

CESI**CERTIFICATE****ISMES****IPH**
BERLIN**FGH**

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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 026

[4] Equipment: Control panels series EJBE... and EJBXE...

[5] Manufacturer: COR.TEM S.p.A.

[6] Address: Via Aquileia 10, Villesse (Gorizia), 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-B2017639.

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

EN 60079: 2009 EN 60079-1: 2007 EN 60079-7: 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:

**Ex II 2GD Ex de IIB+H₂ T6, T5 Gb
Ex tb IIIC T85°C, T100°C Db
IP66**

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

Date 20.09.2012 - Translation issued the 20th September 2012

Prepared
Mirko Balaz

Approved
Fiorenzo Bregani

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

Responsabile
Fiorenzo Bregani

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Schema di certificazione

CESI-ATEX

ACCREDIA
LENTI 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] EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 026

[15] **Description of equipment**

The control panels series EJBE-.. and EJBXE-... are command, control and signalling units realized in execution Ex de. They are systems composed by an Ex d flameproof enclosure and an Ex e increased safety enclosure.

The Ex d enclosure (EJB & EJBX series with certificate CESI 00ATEX036U) is used to install common electrical devices such as contactors, switches, measuring instruments, programmable logic controllers etc.

The Ex e increased safety enclosure (CTB series with certificate CESI 03ATEX333) is used as terminal compartment for cables connections.

The control panel series EJBE-.. is composed by the Ex d enclosure EJB made in cast aluminium alloy and the Ex e enclosure CTB made in stainless steel sheet.

The control panel series EJBXE-.. is composed by the Ex d enclosure EJBX made in stainless steel blended and welded and the Ex e enclosure CTB made in stainless steel sheet.

On the common face between the Ex d enclosure and the Ex e enclosure a plane gasket guarantee the degree of protection IP66. The connections between the enclosures are made by means of conductor sealed bushings type TP (with certificate CESI 01ATEX080U).

In the Ex d enclosure can be mounted inspection glass windows for the visualization of indicators or displays.

Model identification:

EJBE -

| | | | |
|--|--|--|-------------------------------------------------------|
| | | | Code of the series |
| | | | Size: 3 4 5 6 |
| | | | Model: - B |
| | | | Other particular description (if required) |

EJBXE -

| | | | |
|--|--|--|-------------------------------------------------------|
| | | | Code of the series |
| | | | Size: 3 4 5 6 |
| | | | Model: - B |
| | | | Other particular description (if required) |

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[13]

Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 026

Electrical characteristics

Ex d flameproof enclosure

Max. rated voltage: 690V

Rated current: 50A

Ex e terminal box

Max. rated voltage: 690V

Rated current: 50A

Terminal section: from 1,5mm² up to 16mm²

Degree of protection (EN 60529): IP 66

Ambient temperature: -20 ÷ +40 °C, -20 ÷ +55 °C,
-40 ÷ +40 °C, -40 ÷ +55 °C,
-50 ÷ +40 °C, -50 ÷ +55 °C (without polycarbonate signalling lamps)

The specified ratings are the maximum values; actual values will be subject to the electrical equipment/component used from case to case.

The maximum number of the terminals, the permissible rated current and/or maximum dissipated power depends of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described in the descriptive documents.

Maximum dissipated power:

| Type | | Maximum dissipated power in the Ex d enclosure (EJB) | | | | | |
|-----------------|-----------------|------------------------------------------------------|-----------|--------------------|-------------------------------------------|-----------|--------------------|
| | | Tamb. = +40°C | | | Tamb. = +55°C | | |
| Aluminium alloy | Stainless steel | no signalling lamps, only LED are allowed | | with lamps and LED | no signalling lamps, only LED are allowed | | with lamps and LED |
| | | T6/T85°C | T5/T100°C | T5/T100°C | T6/T85°C | T5/T100°C | T5/T100°C |
| EJBE-3 | EJBXE-3 | 75 W | 110 W | 75 W | 56 W | 82 W | 56 W |
| EJBE-3B | EJBXE-3B | 55 W | 80 W | 55 W | 40 W | 60 W | 40 W |
| EJBE-4 | EJBXE-4 | 100 W | 175 W | 100 W | 75 W | 130 W | 75 W |
| EJBE-4B | EJBXE-4B | 75 W | 130 W | 75 W | 56 W | 100 W | 56 W |
| EJBE-5 | EJBXE-5 | 210 W | 315 W | 210 W | 160 W | 235 W | 160 W |
| EJBE-5B | EJBXE-5B | 170 W | 250 W | 170 W | 130 W | 190 W | 130 W |
| EJBE-6 | EJBXE-6 | 600 W | 910 W | 600 W | 460 W | 680 W | 460 W |
| EJBE-6B | EJBXE-6B | 490 W | 720 W | 490 W | 370 W | 550 W | 370 W |

| Type | | Maximum dissipated power in the Ex e enclosure (CTB) | | |
|-----------------|-----------------|------------------------------------------------------|----------|---------------|
| | | Tamb. = +40°C | | Tamb. = +55°C |
| Aluminium alloy | Stainless steel | T6/T85°C | | T5/T100°C |
| | | T6/T85°C | T6/T85°C | T5/T100°C |
| EJBE-3 | EJBXE-3 | 13.0 W | 4.0 W | 13.0 W |
| EJBE-3B | EJBXE-3B | 13.0 W | 4.0 W | 13.0 W |
| EJBE-4 | EJBXE-4 | 18.5 W | 4.1 W | 18.5 W |
| EJBE-4B | EJBXE-4B | 18.5 W | 4.1 W | 18.5 W |
| EJBE-5 | EJBXE-5 | 34.0 W | 5.8 W | 34.0 W |
| EJBE-5B | EJBXE-5B | 34.0 W | 5.8 W | 34.0 W |
| EJBE-6 | EJBXE-6 | 55.0 W | 7.5 W | 55.0 W |
| EJBE-6B | EJBXE-6B | 55.0 W | 7.5 W | 55.0 W |

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[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 12 ATEX 026**

Installation conditions

The accessories used for cable entries and for closing unused openings on Ex e enclosure shall be certified according to EN 60079-0, EN 60079-7 and EN 60079-31 standards. A minimum degree of protection IP66 shall be guaranteed according to EN 60529 standard.

Warning label

"Use screws of quality A2-70 according UNI 7323 with ultimate tensile strength of at least 700 N/mm²"

"Warning - do not open when energized"

For boxes with capacitors

"After de-energizing. Wait 10 minutes before opening"

For boxes with temperature class T5

"Use cables suitable for temperature of 90°C"

[16] **Report n. EX-B2017639**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 27 of EN 60079-0 standard, at paragraph 16 of the EN 60079-1 standard and paragraph 6 of EN 60079-31 standard.

The routine overpressure test shall be carried out on EJB enclosure with the static method (paragraph 15.1.3.1 of EN 60079-1 standard), at:

- 13.7 bar on all Ex d EJB enclosure for minimum ambient temperature until -50 °C;
- 11.9 bar on Ex d EJB enclosure size 3÷5 for minimum ambient temperature until -20 °C;
- 11.5 bar on Ex d EJB enclosure size 6 for minimum ambient temperature until -20 °C.

For the Ex e junction box the dielectric test with applied voltage shall be performed (according to clause 7.1 of the EN 60079-7) at 2U + 1000 V with a minimum value of 1500 V where working voltages in excess of 90V between the Ex e supply terminals and earth.

Descriptive documents (prot. EX-B2017644)

| | | | | | |
|--------------|-----------------------------------------------|------------|--------|-------|------------|
| - n. A4-5616 | Technical note | (4 pages) | Rev. 0 | dated | 03.02.2012 |
| - n. F-376 | Safety, maintenance and mounting instructions | (13 pages) | Rev. 0 | dated | 03.02.2012 |
| - n. N°0129 | Example of declaration of conformity | | Rev. 0 | dated | 03.02.2012 |
| - n. A3-5617 | Drawing – Series EJBE-... , EJBXE-... | (12 pages) | Rev. 0 | dated | 03.02.2012 |
| - n. Annex | Datasheets of materials | (5 pages) | Rev. 0 | dated | 03.02.2012 |

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 EN standards mentioned at page 1.



ISTMES

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EXTENSION n. 01/13

to EC-Type Examination Certificate CESI 12ATEX026

Equipment: Control panels series EJBE... and EJBXE...

Manufacturer: COR.TEM S.p.A.

Address: Via Aquileia 10, Villesse (Gorizia), Italy

Admitted variation

- new models EJBE-...I and EJBXE-...I with intrinsic safety associated apparatus according to EN 60079-0:2012, EN 60079-1:2007, EN 60079-7:2007, EN 60079-11:2012 and EN 60079-31:2009;
- use of Ex de COR.TEM multi-led pilot light type M-0612, contact blocks type M-0530, M-0531, Ex e actuators type M-0603, M-0604 and M-0605 covered by separate certification;
- new electrical characteristics for the Ex e enclosure;
- new application with radio antenna;
- use of sealed bushings Technor type TNDLD or BARTEC type 07-91 or Stahl type 8176 with separate certification.

Marking:

Version EJBE-... and EJBXE-... :

II 2GD Ex d e IIB+H₂ T6 or T5 Gb
Ex tb IIC T85°C or T100°C Db
IP66

Version EJBE-...I and EJBXE-...I :

II 2(1)GD Ex d e [ia Ga] IIB+H₂ T6 or T5 Gb
Ex tb [ia Da] IIC T85°C or T100°C Db
IP66

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 12ATEX026.

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Date 18.06.2013

prepared
Mirko Balaz

approved

Fiorenzo Bregani

Testing & Certification Division
Business Area Certification
Responsibility

Fiorenzo Bregani Page 1/4



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P.I. IT00793580150
N. R.E.A. 429222

EXTENSION n. 01/13

to EC-Type Examination Certificate CESI 12ATEX026

Model identification:

EJBE -

| | | | |
|--|--|--|-------------------------------------------------------------------------------|
| | | | Code of the series |
| | | | Size: 3 4 5 6 |
| | | | Model: - B |
| | | | I (execution Ex de [ia Ga]) and other particular description (if required) |

EJBXE -

| | | | |
|--|--|--|-------------------------------------------------------------------------------|
| | | | Code of the series (stainless steel) |
| | | | Size: 3 4 5 6 |
| | | | Model: - B |
| | | | I (execution Ex de [ia Ga]) and other particular description (if required) |

Electrical characteristics

Max. rated voltage: 690Vac - 50/60Hz, 250Vdc
Rated current: 312A
Terminal section: from 1,5mm² up to 300mm²

For the component mounted on the Ex e enclosures (actuators, contact blocks and pilot lights) shall be respected the characteristics and the installation conditions indicated on the pertinent component certificate.

Intrinsic safety circuits:

The electrical characteristics of the intrinsic safety circuits are reported on the label of the associated apparatus used.

Degree of protection (EN 60529): IP 66

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EXTENSION n. 01/13

to EC-Type Examination Certificate CESI 12ATEX026

Ambient temperature: $-20 \div +40$ °C, $-20 \div +55$ °C,
 $-40 \div +40$ °C, $-40 \div +55$ °C,
 $-50 \div +40$ °C, $-50 \div +55$ °C (without pilot lights with polycarbonate lens and Ex e operators)

The specified ratings are the maximum values; actual values will be subject to the electrical equipment/component used from case to case.

The maximum number of the terminals, the permissible rated current and/or maximum dissipated power depends of the size of the enclosure, the range of ambient temperature and the temperature class. These parameters are described in the descriptive documents.

Maximum dissipated power:

| Type | | Maximum dissipated power in the Ex d enclosure with associated apparatus | | | |
|-----------------|-----------------|--------------------------------------------------------------------------|--------------------|-------------------------------------------|--------------------|
| | | Tamb. = +40°C | | Tamb. = +55°C | |
| | | no signalling lamps, only LED are allowed | with lamps and LED | no signalling lamps, only LED are allowed | with lamps and LED |
| Aluminium alloy | Stainless steel | T6/T85°C | T5/T100°C | T6/T85°C | T5/T100°C |
| EJBE-3 | EJBXE-3 | 75 W | 75 W | 56 W | 56 W |
| EJBE-3B | EJBXE-3B | 55 W | 55 W | 40 W | 40 W |
| EJBE-4 | EJBXE-4 | 100 W | 100 W | 75 W | 75 W |
| EJBE-4B | EJBXE-4B | 75 W | 75 W | 56 W | 56 W |
| EJBE-5 | EJBXE-5 | 210 W | 210 W | 160 W | 160 W |
| EJBE-5B | EJBXE-5B | 170 W | 170 W | 130 W | 130 W |
| EJBE-6 | EJBXE-6 | 600 W | 600 W | 460 W | 460 W |
| EJBE-6B | EJBXE-6B | 490 W | 490 W | 370 W | 370 W |

The maximum dissipated power for Ex e enclosures and Ex d enclosures without associated apparatus, is unchanged.

Installation conditions

The accessories used for cable entries and for closing unused openings shall be certified according to IEC 60079-0, IEC 60079-7, IEC 60079-31 standards on Ex e enclosure and according to IEC 60079-0, IEC 60079-1, IEC 60079-31 on Ex d enclosure. A minimum degree of protection IP66 shall be guaranteed according to IEC 60529 standard.

The associated apparatus shall be certified according to EN 60079-0, EN 60079-11, EN 60079-26 standards and with suitable service temperatures.

For Ex e enclosure the components shall be fitted in accordance with the manufacturer's instructions and, when installed, they shall have the minimum clearance and creepage distances required by Table 1 of EN 60079-7 standard.

The service temperature range, the current and the cross section of the terminals and the cables used shall be taken into consideration in relation to the ambient temperature, the class temperature and the maximum surface temperature.

For version EJBE-...I and EJBXE-...I with intrinsic safety associated apparatus, the distances between Intrinsic Safety circuits and Non-Intrinsic Safety circuits or between separate intrinsic safety circuits shall be according to EN 60079-11 standard. Intrinsically safe circuits shall be clearly identified. Where a colour is used for this purpose, it shall be light blue for the intrinsically safe connections.

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to EC-Type Examination Certificate CESI 12ATEX026

For radio application the antenna shall be installed in safe area or it shall respect one of the specific type of protection indicated in EN 60079-0 and installed according to EN 60079-14.

If the radio antenna is installed into the Ex d enclosure it shall respect the limits indicated at the clause 6.6.1 of the EN 60079-0 standard.

Report n. EX-B3016693

Routine tests

Not changed.

Descriptive documents (prot. EX-B3016699)

| | | | | | |
|--------------|------------------------------------------------|------------|--------|-------|------------|
| - n. A4-5751 | Technical note | (7 pages) | Rev. 0 | dated | 20.11.2012 |
| - n. F-376 | Safety, maintenance and mounting instructions | (23 pages) | Rev. 1 | dated | 20.11.2012 |
| - n. N°0129 | Example of declaration of conformity | | Rev. 0 | dated | 20.11.2012 |
| - n. A3-5752 | Drawing Series EJBE-...I, EJBXE-...I | (8 pages) | Rev. 0 | dated | 20.11.2012 |
| - n. Annex 1 | Tables for max. number of conductors | (4 pages) | Rev. 0 | dated | 20.11.2012 |
| - n. Annex 2 | Series EJBE, EJBXE new execution Ex de [ja Ga] | (9 pages) | Rev. 0 | dated | 20.11.2012 |

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: 2012 | Explosive atmospheres – Part 0: Equipment - General requirements; |
| EN 60079-1: 2007 | Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”; |
| EN 60079-7: 2007 | Explosive atmospheres – Part 7: Equipment protection by increased safety “e”; |
| EN 60079-11: 2012 | Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”; |
| EN 60079-31: 2009 | Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”. |