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

GB 30439.4-2013

**Safety requirements for industrial automation products - Part 4:
Safety requirements for control valve**

工业自动化产品安全要求 第4部分: 控制阀的安全要求

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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 sections as follows:

- 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. Safety requirements for instrument control;
- 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 30439.4-2013 is the Chinese national standard on safety requirements for industrial automation products - part 4: safety requirements for control valve, in the field of testing. 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 19.080, 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 30439 of the provisions of this part of the industrial process control valve against electric shock, mechanical hazards, flame spread outward from inside the device, over temperature, Effect of fluid and the fluid pressure of the explosion and implosion safety requirements. This section does not include security-related functions of the control valve reliability, performance, or other characteristics, the effectiveness of transport packaging, electromagnetic compatibility (EMC) requirements, reliable function of the explosive environment protection measures, installation, commissioning and maintenance (repair), non-security control valve performance Or other characteristics. This section applies to electric actuator or pneumatic actuator and valve configuration, and the intended use according to the intended locator or electrical converters Composed of a control valve.

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. Determination of

GB/T 1633-2000 thermoplastics Vicat softening temperature (VST) of

GB/T 4207-2003 solid insulating materials under moist conditions index tracking of the measuring method and the proof tracking index compared

GB 4208-2008 shell protection (IP code)

GB/T 4213-2008 pneumatic control valve

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 fire Flame test methods

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

GB/T 11021-2007 heat resistance, electrical insulation rating

GB/T 11918-2001 industrial plug and socket couplers - Part 1. General requirements

GB/T 11919-2001 industrial plug and socket coupling - Part 2. With pin and sleeve size interchangeable electrical accessories Requirements

GB/T 12113-2003 touch current and protective conductor current measurement

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

GB/T 16927 (all parts) high-voltage test techniques

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.

3.1 devices and equipment category 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] [GB 4793.1-2007, the definition 3.2.1]

Note. The terminal can contain one or more contacts, so that the term also includes sockets, connectors and the like.

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. [GB 4793.1-2007, the definition 3.2.2]

Note. The measuring equipment, the terminal is often referred to as measuring ground terminal.

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]

3.2.5 Baffle barrier Prevent parts from any direction normal close direct contact provided. [GB 4793.1-2007, the definition 3.2.5]

Note. The housing and bezel provides flame spread protection [see 9.2.1b)].

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. [GB 4793.1-2007, the definition 3.3.1]

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

3.3.3 Operating voltage workingvoltage When the device is supplied at rated voltage, the insulation can occur any particular maximum RMS AC voltage or DC voltage values.

Note. transients are not considered.

Note. The open circuit conditions and normal operating conditions are to be considered. [GB 4793.1-2007, the definition 3.3.3]

3.4 Protection of extra-low voltage circuit Protective extra-low voltage circuits (PELV circuits) protectiveextra-lowvoltagecircuit (PELVcircuit) Under normal operating conditions and single fault conditions, the voltage does not exceed the value of the safety circuit, ground fault, except in other lines. PELV circuit similar to the protective earth connection SELV circuits.

3.5 safety extra-low voltage circuit Safety extra-low voltage circuit (SELV circuit) safetyextra-lowvoltagecircuit (SELVcircuit) Under normal conditions and single fault conditions, the voltage does not exceed the value of the safety circuit, comprising a ground fault in other circuits. NOTE. SELV circuit is not connected to the protective earth.

3.6 Test

3.6.1 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. [GB 4793.1-2007, the definition 3.4.1]

3.6.2 Routine tests routinetest After fabrication or manufacture to determine the means (equipment) meets a criterion and for each separate device (device) test (See Appendix F).