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[1] EC-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 94/9/EC**

[3] EC-Type Examination Certificate number:
CESI 12 ATEX 052 X

[4] **Equipment: Position and speed magnetic transducers type SM60EX**

[5] **Manufacturer: Eleis Encoder s.r.l.**

[6] **Address: Via Rosa Luxembourg 12/14 - 10093 Collegno (TO) Italy**

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, 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- B2032951.

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

EN 60079-0: 2009 EN 60079-1: 2007 EN 60079-31: 2009

[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 EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. 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:

II2G Ex d IIC T6, T5 Gb

and

**II2D Ex tb IIC T85°C, T100°C Db
IP66**

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

Date 23.10.2012 - Translation issued the 23.10.2012

Prepared
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Approved
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//Responsabile
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PRD N. 018B
Membro degli Accordi di Mutuo
Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC
Mutual Recognition Agreements

[13]

Schedule

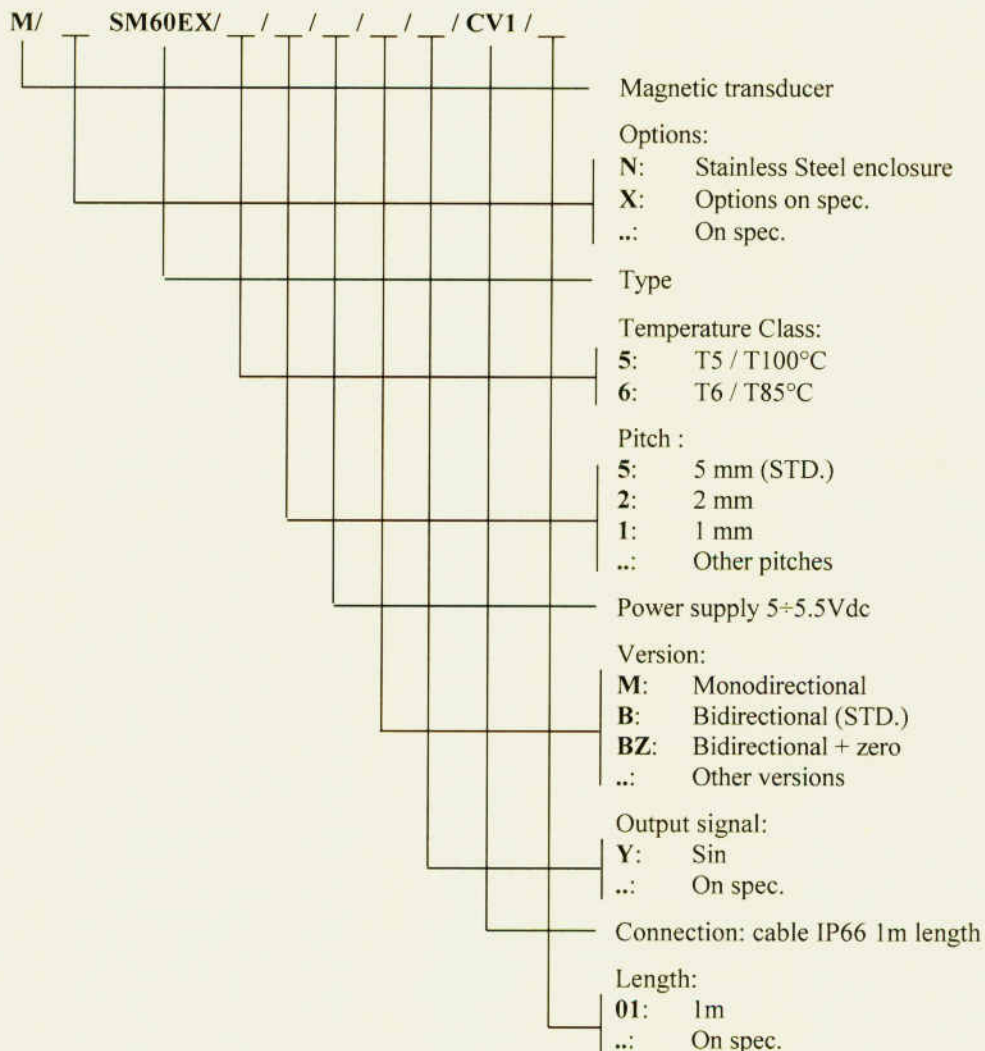
[14] EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 052 X

[15] **Description of equipment**

The magnetic transducers type **SM60EX** are suitable for reading of linear or angular positions and/or speed on rotating electrical machines, machine tools and industrial automation. The transducers are placed in proximity of a magnetic tape (for linear movements) or in proximity of a magnetic ring locked on the rotating shaft (for rotary movements).

The standard transducer outputs are sinusoidal signals. The magnetic transducers type **SM60EX** assemblies are composed of a main Ex-d enclosure made of aluminium or stainless steel; the transducer is cemented inside the enclosure and the cable for external wiring is part of the assembly. The cable is not separable from the transducer enclosure.

Ordering identification code:



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Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 052 X**

Electrical characteristics

Rated voltage (max.):	5 (5,5) Vdc
Max dissipated power:	100 mW
Output signal:	80 ÷ 100 mV peak - peak
Max. frequency:	1 MHz
Ambient temperature range:	-20°C ÷ + 60°C -20°C ÷ + 75°C
Temperature class:	T6 for max. T _{amb} of +60°C T5 for max. T _{amb} of +75°C

[16] **Report n. EX- B2032951**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of EN 60079-0 standard and at paragraph 16 of the EN 60079-1 standard.

The manufacturer is exempted to the overpressure routine tests on the Ex-d enclosure because it has performed successfully the four times reference pressure test.

Descriptive documents (prot. EX- B2032976)

- Technical Note No. U5163600 (pg. 2)	rev.0	dated	10.10.2012
- Safety instructions No. WM255X00 (pg. 11)	rev.0	dated	13.07.2012
- Declaration of conformity CE (facsimile) No. YM192/H (pg. 1)		dated	2012
- Drawing No. No. M059390 (pg. 1)	rev.B	dated	19.07.2012
- Drawing No. M0594000 (pg. 1)	rev.0	dated	19.07.2012
- Drawing No. M059430 (pg. 1)	rev.B	dated	19.07.2012
- Drawing No. M059450 (pg. 1)	rev.A	dated	19.07.2012
- Drawing No. M059460 (pg. 1)	rev.B	dated	09.10.2012
- Drawing No. M959380 (pg. 1)	rev.B	dated	19.07.2012
- Drawing No. U516050 (pg. 1)	rev.B	dated	19.07.2012
- Drawing No. U516060 (pg. 1)	rev.C	dated	09.10.2012
- Drawing No. U516070 (pg. 1)	rev.D	dated	09.10.2012
- Drawing No. WM217X0 (pg. 1)	rev.B	dated	19.07.2012
- Drawing No. M0594700 (pg. 1)	rev.0	dated	18.06.2012
- Drawing No. F0593700 (pg. 1)	rev.0	dated	01.02.2012
- Drawing No. E033310 (pg. 1)	rev.A	dated	18.06.2012
- Annex datasheets of materials (pg. 47)		dated	10.10.2012

One copy of all documents is kept in CESI files.

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Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 052 X**

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

- The permanently connected supply cable of the transducer must be protected against the risk of damage due to mechanical stresses. The connection of the free cable end shall be made according to one of the types of protection indicated in the Standard EN 60079-0, section 1 and shall be in accordance with the installation rules specified for the place where the transducer is used.
- The transducer should be installed taken into account that it is suitable for a low risk of mechanical danger (4J test).
- The conditions of the installation of the equipment are included within the safety instructions. For a safe use these mounting instructions are to be followed precisely.

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

The Essential Health and Safety Requirements are assured by compliance to the following standards:

EN 60079-0: 2009 Explosive atmospheres – Part 0: Equipment - General requirements;

EN 60079-1: 2007 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”.

EN 60079-31: 2009 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.