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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Specifications for the flame proof of industrial thermocouples
and resistance thermometer sensors**

工业热电偶和热电阻隔爆技术条件

(English Translation)

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Foreword

All technical contents of this standard are mandatory.

The standard proposed by China Machinery Industry Federation.

This standard by the national industrial process measurement and control Standardization Technical Committee (SAC/TC124) centralized.

1 Scope

This standard specifies the explosive gas atmospheres industrial thermocouple and thermal resistance (hereinafter referred to as thermocouple and RTD) technology to flameproof Requirements, test methods, inspection rules, packaging and storage.

This standard applies to the thermocouple and RTD Ambient temperature -20 °C ~ 60 °C factory explosive gas environments.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB 3836.1-2000 Electrical equipment for explosive gas atmospheres - Part 1. General requirements (eqvIEC 60079-0:1998) GB 3836.2-2000 Electrical apparatus for explosive gas atmospheres - Part 2. flameproof "d" (eqvIEC 60079-1:1990) GB 4208-2008 housing protection (IP Code) (IEC 60529:2001, IDT) GB/T 13384 mechanical and electrical products packaging General technical conditions

3 Terms and Definitions

Terms and definitions GB 3836.1-2000 and GB 3836.2-2000 to establish apply to this standard.

4.1.1 Appearance

The outer surface of the junction box thermocouple and RTD should have the following signs.

- a) in the junction box housing a prominent place should be set clear permanent earth Symbols "on";
- b) a prominent place on the terminal box cover, should set clear permanent proof mark "Ex";
- c) a prominent place on the terminal box cover, should be set to clear a permanent warning words "No live openings."

4.1.2 Assembly quality

Assembly quality thermocouple and RTD should meet the following requirements.

- a) the parts assembled correctly, reliable connection parts no defect;
- b) the nameplate is correct, reliable fixation; nameplate material chemically resistant materials should be used, such as bronze, brass or stainless steel.

4.2 Flameproof joint housing and the junction box cover and protection tube junction

Thermocouple and thermal resistance of the junction box housing and cover and protective tube with a flameproof joint connections shall comply with GB 3836.2-2000 the relevant requirements of Chapter 5.

4.3.1 Spigot proof joints

Stop using the port flameproof joint shall comply with GB 3836.2-2000 concerning the 5.1,5.2.2,5.2.3,5.2.4,5.2.5,5.2.6 Claim.

4.3.2 Adhesive flameproof joint

Using adhesive flameproof joint shall comply with GB 3836.1-2000 in Chapters 12 and GB 3836.2-2000 in about 5.5 Claim.

4.4 converter with display with thermocouple and thermal resistance junction box display transparent pieces

4.4.1 Materials

Display transparent parts should be used to effectively withstand the highest temperature at rated conditions of glass material.

4.4.2 Install

Install glass transparent member shall comply with the relevant requirements of 8.2 in GB 3836.2-2000.

4.4.3 Impact

Transparent glass pieces after the impact test should not be any damage to the impact of the explosion-proof performance.

4.4.4 Thermal upheaval

Transparent glass member should be able to withstand drastic changes in the thermal test without cracking.

4.5.1 Materials

Thermocouple and thermal resistance of the junction box should be used metal materials as a percentage by mass magnesium content of not more than 6%.

4.5.2 Impact

You should be able to withstand the impact test GB 3836.1-2000 defined in 23.4.3 any part of the terminal box or flat surface. test , It should not affect the performance of any explosion damage or deformation.

4.5.3 Static Pressure

Junction box should be able to withstand at least IIC level 1.5MPa, hydrostatic pressure test lasted within the 10s ~ 12s. After the test, may not affect the anti -any damage or deformation explosive properties.

Introduction means 4.6 Thermocouple wire cable and the thermal resistance of the cable
Introducing means 4.6.1 thermocouple wire cable and the thermal resistance of the cable should meet the GB 3836.1-2000 in Chapters 16 and GB 3836.2-2000 the relevant requirements of Chapter 12.

4.6.2 When the installation of cables for the scene, which clamping nut entrance compensation should be made of wire or cable bell shape, its inner edge Smooth, see Appendix A in FIG A.1a), FIG A.1b) below.