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 FME 15.0010X

Issue No: 1

Certificate history:
Issue No. 1 (2019-05-23)
Issue No. 0 (2016-04-12)

Status: **Current**

Date of Issue: **2019-05-23**

Applicant: **ABB Engineering (Shanghai) Limited**
No 4528 KangXin Highway
KangQiao Town
Pudong NewDistrict,
Shanghai 201319
China

Equipment: **LST300 Ultrasonic Level Transmitter**

Optional accessory:

Type of Protection: **Intrinsic safety, Type n, Protection by enclosure**

Marking:

Ex ia IIC T6...T4

Ex ia III C T85°C...T135°C

Ex nA IIC T6...T4

Ex tc III C T85°C...T135°C

Approved for issue on behalf of the IECEx Certification Body: Andrew Was

Position: Certification Manager

Signature:
(for printed version)

Date:

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:

FM Approvals Ltd
1 Windsor Dials
SL4 1RS Windsor
United Kingdom

FM Approvals
Member of the FM Global Group

IECEx Certificate of Conformity

Certificate No: IECEx FME 15.0010X Issue No: 1

Date of Issue: **2019-05-23** Page 2 of 4

Manufacturer: **ABB Engineering (Shanghai) Limited**
No 4528 KangXin Highway
KangQiao Town
Pudong NewDistrict,
Shanghai 201319
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 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"
IEC 60079-15 : 2010 Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*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:

GB/FME/ExTR15.0005/00 GB/FME/ExTR15.0005/01

Quality Assessment Report:

GB/FME/QAR10.0007/09

IECEx Certificate of Conformity

Certificate No: IECEx FME 15.0010X Issue No: 1

Date of Issue: 2019-05-23 Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The LST300 is a compact ultrasonic level transmitter for the measurement of liquid levels in storage tanks or processes with a range of up to 10 m.

The level measuring system is designed as a 2-wire instrument with the supply power and the current output signal (4-20 mA) using the same pair of connection leads. A HART communication option is also available.

The LST housing is epoxy painted aluminum or stainless steel and the sensor element is in a PVDF housing. Three different display options are available. The housing is rated for IP66 and IP67.

Model LST300abcdL1H1 Compact Ultrasonic Level Transmitter
a = Explosion Protection; E5, E6 or E7
b = Sensor Type and Range; C10 or C06
c = Process Connection Type; U6 or U2
d = Housing material; A1, B1, S1 or T1
g = Additional options (one or more); B*, C*, FA*, F**, L0, L2, L7, M*, S1, TC*
*variable – not relevant to safety

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. When the manufacturer of the equipment has not identified the type of protection on the label (option a = E7), the user shall, on installation, mark the label with the type of protection used.

2. The painted surface of the LST300 may store electrostatic charge and become a source of ignition in applications with a low relative humidity < ~ 30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in IEC TR60079-32-1. Cleaning of the painted surface should only be done with a damp cloth.

3. For option d (housing material) equals A1 or B1 the enclosure contains aluminium and is considered to present a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.

4. When the LST is installed as Ex nA equipment (option a = E5 or E7) provision shall be made external to the equipment, to provide the transient protection device to be set at a level not exceeding 140 % of the peak rated voltage value of 42 V.

IECEx Certificate of Conformity

Certificate No: IECEx FME 15.0010X Issue No: 1

Date of Issue: **2019-05-23** Page 4 of 4

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

Drawing change to add encapsulation material.

Annex:

Annex to FME15_0010X Issue 1.pdf

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When Additional Option = L0

Temperature Class - Gas	Temperature Class - Dust	Ambient temperature limitation	Input				
			Current limitation	Voltage limitation	Power limitation	Ci	Li
T4	T135 °C	-40°C – 85°C	100 mA	30 V	0.75 W	17 nF	10 µH
T4	T135 °C	-40°C – 70°C	160 mA	30 V	1.0 W		
T5	T100 °C	-40°C – 56°C	100 mA	30 V	1.4 W		
T6	T85 °C	-40°C – 44°C	50 mA	30 V	0.4 W		

When Additional Option = L2

Temperature Class - Gas	Temperature Class - Dust	Ambient temperature limitation	Input				
			Current limitation	Voltage limitation	Power limitation	Ci	Li
T4	T135 °C	-40°C – 60°C	100 mA	30 V	0.75 W	17 nF	10 µH
T4	T135 °C	-40°C – 60°C	160 mA	30 V	1.0 W		
T5	T100 °C	-40°C – 56°C	100 mA	30 V	1.4 W		
T6	T85 °C	-40°C – 44°C	50 mA	30 V	0.4 W		

When Additional Option = L7

Temperature Class - Gas	Temperature Class - Dust	Ambient temperature limitation	Input				
			Current limitation	Voltage limitation	Power limitation	Ci	Li
T4	T135 °C	-40°C – 85°C	100 mA	30 V	0.75 W	13 nF	10 µH
T4	T135 °C	-40°C – 70°C	160 mA	30 V	1.0 W		
T5	T100 °C	-40°C – 40°C	100 mA	30 V	1.4 W		
T6	T85 °C	-40°C – 40°C	50 mA	30 V	0.4 W		