

防爆合格证

证号: GYJ17.1062X

由 恩德斯+豪斯公司

制造的产品:

(地址: Obere Wank 1, 87484 Nesselwang, Germany)

名称 温度变送器 (带HART/PA/FF)

型号规格 TMT162 系列

防爆标志 Ex ia II C T4~T6 Ga/Gb

产品标准 /

图样编号 14 12 00 000, 14 12 11 000

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: 2017 年 2 月 22 日至 2022 年 2 月 21 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温度仪表(苏州)有限公司(地址: 苏州工业园区苏虹中路465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

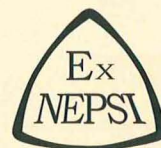
颁发日期二〇一七年二月二十二日

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.GYJ17.1062X

This is to certify that the product

Temperature transmitter (with HART/PA/FF)

manufactured by Endress + Hauser Wetzer GmbH + Co. KG

(Address: Obere Wank 1, 87484 Nesselwang, Germany)

which model is TMT162 Series

Ex marking Ex ia IIC T4~T6 Ga/Gb

product standard /

drawing number 14 12 00 000, 14 12 11 000

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 2022.02.21

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. Intrinsic safety 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 Wetzer (Suzhou) Co., Ltd. (address: Su Hong Zhong Lu No.465, Suzhou-SIP, China)

Director



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

Issued Date 2017.02.22

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

(GYJ17.1062X)

(Attachment I)

GYJ17.1062X防爆合格证附件 I

由恩德斯+豪斯公司生产的TMT162系列温度变送器（带HART/PA/FF），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Ex ia II C T4~T6 Ga/Gb，防爆合格证号GYJ17.1062X。

本证书认可的产品型号规格如下：

iTEMP TMT 162-1□

其中：□表示外壳、电缆引入装置、组态连接等，详见产品规格说明书。

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，具体内容如下：

产品为铝合金外壳且用于0区时，应防止由于冲击或摩擦引起的点燃危险。

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、产品使用环境温度和温度组别的关系：

温度组别	T6(不带显示)	T5(不带显示)	T4(不带显示)	T4（带显示）
环境温度	-40℃~+55℃	-40℃~+70℃	-40℃~+85℃	-40℃~+70℃

若使用环境温度高于65℃，应选用至少耐热90℃连接电缆。

3、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。

4、产品（端子+、-）的本安输入参数如下：

	最高输入电压 Ui (V)	最大输入电流 Ii (mA)	最大输入功率 Pi(W)	最大内部参数	
				Ci(nF)	Li(μ H)
4~20mA	30	300	1	5	0
PA/FF	24	250	1.2	5	10
	17.5*	500*	5.5*	5*	10*

注：带*的这组参数满足FISCO总线设备的要求。（GB3836.19-2010）

5、产品传感器电路（端子1~6）的本安输出参数如下：

4~20mA : $U_o=7.6V$ $I_o=29.3mA$ $P_o=55.6mW$

PA/FF : $U_o=8.6V$ $I_o=26.9mA$ $P_o=57.6mW$

	外部允许参数	Ex ia II C	Ex ia II B	Ex ia II A
4~20mA	Co=	10.4 μ F	160 μ F	1000 μ F
	Lo=	40mH	150mH	300mH
PA/FF	Co=	6.2 μ F	55 μ F	1000 μ F
	Lo=	48 mH	180 mH	380 mH

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、GB3836.13-2013“爆炸性环境 第13部分：设备的修理、检修、修复和改造”、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修（煤矿除外）”、GB3836.18-2010“爆炸性环境 第18部分：本质安全系统”及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”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) 本安电气参数

国家级仪器仪表防爆安全监督检验站

二〇一七年二月二十二日

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

(GYJ17.1062X)

(Attachment I)

Attachment I to GYJ17.1062X

1. Description

TMT162 series Temperature transmitter (with HART/PA/FF), manufactured by Endress+Hauser Wetzler 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:

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 T4~T6 Ga/Gb, its certificate number is GYJ17.1062X.

Type approved in this certificate is shown as the following:

iTEMP TMT162-1□

□ indicates enclosure, cable entry, configuration connection and etc.

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:

When the intrinsic safety product being used in zone 0, the enclosure which is made of aluminium alloy must be installed so that, even in the event of rare incidents, ignition sources due to impact and friction sparks should be excluded.

3. Conditions for Safe Use

3.1 The external earth connection facility of this product shall be connected reliably.

3.2 The relationship between ambient temperature range and the temperature class is shown as follows:

Temperature class	T6 (w/o display)	T5 (w/o display)	T4 (w/o display)	T4 (with display)
Ambient temperature range	-40℃~+55℃	-40℃~+70℃	-40℃~+85℃	-40℃~+70℃

Use the connection cable endurance to heat at least 90℃ when the ambient temperature is $> 65^{\circ}\text{C}$.

3.3 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.

3.4 Intrinsically safe input parameters (terminal +, -):

	U _i (V)	I _i (mA)	P _i (W)	C _i (nF)	L _i (μH)
4~20mA	30	300	1	5	0
PA/FF	24	250	1.2	5	10
	17.5*	500*	5.5*	5*	10*

Note: parameters with symbol "*" meet the requirements of FISCO device. (GB3836.19-2010)

3.5 Intrinsically safe output parameters of sensor circuits (terminal 1~6):

4~20mA	U _o =7.6V	I _o =29.3mA	P _o =55.6mW
	II C	II B	II A
	C _o 10.4 μF	160 μF	1000 μF
	L _o 40mH	150mH	300mH
PA/FF	U _o =8.6V	I _o =26.9mA	P _o =57.6mW
	II C	II B	II A
	C _o 6.2 μF	55 μF	1000 μF
	L _o 48mH	180mH	380mH

3.6 Connecting cable between intrinsically safe 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:

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".

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)".

GB3836.18-2010 "Explosive atmospheres-Part 18: Intrinsically safe system".

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
- 5) intrinsically safe parameters

National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2017.02.22

