



# 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 IMQ 17.0009X

Issue No: 0

Certificate history:

Issue No. 0 (2017-10-27)

Status: **Current**

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Date of Issue: **2017-10-27**

Applicant: **Metior S.r.l.**  
via Artigianelli, 4 – I-20900 Monza (MB)  
**Italy**

Equipment: **Load cells series TR, CM , DS, PR, OC, TS, AS**  
*Optional accessory:*

Type of Protection: **Intrinsic safety ia, ib**

Marking:  
Ex ia IIC T6/T5/T4 Ga  
Ex ia IIIC T85/T100/T135 °C Da  
Ex ib IIC T6/T5/T4 Gb  
Ex ib IIIC T85/T100/T135 °C Db

*Approved for issue on behalf of the IECEx  
Certification Body:*

Mr. Mauro CASARI

*Position:*

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

Certificate issued by:

**Istituto Italiano del Marchio di Qualità S.p.A**  
Via Quintiliano 43  
20138 Milano  
Italy





# IECEX Certificate of Conformity

Certificate No: IECEX IMQ 17.0009X Issue No: 0  
Date of Issue: 2017-10-27 Page 2 of 3  
Manufacturer: **Metior S.r.l.**  
Via Antica Regina, 296 - I-22014 Dongo (CO)  
**Italy**

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** Explosive atmospheres - Part 0: General requirements  
Edition:6.0  
**IEC 60079-11 : 2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

*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:

[IT/IMQ/ExTR17.0010/00](#)

Quality Assessment Report:

[IT/IMQ/QAR17.0003/00](#)



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## Schedule

### EQUIPMENT:

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

Load cells type TR, CM, DS, PR, OC, TS, AS are used to converting a mechanical force into electrical signal by means of the strain gauges sensors that measure the mechanical deformation of a metal structure to which are applied. The active parts (strain gauges sensors) are completely encapsulated by means of a compound cast.

Protection degree: IP65 (IEC 60529)

### SPECIFIC CONDITIONS OF USE: YES as shown below:

For level of protection Ga and Da only stainless steel load cells with welded metal cover can be used.

### Annex:

[IECEX IMQ 17.0009X issue No. 0 Annex.pdf](#)

Annex to: IECEx IMQ 17.0009X issue No. 0  
 Applicant: Metior S.r.l.  
 Apparatus: Load cells  
 Series: TR, CM , DS, PR, OC, TS, AS



### General description

Load cells type **TR, CM , DS, PR, OC, TS, AS** are used to converting a mechanical force into electrical signal by means of the strain gauges sensors that measure the mechanical deformation of a metal structure to which are applied.

The active parts (strain gauges sensors) are completely encapsulated by means of a compound cast.

### Marking

Ex ia IIC T6/T5/T4 Ga

Ex ia IIIC T85/T100/T135 °C Da

Ex ib IIC T6/T5/T4 Gb

Ex ib IIIC T85/T100/T135 °C Db

### Key code

The characteristics of the apparatus are codified according to the following:

[a.]		[b]	[c]	[d]	[e]
—		—	—	—	—

Number of digits( )

[a]	Load Cell Type:	<b>TR</b>	: Tension
		<b>CM</b>	: Compression
		<b>DS</b>	: Shelf
		<b>PR</b>	: Axis
		<b>OC</b>	: Off-Center
		<b>TR</b>	: Traction / Compression
		<b>AS</b>	: Flection
[b]	Enclosure Material:	<b>17/04</b>	: Stainless Steel
		<b>20.24</b>	: Aluminum alloy [1]
[c]	Cell enclosure protection	<b>I</b>	: Only encapsulated type [2]
		<b>S</b>	: Encapsulated and welded
[c]	Cable Type:	<b>V</b>	: Four wires type cable
		<b>S</b>	: Six wires type cable
[d]	Cable length:	<b>003</b>	: 1 meter or less
		<b>999</b>	: 999 meters
[e]	Minimum ambient temperature	<b>10</b>	: Suitable for use at -10 °C
		<b>25</b>	: Suitable for use at -25 °C
		<b>30</b>	: Suitable for use at -30 °C

NOTE:

[1] Suitable only for use in zone 1, 2, 20, 21 and 22;

[2] Suitable 1, 2, 21 and 22.

**Annex to:** IECEx IMQ 17.0009X issue No. 0  
**Applicant:** Metior S.r.l.  
**Apparatus:** Load cells  
**Series:** TR, CM , DS, PR, OC, TS, AS

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### Temperature classes

The TR, CM , DS, PR, OC, TS, AS load cells have temperature class:

- T6 and maximum surface temperature of T85 °C in an ambient temperature range of -30 °C Ta 70 °C and maximum power dissipation of 1,25 W
- T5 and maximum surface temperature of T100 °C in an ambient temperature range of -30 °C Ta 70 °C and maximum power dissipation of 2,50 W
- T4 and maximum surface temperature of T135 °C in an ambient temperature range of -30 °C Ta 70 °C and maximum power dissipation of 3,75 W

### Safety ratings

$U_i$	30	Vdc
$I_i$	500	mA
$P_i$	3,75	W
$C_i$	0,075	nF
$L_i$	0,8	$\mu$ H

### Conditions of use (X)

For level of protection Ga and Da only stainless steel load cells with welded metal cover can be used.

### Installation conditions

- Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of IEC 60079-0.
- Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user.  
These should be specified to the manufacturer by the user; it is not a required by applicable standards that the certification body confirm suitability for the adverse conditions.
- Load cells shall be installed according to IEC 60079-14 standard.
- Metal parts shall be grounded.

**Protection degree:** IP 65 (IEC 60529)

### Manufacturer's documentation

Ex Safety Note, rev. 0 dated 2017.07.01

Installation Manual, rev. 0 dated 2017.07.01