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# NEPSI Hazardous Area Approvals for Fisher® 646 Electro-Pneumatic Transducer Instruction Manual (D101351X012)

This supplement provides NESPI Hazardous Area Approval information for the 646 electro-pneumatic transducer instruction manual. Use this in conjunction with information provided in the 646 instruction manual (D101351X012).

NEPSI—National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation. NEPSI approval is accepted in China.

Certain nameplates may carry more than one approval, and each approval may have unique installation/wiring requirements and/or conditions of “safe use”. These special instructions for “safe use” are in addition to, and may override, the standard installation procedures. Special instructions are listed by approval. Refer to the instruction manual for all other information regarding the 646 electro-pneumatic transducer.

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## Note

This information supplements the nameplate markings affixed to the product.

Always refer to the nameplate itself to identify the appropriate certification.

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## **▲ WARNING**

**Failure to follow these conditions of “safe use” could result in personal injury or property damage from fire or explosion, and area re-classification.**

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**Intrinsically Safe**

Cert NO. GYJ12.1420X

Ex ia IIC T4/T5 Ga

**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:

To avoid an ignition hazard due to impact or friction when product is installed in zone 0 with aluminum housing.

**Conditions for Safe Use**

1. The external earth connection facility shall be connected reliably.
2. The relationship between temperature class and ambient temperature range is shown as the following:

Temperature Class	T5	T4
Ambient Temperature Range	-40°C ~ +40°C	-40°C ~ +71°C

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.
4. Intrinsically safe input parameters:  
 $U_i = 30 \text{ VDC}$ ,  $I_i = 150 \text{ mA}$ ,  $P_i = 1.0 \text{ W}$ ,  $C_i = 0 \text{ nF}$ ,  $L_i = 0 \text{ mH}$
5. Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground at safe area.
6. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.
7. For installation, use and maintenance of this product, the end user should 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 installation 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)”.

## Flameproof

Cert NO. GYJ12.1419X

Ex d IIC T6 Gb

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

## Conditions for Safe Use

1. The external earth connection facility shall be connected reliably.
2. The relationship between temperature class and ambient temperature range is  $-40^{\circ}\text{C} \sim +71^{\circ}\text{C}$
3. Electrical data: Max. Voltage 30 VDC
4. For the cable entry (1/2 NPT), appropriate cable gland with Ex marking Ex d IIC Gb shall be used which is approved by ExTL in accordance with GB3836.1-2010 and GB3836.2-2010.
5. Obey the rules “Do not open when energized” or the area known to be non hazardous.
6. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.
7. For installation, use and maintenance of this product, the end user should 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 installation 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)”.

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