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Schema di certificazione

# CESI-ATEX

[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 04 ATEX 155 X/03**

[4] Product: Area sensors series **BX** models **04, 10, 80**

[5] Manufacturer: **M.D. Micro Detectors S.p.A.**

[6] Address: Strada Santa Caterina 235, 41100 – Modena - Italy

[7] This supplementary certificate extends EC-Type Examination Certificate CESI 04 ATEX 155X 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-B7008425.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[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 2G Ex mb IIC T6 Gb     II 2D Ex mb IIC T85°C Db  
 II 2G Ex db mb IIC T6 Gb     II 2D Ex mb tb IIC T85°C Db

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

Date 12<sup>th</sup> 05.2017 - Translation issued the 12<sup>th</sup> 05.2017

**Prepared**  
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**Approved**  
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**CESI S.p.A.**  
Testing & Certification Division  
Business Area Certification  
Il Responsabile



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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 155 X/03**

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

*Variation 3.1: constructional modifications*

### Description of equipment

Area sensors high and average resolution, models **BX 04** (4 optics elements), **BX10** (10 optics elements) and **BX80** (12 optics elements) are composed of a transmitter and a receiver. All the enclosures of the apparatus are realized in Valox with added glass. The equipment are fully encapsulated with epoxy or polyurethane resin and are built with cable permanently connected for power and data.

All sensors models have type of protection "mb". The devices with external sensitivity adjustment have combined type of protection.

#### Types of protection models without regulation

Ex mb IIC T6 Gb                      Ex mb IIIC T85°C Db

#### Types of protection models with adjustment potentiometer

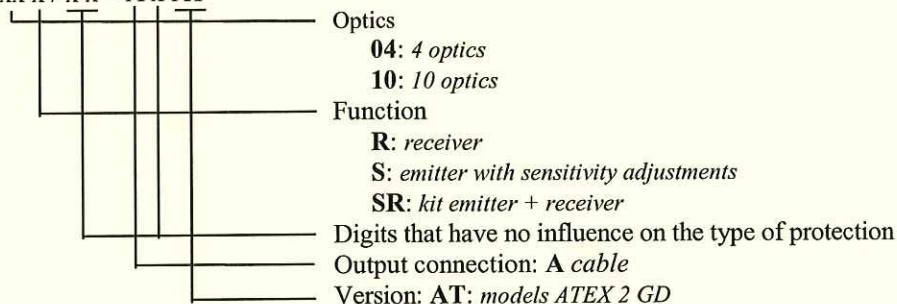
Ex db mb IIC T6 Gb                      Ex mb tb IIIC T85°C Db

Constructional modifications carried out by the manufacturer, relate to the replacement of the permanently connected cable and the adjustments to the cable gland. The changes are conform to the types of protection involved.

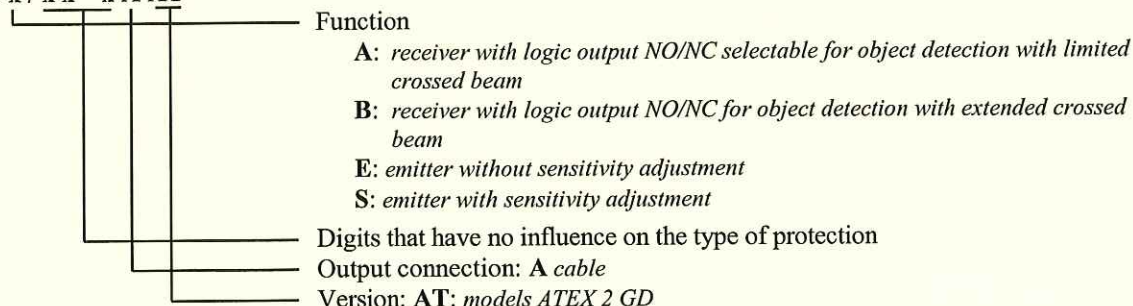
### Identification of equipment

The area sensors are identified by a code as follows:

**BX** xx x / x x - A x AT



**BX80** x / x x - x A AT



A full description of the equipment's code, is specified in the Manufacturer's Technical Report

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 155 X/03**

### Electrical characteristics

|                                 |                         |
|---------------------------------|-------------------------|
| Max voltage $V_{max}$ :         | 26 Vdc                  |
| Max current $I_{max}$ :         | 150 mA                  |
| - BX 04-10 emitter $I_{max}$ :  | 50 mA                   |
| - BX 04-10 receiver $I_{max}$ : | 125 mA                  |
| - BX80 with double adjustment:  |                         |
| - emitter $I_{max}$ :           | 100 mA                  |
| - receiver $I_{max}$ :          | 150 mA                  |
| - BX80 emitter $I_{max}$ :      | 100 mA                  |
| - BX80 receiver $I_{max}$ :     | 150 mA                  |
| Ambient temperature:            | from -5 °C up to +55 °C |
| Degree of protection:           | IP 67                   |

[16] **Report n. EX-B7008425**

### Routine tests

The Manufacturer shall carry out the routine tests prescribed at clause 9 of the EN 50018 standard.  
The electric strength test, shall be made at the voltage of 500 V

[17] **Special conditions for safe use (X)**

The cable, permanently connected, for power and data shall be mechanically protected against the risk of damage due to mechanical stress.

The cable termination shall be carried according to one of the types of protection of the EN 60079-0, in accordance with the engineering rules in force for place where the devices are used.

Equipment with a low risk of mechanical danger according to clause 26.4.2 of EN 60079-0 standard.

Equipment shall be protected against direct sunlight and ultraviolet light source.

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

Compliance with the Essential Health and Safety Requirements is not affected by this variation and are assured by compliance to the following standards:

- EN 60079-0:2012+A11:2013 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-1:2014 – Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d".
- EN 60079-18:2015 – Explosive atmospheres – Part 18: Equipment protection by encapsulation "m".
- EN 60079-31:2014 – Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t".

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## Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 155 X/03**

[19] **Descriptive documents** (prot. EX-B7008429)

|  |       |               |
|--|-------|---------------|
| - Technical Report n. R07_505, rev. 2; pg.13                     | dated | 09.02.2017    |
| - Drawing n. W558-C, rev. C; pg.1                                | dated | 13.02.2017    |
| - Drawing n. 7361; pg.1  | dated | 18.11.2016    |
| - Drawing n. 7398; pg.1  | dated | 18.11.2016    |
| - Drawing n. 7362; pg.1  | dated | 09.02.2017    |
| - Drawing n. 7406; pg.1  | dated | 08.05.2017    |
| - Drawing, New cable-gland; pg.1                                 | dated | 26.04.2017    |
| - Data-sheet cable LAPP ÖLFLEX® HEAT 125 MC; pg.2                |       |               |
| - Data-sheet O-ring PLA x PG7; pg.1                              |       |               |
| - FAC-SIMILE EU Declaration of Conformity – BX04**/**-**AT; pg.1 | dated | February 2017 |
| - FAC-SIMILE EU Declaration of Conformity – BX10**/**-**AT; pg.1 | dated | February 2017 |
| - FAC-SIMILE EU Declaration of Conformity – BX80**/**-**AT; pg.1 | dated | February 2017 |

One copy of all documents is kept in CESI files.

### Certificate history

| Issue N° | Issue Date | Summary description of variation   |
|----------|------------|--|
| 03       | 12/05/2017 | New type of cable permanently connected  |
| 02       | 16/03/2016 | Update standard and marking, electrical parameters change and minor design modifications |
| 01       | 06/11/2007 | Update standard and marking  |
| 00       | 22/12/2004 | First Issue of the Certificate   |