



EU-TYPE EXAMINATION CERTIFICATE

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

[3] EU-type Examination Certificate number:

IMQ 12 ATEX 016 X

[4] PRODUCT: PROXIMITY SENSORS
 TYPE/SERIES: **SM** (as specified in §15.1)

[5] MANUFACTURER: AECO S.r.l.

[6] ADDRESS: VIA GIACOMO LEOPARDI, 5 - 20065 INZAGO (MI) ITALIA

APPLICANT: AECO S.r.l.
 VIA GIACOMO LEOPARDI, 5 - 20065 INZAGO (MI) ITALIA

[7] This equipment and any acceptable variation there to are specified in the annex to this certificate and the documents therein referred to.

[8] IMQ, notified body N° 0051, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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 No.:

AT16-0002145-01

[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

EN 60079-0:2012 + A11:2013; EN 60079-18:2015

[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 and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

	II 1G	Ex ma IIC T6 Ga, and
	II 1D	Ex ma IIIC T85 °C Da, or
	II 2G	Ex mb IIC T6 Gb, and
	II 2D	Ex mb IIIC T85 °C Db

THIS DOCUMENT IS COMPOSED OF 5 PAGES INCLUDING 1 ANNEX.

IMQ

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SGQ N° 005 A EMAS N° 003 P
 SGA N° 006 D PRD N° 005 B
 SGE N° 006 M PRS N° 080 C
 SCR N° 005 F ISP N° 063 E
 SSI N° 003 G LAB N° 0121
 FSM N° 007 I LAT N° 021

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ANNEX

[13]

[14] EU-type Examination Certificate: **IMQ 12 ATEX 016 X**

[15] **DESCRIPTION OF PRODUCT:**

Proximity sensors type **SM** are magnetic reed type sensors with permanently connected cable, contained within an enclosure made in brass or steel.

[15.1] **MODELS/SERIES IDENTIFICATION:**

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

[a ₁]	[a ₂]	-	[b]	[c]	[d]	[e]	[f]	[g]	[h]	[i]
■	■	-	■	■	■	■	■■■■	■■■.■	■■■	■

Number of digits(■)

[a ₁]	Equipment Type:	SM	: Magnetic Sensor	
[a ₂]	Enclosure Shape:	C	: Cylindrical	
[b]	Enclosure Dimension	12	: Threaded M12X1	
[c]	Contact Function:	NO	: Normally open	
		NC	: Normally closed	
		S	: Changeover	
[d]	Reed Contact Type:	NO Type Contacts:	Null	: Mod. ORD2211 XX+YY AT or Mod. ORD229 XX+YY AT
			R1	: Mod. ORD229 XX+YY AT
			R2	: Mod. GC3823 XX+YY AT
		NC Type Contacts:	R3	: Mod. GC3723 XX+YY AT or Mod. GC 3717 XX+AT
			R4	: Mod. GR100 XX+YY AT
			R5	: Mod. GC2717 XX+YY AT
		S Type Contacts:	R6	: Mod. GC2314 XX+YY AT
			R7	: Mod. MRPR3 XX+YY AT
			M1	: Mod. GC1523 XX+YY AT
[e]	Enclosure Material:	R1	: Mod. GC3336 XX+YY AT or Mod. GC3436 XX + AT	
		M1	: Mod. GC1917 XX+YY AT	
[f]	Cable Type:	R1	: Mod. GC3336 XX+YY AT or Mod. GC3436 XX + AT	
		M1	: Mod. GC1917 XX+YY AT	
[g]	Cable Length:	Null	: Nickel plated brass M12X1	
		SS	: Stainless Steel	
		Null	: PVC/PVC	
[h]	Explosive Atmosphere Type:	PU	: PUR/PVC	
		BC	: PUR/TPE Halogen free shielded	
[i]	Equipment Category:	Null	: Cable length "2m"	
		LC2	: Cable length "2m" (models with cable type " BC HF " only)	
		LCn.n	: Length equal to "n.n" meter if the length is >2m	
[h]	Explosive Atmosphere Type:	AG	: GAS explosion protected	
		AD	: DUST explosion protected	
		AGD	: GAS an DUST explosion protected	
[i]	Equipment Category:	1	: Category 1	
		2	: Category 2	

[15.2] **RATINGS:**

- U_n = 100 V; 150 V, 200 V; 230 V (AC or DC)
- I_n = 0,5 A; 1 A; 1,5 A
- Frequency: 50/60 Hz



ANNEX

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[15.3] **SAFETY RATINGS:**

None

[15.4] **AMBIENT TEMPERATURE AND TEMPERATURE CLASSES:**

The **SM** proximity sensors have temperature class T6 and maximum surface temperature of T85 °C in an ambient temperature range of $-25\text{ °C} \leq T_a \leq 70\text{ °C}$.

[15.5] **DEGREE OF PROTECTION (IP CODE):**

IP67 (EN 60529)

[15.6] **WARNINGS:**

- None

[16] **REPORT:** AT16-0002145-01

[16.1] **ROUTINE (FACTORY) TESTS:**

The manufacturer shall carry out the routine test prescribed at clause 27 of the EN 60079-0.

The manufacturer shall carry out routine test prescribed at clause 9.1 of the EN 60079-18 to sensor encapsulation.

The manufacturer shall carry out routine test prescribed at clause 9.2 of the EN 60079-18, at 1500V, on complete devices.

[16.2] **CONFORMITY WITH THE DOCUMENTATION:**

The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.

Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;
- the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **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 EN 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 standard listed in [9] that the certification body confirm suitability for the adverse conditions.
- Proximity sensors shall be installed according to EN 60079 14 standard.
- Metal parts shall be grounded.

[17] **SPECIAL CONDITION OF USE (X):**

- User shall protect the sensors by fuses, with a rated voltage according to relevant product instruction concerning installation and minimum breaking capacity of 1500 A.
- For level of protection "ma", two electrical protective devices (fuses) shall be installed in series; only one device is required for level of protection "mb".
- User shall protect the sensors without closing cap from exposition to light.

3/4



ANNEX

[13]

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[18] **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS:**

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].

This Certificate does not cover hazards coming from environmental conditions different from those clearly and precisely indicated in clause 1 of EN 60079-0.

ESHR 1.2.7: According Annex VIII of the Directive

ESHR 1.4: Not verified.

ESHR 1.5: Not applied.

ESHR 3: Not applied.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:

N/A: additional Requirements for the products have not been considered

[19] **DESCRIPTIVE DOCUMENTS:**

DL- AT16-0002145-01, rev. 0, dated 2016-12-21, 195 pages.

[20] **CERTIFICATION VALIDITY CONDITIONS:**

- The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.
- The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per [19]. One copy of the mentioned documentation is kept in IMQ file.

[21] In accordance with Article 41 of Directive 2014/34/EU, 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. New issues of such certificates may continue to bear the original certificate number issued prior to 20 April 2016.

[22] **VARIATIONS:**

- [22.1] **MARCH 2017**
- Standard update.
 - New models has been Introduced.