EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert No. GYB24.3022X

Manufacturer	**Shanghai Analog & Digital Instrument Co.,Ltd.** (Address:215, Building 5, No. 1101, Huyi Road, Jiading District, Shanghai.)
Product	**Temperature Transmitter**
Model	**THE series、TRE series、TFE series**
Ex marking	**Ex iaIIC T4...T6 Ga**
Product standard	**Q31/0106000036A015-2023**
Drawing number	**AD1.251.001-1/2、AD1.251.002-1/2、AD1.251.003-1/2、AD1.251.004-1/2、AD1.251.005-1/2、AD1.251.006-1/2、AD1.251.007-1/2**

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

GB/T 3836.1-2021,GB/T 3836.4-2021

Valid until: 2029.11.06

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.Intrinsically safe parameters are specified in the attachment(s) to this certificate.
5.[Variation I] Ex marking changed from Ex iaIIC T4 Ga to Ex iaIIC T4...T6 Ga, issued on 2025.04.25.
6.[Variation II] Add English certificate attachments, issued on 2025.06.03.

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 2024.11.07

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

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Attachment Ⅰ to GYB24.3022X

Temperature transmitter typed THE/TRE and TFE series manufactured by Shanghai Analog & Digital Instrument Co.,Ltd., accords with following standards:

GB/T3836.1-2021 Explosive atmospheres-Part 1: Equipment-General requirements

GB/T3836.4-2021 Explosive atmospheres-Part 4: Equipment protection by intrinsic safety"i"

The Ex marking is Ex ia Ⅱ C T4…T6 Ga, Certificate number is GYB24.3022X.

The approved product models are as follows:

T *a* E *b* -B1 *c d e f g h*

a Temperature transmitter type options, which can be H (Modular), R (Rail-mounted) or F (Field-mounted).

b Output signal options, which can be 210(4~20mA,electrical isolation) or 310(4~20mA Hart,electrical isolation).

c Field-mounted product housing options,which can be NN,DN,BS,BH,BK,EA,EX,EY,DH,DX,DY,DB,DG,DC or DL.

d Housing material options,which can be A or S(Applicable only when option *a* is F).

e Cable entry and sensor threaded connection options,which can be 1,2 or X(Applicable only when option *a* is F).

f Cable entry (gland) options,which can be N0,P1,P2,A1,A2,S1,S2,L1,L2(Applicable only when option *a* is F).

g Mounting bracket options,which can be B or N(Applicable only when option *a* is F).

h Assembled sensor (RTD/TC) options,which can be NS (None) or XA (With assembly), applicable only when option *a* is F or blank(when option *a* is H or R and option *c* is NN or DN).

1. 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:

1.1 Associated apparatus shall preferentially use isolated safety barriers; if zener barriers are selected, they must comply with the intrinsic safety circuit grounding requirements specified in GB/T 3836.15-2017.

1.2 Refer to the table below for the correlation between product temperature class, code options, and ambient temperature range:

T-class	*c* code options	Ambient temperature range
T4	All options	-52°C~+80°C
T5	All options	-52°C~+70°C

T6	NN、BS、BH、BK、EA、EX or EY	-52°C~+65°C
T6	DN、DH、DX、DY、DB、DG、DC or DL	-52°C~+57°C

1.3 When the product is installed in explosive hazardous areas with option *h* is XA (pre-assembled sensor), the connected sensor's Ex marking, ambient temperature and intrinsic safety parameters must match the product specifications.

1.4 When installing the product in locations requiring EPL Ga, the user shall take effective measures to prevent ignition hazards caused by impact or friction to the product enclosure.

1.5 Do not rub the product's non-metallic parts under any circumstances to prevent ignition due to electrostatic discharge.

1.6 When the product is installed in explosive hazardous areas with option *c* configured as NN or DN, it shall be housed in an enclosure meeting the following requirements with a minimum IP20 rating:

1.6.1 Metallic enclosure complying with Clause 8.3 material requirements of GB/T 3836.1-2021, with a minimum 3mm clearance between product terminals and enclosure interior; OR

1.6.2 Non-metallic enclosure complying with Clause 7.4 of GB/T 3836.1-2021.

2. Conditions for Safe Use

2.1 intrinsic safety electrical parameters of the product are listed in the table below：

Transmitter type	Maximum input voltage Ui (V)	Maximum input current Ii (mA)	Maximum input power Pi (W)	Maximum internal equivalent parameters	
				Ci (μF)	Li (mH)
THE/TFE series Terminal No: 1+，2-	28	100	0.666	0	0
TRE series Terminal No: 9+，10-					
Transmitter type	Maximum output voltage U_o (V)	Maximum output current I_o (mA)	Maximum output power P_o (mW)	Maximum external parameters	
				C_o(μF)	L_o(mH)
THE/TFE series Terminal No: 3，4，5，6 option *h* is NS	6.6	27	45	14.5	13
TRE series Terminal No: 1，2，3，4 option *h* is NS					

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

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

GB/T 3836.13-2021 “Explosive atmospheres- Part 13:Equipment repair,overhaul,reclamation and modification”.

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

GB/T 3836.16-2022 “Explosive atmospheres- Part 16:Electrical installations inspection and maintenance”.

GB/T 3836.18-2024 “Explosive atmospheres- Part 18:Intrinsically safe electrical systems”.

GB50257-2014 “Code for construction and acceptance of electric equipment on fire and explosion hazard electric equipment installation engineering”.

4. Manufacturer’s Responsibility

4.1 Conditions for safe use and special 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.

Shanghai Inspection and Testing
Institute of Instruments and Automation Systems Co. Ltd.
National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
2025.06.03