



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX CES 12.0006X** Page 1 of 4 [Certificate history:](#)  
Status: **Current** Issue No: 2 [Issue 1 \(2015-07-13\)](#)  
[Issue 0 \(2012-05-07\)](#)  
Date of Issue: 2019-10-18  
Applicant: **ATOS S.p.A.**  
Via alla Piana, 57  
I - 21018 Sesto Calende (VA)  
**Italy**  
Equipment: **Explosion proof inductive transducers, type ETHA-4I.**  
Optional accessory:  
Type of Protection: **Flameproof enclosures 'd'; Dust ignition protection by enclosure "t"**  
Marking: **Ex db IIC T6 or T5 or T4 Gb**  
**Ex tb III C T85°C or T100°C or T135°C Db**  
**IP66/67**

Approved for issue on behalf of the IECEx  
Certification Body:

**Mirko Balaz**

Position:

**Head of IECEx CB**

Signature:  
(for printed version)

Date:

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2. This certificate is not transferable and remains the property of the issuing body.
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Certificate issued by:

**CESI**  
**Centro Elettrotecnico**  
**Sperimentale Italiano S.p.A.**  
**Via Rubattino 54**  
**20134 Milano**  
**Italy**

# CESI



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Certificate No.: **IECEX CES 12.0006X**

Page 2 of 4

Date of issue: 2019-10-18

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Manufacturer: **ATOS S.p.A.**  
Via alla Piana, 57  
I - 21018 Sesto Calende (VA)  
**Italy**

Additional  
manufacturing  
locations:

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 equipment 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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with 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 Reports:

[IT/CES/ExTR12.0002/00](#)

[IT/CES/ExTR12.0002/01](#)

[IT/CES/ExTR12.0002/02](#)

Quality Assessment Report:

[IT/CES/QAR10.0003/09](#)



# IECEx Certificate of Conformity

Certificate No.: **IECEx CES 12.0006X**

Page 3 of 4

Date of issue: 2019-10-18

Issue No: 2

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The inductive transducers type ETHA-4/\* are used separately for detect a position or coupling with explosion proof solenoids type OZA\*-T\* for detect the position of the spools of directional or flow control proportional valves.

### Electrical characteristics

- Supply voltage:  $\pm 15\text{Vdc}$  stabilized
- Max current consumption: 28 mA
- Max power consumption:  $< 1\text{W}$
- Ambient temperature range: from  $-40^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$  and from  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Degree of protection: IP 66/67 (IEC 60529)

For further information see Annexe.

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

- The flame paths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- For the selection of connecting cable with operating temperature suitable for the installation conditions of equipment refer to the manufacturer safety instruction.
- Use screws property class A4-70 UNI 5931 with yield stress  $\geq 450\text{MPa}$ .
- Information relating to use, installation, repair and maintenance of the equipment are included within the safety instructions.



# IECEx Certificate of Conformity

Certificate No.: **IECEx CES 12.0006X**

Page 4 of 4

Date of issue: 2019-10-18

Issue No: 2

## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

For issue 2  
Variation 2.1:

The explosion proof inductive transducer, originally assessed in compliance with IEC 60079-0: 2011 and IEC 60079-1: 2007 have been re-assessed on the basis of the standard IEC 60079-0: 2017, 7th edition and IEC 60079-1:2014, 7th edition.

Variation 2.2:

Ex marking concerning the flameproof enclosure protection type has been updated to "db" for EPL Gb, according to latest edition of standard IEC 60079-1:2014, 7th edition. Ex marking on the nameplate has been updated.

## **Annex:**

[IECEx CES 12.0006X Issue 2 ANNEX - ATOS Ind\\_Transducer ETHA-4.pdf](#)

Prot: B9020748

**Annex to certificate:** IECEx CES 12.0006X\_Issue No.2 of 2019-10-18  
**Applicant:** ATOS S.p.A.  
 Via alla Piana, 57 – 21018 Sesto Calende (Varese) - Italy  
**Electrical Apparatus:** Explosion proof inductive transducer ETHA-4/\*

## Description of equipment

The inductive transducers type ETHA-4/\* are used separately for detect a position or coupling with explosion proof solenoids type OZA\*-T\* for detect the position of the spools of directional or flow control proportional valves.

The following version with the relevant model code are available:

Model code	Description
ETHA-4/1	With voltages output, voltage resolution 3.3 V/mm
ETHA-4/2	With voltages output, 2.5 V/mm
ETHA-4/4	With voltages output, 1.25 V/mm
ETHA-4/8	With voltages output, 0.6 V/mm
ETHA-4/C	With current output 4-20 or 0-20 mA, a voltage to current converter circuit is used

## Electrical characteristics

Supply voltage:  $\pm 15V_{dc}$  stabilized  
 Max current consumption: 28 mA  
 Max power consumption: < 1W

Ambient temperature range: from -40°C to + 40°C and from -40°C to + 70°C  
 Degree of protection: IP 66/67 (IEC 60529)

## Max ambient temperature, temperature class, surface temperature, connecting cable temperature

Model	Max ambient temperature	Temperature class	Surface temperature	Connecting cable temperature
ETHA-4/. [1]	40 °C	T6	T85 °C	--
ETHA-4/. [1]	70 °C	T6	T85 °C	$\geq 90$ °C
ETHA-4/. [2]	40 °C	T5	T100°C	$\geq 90$ °C
ETHA-4/. [2]	70 °C	T4	T135°C	$\geq 120$ °C

[1] Coupled to mechanical parts that not influencing the temperature class.

[2] Coupled to proportional explosion proof solenoid type OZA\*-T\* subject of a separate certification.

## Cable entries

The cable entry devices used on the enclosure shall be suitably certified according to the applicable standards. For the equipment with dust protection “tb” the accessories used for cable entries and for unused holes shall guarantee the degree of protection IP66/67 according to IEC 60529 standard.

## Warning label

“Warning – do not open when energized”

“For the correct selection of connecting cable temperatures see safety instructions”



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**Applicant:** ATOS S.p.A.  
Via alla Piana, 57 – 21018 Sesto Calende (Varese) - Italy  
**Electrical Apparatus:** Explosion proof inductive transducer ETHA-4/\*

### Marking

*Inductive transducer ETHA-4/\* coupled with mechanical parts not influencing the temperature class:*

Ex db IIC T6 Gb, and/or  
Ex tb IIIC T85°C Db

*Inductive transducer ETHA-4/\* coupled to solenoid type OZA\*-T\* subject of separate certification:*

Max. ambient temperature +40°C:  
Ex db IIC T5 Gb, and/or  
Ex tb IIIC T100°C Db

Max. ambient temperature +70°C:  
Ex db IIC T4 Gb, and/or  
Ex tb IIIC T135°C Db