



防爆合格证

证号: GYJ12.1433X

由 恩德斯+豪斯公司

制造的产品:

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

名称 电容式物位探头

型号规格 Liquicap M FMI51/52、FTI51/52系列

防爆标志 Ex nA II C T3~T6 Gc, Ex nC II C T3~T6 Gc

产品标准 /

图样编号 960006882、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 3836.8-2003 标准,
特颁发此证。

本证书有效期: 2012年10月12日至2017年10月11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. 安全电气参数见本证书附件。

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

颁发日期二〇一二年十月十二日

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.GYJ12.1433X

This is to certify that the product

Capacitive level measurement

manufactured by Endress + Hauser GmbH + Co. KG

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

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

Ex marking Ex nA II C T3~T6 Gc, Ex nC II C T3~T6 Gc

product standard /

drawing number 960006882、960007056

has been inspected and certified by NEPSI, and that it conforms
to GB 3836.1-2010,GB 3836.8-2003

This Approval shall remain in force until 2017.10.11

Remarks

- 1.Conditions for safe use are specified in the attachment 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.Safe parameters specified in the attachment 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 2012.10.12

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

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

(GYJ12.1433X)

(Attachment I)

GYJ12.1433X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

GB3836.8-2003 爆炸性气体环境用电气设备 第8部分：“n”型电气设备

产品防爆标志为Ex nA II CT3~T6 Gc（电子插件FEI50H、FEI57C、FEI55、FEI57S、FEI58和FEI52）或Ex nC II C T3~T6 Gc（电子插件FEI54），防爆合格证号GYJ12.1433X。

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：

1、当产品为塑料外壳时，在使用、维护过程中应避免摩擦、干擦和安装在强排气流中，以防产生静电火花危险。

2、当产品的探头涂覆非金属绝缘材料时（如PTFE、FEP、PFA），不得摩擦、干擦清洗探头和安装在强介质流中，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、本产品只能使用于2区爆炸性气体危险场所。

3、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	-50℃~+60℃	T6	-80℃~+200℃ 参考安全指南 XA346F-C
	-50℃~+70℃	T5~T3	
FEI57C	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	
FEI55	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI57S	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI58	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI52	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	
FEI54	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	

* 注：产品为F16外壳时，产品电子外壳的最低环境温度为 -40°C 。

4、产品的电气参数如下：

电子插件	安全参数	
FEI50H	$U \leq 30\text{V}$ $I \leq 120\text{mA}$	
FEI57C	$U \leq 19.2\text{V}$ $I \leq 108\text{mA}$	
FEI55	$U \leq 36\text{V}$ $I \leq 100\text{mA}$	
FEI57S	$U \leq 16.1\text{V}$ $I \leq 100\text{mA}$	
FEI58	$U \leq 18\text{V}$ $I \leq 52\text{mA}$	
FEI52	10~55VDC Um 253VAC	
FEI54	19~253VAC Um 253VAC	253VAC/6A* 750VA/ $\cos\varphi \geq 0.7$
	19~55VDC Um 253VAC	30VDC/6A* 125VDC/0.2A

*产品为T13型外壳时：4A

5、产品的电缆引入口须选用合适的电缆引入装置，冗余口须用封堵件进行封堵；安装后，产品外壳防护等级不得低于GB4208-2008规定的IP54。

6、产品在现场维护使用时应遵循“断电源后开盖”的原则。

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、GB3836.13-1997“爆炸性气体环境用电气设备 第13部分：爆炸性气体环境用电气设备的检修”、GB3836.15-2000“爆炸性气体环境用电气设备 第15部分：危险场所电气安装（煤矿除外）”、GB3836.16-2006“爆炸性气体环境用电气设备 第16部分：电气装置的检查和维护（煤矿除外）”及GB50257-1996“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) 产品电气参数

国家级仪器仪表防爆安全监督检验站

二〇一二年十月十二日

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

(GYJ12.1433X)

(Attachment I)

Attachment I to GYJ12.1433X

(translation)

1. Description

Liquicap M FMI51/52, FTI51/52 series capacitive level measurement, manufactured by Endress+Hauser GmbH+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

GB3836.8-2003 Electrical apparatus for explosive gas atmospheres- Part 8: Type of protection 'n'

The Ex marking is Ex nA II CT3~T6 Gc (with electronic insert FEI50H, FEI57C, FEI55, FEI57S, FEI58 and FEI52) or Ex nC IIC T3~T6 Gc (with electronic insert FEI54), its certificate number is GYJ12.1433X.

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:

2.1 The plastic enclosure should be no friction, dry cleaning or installed in the strong air flow to avoid electrostatic charging..

2.2 Avoid electrostatic charging (incl. friction, dry cleaning, medium flows etc.) when the probe is insulated with non-metallic material like PTFE, FEP or PFA.

3. Conditions for Safe Use

3.1 The external earth connection facility shall be connected reliably.

3.2 The approved product only can be used in the explosive gas area located as zone 2.

3.3 The relationship 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
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FEI50H	-50℃~+60℃	T6	-80℃~+200℃ See the Safety Instructions XA346F-C
	-50℃~+70℃	T5~T3	
FEI57C	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	
FEI55	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI57S	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI58	-50℃~+55℃	T6	
	-50℃~+70℃	T5~T3	
FEI52	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	
FEI54	-50℃~+60℃	T6	
	-50℃~+70℃	T5~T3	

* note: For F16 enclosure, the minimum ambient temperature of the enclosure showed above should be -40℃

3.4 The electrical parameters of the product are as follows:

electronic insert	safe parameter	
FEI50H	U≤ 30V I≤ 120mA	
FEI57C	U≤ 19.2V I≤ 108mA	
FEI55	U≤ 36V I≤ 100mA	
FEI57S	U≤ 16.1V I≤ 100mA	
FEI58	U≤ 18V I≤ 52mA	
FEI52	10~55VDC Um 253VAC	
FEI54	19~253VAC	253VAC/ 6A*
	Um 253VAC	750VA/ cosφ≥0.7
	19~55VDC Um 253VAC	30VDC/ 6A* 125VDC/ 0.2A

* For T13 enclosure: 4A

3.5 The device shall provide a degree of ingress protection of at least IP54 according to GB4208-2008 after suitable cable gland and blind plug are correctly installed.

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

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 the capacitive level measurement, the end user shall observe the instruction manual and the following standards:

GB50257-1996 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".

GB3836.13-1997 "Electrical apparatus for explosive gas atmospheres Part 13:Repair and overhaul for apparatus used in explosive gas atmospheres" .

GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres- Part 15:Electrical installations in hazardous area (other than mines)".

GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres- Part 16:Inspection and maintenance of electrical installation (other than mines)".

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 Electrical data

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

2012.10.12