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 TUR 13.0001X	Issue No: 1	Certificate history:
			Issue No. 1 (2015-12-21)
Status:	**Current**	Page 1 of 5	Issue No. 0 (2013-05-08)
Date of Issue:	**2015-12-21**		

Applicant: **Dandong Top Electronics Instrument Group Co., Ltd.**
No.10 Huanghai Street, Zhenxing District, Dandong City, Liaoning Province, 118000
China

Electrical Apparatus: **Displacer Level Transducer**

Optional accessory: *DLT9000, DLT9010*

Type of Protection: **I d**

Marking:

Ex db IIC T5/T6 Gb T5: -40°C≤Ta≤80°C T6: -40°C≤Ta≤60°C;

Ex ia IIC T5 Gb(-40°C≤Ta≤+80°C)

Approved for issue on behalf of the IECEx Certification Body: Dipl.-Ing Klauspeter Graffi

Position: Head of Certification Body

Signature:
(for printed version)

Date: 2015-12-21

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:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

TÜVRheinland

IECEx Certificate of Conformity

Certificate No: IECEx TUR 13.0001X Issue No: 1

Date of Issue: **2015-12-21** Page 2 of 5

Manufacturer: **Dandong Top Electronics Instrument Group Co., Ltd.**
No.10 Huanghai Street, Zhenxing District, Dandong City, Liaoning Province, 118000, China
China

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 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
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/TUR/ExTR15.0042/00 CN/CQM/ExTR12.0014/01

Quality Assessment Report:

DE/TUR/QAR13.0005/00

IECEx Certificate of Conformity

Certificate No: IECEx TUR 13.0001X Issue No: 1

Date of Issue: 2015-12-21 Page 3 of 5

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Displacer Level Transducer Type: DLT9000, DLT9010

Displacer Level Transducer type DLT9000 and DLT9010 is protected by type "db" and "ia" with IP66 enclosure.The flameproof enclosure is comprised of a transmitter enclosure, a power enclosure cap, a display cover and a magnet enclosure. All the metallic parts of enclosure are made from ADC12 (aluminium alloy) and LCD window is made of toughened glass.

There are two flameproof compartments.One is the connection chamber, it contains power terminal and RTD terminal.Other is the main chamber, it contains connection board, keyboard, LCD module, sensor board and measurement board.The wires going through two compartments are encapsulated. The circuits inside the flameproof enclosure are complies with the requirements of type of protection "ia". The power terminal board,measurement board and sensor board, which are encapsulated completely, and keyboard, connection board, LCD module are installed in the flameproof enclosure. The sensor of transmitter can detect magnetic field and fulfill the function of apparatus.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Repair of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer.Repairs must not be made on the basis of values specified in table 3 and table 4 of IEC 60079-1:2014.

2. The assembly shall be equipped with IECEx certified cable glands with a compatible type of protection for the intended use.

3. If the apparatus is used as type of protection "i", it must be powered by an safety barrier with compatible intrinsically safe output parameters,and this safety barrier should be located in a safety area.

4. The Equipment is in Equipment Protection Level Gb and is intended for use in Explosive Atmosphere classified as Zone 1 or Zone 2 only.

IECEx Certificate of Conformity

EQUIPMENT (continued):

Type of protection "db": Rated voltage: 12V~30VDC

Type of protection "ia":

DLT9000: U_i : 30V DC I_i : 93mA P_i : 0.7W C_i : 0μF L_i : 22μH

DLT9010: U_i : 30V DC I_i : 93mA P_i : 0.7W C_i : 0μF L_i : 0μH

IECEx Certificate of Conformity

Certificate No: IECEx TUR 13.0001X Issue No: 1

Date of Issue: **2015-12-21** Page 5 of 5

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

-Normative update according IEC 60079-0:2007 Ed.5. to IEC 60079-0:2011 Ed 6; according IEC 60079-1:2007 Ed.6 to IEC 60079-1:2014 Ed.7; according IEC 60079-11:2007 Ed.5 to IEC 60079-11:2011 Ed.6;

-Add the new type DLT9010.

Only the circuit design of the measurement board of DLT9010 is different from DLT9000.

1.The Li was changed from 22µH to 0µH.

2. The zener diodes of measurement board was changed from V5-V7,V14-V16,V19-V27 (1N4733A 5.1V@1W±5%) to D310 and D311 (1SMB5918BT3G@1.5W 5.1V±5%),and D304,D305,D308,D309,D312~D315(MMSZ4684T1@0.5W 3.3V±5%).

The assessment of the Displacer Level Transducer type DLT9000 and DLT9010 was done within the IECEx test report DE/TUR/ExTR15.0042/00.

-Intrinsically safe parameters:

DLT9000: Ui: 30V DC Ii: 93mA Pi: 0.7W Ci: 0µF Li: 22µH
DLT9010: Ui: 30V DC Ii: 93mA Pi: 0.7W Ci: 0µF Li: 0µH