



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX EPS 23.0057X**

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[Certificate history:](#)

Status: **Current**

Issue No: 0

Date of Issue: **2023-09-13**

Applicant: **Tissin Co., Ltd.**  
201-1105, No 397, Seokcheon-ro, Ojeong-gu  
Bucheon-si, Gyeonggi-do, Korea 14449  
**Korea, Republic of**

Equipment: **Smart valve positioner TS700/TS720**

Optional accessory:

Type of Protection: **Intrinsic safety "i"**

Marking: **Ex ia IIC T5/T6 Gb**  
**Ex ia IIIC T100°C/T85°C Db IP66**

Approved for issue on behalf of the IECEx  
Certification Body:

Position:

Signature:  
(for printed version)

Date:  
(for printed version)

Ulrich Feike

Head of Certification

2023-09-13



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Certificate issued by:

**Bureau Veritas Consumer Products Services Germany GmbH**  
**Businesspark A96**  
**86842 Türkheim**  
**Germany**





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Manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/EPS/ExTR23.0064/00](#)

Quality Assessment Report:

[DE/EPS/QAR18.0004/05](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The electropneumatic positioners TS700/TS720 control the position of linear or rotary valves according to the input signal 4 – 20 mA DC. The output signal is a pneumatic pressure – single or double acting – regulated by an piezo switch actuator. The supply pressure is 0.14 to 0.7 Mpa. The pressure unit is a compact block built in into the housing of the positioner with air supply and air output connectors on the side of the housing.

The electronic circuit supplied by the analogue supply and signal current 4 – 20 mA works digitally supported by a microprocessor. The microprocessor serves for many additional tasks as Auto Calibration or PID-control. The position is measured by a single turn potentiometer. The device can be manually parameterized and adjusted by push buttons when the cover is removed. As an option the supply current can be superimposed by the digital HART- signal to communicate with a control unit.

As another option the feedback of the valve position (PTM) is possible via the current output signal 4 – 20 mA. The feedback signal is galvanically isolated from the supply circuit.

The status information can be displayed by a LCD-Display. The axis of the limit switches and the indicator is driven by a gear connected with the potentiometer.

## SPECIFIC CONDITIONS OF USE: YES as shown below:

Do not open when an explosive atmosphere is present. The equipment shall not be opened for installation, repair or overhaul in hazardous area. The user shall consult the manufacturer if there is any problem during the usage.

The ambient temperature ranges deviate from the standard temperature range:

Temperature class T5:	-40 °C to +60 °C
Temperature class T6:	-40 °C to +40 °C

## Annex:

[IECEX EPS 23.0057X\\_0 - Annex.pdf](#)



## Annex to IECEx Certificate of Conformity

IECEX EPS 23.0057X – Issue No.: 0



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Republic of Korea

**Electrical Apparatus:**

Smart valve positioner TS700/TS720

**Description:**

**Electrical data:**

For the main circuit and the option PTM, Limit Switches "Dry Contact":

Maximum values

$U_i = 28 \text{ V}$

$I_i = 101 \text{ mA}$

$P_i = 707 \text{ mW}$

Linear characteristic

$C_i = 0.6 \text{ nF}$  differentially between the lines or  $2.2 \text{ nF}$  against ground

$L_i = 6 \text{ }\mu\text{H}$

The circuit is galvanically isolated against earth and against each other.

For the option Limit switches "Proximity":

Maximum values

$U_i = 16 \text{ V}$

$I_i = 26 \text{ mA}$

$P_i = 34 \text{ mW}$

Linear characteristic

$C_i = 30 \text{ nF}$  differentially between the lines or  $2.2 \text{ nF}$  against ground

$L_i = 50 \text{ }\mu\text{H}$

The circuit is galvanically isolated against earth and the other circuits.

The type TS720 has an external measuring potentiometer in an own housing.