

防爆合格证

证 号: GYJ21.3423X

由 恩德斯豪斯公司

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

制造的产品:

名 称 电容式物位探头

型 号 规 格 Liquicap M FMI51/52、FTI51/52

防 爆 标 志 Ex d ia II C/II B T3/T4/T6 Ga/Gb、
Ex d e ia II C/II B T3/T4/T6 Ga/Gb

产 品 标 准 /

图 样 编 号 960007056

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 3836.2-2010, GB 3836.3-2010, 标准,
GB 3836.4-2010, GB 3836.20-2010

特颁发此证。

本证书有效期: 2022年02月10日至2027年02月09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。

站 长

国家级仪器仪表防爆安全监督检验站

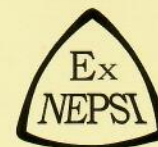
颁发日期 二〇二二年二月十日

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.GYJ21.3423X

This is to certify that the product

Capacitive level measurement

manufactured by Endress + Hauser SE + Co. KG

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

which model is Liquicap M FMI51/52, FTI51/52

Ex marking Ex d ia IIC/IIB T3/T4/T6 Ga/Gb,
Ex d e ia IIC/IIB T3/T4/T6 Ga/Gb

product standard /

drawing number 960007056

has been inspected and certified by NEPSI, and that it conforms
to GB 3836.1-2010,GB 3836.2-2010,GB 3836.3-2010,GB 3836.4-2010,
GB 3836.20-2010.

This Approval shall remain in force until 2027.02.09

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)

Director

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

Issued Date 2022.02.10

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

(GYJ21.3423X)

(Attachment I)

GYJ21.3423X防爆合格证附件 I

由恩德斯豪斯公司生产的Liquicap M FMI51/52、FTI51/52系列电容式物位探头，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

GB3836.2-2010 爆炸性环境 第2部分：由隔爆外壳“d”保护的設備

GB3836.3-2010 爆炸性环境 第3部分：由增安型“e”保护的設備

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

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

产品的防爆标志为Ex d ia II C/II B T3/T4/T6 Ga/Gb (Liquicap M FMI51/52)、
Ex d e ia II C/II B T3/T4/T6 Ga/Gb (Liquicap M FTI51/52)，防爆合格证号GYJ21.3423X。

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、涉及隔爆接合面的维修须联系产品制造商。
- 2、对于 IIC产品，不得安装在由于介质影响而会使探头表面产生静电火花危险的场所。

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、产品外壳型式：F13（铝合金、单腔）、T13（铝合金、两腔）或F27（不锈钢）。
- 3、产品探头部分可安装于0区；电子外壳部分应安装于1区或2区。
- 4、产品的使用环境温度、配用的电子插件、温度组别和介质温度的关系如下：

电子插件	环境温度*	温度组别	介质温度
FEI50H (4~20mA/HART)	-50℃~+60℃	T6	-80℃~+200℃ 参考安全指南 XA 00418F-C
	-50℃~+70℃	T4/T3	
FEI55 (8/16mA)	-50℃~+55℃	T6	
	-50℃~+70℃	T4/T3	
FEI52 (3 wire PNP)	-50℃~+60℃	T6	
	-50℃~+70℃	T4/T3	
FEI51	-50℃~+60℃	T6	
	-50℃~+70℃	T4/T3	
FEI54 (Relay)	-50℃~+60℃	T6	
	-50℃~+70℃	T4/T3	

* 注：当产品带备选显示玻璃视窗时，产品电子外壳的最低环境温度为 -40℃。

5、产品的电缆引入口（M20×1.5、NPT1/2或NPT3/4）须配用经防爆检验认可、符合GB3836.1-2010和GB3836.2-2010或GB3836.1-2010和GB3836.3-2010标准（视接线腔防爆型式而定）且满足相应防爆等级的电缆引入装置或封堵件。

6、产品的电气参数如下：

FMI51, FMI52

电子插件	端子	电气参数
FEI50H (4~20mA/HART)	1 - 2	$U \leq 30VDC$ $P \leq 1W$

FTI51, FTI52

电子插件	端子	电气参数
FEI55 (8/16mA)	1 - 2	$U \leq 35VDC$ $P \leq 1W$

电子插件	电源电路		继电器电路	
	端子	电气参数	端子	电气参数
FEI52 (3 wire PNP)	1(L+) - 2(L-)	10~55VDC Um 253VAC	-	-
FEI51	1(L+) - 2(L-)	19~253VAC Um 253VAC	-	-
FEI54 (Relay)	1(L+) - 2(L-)	19~55VDC Um 253VAC	3 - 5 和 6 - 8	30VDC/4A 125VDC/0.2A
		19~253VAC Um 253VAC		253VAC/4A 1500VA/cos ϕ =1 750VA/cos ϕ >0.7

7、产品在现场维护使用时应遵循“断电源后开盖”的原则。

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、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”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；
- 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

国家级仪器仪表防爆安全监督检验站
二〇二二年二月十日

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

(GYJ21.3423X)

(AttachmentI)

Attachment I to GYJ21.3423X (translation)

1. Description

Liquicap M FMI51/52, FTI51/52 Series capacitive level measurement, manufactured by Endress+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

GB3836.2-2010 Explosive atmospheres-Part 2: Equipment protection by flameproof enclosure "d"

GB3836.3-2010 Explosive atmospheres-Part 3: Equipment protection by increased safety "e"

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 d ia II C/ II B T3/T4/T6 Ga/Gb (Liquicap M FMI51/52) and Ex d e ia II C/ II B T3/T4/T6

Ga/Gb (Liquicap M FTI51/52), its certificate number is GYJ21.3423X.

2. Special Conditions for Safe Use

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

2.1 For information on the dimensions of the flameproof joints contact the manufacturer.

2.2 For II C version, this product should only be used where electrostatic charging of the probe caused by the process can be avoided.

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably.

3.2 Type of enclosure used for this product: F13 (Aluminum, single chamber), T13 (Aluminum, two chambers) or F27 (Stainless steel).

3.3 Probe of this product can be installed in zone 0; electronic housing should be installed in zone 1 or zone 2.

3.4 The relation between type of electronic insert, ambient temperature, medium temperature and the temperature class is shown as follows:

electronic insert	ambient temperature*	temperature class	medium temperature
FEI50H (4~20mA/HART)	-50°C~+60°C	T6	-80°C~+200°C Refer to the Safety Instructions XA00418F-C
	-50°C~+70°C	T4/T3	
FEI55 (8/16mA)	-50°C~+55°C	T6	
	-50°C~+70°C	T4/T3	
FEI52 (3 wire PNP)	-50°C~+60°C	T6	
	-50°C~+70°C	T4/T3	
FEI51	-50°C~+60°C	T6	
	-50°C~+70°C	T4/T3	
FEI54 (Relay)	-50°C~+60°C	T6	
	-50°C~+70°C	T4/T3	

* note: In the version with display and glass window in the cover of the flameproof enclosure the minimum ambient temperature showed above should be -40°C.

3.5 For cable entries (M20×1.5, NPT1/2 or NPT3/4), appropriate cable glands or blind plugs shall be used and corrected installed which are approved by ExTL in accordance with GB3836.1-2010 and GB3836.2-2010 or GB3836.1-2010 and GB3836.3-2010 (depend on the type of protection of the terminal compartment).

3.6 The electrical parameters of the product are as follows:

FMI51, FMI52

electronic insert	terminals	safe parameters
FEI50H (4~20mA/HART)	1 - 2	U≤30VDC P≤1W

FTI51, FTI52

electronic insert	terminals	safe parameters
FEI55 (8/16mA)	1 - 2	U≤35VDC P≤1W

electronic insert	power supply		relay circuit	
	terminals	safe parameters	terminals	safe parameters
FEI52 (3 wire PNP)	1(L+) - 2(L-)	10~55VDC Um 253VAC	-	-
FEI51	1(L+) - 2(L-)	19~253VAC Um 253VAC	-	-
FEI54 (Relay)	1(L+) - 2(L-)	19~55VDC Um 253VAC	3 - 5 and	30VDC/4A 125VDC/0.2A
		19~253VAC Um 253VAC	6 - 8	253VAC/4A 1500VA/cosφ=1 750VA/cosφ>0.7



3.7 Obey the warning "Keep tight when the circuit is alive".

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 the capacitive level measurement, 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".

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 Marking should show the following

4.3.1 NEPSI logo 

4.3.2 Type of explosion protection

4.3.3 Certificate number

4.3.4 Ambient temperature range

4.3.5 Warning of "Keep tight when the circuit is alive"

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

2022.02.10