IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx EPS 12.0017X	Issue No: 3	Certificate history:
Status:	Current		Issue No. 3 (2017-05-18)
		Page 1 of 4	Issue No. 2 (2013-10-25)
Date of Issue:	2017-05-18		Issue No. 1 (2012-11-23)
			Issue No. 0 (2012-07-31)

Applicant: **Young Tech Co., Ltd**
81, Hwanggeum-ro 89 beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do
Korea, Republic of

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

Position: Head of certification

Signature:
(for printed version)

Date: 2017-05-18

1. This certificate and schedule may only be reproduced in full.
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 the Official IECEx Website.

Certificate issued by:

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

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Certificate No:	IECEx EPS 12.0017X	Issue No: 3
Date of Issue:	2017-05-18	Page 2 of 4
Manufacturer:	Young Tech Co., Ltd 81, Hwanggeum-ro 89 beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do Korea, Republic of	

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical 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/ExTR12.0024/00 DE/EPS/ExTR12.0024/01 DE/EPS/ExTR12.0024/02
DE/EPS/ExTR12.0024/03 DE/EPS/ExTR12.0024/04

Quality Assessment Report:

DE/EPS/QAR11.0002/00 DE/EPS/QAR11.0002/01

IECEx Certificate of Conformity

Certificate No: IECEx EPS 12.0017X Issue No: 3

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The YT-3300/YT-3350/YT-3301/YT-3303 and YT-3300+LS(dry-contact, non-contact)/YT-3350+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-3300/YT-3350/YT-3301/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 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 Young Tech 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 Young Tech may be connected via the “Cable Connector”.

The versions YT-3300/YT-3350/YT-3303 are prepared for the connection 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 shall be protected from high risk of mechanical impact hazard.

IECEx Certificate of Conformity

Certificate No: IECEx EPS 12.0017X Issue No: 3

Date of Issue: 2017-05-18 Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue No. 1: Formal corrections

Issue No. 2: Addition of model YT-3303 with similar enclosure

Issue No. 3: Update to newest standard editions and circuit changes

Annex:

IECEx EPS 12.0017X issue 3 - Annex.pdf

Applicant: Young Tech Co., Ltd.

Apparatus: Smart Positioner, Type YT-3300/3350/3301/3303, 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-3303 and YT-3300+LS(dry-contact, non-contact)/YT-3350+LS(dry-contact, non-contact) type of protection Intrinsic Safety Ex ia IIC/IIB maximum values:

Ui = 28 V
Ii = 93 mA
Pi = 651 mW
Linear characteristic
Ci = 0.6 nF differentially between the lines or 2.2 nF against ground
Li = 10 µH

The supply circuit is galvanically isolated against earth.

Option circuit "PTM" (versions YT-3300/YT-3350/YT-3301/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/IIB maximum values:

Ui = 28 V
Ii = 93 mA
Pi = 651 mW
Linear characteristic
Ci = 0.6 nF differentially between the lines or 2.2 nF against ground
Li = 10 µH

The PTM circuit is galvanically isolated against earth.

YT-3301, Maximum supply values for the potentiometer:

Uo = 6.51 V
Io = 93 mA
Io_wiper = 6 mA
Po = 0.465 W
Ci = 13 µF
Li ~ 0 µH
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/IIB maximum values:

Ui = 28 V
Ii = 93 mA
Pi = 651 mW
Linear characteristic
Ci = 0 nF
Li = 0 µH

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:

Uo = 16 V
Io = 25 mA
Po = 34 mW
Ci = 30 nF
Li = 50 µH

Type 1	Type 2	Type 3	Type 4
Ui = 16 V	Ui = 16 V	Ui = 16 V	Ui = 16 V
Ui = 25 mA	Ii = 25 mA	Ii = 52 mA	Ii = 76 mA
Pi = 34 mW	Pi = 64 mW	Pi = 169 mW	Pi = 242 mW

The examination and test results are recorded in the confidential report 11TH0413.