



# 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.:  issue No.:  Certificate history:

Status:

Date of Issue:  Page 1 of 4

Applicant: **Mettler-Toledo Instrument (Shanghai) Co., Ltd.**  
No. 589 Guiping Road, Shanghai City, China  
Postal Code: 200233  
China

Electrical Apparatus: **Intrinsically safe multi-parameter transmitter Type M400\*/2X\*H**  
Optional accessory:

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

Marking: **Ex ib[ia Ga] II C T4 Gb or  
Ex ia II C T4 Ga**

Approved for issue on behalf of the IECEx  
Certification Body:

Zhang Wei

Position:

General Manager

Signature:  
(for printed version)

Date:

2012-07-31

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:

China Quality Mark Certification Group Co., Ltd.  
No. 33 Zengguang Road, Haidian District,  
Beijing City, Postal code: 100037  
China





# IECEx Certificate of Conformity

Certificate No.: IECEx CQM 12.0021X

Date of Issue: 2012-07-31

Issue No.: 0

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Manufacturer: **Mettler-Toledo Instrument (Shanghai) Co., Ltd.**  
No. 589 Guiping Road, Shanghai City, China  
Postal Code: 200233  
China

Manufacturing location(s):

**Mettler-Toledo AG**  
Heuwinkelstrasse 3  
8606 Nänikon  
Switzerland

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 : 2007-10** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition: 5  
**IEC 60079-11 : 2006** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition: 5  
**IEC 60079-26 : 2006** Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga  
Edition: 2

*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:  
CN/CQM/ExTR12.0023/00

Quality Assessment Report:

CN/CQM/QAR12.0004/00

NL/KEM/QAR08.0009/04



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## Schedule

### EQUIPMENT:

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

#### Description of equipment

Intrinsically safety multi-parameter transmitter is used to collect physical signals such as pH, electrical conductivity (resistivity), dissolved oxygen transmitters, temperature etc., and convert those into a standard 4 - 20mA electrical signal. It is powered by 2-wire and can be connected to analog sensor or digital sensor to delivers 4-20mA output signal, representing pH, conductivity (resistivity), dissolved oxygen and 4-20mA auxiliary signals (such as temperature) etc.. There are optional 0/4-20mA input voltage signal, digital input signals, digital output signals for alarm and control. By the modular-structure, the transmitter can not only accurately measure physical parameters, but also provide certain amounts derived parameters from these measurements.

Intrinsically safety multi-parameter transmitter consists of aluminium alloy made housing (back cover and front cover), with three PCBs installed inside. All boards are protected by an additional middle cover. On the front cover, there are one LCD display and five membrane buttons. 32 Terminals are designed for external connection. On the back cover, there are five cable inlets. Only cable gland and blanking plug, complying with IEC 60079-0 could be used.

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

1. Rated ambient temperature range: (-20~+60)°C
2. When installation, use and maintenance, IEC 60079-14 should be observed.
3. Observe the warning: potential electrostatic charging hazard- see instructions, avoid ignition hazard due to impact or friction.



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## EQUIPMENT(continued):

The function and safe parameters are listed as following:

Terminals	Function	Safe parameters
10, 11	Aout1	Ui=30V li=100mA Pi=0.8W Li=0 Ci=15nF
12, 13	Aout2	Ui=30V li=100mA Pi=0.8W Li=0 Ci=15nF
1, 2, 3, 4	Digital Input	Ui=30V li=100mA Pi=0.8W Li=0 Ci=0
6, 7, 8, 9	OC Output	Ui=30V li=100mA Pi=0.8W Li=0 Ci=0
P,Q	Analog Input	Ui=30V li=100mA Pi=0.8W Li=0 Ci=15nF
N, O	RS485 Sensor	Ui=30V li=100mA Pi=0.8W Li=0 Ci=0.7μF Uo=5.88V Io=54mA Po=80mW Lo=1mH Co=1.9μF
A, E, G	pH Sensor	Uo=5.88V Io=1.3mA Po=1.9mW Lo=5mH Co=2.1μF
B, A, E, G	ConductivitySensor	Uo=5.88V Io=29mA Po=43mW Lo=1mH Co=2.5μF
K, J, I	TemperatureSensor	Uo=5.88V Io=5.4mA Po=8mW Lo=5mH Co=2μF
H, B, D	Dissolvedoxygen sensor	Uo=5.88V Io=29mA Po=43mW Lo=1mH Co=2.5μF
L	One-wireSensor	Uo=5.88V Io=22mA Po=32mW Lo=1mH Co=2.8μF