



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

Certificate No.: **IECEx EPS 19.0069X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 1 Issue 0 (2019-06-27)
Date of Issue: 2020-11-30
Applicant: **Rotork YTC Limited**
81, Hwanggeum-ro 89 beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do
Korea, Republic of
Equipment: **Smart Positioner Type YT-3700/YT-3750/YT-3701/YT-3702/YT-3703, YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact)**
Optional accessory:
Type of Protection: **intrinsic safety**
Marking: Ex ia IIC T5/T6 Gb
Ex ia IIIC T100°C/T85°C Db IP6X

Approved for issue on behalf of the IECEx
Certification Body:

Position:

Signature:
(for printed version)

Date:

Holger Schaffer

Head of Certification

2020-11-30



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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

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





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Manufacturer: **Rotork YTC Limited**
81, Hwanggeum-ro 89 beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do
Korea, Republic of

Additional
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/ExTR19.0066/00](#)

Quality Assessment Report:

[DE/EPS/QAR11.0002/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The YT-3700/YT-3750/YT-3701/YT-3702/YT-3703 and YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact) are electro pneumatic positioners to control linear and rotary valves. The pressure is regulated by an inductive torque motor and the position of the pneumatic valve is measured by a potentiometer.

The YT-3700/YT-3750/YT-3701/YT-3702/YT-3703 and YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact) have as an option a superimposed HART signal. Additionally the PTM module as another option serves as feedback for the position of the valve. Two optional limit switches (contacts) can be built in. All circuits are supplied by intrinsically safe power supplies with linear characteristic. The different intrinsically safe circuits are galvanically isolated against each other and against ground.

The version YT-3701/YT-3702 is equipped with an external potentiometer as position sensor. The isolation voltage is 500V. Only the original units "Linear Feedback Module" and "Rotary Feedback Module", manufactured by the company Rotork YTC Limited may be connected via the "Cable Connector".

As external position sensors only the original units "Linear Feedback" and "Rotary Feedback Module", manufactured by the company Rotork YTC Limited may be connected via the "Cable Connector".

The versions YT-3700/YT-3750 are prepared for the option of a contactless Hall-effect potentiometer (NCS) as position sensor.

(see attachment)

SPECIFIC CONDITIONS OF USE: YES as shown below:

The ambient temperature range deviates from the standard temperature range and amounts to:

Temperature class T5 / T100°C: -40 °C to +60 °C

Temperature class T6 / T85°C: -40 °C to +40 °C.

Equipment must be protected from high risk of mechanical impact hazard and high electrostatic charge hazards.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
formal correction

Annex:

IECEx EPS 19.0069X - Annex.pdf



Applicant: Rotork YTC Limited
Apparatus: Smart Positioner Type YT-3700/YT-3750/YT-3701/YT-3702/YT-3703, YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact)

Electrical data:

Supply circuit (versions YT-3700/YT-3750/YT-3701/YT-3702/YT-3703, YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact) type of protection Intrinsic Safety Ex ia IIC/IIB maximum values:

$U_i = 28 \text{ V}$
 $I_i = 93 \text{ mA}$
 $P_i = 651 \text{ mW}$
Linear characteristic
 $C_i = 0.6 \text{ nF}$ differentially between the lines or 2.2 nF against ground
 $L_i = 10 \text{ }\mu\text{H}$

The supply circuit is galvanically isolated against earth.

Option circuit "PTM" (versions YT-3700/YT-3750/YT-3701/YT-3702/YT-3703, YT-3700+LS(dry-contact, non-contact)/YT-3750+LS(dry-contact, non-contact), type of protection Intrinsic safety Ex ia IIC/IIB maximum values:

$U_i = 28 \text{ V}$
 $I_i = 93 \text{ mA}$
 $P_i = 651 \text{ mW}$
Linear characteristic
 $C_i = 0.6 \text{ nF}$ differentially between the lines or 2.2 nF against ground
 $L_i = 10 \text{ }\mu\text{H}$

The PTM circuit is galvanically isolated against earth.

YT-3701, YT-3702 Maximum supply values for the potentiometer:

$U_o = 6.51 \text{ V}$
 $I_o = 93 \text{ mA}$
 $I_{o_wiper} = 6 \text{ mA}$
 $P_o = 0.465 \text{ mW}$
 $C_i = 13 \text{ }\mu\text{F}$
 $L_i \sim 10 \text{ }\mu\text{H}$
Trapezoidal characteristic



Option circuits “Limit switches 1 and 2” (only version YT-3700+LS(dry-contact)/ YT 3750+LS(dry-contact)) type of protection Intrinsic Safety Ex ia IIC/IIB maximum values:

$U_i = 28 \text{ V}$
 $I_i = 93 \text{ mA}$
 $P_i = 651 \text{ mW}$
Linear characteristic
 $C_i = 0 \text{ nF}$
 $L_i = 0 \text{ }\mu\text{H}$

The limit switch circuits are galvanically isolated against earth. All circuits are galvanically isolated against each other.

Smart Positioner can also be equipped with two non-contact limit switches type NJ1,5-F-N, manufactured by Pepperl & Fuchs and already certified by the notified body PTB under PTB 00 ATEX 2032 X. Some smaller changes in the circuit have been done. They are valid for all versions.

Type of protection Intrinsic Safety Ex ia IIC/IIB
resp. Ex ib IIC/IIB

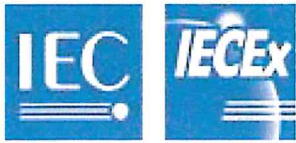
The limit switches are supplied each by an certified intrinsic safe current circuit.

Maximum values:

$U_o = 16 \text{ V}$
 $I_o = 25 \text{ mA}$
 $P_o = 34 \text{ mW}$
 $C_i = 30 \text{ nF}$
 $L_i = 50 \text{ }\mu\text{H}$

Type 1	Type 2	Type 3	Type 4
$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$
$I_i = 25 \text{ mA}$	$I_i = 25 \text{ mA}$	$I_i = 52 \text{ mA}$	$I_i = 76 \text{ mA}$
$P_i = 34 \text{ mW}$	$P_i = 64 \text{ mW}$	$P_i = 169 \text{ mW}$	$P_i = 242 \text{ mW}$

The examination and test results are recorded in the confidential report 19TH0328.



Annex to Certificate
IECEX EPS 19.0069X Issue No.: 1



Additional Option:

Digital IN&OUT

Two additional circuits are available for some versions. They serve for a direct communication with the microprocessor on the main-board. The circuits are isolated against each other and by optocouplers against the other circuits. They are supplied by two power supply units with the maximum values:

$$U_i = 28 \text{ V}$$

$$I_i = 93 \text{ mA}$$

$$P_i = 651 \text{ mW}$$

Linear characteristic

$$C_i = 0 \text{ nF,}$$

$$L_i = 0 \text{ }\mu\text{H}$$

Housing variant YT-3702 can be used for the connection of a junction box for external linear or rotary potentiometers. The electrical data remain unchanged