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

GB 30439.2-2013

**Safety requirements for industrial automation products - Part 2:
Safety requirements for pressure (differential) transmitter**

工业自动化产品安全要求 第2部分: 压力/差压变送器的安全要求

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Foreword

All technical content of this part of GB 30439-2013 is mandatory. GB 30439 "Industrial Automation product safety requirements" is divided into 18 parts.

- Part 1. General;
- Part 2. pressure/differential pressure transmitter safety requirements;
- Part 3. Temperature Transmitter safety requirements;
- Part 4. Safety requirements for the control valve;
- Part 5. flowmeter safety requirements;
- Part 6. solenoid valve safety requirements;
- Part 7. loop controller safety requirements;
- Part 8. Safety requirements for electric actuators;
- Part 9. Digital display instrument safety requirements;
- Part 10. recording instrument safety requirements;
- Part 11. Programmable Controller safety requirements;

--- Part 12. Echo Ranging (TOF) Level Meter safety requirements;

--- Part 13. magnetostrictive level gauge safety requirements;

1 Scope

GB 30439.2-2013 is the Chinese national standard on safety requirements for industrial automation products - part 2: safety requirements for pressure (differential) transmitter, in the field of manufacturing engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 31 December 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2015. Classification: ICS 25.040.01, CCS N10. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

GB 20439 of the provisions of this part of the industrial processes used in pressure/differential pressure transmitter (hereinafter referred to as the transmitter) of mechanical hazards, too Heat, flames spread outward from inside the transmitter, the safety requirements affect fluid and fluid pressure, explosion and implosion. This section does not include security-related equipment and reliable function, performance or other characteristics, the effectiveness of transport packaging, electromagnetic compatibility (EMC) requirements for an explosive environment protection measures, maintenance (repair), protective maintenance (repair) personnel. This section applies to rely on less than safe voltage DC power, battery-powered or pneumatic transmitter.

Note. The value of safe voltage see GB 4793.1-2007 6.3.1.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 4208-2008 shell protection (IP code)

GB 4793.1-2007 measurement, control and laboratory safety requirements for electrical equipment - Part 1. General requirements

GB/T 5169.16-2008 Fire hazard testing for electric and electronic products - Part 16. Test flames - 50W horizontal and vertical flame experiment method

GB/T 5465.2-2008 Graphical symbols for electrical equipment - Part 2. Graphical symbols

GB/T 16842-2008 housing for people and equipment protection test with a test

IEC 60027 electrical technology text symbols
(Lettersymbols to be used in electrical technology)

3 Terms and Definitions

GB 4793.1-2007 defined and the following terms and definitions apply to this document. For ease of use, repeat the following list The GB 4793.1-2007 certain terms and definitions.
Category

3.1 Equipment and devices

3.1.1 PERMANENTLY CONNECTED EQUIPMENT permanently connected equipment Only method of permanent connection with the tool to disconnect the power supply and electrical connection devices. [GB 4793.1-2007, the definition 3.1.2]

3.1.2 Tools tool , Including keys and coins, including an external device to help people to perform some kind of mechanical function and use. [GB 4793.1-2007, the definition 3.1.5]

3.2 Parts and Accessories

3.2.1 Terminal terminal A component of the apparatus (device) connected to the outer conductor provided. [IEV151-01-03, revised edition]

Note. The terminal can contain one or more contacts, so that the term also includes sockets, connectors and the like. [GB 4793.1-2007, the definition 3.2.1]

3.2.2 Functional ground terminal functionalearthterminal To a point directly measuring or control circuit, or directly with a shield portion is electrically connected, but also reservations To be used for any function other than safety purposes purpose a ground terminal.

Note. The measuring equipment, the terminal is often referred to as measuring ground terminal. [GB 4793.1-2007, the definition 3.2.2]

3.2.3 Protective Conductor Terminal protectiveconductorterminal For security purposes and conductive parts of equipment are connected, but also with a predetermined external terminal connected to protective earthing system. [GB 4793.1-2007, the definition 3.2.3]

3.2.4 Housing enclosure Protect the unit against certain external influences and prevent parts from any direct contact with the direction provided. [GB 4793.1-2007, the definition 3.2.4]

3.3 Electrical values

3.3.1 Rated (value) rated (value) Usually by the manufacturer for the components,

apparatus, or device reaches a given magnitude of working status. [IEV151-04-03] [GB 4793.1-2007, the definition 3.3.1]

3.3.2 Rating rating A set of ratings and working conditions. [IEV151-04-04] [GB 4793.1-2007, the definition 3.3.2]

3.4 Test Type test typetest For a particular design, in order to prove that the design and structure is able to meet one or more requirements of this part and of one or more devices Taiwan sample (or device components) tests carried out. [IEV151-04-15, revised edition]

Note. This is IEV151-04-15 definition expanded to include both the design requirements and structural requirements. [GB 4793.1-2007, the definition 3.4.1]

3.5 Security Terminology 3.5.1 (Parts) palpable accessible (ofapart) As prescribed in Appendix A of the standard test finger or test can pin accessible. [GB 4793.1-2007, the definition 3.5.1]

3.5.2 Dangerous hazard Potential source of harm. [GB 4793.1-2007, the definition 3.5.2]

3.5.3 Normal use normaluse Operation according to instructions or intended use by the apparent instructions, including standby. NOTE. In most cases, the normal use also refers to normal conditions, because the use of manual warns users not to use the device under abnormal conditions. [GB 4793.1-2007, the definition 3.5.9]

3.5.4 Normal conditions normalcondition All protective measures to prevent dangerous conditions are intact. [GB 4793.1-2007, the definition 3.5.10]

3.5.5 Single fault condition singlefaultcondition Protective measures to prevent the risk of a failure condition occurs or is likely to cause some dangerous and a fault condition.

Note. If a single fault condition will inevitably lead to another single fault conditions, such a two failures are considered a single fault condition. [GB 4793.1-2007, the definition 3.5.11]

3.5.6 Operator operator According to the intended use of the device to operate the equipment man.

Note. the operator for this purpose should be properly trained. [GB 4793.1-2007, the definition 3.5.12]

3.5.7 Responsible responsiblebody Responsible for the maintenance and use of equipment or operating personnel to ensure adequate training for individuals or organizations. [GB 4793.1-2007, the definition 3.5.13]

4 Test

4.1 Overview In this section all tests are type tests on the sample or parts of the transmitter carried out. The only purpose of these tests is to Test whether the design and construction to ensure compliance with this requirement. To satisfy the provisions of this Part and the