

CESI



CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione

CESI-ATEX



PRD N. 018B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC
Mutual Recognition Agreements

ATEX B6003477-2-EN

CERTIFICATE



[1] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 02 ATEX 015X / 06

[4] Product: **Inductive Transducer type ETHA-4/***

[5] Manufacturer: **ATOS S.p.A.**

[6] Address: **Via alla Piana, 57 – 21018 Sesto Calende (VA) - Italy**

[7] This supplementary certificate extends EC-Type Examination Certificate **CESI 02 ATEX 015X** to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B9020201.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:



II 2 G Ex db IIC T6, T5, T4 Gb

II 2 D Ex tb IIIC T85°C, T100°C, T135°C Db

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 15.10.2019 - Translation issued the 15.10.2019

Prepared
Vito Giampietro

Page 1/4

Verified
Mirko Balaz

Approved
Roberto Piccin

CESI S.p.A.

Testing & Certification Division
Business Area Certification

Il responsabile

(Roberto Piccin)

[13]

Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 015X / 06**

[15] **Description of the variation to the product**

Variation 1.1: The explosion proof inductive transducer, originally assessed in compliance with EN 60079-0: 2012/A11:2013 and EN 60079-1: 2007 have been re-assessed on the basis of the standard EN IEC 60079-0: 2018 and EN 60079-1:2014.

Variation 1.2: Ex marking concerning the flameproof enclosure protection type has been updated to “db” for EPL Gb, according to latest edition of standard EN 60079-1:2014. Ex marking on the nameplate has been updated.

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 is 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

Materials used for construction of the transducers are mentioned below:

PART	Material
BODY CAP	CAST IRON EN-GSJ400-15 UNI EN 1563
BODY SHELL	CAST IRON EN-GSJ400-15 UNI EN 1563
TUBE	STAINLESS STEEL X8CrNiS18-9 UNI EN 10088 (AISI-303)
PLUG	CAST IRON EN-GSJ400-15 UNI EN 1563
NAME PLATE	ALLUMINIUM ALLOY EN AW-A1 Mg 1 UNI EN 755-2
SEAL	FKM 2035-70 Shore, H-NBR COT - 45/+210°C
SCREW	TCEI UNI-5931-M5X**-A4, TCEI UNI-5931-M4X20-A4 UNI-6107-M3X6-A4
SPRING WASHER	UNI-1751-M*-A4

Electrical characteristics

Supply voltage: $\pm 15Vdc$ 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 (EN 60529)

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 015X / 06**

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	≥ 90 °C
ETHA-4/. ^[2]	40 °C	T5	T100°C	≥ 90 °C
ETHA-4/. ^[2]	70 °C	T4	T135°C	≥ 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.

Marking

The equipment shall be marked as follows:

 II 2G Ex db IIC T6, T5, T4 Gb

 II 2D Ex tb IIC T85°C, T100°C, T135°C Db

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 EN 60529 standard.

Warning label

“Warning – do not open when energized”

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

[16] **Report n. EX-B9020201**

Routine tests

The explosion proof inductive transducer are exempted from the routine overpressure test required by EN 60079-1 standard, since they have been subjected, with the static method and favourable result, to an overpressure test at a pressure (56 bar) corresponding to 4 times the reference pressure related to minimum ambient temperature of -40 °C.

[17] **Special conditions for safe use**

- The flame paths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- The characteristics of the connecting cables and of the accessories used for cable entries shall be suitable for the use in the ambient/operating temperature of the inductive transducer. For the selection of the operating temperature of the cable depending on the model of the inductive transducer and the relevant installation and / or operation temperatures, refer to the Safety Instructions provided by the Manufacturer.
- Use screws property class A4-70 UNI 5931 with yield stress ≥ 450MPa.
- Information relating to use, installation, repair and maintenance of the equipment are included within the safety instructions.

This certificate may only be reproduced in its entirety and without any change, schedule included.

[13]

Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 015X / 06**

[18] **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements has been assured by compliance to the following standards:

EN IEC 60079-0:2018	Explosive atmospheres – Part 0: Equipment - General requirements;
EN 60079-1: 2014	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
EN 60079-31: 2014	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “q”.

[19] **Descriptive documents (prot. EX-B9020207)**

- Technical Note No. SAS-563-D/1	dated	25.09.2019
- Drawing No. 4-ETHA-210000-I Rev.2	dated	07.10.2019
- Drawing No. 6-ETHA-100050 Rev.1	dated	08.10.2019
- Safety Instructions No. TT-190-D/6 (3 pg.)	dated	25.09.2019
- EU Declaration of Conformity No. TT187/5	dated	25.09.2019

One copy of all documents is kept in CESI files.

Certificate history

Issue N°	Issue Date	Summary description of variation
06	15/10/2019	Updating standards EN IEC 60079-0:2018, EN 60079-1:2014, protection type “db”.
05	21/05/2015	Updating standards EN 60079-0:2012/A11:2013, EN 60079-31:2014, multi-certification nameplate.
04	17/05/2011	Explosive dust application
03	04/04/2008	Constructive variation and standard updating
02	02/07/2007	Constructive variant for low temperature -40°C
01	14/06/2003	Constructive variations
00	27/02/2002	First Issue of the Certificate