

(1) EU - Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU
- (3) EU - Type Examination Certificate Number
- EPS 17 ATEX 1 174 X** **Revision 0**

- (4) Equipment: TS800 Series Smart Valve Positioner
- (5) Manufacturer: Tissin Co., Ltd.
- (6) Address: 201-1105, No 397, Seokcheon-ro, Ojeong-gu,
Bucheon-si, Gyeonggi-do, Korea 14449

- (7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.
- (8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 17TH0339.
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013

EN 60079-11:2012

- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.
- (11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.
- (12) The marking of the equipment shall include the following:



II 2G Ex ia IIC T5/T6 Gb

II 2D Ex ia IIIC T100°C/T85°C Db IP6X

Certification department of explosion protection

Nuremberg, 2018-07-23



H. Schaffer



Annex

(13)

(14) EU - Type Examination Certificate EPS 17 ATEX 1 174 X

Revision 0

(15) Description of equipment:

The electropneumatic positioners TS800/TS820 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 inductive actuator, called torque motor. 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.

The type TS820 has an external measuring potentiometer in an own housing.

Electrical data:

For the main circuit and the option PTM, Alarm 1, Alarm 2, 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 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 nF against ground

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

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

The type TS820 has an external measuring potentiometer in an own housing.

(16) Reference number: 17TH0339



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(17) Special conditions for safe use:

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

(18) Essential health and safety requirements:

Met by compliance with standards.



Certification department of explosion protection

Nuremberg, 2018-07-23