

CESI

ISMES

IPH
BERLIN

FGH

CESI S.p.A.

Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione

CESI-ATEX

CERTIFICATE



[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 03 ATEX 016 /04

[4] Product: **Vibration transmitter type TR-I**

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

[6] Address: **Via Risorgimento, 9 – I-23826 Mandello del Lario (LC) - Italy**

[7] This supplementary certificate extends EC-Type Examination Certificate CESI 03 ATEX 016 to apply to Product 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 Product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or 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-C2004550.

[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 Product in 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 Product in accordance to the Directive 2014/34/EU. 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 Product shall include the following:

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

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

Date 21.03.2022 - Translation issued the 21st 03.2022

Prepared
Guido Prazzoli

Verified
Alessandro Fedato

Approved
Roberto Piccin

Guido Prazzoli *Alessandro Fedato*

Roberto Piccin

ATEX B6003477-3-EN

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO

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]

SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 016 /04

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

Variation 4.1: Standard update to EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-31:2014.

Variation 4.2: Marking updating according to the new harmonize standards.

Variation 4.3: Minor mechanical modifications regarding process connection threads (*see Product Identification*) and electrical modifications regarding updating of electronic boards that maintain the same electrical characteristics.

Variation 4.4: Added model with polyester coating enclosure SB-24.

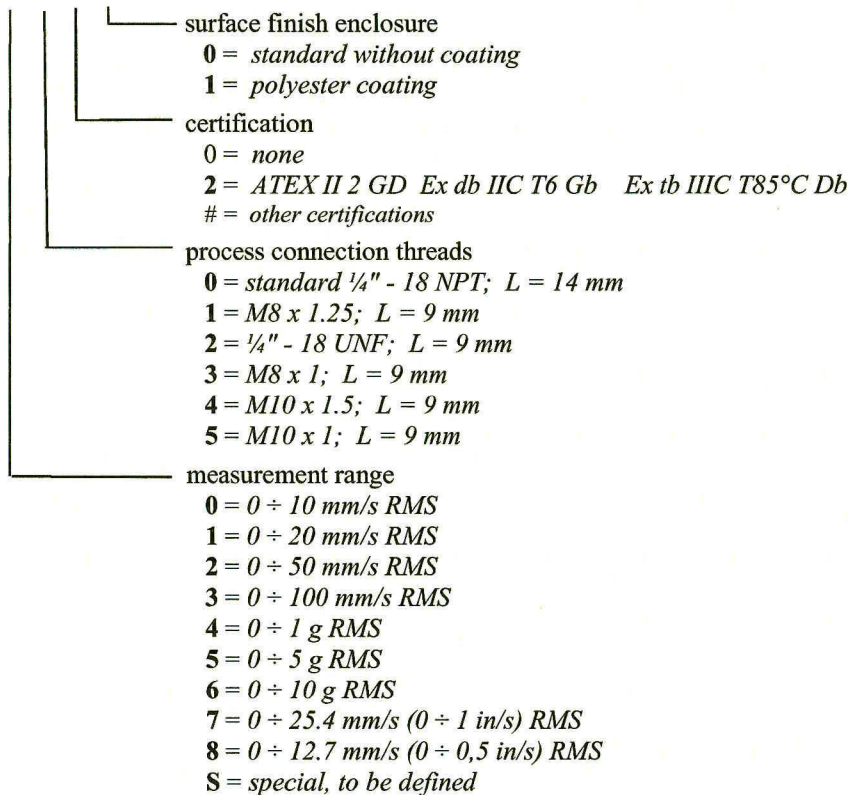
Description of Product

The transmitter **TR-I** is a transducer of absolute vibrations (*seismic*) of the support of any rotating machine and it is able to interface directly in 2-wire connection (*current loop 4 ÷ 20 mA*) to an acquisition system (*PLC or DCS*). The Product variants are indicated in the Manufacturer's Descriptive documents.

The accessories used for cable entries shall be subject of separate certification according to EN IEC 60079-0 and EN 60079-1 and shall assure a degree of protection IP65 to enclosure.

Identification of Product

TI-I / x / x / x / x



Electrical characteristics

Rated voltage: 24 Vdc (10 ÷ 30 Vdc)
 Rated current: 4 ÷ 20 mA
 Degree of protection (IP): IP 65
 Ambient Temperature: from -40 up to +70 °C

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

[13] **Schedule**

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 016 /04**

Warning labels

None.

[16] **Report n. EX-C2004550**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of EN IEC 60079-0 Standard.

The manufacturer is exempted from the overpressure routine test on the enclosure, since the enclosure has been submitted to an overpressure type test corresponding to 4 times the reference pressure.

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

None.

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

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

EHSR are assured by compliance with safety conditions and by compliance with the following standards:

- EN IEC 60079-0:2018** Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-1:2014** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
- EN 60079-31:2014** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

[19] **Descriptive documents (prot. EX-C2004557)**

* n. I69PRD - Technical note, rev.05 (pg.33) dated 03.03.2022

* n. I50PRD – Safety Instructions, rev.04 (pg.8) dated 03.03.2022

*Note: an * is placed before the title of documents which are new or revised, annexed to this supplement.*

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

Certificate history

Issue N.	Issue Date	Summary description of variation
04	21/03/2022	Standard update to EN IEC60079-0:2018; EN 60079-1:2014; EN 60079-31:2014; minor construction changes
03	08/03/2012	Standard update to EN 60079-0:2009; EN 60079-1:2007; EN 60079-31:2009; construction changes
02	20/11/2007	Standard update to EN 60079-0:2006; EN 60079-1:2007; EN 61241-0:2006; EN 61241-1:2006; nameplate update
01	14/03/2006	New type of protection and new ambient temperature range
00	03/02/2003	First Issue of the Certificate



EXTENSION n. 03/12

to EC-Type Examination Certificate CESI 03 ATEX 016

Equipment: Vibration transmitter type TR-1

Manufacturer: CEMB S.p.A.

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

Admitted variation
 Conformity to new edition of the harmonized European standard and constructional modifications.

Conformity to new edition of the harmonized European standard
 The apparatus subject of the certificate CESI 03 ATEX 016 and annexed extension are conform to the standards:

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

The equipment shall be marked as follows:

II 2GD Ex d IIC T6 Gb Ex tb IIIC T85 °C Db

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03 ATEX 016.

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

Date 6 March 2012 - Translation issued the 6th March 2012

Prepared
 Damiano Cavanna

Verified
 Mirko Balaz

Approved
 Fiorenzo Bregani

EXTENSION n. 03/12

to EC-Type Examination Certificate CESI 03 ATEX 016

Description of equipment

The vibration transmitter type TR-1 has unchanged characteristics compared to those indicated in the certificate CESI 03ATEX016 and annexed extensions. The constructional modifications are reported on annexed descriptive documents. The accessories used for cable entries shall be subject of separate certification according to EN 60079-0 and EN 60079-1 and shall assure a degree of protection IP65 to enclosure.

Electrical characteristics

- Rated voltage: 10 ÷ 30 Vdc
- Rated current: 4 ÷ 20 mA
- Degree of protection: IP 65
- Ambient Temperature: -40 ÷ +70 °C

Report n. EX- B2007493

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of EN 60079-0: 2009 standard. The manufacturer is exempted from the overpressure routine test on the enclosure, since the enclosure has been submitted to an overpressure type test corresponding to 4 times the reference pressure.

Descriptive documents (prot. EX- B2007503)

- | | | |
|---|-------|------------|
| - Technical note N. I69PRD rev. 4 (pg. 11 + 14 pg. annex) | dated | 20.02.2012 |
| - Safety Instruction N. I50PRD rev. 4 (pg. 6) | dated | 20.02.2012 |
| - CE Declaration of conformity M06PRG02 | dated | 20.02.2012 |

One copy of all documents is kept in CESI files.

Special conditions for safe use (X)

None.

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”. |

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

EXTENSION n. 02/07



to EC-Type Examination Certificate CESI 03 ATEX 016

Equipment: **Vibration transmitter type TR-I**

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

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

Admitted variation

- Update to EN 60079-0 (2006); EN 60079-1 (2007); EN 61241-0 (2006); EN 61241-1 (2006) standards.
- Update nameplate

Marking

The transmitter shall be marked as follows:

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

Electrical characteristic

- Rated voltage: 24 ÷ 35 Vdc
- Rated current: 4 ÷ 20 mA
- Ambient temperature: -40°C ÷ +70°C
- Degree of protection: IP65

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03 ATEX 016.

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

date 28.11.2007 - translation issued the 28th.11.2007

prepared Guido Prazzoli

verified Mirko Balaz

approved Fiorenzo Bregani

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

page 1/2

EXTENSION n. 02/07

to EC-Type Examination Certificate CESI 03 ATEX 014

Additional conditions

The accessories used for cable entries shall be subject of separate certification according to the following standards:
EN 60079-0; EN 60079-1; EN 61241-0; EN 61241-1.

Report n. EX- EX-A7031821

Routine test

The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0: (2006) and at the par. 24 of the EN 61241-0: (2006) standards.

The manufacturer is exempted from the overpressure test on the enclosure, since the enclosure has been submitted to an overpressure test at 20 bar, corresponding to 4 times the reference pressure.

Descriptive documents (prot. EX- EX- A7031822)

- | | |
|---|------------------|
| - Technical note n. I69PRD rev. 3 + enclosures (pg. 12 + 7) | dated 18.10.2007 |
| - Safety Instruction n. I50PRD rev. 3 (pg. 6) | dated 18.10.2007 |
| - EC Declaration of Conformity | dated 18.10.2007 |

One copy of all documents is kept in CESI files.

Essential Health and Safety Requirements

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

- EN 60079-0: (2006) – Electrical apparatus for explosive gas atmospheres - General requirements.
- EN60079-1: (2007) – Electrical apparatus for explosive gas atmospheres – Flameproof enclosures “d”
- EN 61241-0: (2006) – Electrical apparatus for use in the presence of combustible dust - General requirements
- EN 61241-1: (2006) – Electrical apparatus for use in the presence of combustible dust - Protection by enclosures “tD”

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

EXTENSION n. 01/06



to EC-Type Examination Certificate CESI 03ATEX016

Equipment: **Vibration transmitter type TR-I**
Manufacturer: **CEMB S.p.A.**
Address: **Via Risorgimento, 9 – 23826 Mandello del Lario (LC)**

Admitted variation: New type of protection and new range of ambient temperature

The constructive modifications are specified in the enclosed descriptive documents

New type of protection

The transmitter can also be realized for dust-tight protection for **II 2D** category with protection type **IP 65 T85 °C**

The marking of the transmitter shall include the following code:



II 2GD EEx d IIC T6 IP 65 T85 °C

Ambient temperature -40 ÷ +70° C

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 03ATEX016.

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

date 14 March 2006 -translation issued the 14th March 2006

prepared GEN – Pierluigi Molinari

verified GEN – Damiano Cavanna

approved FSQ – Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Funzione Sicurezza, Servizi e Qualità
Responsabile

page 1/2

Prot. A5008226

P: 2

CESI
Centro Elettrotecnico
Sperimentale Italiano
Giacinto Motta SpA

Via R. Rubattino 54
20134 Milano - Italia
Telefono +39 022125.1
Fax +39 0221255440

Capitale sociale 8 550 000 Euro
interamente versato
Codice fiscale e numero
iscrizione C.C.I.A.A. 00793580150

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

EXTENSION n. 01/06

to EC-Type Examination Certificate CESI 03ATEX016

Electric characteristics

Degree of protection	IP 65 (EN 60529)
Ambient temperature	-40 ÷ +70 °C
Limit of the other electric characteristics:	unchanged

Additional conditions

The accessories used for cable entries shall be subject of separate certification according to the following standard: EN 50014, EN 60079-1 and EN 50281-1-1
Moreover they shall guarantee a minimum degree of protection **IP 65** and shall be suitable for the ambient temperature reported of the nameplate.

Relationship n.

CESI EX-A5008222

Descriptive documents (prot. EX-A5008223)

Document n° 169PRD rev.2 (11 pag.) + 4 enclosures (7 pag.)	del 20/02/06
Document n° 150PRD rev.2 (5 pag.)	del 20/02/06
Document n° M06PRG01	del 20/02/06

One copy of all documents is kept in CESI files.

CESI

CESI
Centro Elettrotecnico
Sperimentale Italiano
Giacinto Motta SpA

Via R. Rubattino 54
20134 Milano - Italia
Telefono +39 022125.1
Fax +39 0221255440
www.cesi.it

Capitale sociale 8 550 000 €
interamente versato
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

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 016

[4] Equipment: Vibrations transmitter model TR-I

[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-A3/003597.

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

EN 50014: 1997 + A1..A2

EN 50018: 2000 + A1

[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 2 G EEx d IIC T6

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

Date 03 February 2003 - Translation issued the 3rd February 2003

Prepared

Daniele Parazzoli

Verified

Mirko Balaz

Approved

Ulisse Colombo

CESI

CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione

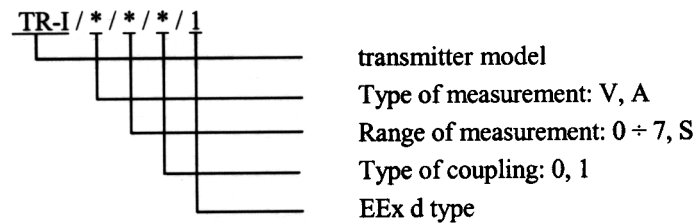
Il Responsabile

Schedule

EC-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 016

[15] **Description of equipment**

The vibrations transmitter model TR-I is used for the measurement of the absolute vibration of rotating machines and it is identified by a code as follows:



For a complete description of the type of transmitter see data sheet annexed to this certificate.

The accessories used for cable entries in the terminal box shall be certified according to EN 50014 and EN 50018 standards.

Electrical characteristics

- Rated voltage: 24 ÷ 35 V d.c.
- Rated current: 4 ÷ 20 mA
- Ambient temperature: -10 ÷ +70 °C

[16] **Report n. EX-A3/003597**

Routine tests

The manufacturer shall carry out the routine tests prescribed at clause 24 of the EN 50014 standard and at clause 16 of the EN 50018 standard.

The manufacturer is exempted from the overpressure test on the enclosure, since the enclosure has been submitted to an overpressure test at 20 bar, corresponding to 4 times the reference pressure.

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 016**

[16] **Report n. EX-A3/003597 (follows)**

Descriptive documents (prot. EX-A3/003602)

- Drawing n. 53916-P Rev. b	dated	16.04.2002
- Drawing n. 54137-P Rev. a	dated	18.04.2002
- Drawing n. 58452-P	dated	24.01.2003
- Document n. 232024030 (5 pg.)	dated	31.01.2003
- Document n. 232024032 (5 pg.)	dated	31.01.2003
- Drawing n. 57536-P Rev. a	dated	28.01.2003
- Drawing n. 54881-P Rev. a	dated	28.01.2003
- Drawing n. 58526-P	dated	28.01.2003
- Data sheet (3 pg.)	dated	06.03.2002
- Safety instructions (3 pg.)	dated	06.03.2002
- EC declaration of conformity	dated	16.09.2002

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.

