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 history:

Certificate No.: IECEx SEV 15.0011X issue No.:0

Status: **Current**

Date of Issue: **2015-06-30**

Applicant: **METTLER-TOLEDO AG**
Process Analytics
Im Hackacker 15
8902 Urdorf
Switzerland

Electrical Apparatus: **Conductivity sensor**
Optional accessory: ---

Type of Protection: **Intrinsic safety "ia"**

Marking: Ex ia IIC T6/T5/T4/T3 Ga/Gb

Approved for issue on behalf of the IECEx Certification Body: Martin Plüss

Position: Manager Product Certification

Signature:
(for printed version)

Date: 2015-06-30

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:

Electrosuisse div. Testing and Certification
Luppmenstrasse 1
CH-8320 FEHRALTORF
Switzerland

electro suisse

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Manufacturer: **METTLER-TOLEDO AG**
Process Analytics
Im Hackacker 15
8902 Urdorf
Switzerland

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"
IEC 60079-26 : 2014-10 Edition: 3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

*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:
CH/SEV/ExTR15.0013/00

Quality Assessment Report:

CH/SEV/QAR12.0004/03

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Schedule

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

InPro 725X/*/*/*
The InPro 725X/*/*/* conductivity sensor with integrated temperature sensor is used for the measurement of conductivities and substance concentrations in solutions. The sensors are designed for the measurement of medium and high conductivities.
The principle function of the sensors is based on inductive conductivity measurement. These sensors consist out of two toroidal coils which are totally encapsulated in a plastic material. When a current passes through the sensor transmitter coil, a voltage is induced in the measuring solution. This causes a flow of current in the measuring solution, which induces a voltage in the receiver coil. The current is directly proportional to the conductivity of the measuring solution. The sensors can be installed with different process adapters (flange, threaded bushes) permanently in pipes or tanks.

Ratings and Notes see page 4.

CONDITIONS OF CERTIFICATION: YES as shown below:

1. The maximum permissible process temperatures are in accordance with the temperature classes shown in the table below:

Temperature class	Maximum permissible process temperature
T6	68 °C
T5	80 °C
T4	108 °C
T3	130 °C

2. The InPro 725X/*/*/* conductivity sensor may only be used in suitable process terminals of METTLER TOLEDO or other manufacturers in potentially explosive atmospheres.

3. The capacitance and inductance of the connecting cable must be taken into account in the design.

4. The independent process terminal used for installation of the conductivity sensors must be connected to the equipotential bonding system of the installation.

5. The independent process terminal used for installation of the conductivity sensors must be included in the recurring pressure test of installation if necessary.

6. The minimum conductivity of the media for safe working in potentially explosive atmospheres must be higher than 1 nS/cm.

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EQUIPMENT(continued):

Ratings:

Conductivity measuring circuit, and temperature measuring circuit	in type of protection intrinsic safety Ex ia IIC, only for connection to a certifie intrinsically safe circuit.		
	Maximum values:		
	Ui	≤	16 V
	Ii	≤	150 mA
	Pi	≤	155 mW
	Li	=	0 (the internal inductance is ineffective towards the outside)
	Ci	=	900 pF (effective internal capacitance)

The above values are each the total of all individual circuits of the associated intrinsically safe power supply and transmitter.

Notes:
1. For use/installation, the requirements of EN/IEC 60079-14 must be observed.

2. The conductivity measuring circuit and temperature measuring circuit are part of a common intrinsically safe system and are for operation connected to a separately certified Transmitter.

3. The conductivity measuring circuit and temperature measuring circuit as part of an intrinsically safe system are isolated from conductive housing parts up to a maximum rated voltage of 30 V.