



# 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](http://www.iecex.com)

Certificate No.: IECEx EPS 11.0009X issue No.:2  
Status: **Current**  
Date of Issue: **2012-11-23** Page 1 of 6

Certificate history:  
Issue No. 2 (2012-11-23)  
Issue No. 1 (2012-6-13)  
Issue No. 0 (2011-11-18)

Applicant: **Young Tech Co., Ltd**  
#3022, Hagun-ri, Yangchon-myeon, Gimpo-si, Gyeonggi-do, Korea  
**Korea, Republic of**

Electrical Apparatus: **Smart Positioner, Type YT-2500/2550/YT-2501, YT-2500+LS(dry contact)/YT-2550+LS (dry contact)**  
Optional accessory:

Type of Protection: **intrinsically safe**

Marking: Ex ia IIC T5/T6 Gb  
Ex iaD IIIC T100°C/T85°C Db IP6X

Approved for issue on behalf of the IECEx Certification Body: Achim Hänchen  
Position: Head of certification

Signature:  
(for printed version)

Date:

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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](http://www.iecex.com).

Certificate issued by:

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





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Manufacturer: **Young Tech Co., Ltd**  
#3022, Hagun-ri, Yangchon-myeon, Gimpo-si, Gyeonggi-do, Korea  
**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:

<b>IEC 60079-0 : 2007-10</b> Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-11 : 2006</b> Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 61241-11 : 2005</b> Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'ID'

*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/ExTR11.0011/00](#)

[DE/EPS/ExTR11.0011/01](#)

[DE/EPS/ExTR11.0011/02](#)

#### Quality Assessment Report:

[DE/EPS/QAR11.0002/00](#)

[DE/EPS/QAR11.0002/01](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The YT-2500/2550 and YT-2500+LS(dry contact)/YT-2550+LS(dry contact) is an electropneumatic positioner to control linear and rotary valves. The pressure is regulated by a piezo valve and the position of the pneumatic valve is measured by a potentiometer. The YT-2500/2550 and YT-2500+LS(dry contact)/YT-2550+LS(dry contact) has as an option a superimposed HART signal. Additionally the PTM module 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.

Expanded Electrical data:

Supply circuit (versions YT-2500/2550/2501 and YT-2500+LS(dry contact)/YT-2550+LS(dry contact)) type of protection: Intrinsic Safety Ex ia IIC/IIB;

Maximum values:

Ui = 28 V

Ii = 93 mA

Pi = 651 mW

### CONDITIONS OF CERTIFICATION: YES as shown below:

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

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

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

Impact testing on light transmitting part was carried out with low impact energy. Applications with a high risk of impact or with risk of high impact energies are to be avoided.



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## EQUIPMENT(continued):

Linear characteristic

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

$L_i = 300 \text{ }\mu\text{H}$

The supply circuit is galvanically isolated against earth.

Option circuit "PTM" (versions YT-2500/2550/2501 and YT-2500+LS(dry contact)/YT-2550+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

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

$L_i = 300 \text{ }\mu\text{H}$

The PTM circuit is galvanically isolated against earth.

YT-2501

The version YT-2501 equipped with an external potentiometer as position sensor has been added.

The isolation voltage is  $500 \text{ V}$ . Only the original units "Linear Feedback Module" and "Rotary Feedback Module", manufactured by the company Youngtech may be connected via the "Cable Connector".

Maximum supply values for the potentiometer:

$U_o = 6,51 \text{ V}$

$I_o = 93 \text{ mA}$

$I_{o\_wiper} = 6 \text{ mA}$

$P_o = 0,465 \text{ W}$

$C_i = 13 \text{ }\mu\text{F}$

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

Trapezoidal characteristic



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

Formal corrections



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**Additional information:**

none