

# 防爆合格证

证号: GYJ20.1525X

由 Endress + Hauser SE + Co. KG 制造的产品:  
(地址: Hauptstrasse 1, D-79689 Maulburg, Germany)

名称 Micropilot S微波式物位测量仪

型号规格 Micropilot S FMR530/531/532/533/540系列

防爆标志 Ex ia II C T1 ~ T6 Ga/Gb

产品标准 /

图样编号 960397-0000B、960007209A

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 3836.1-2010、GB 3836.4-2010、GB 3836.20-2010 标准, 特颁发此证。

本证书有效期: 2020年10月15日至2025年10月14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. 本安电气参数见本证书附件。
  5. 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

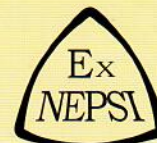
颁发日期二〇二〇年十月十五日

本证书仅对与认可文件和样品一致的产品有效。

地址: 上海市漕宝路103号  
邮编: 200233

网址: www.nepsi.org.cn  
Email: info@nepsi.org.cn

电话: +86 21 64368180  
传真: +86 21 64844580



# EXPLOSION PROTECTION CERTIFICATE OF CONFORMITY

Cert NO.GYJ20.1525X

This is to certify that the product

**Micropilot S Level Meter**

manufactured by **Endress + Hauser SE + Co. KG**

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

which model is **Micropilot S FMR530/531/532/533/540 Series**

Ex marking **Ex iaIIC T1 ~ T6 Ga/Gb**

product standard /

drawing number **960397-0000B、960007209A**

has been inspected and certified by NEPSI, and that it conforms  
to **GB 3836.1-2010,GB 3836.4-2010,GB 3836.20-2010**

This Approval shall remain in force until **2025.10.14**

**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 to this certificate.
- 3.Model designation is specified in the attachment(s) to this certificate.
- 4.Intrinsic safe parameters specified in the attachment(s) to this certificate.
- 5.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 **2020.10.15**

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

103 Cao Bao Road  
Shanghai 200233, China

<http://www.nepsi.org.cn>  
Email: [info@nepsi.org.cn](mailto:info@nepsi.org.cn)

Tel: +86 21 64368180  
Fax: +86 21 64844580

# 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

(GYJ20.1525X)

(Attachment I)

## GYJ20.1525X防爆合格证附件 I

由Endress+Hauser SE+Co.KG生产的Micropilot S FMR530/531/532/533/540系列微波式物位测量仪，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：

GB3836.1-2010 爆炸性环境 第1部分：设备 通用要求

GB3836.4-2010 爆炸性环境 第4部分：由本质安全型“i”保护的的设备

GB3836.20-2010 爆炸性环境 第20部分：设备保护级别（EPL）为Ga级的设备

产品防爆标志为Ex ia II C T1~T6 Ga/Gb，防爆合格证号为GYJ20.1525X。

本证书认可的产品具体型号规格如下：

FMR 530-**abdefghij**

FMR 531-**abdefghij**

FMR 532-**abdefghij**

FMR 533-**abdefghij**

FMR 540-**abdefghij**

其中，**a**表示防爆认证代码；**b**表示天线尺寸/衬垫材料；**c**表示天线延伸长度；**d**表示过程连接；**e**表示输出和操作；**f**表示外壳型式；**g**表示电缆引入规格；**h**表示运输监护认可；**i**表示附加选项。

具体含义详见产品使用说明书。

### 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，具体内容如下：

产品天线部分为塑料材质时，在现场使用时应严禁相互摩擦、干擦清洗或安装在强排气流中，以防产生静电火花危险。

### 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、产品使用环境温度范围：-40℃~+80℃。
- 3、产品温度组别、介质温度和使用环境温度的关系如下：

- 天线位于1区，电子外壳位于1区或2区

温度组别	最高允许介质温度 (天线)	最高允许环境温度(电子外壳)					
		FMR530	FMR530 (高温型天线)	FMR531	FMR532	FMR533	FMR540
T6	+80℃	+50℃	+50℃	+50℃	+50℃	+50℃	+55℃
	+60℃	+55℃	+55℃	+55℃	+55℃	+55℃	+60℃
T5	+95℃	+65℃	+70℃	+65℃	+65℃	+65℃	+70℃
	+70/75℃**	+70℃	+75℃	+70℃	+70℃	+70℃	+75℃
T4	+130℃	+70℃	+75℃	+70℃	+70℃	+70℃	+75℃
	+80℃	+80℃	+80℃	+80℃	+80℃	+80℃	+80℃
T3	+195℃	+65℃	+75℃	-	-	+60℃	+70℃
	+140℃	-	-	-	-	-	+75℃
	+150℃	+70℃	+70℃	+70℃	+70℃	+70℃	-
T2	+295℃	-	+65℃	-	-	-	-
	+200℃	-	-	-	-	-	+70℃
T1	+400℃	-	+55℃	-	-	-	-
	+350℃	-	+60℃	-	-	-	-

\*\* 受限于电子外壳的允许环境温度

- 天线位于0区，电子外壳位于1区或2区

温度组别	最高允许介质温度 (天线)	最高允许环境温度(电子外壳)					
		FMR530	FMR530 (高温型天线)	FMR531	FMR532	FMR533	FMR540
T6	+60℃	+55℃	+55℃	+55℃	+55℃	+55℃	+60℃
T5	+60℃	+65℃	+65℃	+65℃	+65℃	+65℃	+75℃
T4	+60℃	+80℃	+80℃	+80℃	+80℃	+80℃	+80℃

4、产品必须与已通过防爆认证的关联设备配套共同组成本安防爆系统方可使用于爆炸性气体环境。其系统接线必须同时遵守本产品 and 所配关联设备的使用说明书要求，接线端子不得接错。


5、产品本安输入参数及内部最大等效参数如下：

回路	最高输入电压 $U_i$ (V)	最大输入电流 $I_i$ (mA)	最大输入功率 $P_i$ (W)	最大内部等效参数	
				$C_i$ (nF)	$L_i$ ( $\mu$ H)
供电电源	30	300	1	18.5	13
输出信号	30	300	1	20.7	0

- 6、产品与关联设备的连接电缆应为带绝缘护套的屏蔽电缆，其屏蔽层应接地。
- 7、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。
- 8、产品的安装、使用和维护应同时遵守产品使用说明书、GB 3836.13-2013“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 3836.16-2017“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”及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”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、产品铭牌中应包括下列内容：

- 1) NEPSI认可标志  (见防爆合格证书)
- 2) 产品防爆标志
- 3) 防爆合格证号
- 4) 环境温度范围
- 5) 介质温度范围
- 6) “防静电”警告语（塑料天线）
- 7) 本安参数

国家级仪器仪表防爆安全监督检验站

二〇二〇年十月十五日

# 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

(GYJ20.1525X)

(Attachment I)

## Attachment I to GYJ20.1525X (translation)

### 1. Description

Micropilot S FMR530/531/532/533/540 series level meters, manufactured by Endres+Hauser SE+Co. KG, has been certified by National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). This product accords with following standards:

GB3836.1-2010 Explosive atmospheres-Part 1: Equipment-General requirements

GB3836.4-2010 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety"i"

GB3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

The Ex marking is Ex ia II C T1~T6 Ga/Gb, its certificate number is GYJ20.1525X.

Type approved in this certificate is shown as following:

FMR 530-**a b d e f g h i**

FMR 531-**a b d e f g h i**

FMR 532-**a b d e f g h i**

FMR 533-**a b d e f g h i**

FMR 540-**a b c d e f g h i**

**a** indicates Ex approval code; **b** indicates antenna size/ gasket material; **c** indicates antenna extension; **d** indicates process connection; **e** indicates output and operation; **f** indicates housing; **g** indicates cable entry; **h** indicates custody transfer approvals; **i** indicates additional options.

Refer to 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:

Avoid a built-up of electrostatic charge on the antenna surface (plastic material), do not make friction and install it in the strong airflow. Clean it with wet cloth.

### 3. Conditions for Safe Use

3.1 The external earth connection facility should be connected reliably.

3.2 The allowed ambient temperature range is -40°C~+80°C.

3.3 The relationship between the temperature class, max. permitted medium temperature and max. permitted ambient temperature is shown as following:

- Antenna in zone 1, electronic housing in zone 1 or zone 2

temperature class	max. permitted medium temperature (antenna)	max. permitted ambient temperature (electronic housing)					
		FMR530	FMR530 HT-antenna	FMR531	FMR532	FMR533	FMR540
T6	+80°C	+50°C	+50°C	+50°C	+50°C	+50°C	+55°C
	+60°C	+55°C	+55°C	+55°C	+55°C	+55°C	+60°C
T5	+95°C	+65°C	+70°C	+65°C	+65°C	+65°C	+70°C
	+70/75°C**	+70°C	+75°C	+70°C	+70°C	+70°C	+75°C
T4	+130°C	+70°C	+75°C	+70°C	+70°C	+70°C	+75°C
	+80°C	+80°C	+80°C	+80°C	+80°C	+80°C	+80°C
T3	+195°C	+65°C	+75°C	-	-	+60°C	+70°C
	+140°C	-	-	-	-	-	+75°C
	+150°C	+70°C	+70°C	+70°C	+70°C	+70°C	-
T2	+295°C	-	+65°C	-	-	-	-
	+200°C	-	-	-	-	-	+70°C
T1	+400°C	-	+55°C	-	-	-	-
	+350°C	-	+60°C	-	-	-	-

\*\* limited to permissible ambient temperature at the housing for the electronics

- Antenna in zone 0, electronic housing in zone 1 or zone 2

temperature class	max. permitted medium temperature (antenna)	max. permitted ambient temperature (electronic housing)					
		FMR530	FMR530 HT-antenna	FMR531	FMR532	FMR533	FMR540
T6	+60°C	+55°C	+55°C	+55°C	+55°C	+55°C	+60°C
T5	+60°C	+65°C	+65°C	+65°C	+65°C	+65°C	+75°C
T4	+60°C	+80°C	+80°C	+80°C	+80°C	+80°C	+80°C

3.4 This product should be used in explosive gas 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.

3.5 Intrinsically safe input parameters are shown as following:

Circuits	Ui(V)	Ii(mA)	Pi(W)	Ci(nF)	Li(μ H)
Power circuit	30	300	1	18.5	13
Signal circuit	30	300	1	20.7	0

3.6 Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.

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

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

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

GB 3836.13-2013 "Explosive atmospheres- Part 13:Equipment repair, overhaul and reclamation".

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

GB/T 3836.16-2017 "Explosive atmospheres- Part 16:Electrical installations inspection and maintenance".


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

#### 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) medium temperature range
- 6) warning of "Avoid electrostatic charge" (plastic antenna)
- 7) safe parameters

In case the nameplate does not provide enough space, information can be given in the manual, provided the nameplate shows a link to the appropriate documentation.

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

2020.10.15