



# 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.:	<b>IECEX EPS 12.0017X</b>	Page 1 of 4	<b>Certificate history:</b>
Status:	<b>Current</b>	Issue No: 7	Issue 6 (2022-03-31)
Date of Issue:	2022-06-30		Issue 5 (2019-03-28)
Applicant:	<b>Rotork YTC Limited</b> 81, Hwanggeum-ro 89 beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do <b>Korea, Republic of</b>		Issue 4 (2017-11-03)
Equipment:	<b>Smart Positioner Type YT-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 / YT-3300+LS (dry-contact, non-contact) / YT-3350+LS (dry-contact, non-contact)</b>		Issue 3 (2017-05-18)
Optional accessory:			Issue 2 (2013-10-25)
Type of Protection:	<b>Intrinsic safety "i"</b>		Issue 1 (2012-11-23)
Marking:	Ex ia IIC T5/T6 Gb		Issue 0 (2012-07-31)
	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:  
(for printed version)

**Ulrich Feike**

Head of Certification

2022-06-30



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**Germany**





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

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

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 Reports:

DE/EPS/ExTR12.0024/00  
DE/EPS/ExTR12.0024/03  
DE/EPS/ExTR12.0024/06

DE/EPS/ExTR12.0024/01  
DE/EPS/ExTR12.0024/04  
DE/EPS/ExTR12.0024/07

DE/EPS/ExTR12.0024/02  
DE/EPS/ExTR12.0024/05  
DE/EPS/ExTR12.0024/08

#### Quality Assessment Report:

DE/EPS/QAR11.0002/12



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The YT-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 and YT-3300+LS (dry-contact, non-contact) / YT-3350+LS (dry-contact, non-contact) are electropneumatic 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-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 and YT-3300+LS (dry-contact, non-contact) / YT-3350+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-3301 / YT-3302 is equipped with an external potentiometer as position sensor. The isolation voltage is 500 V. 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-3300 / YT-3350 are prepared for the connection of a contactless Hall-effect potentiometer (NCS) as position sensor.

See annex for further information.

## 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.

The 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)**

New HART-module added.

### **Annex:**

[IECEX EPS 12.0017X Issue No. 7 - Annex.pdf](#)



## Annex to IECEx Certificate of Conformity

IECEX EPS 12.0017X Issue No.: 7



**Applicant:** Rotork YTC Limited

**Apparatus:** Smart Positioner Type YT-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 / YT-3300+LS (dry-contact, non-contact) / YT-3350+LS (dry-contact, non-contact)

**Electrical data:**

**Supply circuit** – versions YT-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 and YT-3300+LS (dry-contact, non-contact) / YT-3350+LS (dry-contact, non-contact) – type of protection Intrinsic Safety Ex ia IIC / IIIC; 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  $2.2 \text{ nF}$  against ground  
 $L_i = 10 \text{ }\mu\text{H}$

The supply circuit is galvanically isolated against earth.

**Option circuit "PTM"** – versions YT-3300 / YT-3350 / YT-3301 / YT-3302 / YT-3303 and YT-3300+LS (dry-contact, non-contact) / YT-3350+LS (dry-contact, non-contact) – type of protection Intrinsic safety Ex ia IIC / IIIC; 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  $2.2 \text{ nF}$  against ground  
 $L_i = 10 \text{ }\mu\text{H}$

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

**YT-3301, YT-3302 – Maximum supply values for the potentiometer:**

$U_o = 6.51 \text{ V}$   
 $I_o = 93 \text{ mA}$   
 $I_{o\_wiper} = 6 \text{ mA}$   
 $P_o = 0.465 \text{ W}$   
 $C_i = 13 \text{ }\mu\text{F}$   
 $L_i = 0 \text{ }\mu\text{H}$   
Trapezoidal characteristic

**Option circuits "Limit switches 1 and 2"** – only version YT-3300+LS (dry-contact) / YT 3350+LS (dry-contact) – type of protection Intrinsic Safety Ex ia IIC / IIIC; maximum values:

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



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

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 IECEx Certification Body PTB under IECEx PTB 11.0021X. Some smaller changes in the circuit have been done. They are valid for all versions.

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

The limit switches are supplied each by a 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
$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$	$U_i = 16 \text{ V}$
$I_i = 25 \text{ mA}$	$I_i = 25 \text{ mA}$	$I_i = 52 \text{ mA}$	$I_i = 76 \text{ mA}$
$P_i = 34 \text{ mW}$	$P_i = 64 \text{ mW}$	$P_i = 169 \text{ mW}$	$P_i = 242 \text{ mW}$

### Additional Option:

Digital IN&OUT

Two additional circuits are available for some versions. They serve for a direct communication with the microprocessor on the mainboard. 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-3302 can be used for the connection of a junction box for external linear or rotary potentiometers. The electrical data remain unchanged.