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GB/T 20730.2-2019

Instruments with analogue inputs and two-or multi-state outputs for use in industrial-process control systems -- Part 2: Guidance for inspection and routine testing

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Foreword

GB/T 20730 "Industrial Process Control System with Analog Input Two or More Output Instruments" is divided into two parts.

--- Part 1. Performance assessment methods;

--- Part 2. Inspection and routine test guidelines.

This part is the second part of GB/T 20730.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to IEC 61003-2.2016 "Industrial Process Control System Analog Input Two or More Output Instruments

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Table 2. Guidelines for inspections and routine tests.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

---GB/T 18271 (all parts) Process measurement and control device general performance evaluation methods and procedures [IEC 61298 (

There are some)];

--- GB/T 18271.4-2017 Process measurement and control devices - General performance assessment methods and procedures - Part 4. Assessment

Content of the report (IEC 61298-4.2008, IDT);

--- GB/T 20730.1-2006 Industrial process control systems with analog input two or more output meters - Part 1. Performance

Evaluation method (IEC 61003-1..2004, IDT).

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Industrial Process Measurement Control and Automation Standardization Technical Committee (SAC/TC124).

This section drafted by. Fujian Hongrun Precision Instrument Co., Ltd., Shanghai Industrial Automation Instrumentation Research Institute Co., Ltd., Shanghai Metrology

Testing Technology Research Institute, Shanghai Instrumentation Automatic Control System Inspection and Testing Institute Co., Ltd.

1 Scope

This part of GB/T 20730 gives an indication of inspection and routine testing of electric and pneumatic instruments with two or more outputs.

South, for example, an acceptance test or a post-repair test. This part can be combined with IEC 61003-1.2016, GB/T 18271.2-2017,

GB/T 18271.3-2017 is used together.

This part of GB/T 20730 is applicable to electric and pneumatic industrial process instruments with measured values as continuous signals. Its setting can be either

Mechanical quantities (such as position, force, etc.) can also be standard signals. These meters can be used as controllers, alarm switches or other similar applications.

The quantitative criteria for acceptable performance of the meter are determined by the manufacturer and the user, and the test report indicates which tests were performed. Manufacturer and

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Users can agree on the requirements of this section.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 18271.2-2017 Methods and procedures for the evaluation of general performance - Part 2. Part 2

Test (IEC 61298-2.2008, IDT)

GB/T 18271.3-2017 Methods and procedures for the evaluation of general performance - Part 3

Test (IEC 61298-3.2008, IDT)

IEC 61003-1.2016 Industrial process control systems - Analog input two or more output devices - Part 1. Performance appraisal

Method
(Industrial-processcontrolsystems-Instrumentswithanalogueinputsandtwo-ormulti-stateout-

puts-Part 1.Methodsofevaluatingperformance)

IEC 61298 (all parts) Process measurement and control device general performance assessment methods and procedures [Processmeasurement]

andcontroldevices-Generalmethodsandproceduresforevaluatingperformance]

IEC 61298-4 Methods and procedures for the evaluation of general performance - Part 4. Assessment report content

(Processmeasurementandcontroldevices-Generalmethodsandproceduresforevaluatingperfo rm-

ance-Part 4.Evaluationreportcontent)

3 Terms and definitions

The following terms and definitions defined in GB/T 18271.2-2017 and IEC 61003-1.2016 apply to this document.

3.1

Acceptance test acceptance test

A test conducted in accordance with the contract to prove to the buyer that the instrument

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complies with certain conditions of the product specification.

4 test sampling

Usually the routine test performs a full test. Sampling tests may also be conducted if the user agrees with the manufacturer.

When taking a sampling test, the instrument to be tested can be taken by the inspector of the user.

5.1 General

The test items for routine test and acceptance test are shown in Table 1. The test sequence shall be such that the previous test does not affect the results of the latter test.

The following test conditions, test methods and test procedures are consistent with IEC 61003-1.2016 and IEC 61298.

Table 1 Test items

No. Name This section number IEC 61003-1..2016 article number

Inaccuracy of switching points

Poorly inaccurate switching

Adjustable, measurable or indicated set point

Adjustable but not indicated set point

Unadjustable set point

The value of the measured value

Insulation strength a

Multi-bit output characteristics

Determination of the switching range

5.3

6.1.1.2

6.1.1.4

6.1.3.1

6.1.3.2

6.1.3.3

6.3.2

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