

CESI

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Capitale sociale 8 550 000 €
interamente versato
Codice fiscale e numero
iscrizione CCAA 00793580150

Registro Imprese di Milano
Sezione Ordinaria
N. R.E.A. 429222
P.I. IT00793580150

Schema di certificazione

CESI-ATEX

Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfera potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/6/1990, D.M. 20/7/1998 e D.M. 27/9/2000

CERTIFICATE



[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 04 ATEX 082

[4] Equipment: **Incremental Encoder series EX80 and
Absolute Encoder series EAX80**

[5] Manufacturer: **ELTRA S.r.l**

[6] Address: **Monticello di Fara 32/bis street, 36040 SAREGO (VI) - 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-A4/506126.

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

EN 50014: 1997 + A1, A2 EN 50018: 2000 + A1 : 2002

[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:



II 2G EEx d IIC T6

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

Date 21.07.2004- Translation issued the 21.07.2004

Prepared
Maurizio D'Amico

Verified
Mirko Balaz

Approved
Ulisse Colombo

D'Amico Maurizio

Balaz Mirko

CESI

CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione

Ul. Responsabile

Ulisse Colombo

[13]

Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 082

[15] Description of equipment

Encoder series EX80

It is a rotational transducer to convert an angular movement into a series of electrical digital impulses. These generated impulses can be used to control angular or linear movements, if they are associated with a rack or endless screws. The electrical signals during rotation can be elaborated by numerical controls (*CNC*), programmable logic controls (*PLC*), control systems, etc. It gives usually two types of squared waves that are out of phase for 90 electrical degrees, which are usually called channel A and channel B. The reading of only a channel gives the information in relation to the speed rotation, while through the acquisition of second channel the sense of the rotation is given on the basis of the states sequence produced by the two signals. The output is of NPN, NPN Open Collector, Push-Pull type or Line Driver.

Encoder series EAX80

The working principle of an absolute encoder is very similar to that of an incremental one but it does not lose the real position when the power supply is turned off (even if shifted) and to a following power up (thanks to the direct coding on the disc) the position is up to date and available and it is not necessary to seek the zero index. It changes an angular movement and provides a digital electric signal in binary or Gray code according to a predetermined bit number. The output is of NPN, NPN Open Collector, PNP, PNP Open Collector, Push-Pull type or SSI (Serial Synchronous Interface).

The composition of the identificative code of the two Encoders is reported as detailed in the documentation annexed to the present certificate.

Electrical characteristics

Encoder serie EX80

Power Supply: from 5 to 28 Vdc
Current consumption without load: 80 mA
Max commutable current: 50 mA per channel
Max output frequency: 300 kHz
R.P.M Max: 3000 Rpm
Ambient Temperature: $-20\text{ }^{\circ}\text{C} \leq T_a \leq +50\text{ }^{\circ}\text{C}$

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[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 082**

[15] **Description of equipment (follows)**

Electrical characteristics (follows)

Encoder serie EAX80

Power Supply: from 5 to 28 Vdc

Current consumption without load: 100 mA

Max commutable current: 50 mA per channel

Max output frequency: 100 kHz

R.P.M Max: 3000 Rpm

Ambient Temperature: $-20\text{ °C} \leq T_a \leq +50\text{ °C}$

Cables entry

The accessories used for the entry of the cables must be certified according to the Standards EN 50014 and EN 50018. The accessory coupling between cables connection and encoder enclosure must be realized as foreseen in the enclosed documents to the present Certificate.

Warning label

None.

[16] **Report n. EX-A4/506126**

Routine tests

The manufacturer shall carry out the foreseen individual tests to the Par. 23 of the Standard EN 50014 and to the Par. 16 of the Standard EN 50018. The overpressure routine test shall be carried out at 11 bar with the static method (clause 15.1.3.1 of EN 50018 Standard).

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[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 04 ATEX 082**

[16] **Report n. EX-A4/506126 (follows)**

Descriptive documents (prot. EX-A4/506146)

- n. DEX0006A.doc	(pages 9)	date	30/06/04
- n. Dich. Conform.		date	21/05/04
- n. 3031A00		date	02/07/01
- n. 1248A00		date	27/08/99
- n. ESP0002D		date	07/03/97
- n. ING0002D		date	07/03/97
- n. 41700000	Rev. C1	date	11/03/97
- n. 41700001	Rev. A1	date	07/03/97
- n. 41700002	Rev. A1	date	07/03/97
- n. 41700003	Rev. B1	date	07/03/97
- n. 41700004	Rev. A1	date	07/03/97
- n. 41700005		date	06/02/97
- n. 41700006	Rev. D1	date	01/07/04
- n. 41700007		date	17/03/97
- n. 41700008		date	24/03/97
- n. DEX0002A	(pages 4)	date	30/06/04
- n. AS006IT0803A	(pages 2)	date	30/06/04
- n. IN010IT0803A	(pages 2)	date	30/06/04

One copy of all documents is kept in CESI files.

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

None.

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

Covered by Standards.

EXTENSION n. 01/08




to EC-Type Examination Certificate CESI 04 ATEX 082

Equipment: Incremental encoder series EX80 and absolute series EAX80 and EAMX80
Manufacturer: ELTRA SpA
Address: Via Monticello di Fara, 32/bis
36040 Sarego - VI

Admitted variation

- *Changing of the company name:*
from ELTRA Srl to ELTRA SpA
- *Constructive modification:*
 - Possible lengthening of the enclosure;
 - Other marginal modifications;
- *New absolute multi-rotations encoder model:* EAMX80;
- *Updating of the reference standards;*
- *Extension of protection to combustible dusts:* category 2D;
- *Exemption from carrying out the routine overpressure test on the enclosures;*
- *Usage of sticking labels to mark encoders;*
- *Updating of the ATEX marking:*

 II 2GD Ex d IIC T6 Ex tD A21 IP65 T85°C

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 04 ATEX 082.

This document may only be reproduced in its entirety and without any change.

Date November 10th 2008

Prepared CERT – T. Cola

Verified CERT – M. Balaz

Approved CERT – F. Bregani



CESI S.p.A.
Divisione Energia
"Area Tecnica Certificazione"
Il Responsabile

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EXTENSION n. 01/08

to EC-Type Examination Certificate CESI 04 ATEX 082

Description of equipment

Encoders series EX80 and EAX80 are built up inside a flame proof enclosure from which, through a special flame proof cylindrical joint, comes out the measuring shaft. The new model EAMX80 is an absolute encoder like model EAX80 but distinguishing for the possibility to operate with shaft rotations greater than 360°.

Shaft rotations are detected and measured by a special sensor and relevant electronics which are installed inside the enclosure; then they send the corresponding signal to a remote receiver through the cables.

Electrical characteristics

Power supply voltage: 5 ÷ 28 Vdc
Maximum current absorption: 100 mA
Maximum switched current: 50 mA each channel
Maximum usage frequency: 300 kHz
Maximum rotation speed: 3000 Rpm

Protection degree: IP65
Ambient temperature: -20°C ÷ 50°C

Cable entry

Accessory used for cable entry shall be certificated according to the standards EN 60079-0, EN 60079-1, IEC 61241-0 and EN 61241-1 and guarantee a minimum protection degree IP65, according to the standard EN 60529.

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 24 of the standard EN 60079-0, at paragraph 16 of the standard EN 60079-1 and at paragraph 24 of the standard IEC 61241-0.

The manufacturer is exempted from carrying out the routine overpressure test on the enclosure of the encoders, since the type test has been carried out at 4 times the reference pressure.

Report n. EX-A8014048

Descriptive documents (prot. EX-A8014054)

- Technical note (11 sheets) dated 3/11/2008
- Usage and safety instructions dated 1/11/2008
- Technical drawing n. 41700000 D1 dated 1/11/2008
- Technical drawing n. 41700001 D1 dated 1/11/2008
- Technical drawing n. 41700002 D1 dated 1/11/2008
- Technical drawing n. 41700003 H1 dated 1/11/2008
- Technical drawing n. 41700004 B1 dated 1/11/2008
- Technical drawing n. 41700005 A1 dated 1/11/2008
- Technical drawing n. 41700006 G1 dated 1/11/2008
- Technical drawing n. 41700017 dated 1/11/2008
- Technical drawing n. 41700018 dated 1/11/2008
- Stickers characteristics (3 sheets)
- Facsimile EC declaration of conformity

One copy of all the documents mentioned above is kept in CESI files.

This document may only be reproduced in its entirety and without any change.

EXTENSION n. 01/08

to EC-Type Examination Certificate CESI 04 ATEX 082

Essential Health and Safety Requirements

Covered by compliance to the following standards:

EN 60079-0 : 2006 – Electrical apparatus for explosive gas atmospheres: General requirements;

EN 60079-1 : 2007 – Explosive atmospheres: Flameproof enclosures “d”;

EN 61241-0 : 2006 – Electrical apparatus for use in the presence of combustible dust: General requirements;

EN 61241-1 : 2004 – Electrical apparatus for use in the presence of combustible dust: Protection by enclosures “tD”.

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NOTIFICATION



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CESI-ATEX

Schema di certificazione

[1] **PRODUCT QUALITY ASSURANCE NOTIFICATION**

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

[3] Notification number:
CESI 04 ATEX 089 Q

[4] Equipment or component type: **Electronic encoders**

Protection concepts: **Flameproof enclosures "d"
 Dust ignition protection "tD"**

[5] Applicant: **Eltra S.p.A. Unipersonale
 via Guido Salvagnini, 17
 36040 Sarego - VI**

[6] Manufacturer: **Eltra S.p.A. Unipersonale
 via Guido Salvagnini, 17
 36040 Sarego - VI**

[7] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, notifies to the applicant that the actual manufacturer has a product quality system which complies to Annex VII of the Directive.

[8] This notification is based on audit report n. EX-B3016841 issued the 20/06/2013.

This notification can be withdrawn if the manufacturer no longer satisfies the requirement of Annex VII.

Results of periodical re-assessment of the quality system are a part of this notification.

[9] This notification is **valid until 23/07/2016** and can be withdrawn if the Manufacturer does not satisfy the product quality assurance re-assessment.

[10] According to Article 10 [1] of the Directive 94/9/EC the CE marking shall be followed by the identification n. 0722 identifying the notified body involved in the production control stage.

This notification may only be reproduced in its entirety and without any change.

Date of 1st issue
 23rd July 2004

Date of renewal
 23rd July 2013

Translation issued 23rd July 2013

Prepared
 Tiziano Cola

Verified
 Mirko Balaž

Approved
 Fiorenzo Bregani

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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

CESI S.p.A.
 Testing & Certification Division
 Business Area Certification

Responsabile

Fiorenzo Bregani