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Codice fiscale e numero
iscrizione CCIAA 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

ATEX E C-02

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 03 ATEX 095

[4] Equipment: Vibrations transmitter type TR-NC/8

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

[6] Address: Via Risorgimento 9, 23826 - Mandello del Lario (LC) - 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-A3/016153.

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

EN 50014: 1997 + A1..A2 EN 50020: 2002 EN 50284: 1999

[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 1G EEx ia IIC T6 or T5

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

Date 10.05.2003 - Translation issued the 10th.05.2003

Prepared
Enrico Radaelli

Verified
Mirko Balaz

Approved
Ulisse Colombo

CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione

Il Responsabile

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 095**

[15] **Description of equipment**

The vibrations transmitter type **TR-NC/8** is an intrinsic safety system to install in a hazardous area for the detection, in continuous mode, of the vibrations of rotating machines.

The **TR-NC/8** is designed to transform the signal detected by a vibrations transducer type **TR-NC/8-API**, and send it to equipment for signal processing.

Electrical characteristics

Intrinsically safe circuits parameters

Supply

- U_i =	27 V
- I_i =	95 mA
- P_i =	650 mW
- C_i =	0 nF
- L_i =	0 μ H

GAP output

- U_o/U_i =	12.7 V
- I_o =	3 mA
- P_o =	10 mW
- C_o =	0 μ F
- L_o =	0 mH

Analyzer connection

- U_o/U_i =	13.5 V
- I_o =	3 mA
- P_o =	10 mW
- C_o =	20 nF
- L_o =	300 μ H

Transducer connection

- U_o/U_i =	13.5 V
- I_o =	95 mA
- P_o =	650 mW
- C_o =	10 nF
- L_o =	90 μ H

Ambient Temperature = -20°C ÷ + 60°C for T6
-20°C ÷ + 70°C for T5

The vibrations transmitter, shall be supplied by associated apparatus complying with the limits of the above electrical characteristics.

Warning label

“Warning - electrostatic charging hazard - Clean only with wet cloths or antistatic products”

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



[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 095**

[16] **Report n. EX-A3/016153**

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard.

Descriptive documents (prot. EX- A3/016155)

- n. Technical note I76PRD01 Rev. 1	pg.4+5	dated	05.05.2003
- n. Safety Instructions I75PRD01 Rev. 1	pg.5	dated	05.05.2003
- n. Side nameplate 66710-C Rev. 0		dated	05.05.2003
- n. Upper nameplate 66709-C Rev. 0		dated	05.05.2003
- n. Label 63577-C		dated	05.05.2003
- n. Electric draw 66755-C		dated	05.05.2003
- n. Production plan I77PRD Rev. 1	pg.7	dated	05.05.2003
- n. Production plan I778RD Rev. 1	pg.6	dated	05.05.2003
- n. CE Declaration of conformity		dated	05.05.2003

One copy of all documents is kept in CESI files.

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

None.

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

Assured by the conformity to the standards.

EXTENSION n. 01/10



to EC-Type Examination Certificate CESI 03 ATEX 095

Equipment: Vibrations transmitter type **TR-NC/8**

Manufacturer: **CEMB S.p.A.**

Address: Via Risorgimento 9, 23826 – Mandello del Lario (LC) - Italy

Admitted variation

- Constructive modifications.
- Electrical characteristics.
- Upgrade to EN60079-0: 2006, EN60079-11: 2007 and EN60079-26: 2007
- Update marking.

Description of equipment

The vibrations transmitter mod. **TR-NC/8** is a intrinsic safety apparatus to install in Zone 0 for the detection, continuously, of the vibrations of rotating machinery by a vibrations transducer **TR-NC/8-API**. The modifications concern the part acquisition/processing signal and the electrical supply parameter.

The apparatus shall be marked as follows:

II 1 G Ex ia IIC T6 or T5

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX095.

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

date 22.02.2010 - translation issued the 22nd02.2010

prepared Guido Prazzoli

verified Mirko Balaz

approved Fiorenzo Bregani

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

page 1/3

EXTENSION n. 01/10

to EC-Type Examination Certificate CESI 03 ATEX 095

Electrical characteristics

Intrinsically safe circuits parameters

Supply (terminal 1-2)

- U_i = 30 V
- I_i = 100 mA
- P_i = 750 mW
- C_i = 0 nF
- L_i = 0 μ H

GAP output (terminal 2-3)

- U_o/U_i = 12.7 V
- I_o = 3 mA
- P_o = 10 mW
- C_o = 0 μ F
- L_o = 0 mH

Analyzer connection (BNC termination)

- U_o/U_i = 13.5 V
- I_o = 3 mA
- P_o = 10 mW
- C_o = 20 nF
- L_o = 300 μ H

Transducer connection (coaxial termination)

- U_o/U_i = 13.5 V
- I_o = 95 mA
- P_o = 650 mW
- C_o = 10 nF
- L_o = 90 μ H

Ambient temperature

- 20 \div +60°C for temperature classification T6
- 20 \div +70°C for temperature classification T5

The vibrations transmitter TR-NC/8 shall be supplied by associated apparatus certified according to EN 60079-0, EN 60079-11 and EN 60079-26 complying with the limits of the above electrical characteristics.

Warning label

- “Electrostatic charging hazard Clean only with wet cloths or antistatic products”
- “If installed in Zone 0 insert into a appropriate metal container”

Report n. EX- B0004803

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 27 of the EN 60079-0 and clause 11 of the EN 60079-11 standards.

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

EXTENSION n. 01/10

to EC-Type Examination Certificate CESI 03 ATEX 095

Descriptive documents (prot. EX-B0004804)

- Technical Note n. I76PRD rev. 02 (pg.9)	dated	22.07.2008
- Safety Instructions n. I75PRD01 rev. 2 (pg.6)	dated	22.07.2008
- Production plan n. I77PRD rev. 2 (pg.7)	dated	22.07.2008
- Production plan n. I78PRD rev. 2 (pg.6)	dated	22.07.2008
- Drawing label n. 66710-C rev. 0 (pg.1)	dated	22.07.2008
- Drawing side labels n. 90276-C rev. 0 (pg.1)	dated	22.07.2008
- CE Declaration of Conformity (pg.1)	dated	22.07.2008

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

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

- EN 60079-0: 2006 – Electrical apparatus for explosive gas atmospheres - General requirements.
- EN60079-11: 2007 – Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”.
- EN 60079-26: 2007 Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga.

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 03 ATEX 095

Equipment: Vibrations transmitter type TR-NC/8

Manufacturer: CEMB S.p.A.


Address: Via Risorgimento 9, 23826 – Mandello del Lario (LC) - Italy


Admitted variation

- Constructive modifications.
- Change electrical characteristics.
- Conformity to new edition of harmonized European standards.
- Update marking with EPL
- Update special conditions for safe use; symbol “X” added certificate reference

Contrassegno

The apparatus shall be marked as follows:

 II 1 G Ex ia IIC T6 Ga

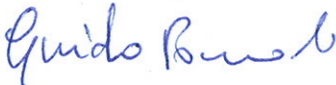
 II 1 G Ex ia IIC T5 Ga

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03 ATEX 095.

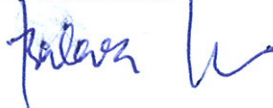
This document may only be reproduced in its entirety and without any change.

Date 15.02.2013 - Translation issued the 15th.02.2013

Prepared
Guido Prazzoli



Verified
Mirko Balaz



Approved
Fiorenzo Bregani

CESI S.p.A.
Testing & Certification Division
Business Area Certification
Il Responsabile
Fiorenzo Bregani



EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 03 ATEX 095

Description of equipment

The vibrations transmitter **TR-NC/8** is an intrinsically safe system suitable to be used in Zone 0 for the detection, in a continuous manner, of vibrations of rotating machinery. The system is composed of: probe type **T-NC/8-API**, mounted in a hazardous area, extension cable and electronic transmitter.

The probe type **T-NC/8-API** is also fitted to the Vibrations Transducer system **T-NC/8-API**, ATEX certified, manufactured by CEMB.

The constructive modifications concern:

- general review of the electronic circuit, new pcb and smd component used;
- change of some electrical characteristics;
- new englobing resin ELASTORIL WACKER ® RT 607;

The transmitter type **TR-NC/8** has been, previously, assessed and marked in compliance with the following standards: EN 60079-0:2006, EN 60079-11:2007 and EN 60079-26:2007

With this extension the transmitter **TR-NC/8** has been re-assessed and marked on the basis of the standard: EN 60079-0:2012 and EN 60079-11:2012

Electrical characteristics

Intrinsically safe circuits parameters

Supply (terminal 1-2)

- U_i = 30 V
- I_i = 100 mA
- P_i = 750 mW
- C_i = negligible
- L_i = negligible

GAP output (terminal 3-4)

- U_o = 30 V
- I_o = 100 mA
- P_o = 750 mW
- C_o = 10 nF
- L_o = 90 μ H
- C_i = 50 nF
- L_i = 200 μ H

Analyzer connection (BNC termination)

- U_o = 30 V
- I_o = 100 mA
- P_o = 750 mW
- C_o = 10 nF
- L_o = 90 μ H
- C_i = 50 nF
- L_i = 200 μ H

Transducer connection (coaxial termination)

- U_o = 30V
- I_o = 100 mA
- P_o = 750 mW
- C_o = 10 nF
- L_o = 90 μ H
- C_i = 50 nF
- L_i = 110 μ H
- L_o/R_o = 150 μ H/ Ω

Ambient temperature

From -20 up to +60°C for temperature classification T6

From -20 up to +70°C for temperature classification T5

The vibrations transmitter **TR-NC/8** shall be supplied and interfaced with certified apparatus according to EN 60079-0, EN 60079-11 and EN 60079-26 complying with the limits of the above electrical characteristics.

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

EXTENSION n. 02/13

to EC-Type Examination Certificate CESI 03 ATEX 095

Warning label

“Electrostatic charging hazard Clean only with wet cloths or antistatic products”
“If installed in Zone 0 insert into a appropriate metal container”

Report n. EX- B3003935

Descriptive documents (prot. EX-B3003951)

- | | | |
|--|-------|------------|
| - Technical Note n. I76PRD rev. 3 (pg.21) | dated | 10.10.2012 |
| - Safety Instructions n. I75PRD rev. 3 (pg.5) | dated | 01.10.2012 |
| - Production plan n. I123PRD rev. 1 (pg.20) | dated | 25.10.2012 |
| - Fac-simile CE Declaration of Conformity (pg.1) | | |

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)

*With the updating to the new standards the following special condition for safe use is added; moreover the “X” symbol is added to the certificate reference number and beginning from this extension it becomes **CESI 03 ATEX 095X**.*

The TR-CN/8, shall be mounted within a suitable container, whose type has to be chosen based on the installation area and the requirements indicated by the standard EN 60079-14.

Essential Health and Safety Requirements

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

- EN 60079-0: 2012 – Explosive atmospheres – Part 0: Equipment – General requirements.
- EN 60079-11: 2012 – Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-26: 2007 – Explosive atmospheres – Part 26: Equipment with equipment protection level (EPL) Ga.