



防爆合格证

证 号: GYJ22.1878X

制 造 商 Heinrichs Messtechnik GmbH

(地址: Robert-Perthel-Strasse 9, 50739 Cologne, Germany)

产 品 名 称 电磁流量计

型 号 规 格 UMF3 系列

防 爆 标 志 见防爆合格证附件

产 品 标 准 /

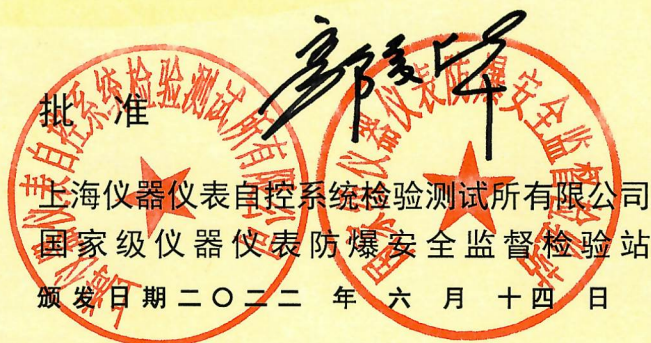
图 样 编 号 UMF3-1002, PIT-EX-116

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 3836.3-2021, GB/T 3836.4-2021,
GB 3836.20-2010

特颁发此证。

本证书有效期: 2022 年 06 月 14 日 至 2027 年 06 月 13 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. 电气安全参数见本证书附件。



本证书仅对与认可文件和样品一致的产品有效。

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SitiAs
Worldwide Access

EXPLOSION PROTECTION

CERTIFICATE OF CONFORMITY

Cert No. GYJ22.1878X

Manufacturer	Heinrichs Messtechnik GmbH (Address: Robert-Perthel-Strasse 9, 50739 Cologne, Germany)
Product	Electromagnetic Flowmeter
Model	UMF3 Series
Ex marking	Specified in the attachment
Product standard	/
Drawing number	UMF3-1002, PIT-EX-116

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

GB/T 3836.1-2021, GB/T 3836.2-2021, GB/T 3836.3-2021, GB/T 3836.4-2021,
GB 3836.20-2010

Valid until: 2027.06.13

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. Safe parameters specified in the attachment(s) to this certificate.



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 2022.06.14

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

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(GYJ22.1878X)

(Attachment I)

GYJ22.1878X防爆合格证附件 I

由Heinrichs Messtechnik GmbH生产的UMF3系列电磁流量计，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 3836.3-2021 爆炸性环境 第3部分：由增安型“e”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 3836.20-2010 爆炸性环境 第20部分：设备保护级别（EPL）为Ga级的设备

产品防爆标志见产品使用注意事项。

本证书认可的产品型号规格如下：

UMF3-**a****b*****

其中：**a**表示电源电压，可为1、2；

b表示认证代码，可为A、B；

***与防爆性能无关。

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：

- 1、须选用符合相应工作条件的连接电缆、电缆引入装置和封堵件。
- 2、涉及隔爆接合面的维修须联系产品制造商。

二、产品使用注意事项

1、产品外壳设有接地端子，用户在现场使用时应可靠连接。转换器与传感器的本安电路之间应等电位连接。

2、产品代码及防爆标志关系如下：

产品代码	防爆标志
b = A	Ex db eb ib [ia II C Ga] II B T4/T3 Gb
b = B	Ex db eb ib II B T4/T3 Gb

3、配用传感器型号、使用环境温度范围、最高介质温度和温度组别的关系如下：

传感器型号	最高介质温度	环境温度范围	温度组别
PIT-S (PIT-520)	+80℃	-40℃～+60℃	T4
PIT-U (PIT-580)	+80℃	-40℃～+60℃	T4
PIT-A (PIT-571)	+100℃	-40℃～+50℃	T4
	+130℃	-40℃～+50℃	T3

4、产品的电缆引入口须配用经防爆检验认可的、符合GB/T 3836.1-2021和GB/T 3836.2-2021或GB/T 3836.1-2021和GB/T 3836.3-2021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；当接线腔为增安型时，可使用厂家指定的Ex eb 电缆引入装置。安装后，产品外壳防护等级不得低于IP65。

5、产品电气参数：

5.1 产品电源电路的电气参数如下：

产品代码	端子	正常工作电压	最高工作电压
a = 1	KL7	90～253 VAC	Um= 253 VAC
a = 2	KL14	24±20% VDC	Um= 60 VDC

5.2 产品信号电路的电气参数如下：

5.2.1 非本安输出（**b** = B）：Um= 30 VAC/DC、500 mA

5.2.2 本安输出（**b** = A）

二进制输出1（端子KL4）、二进制输出2（端子KL1）和二进制输出3（端子KL5）

最高输入电压 Ui (V)	最大输入电流 Ii (mA)	最大输入功率 Pi (W)	最大内部等效参数	
			Ci(nF)	Li(mH)
30 VDC	200	3	0	0

电流输出（端子KL2）

最高输出电压 Uo (V)	最大输出电流 Io(mA)	最大输出功率 Po(W)	最大允许等效参数	
			Co(nF)	Lo(mH)
30 VDC	150	1.3	20	0.1

二进制输入（端子KL6）

最高输入电压 Ui (V)	最大输入电流 Ii (mA)	最大输入功率 Pi (W)	最大内部等效参数	
			Ci(nF)	Li(mH)
30 VDC	200	3	0	0

6、产品的本安输入端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。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、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/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）”、GB/T 3836.16-2017“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修（煤矿除外）”、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；
- 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

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
二〇二二年六月十四日



(GYJ22.1878X)

(AttachmentI)

Attachment I to GYJ22.1878X (translation)

1. Description

Electromagnetic Flowmeter type UMF3, manufactured by Heinrichs Messtechnik GmbH, 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 3836.3-2021 Explosive atmospheres-Part 3: Equipment protection by increased safety "e"

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

GB 3836.20-2010 Explosive atmospheres-Part 20: Equipment with equipment protection level (EPL) Ga

The Ex marking specified in conditions for safe use as below.

Type approved in this certificate is shown as the following:

UMF3-**a****b*****

a indicates power supply, including 1, 2;

b indicates approval code, including A, B;

*** has no relevant to Ex performance.

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:

2.1 Connection cables, cable glands and blanking elements to be used shall be suitable for the working condition.

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

3. Conditions for Safe Use

3.1 The external earth connection facility should be connected reliably. The equipotential bonding between the remote transmitter and sensor has to be done.

3.2 The relationship between type code and Ex marking is shown as the following:

Type code	Ex marking
b = A	Ex db eb ib [ja IIC Ga] IIB T4/T3 Gb
b = B	Ex db eb ib IIB T4/T3 Gb

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

mounted sensor	max. medium temperature	ambient temperature range	temperature class
PIT-S (PIT-520)	+80℃	-40℃～+60℃	T4
PIT-U (PIT-580)	+80℃	-40℃～+60℃	T4
PIT-A (PIT-571)	+100℃	-40℃～+50℃	T4
	+130℃	-40℃～+50℃	T3

3.4 For cable entries, appropriate cable glands or blind plugs shall be used which are approved by ExTL in accordance with GB/T 3836.1-2021 and GB/T 3836.2-2021 (terminal compartment in flameproof) or GB/T 3836.1-2021 and GB/T 3836.3-2021 (terminal compartment in increased safety). Otherwise/alternatively Ex eb cable glands specified/provided by the manufacturer which are rated at least IP65 can be used (terminal compartment in increased safety only).

3.5 Electrical data:

3.5.1 Supply circuit

Type code	Terminals	Nominal voltage	Max. voltage
$a = 1$	KL7	90～253V AC	Um= 253V AC
$a = 2$	KL14	24±20%V DC	Um= 60V DC

3.5.2 Signal output circuits

3.5.2.1 Non intrinsically safe ($b = B$): Um = 30 VAC/DC 500 mA

3.5.2.2 Intrinsically safe ($b = A$)

Binary output 1 (terminals KL4), Binary output 2 (terminals KL1) and Binary output 3 (terminals KL5)

U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (mH)
30	200	3	0	0

Current output (terminals KL2)

U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (mH)
30	150	1.3	20	0.1

Binary input (terminals KL6)

U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (mH)
30	200	3	0	0

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

3.7 Any maintenance shall be performed only when the warning of "Do not open when energized" is observed.

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

GB/T 3836.13-2021 "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) warning of "Do not open when energized"
- 6) Safety 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
2022.06.14