shall remain in force until 2022.11.08

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.Model designation is 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)

Director

National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation

Issued Date 2017.11.09

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

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国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ17.1465X) (Attachment Ⅰ)

GYJ17.1465X防爆合格证附件Ⅰ

由恩德斯＋豪斯公司生产的Prosonic M FMU43系列超声波物位仪，经国家级仪器仪表防爆安全监督检验站(NEPSI)检验，符合下列标准：

GB12476.1-2013 可燃性粉尘环境用电气设备 第1部分：通用要求

GB12476.5-2013 可燃性粉尘环境用电气设备 第5部分：外壳保护型“tD”

产品防爆标志Ex tD A20/22 IP6X T84℃~T104℃、Ex tD A20/21 IP6X T84℃~T115℃，防爆合格证号GYJ17.1465X。

本证书认可的产品型号规格如下：

Prosonic M FMU43-[a][b][c][d][e][f]

其中，[a]表示NEPSI认可代码，Q = Ex tD A20/22 IP6X T84℃~T104℃
Ex tD A20/21 IP6X T84℃~T115℃

[b]表示过程连接；

[c]表示电源/通讯，可为B、D、F、G、H、J、K、L、M、N、P、Q、R、S或T；

[d]表示显示，可为1、2或3；

[e]表示外壳型式，可为A（F12）、D（T12-OVP）或Y（F23）；

[f]表示电缆引入口规格，可为2、3、4、5、6或X；

具体含义参见产品规格说明书。

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，即：T12型外壳的产品应避免受到高能量的机械冲击而使壳体受损，从而影响防爆性能。

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、产品传感器部分可安装于20区，其余部分应安装于21或22区（[d]代码为2时，仅能用于22区）。

3、产品最高使用环境温度和最高表面温度的关系如下：

输出方式		PA/FF		4W HART	
最高环境温度		40℃	80℃	40℃	80℃
最高表面温度	A20/21	44℃	84℃	80℃	115℃
	A20/22	44℃	84℃	44℃	84℃

4、产品的电气安全参数如下所示：

电子插件	输出方式	电气参数
B, J, P	4～20mA HART	U_o = 30 V
D, F, K, L, Q, R	PROFIBUS-PA FF	U_o = 32 V
G, M, S	4～20mA HART	U = 90~253 VAC 50/60 Hz
H, N, T	4～20mA HART	U = 10.5~32 VDC

5、本物位仪可外接单独认证的外部显示单元（d代码为3），安全参数如下：

U_o=4.2V I_o=34mA P_o=36mW L_o=5mH C_o=4μF

6、产品的电缆口须配用经防爆检验认可的、符合GB12476.1-2013和GB12476.5-2013标准、防爆等级Ex tD A21 IP6X的电缆引入装置或封堵件。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。

7、在安装维护过程中，必须遵循“断电源后开盖”的原则。

8、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。

9、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。

10、产品的安装、使用和维护应同时遵守产品使用说明书、GB3836.13-2013“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、GB50257-2014“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”、GB15577-2007“粉尘防爆安全规程”及GB12476.2-2010“可燃性粉尘环境用电气设备 第2部分：选型和安装”的有关规定。

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；

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）“断电源后开盖”警告语

f）产品电气参数

国家级仪器仪表防爆安全监督检验站

二〇一七年十一月九日

国家级仪器仪表防爆安全监督检验站

National Supervision and Inspection Centre for
Explosion Protection and Safety of Instrumentation

(GYJ17.1465X) (Attachment I)

Attachment I to GYJ17.1465X

(translation)

1. Description

Prosonic M FMU43 series Ultrasonic Level Transmitter, manufactured by Endress+Hauser GmbH+Co.KG, has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). The product accords with following standards:

GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust- Part 1: General requirements

GB12476.5-2013 Electrical apparatus for use in the presence of combustible dust- Part 5: Protection by enclosures "tD"

The Ex marking is Ex tD A20/22 IP6X T84℃~T104℃, Ex tD A20/21 IP6X T84℃~T115℃, its certificate number is GYJ17.1465X.

Type approved in this certificate is shown as following:

Prosonic M FMU43-[a][b][c][d][e][f]

Note: [a] indicates NEPSI approval code, Q = Ex tD A20/22 IP6X T84℃~T104℃
Ex tD A20/21 IP6X T84℃~T115℃

[b] indicates process connection;

[c] indicates power supply/communication, including B, D, F, G, H, J, K, L, M, N, P, Q, R, S or T;

[d] indicates display/communication on site, including 1, 2 or 3;

[e] indicates enclosure, A (F12), D (T12-OVP) or Y (F23);

[f] indicates cable entry, including 2, 3, 4, 5, 6 or X;

Refer to the instruction manual for the details.

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, that is:

Low risk of mechanical danger for specific enclosures as specified in Installation manual; This concerns the T12 enclosure for non intrinsic safe models.

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably.

3.2 The sensor part of this product is suitable for use in atmospheres where located as zone 20 while the other parts should be installed in zone 21 or zone 22 (only in zone 22 when [d] = 2).

3.3 The relationship between maximum ambient temperature and maximum surface temperature is shown as follows:

Output		PA/FF		4W HART	
Maximum ambient temperature		40℃	80℃	40℃	80℃
Maximum surface temperature	A20/21	44℃	84℃	80℃	115℃
	A20/22	44℃	84℃	44℃	84℃

3.4 The safety parameters of the transmitter are shown as follows:

Electronic insert	Output	Electrical data
B, J, P	4~20mA HART	Ue = 30 V
D, F, K, L, Q, R	PROFIBUS-PA FF	Ue = 32 V
G, M, S	4~20mA HART	U = 90~253 VAC 50/60 Hz
H, N, T	4~20mA HART	U = 10.5~32 VDC

3.5 The transmitter (□ = 3) can be connected to an external display with its own certification, the safety parameters are shown as follows:

U_o=4.2V I_o=34mA P_o=36mW L_o=5mH C_o=4μF

3.6 Certified cable glands or closing devices for unused holes with Ex marking "Ex tD A21 IP6X" shall be used and correctly installed which is approved by ExTL according to GB12476.1-2013 and GB12476.5-2013. The cable glands and closing devices to be used shall suitable for the product working conditions.

3.7 Any maintenance shall be done only when the warning of "Do not open while the circuit is alive" is observed.

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

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

3.10 For installation, use and maintenance of the transmitter, the end user shall observe the instruction manual and the following standards:

GB50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

GB3836.13-2013 "Explosive atmospheres- Part 13:Equipment repair, overhaul and reclamation".

GB15577-2007 "Safety regulations for dust explosion prevention and protection". (Only if installed in dust hazardous areas).

GB12476.2-2010 "Electrical apparatus for use in the presence of combustible dust- Part 2: Selection and installation". (Only if installed in dust hazardous areas)

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) Warning of "Do not open while the circuit is alive"
6) Safety parameters

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
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