



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx CES 12.0019 issue No.:1 Certificate history:
 Status: Current Issue No. 1 (2013-8-27)
 Date of Issue: 2013-08-27 Page 1 of 4 Issue No. 0 (2012-12-1)

Applicant: **CORTEM S.p.A.**
 Via Aquileia 10
 I - 34070 Villesse (GO)
 Italy

Electrical Apparatus: **Control panels series EJBE... and EJBXE...**
Optional accessory:

Type of Protection: **Flameproof enclosures 'd'; Increased safety 'e'; Intrinsic Safety 'i', Dust ignition protection 't'**

Marking: **Ex de IIB+H2 T6 or T5 Gb
 Ex tb IIIC T85°C or T100°C Db
 IP66
 or
 Ex d e [ia Ga] IIB+H2 T6 or T5 Gb
 Ex tb [ia Da] IIIC T85°C or T100°C Db
 IP66**

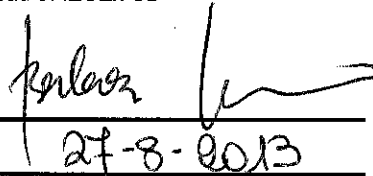
Approved for issue on behalf of the IECEx
 Certification Body:

Mirko Balaz

Position:

Head of IECEx CB

Signature:
 (for printed version)


 27-8-2013

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

CESI
 Centro Elettrotecnico
 Sperimentale Italiano S.p.A.
 Via Rubattino 54
 20134 Milano
 Italy

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

 Fiorenzo Gregani



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Manufacturer: **CORTEM S.p.A.**
Via Aquileia 10
I - 34070 Villesse (GO)
Italy

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

IT/CES/ExTR12.0016/00

IT/CES/ExTR12.0016/01

Quality Assessment Report:

IT/CES/QAR06.0002/07



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

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 used to install common electrical devices such as contactors, switches, measuring instruments, programmable logic controllers etc. and an Ex e increased safety enclosure that can be equipped with pilot LED, contact blocks, command and signalling actuators and terminals certified IECEx as components.

The incoming and outgoing cables arrive in the Ex e enclosure via cable glands.

The command, control and signalling units in execution Ex de series EJBE-.. is composed by the Ex d enclosure EJB made in cast aluminium alloy and the Ex e enclosure made in stainless steel sheet.

The command, control and signalling units in execution Ex de series EJBXE-.. is composed by the Ex d enclosure EJBX made in stainless steel blended and welded and the Ex e enclosure made in stainless steel sheet.

Models EJBE-..I and EJBXE-..I are in execution Ex de [ia Ga] with associated apparatus installed inside the Ex d enclosure.

On the common face between the Ex d enclosure and the Ex e enclosure a plane gasket makes the IP protection level.

Inside the enclosures on the common face the connections are made by means of sealed bushings or conductor bushings.

In the Ex d enclosure can be mounted inspection glass windows (sealed with silicon resin) for the visualization of indicators or displays.

See annex for further description.

CONDITIONS OF CERTIFICATION: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Variation 01

- 1.1. new models EJBE-...I and EJBXE-...I with intrinsic safety associated apparatus according to IEC 60079-0: 2011, IEC 60079-1:2007, IEC 60079-7:2006, IEC 60079-11:2011 and IEC 60079-31:2008;
- 1.2. 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;
- 1.3. new electrical characteristics for the Ex e enclosure;
- 1.4. new application with radio antenna;
- 1.5. use of sealed bushings Technor type TNDLD or Bartec type 07-91 and Sthal type 8176 with separate certification.



IECEX Certificate of Conformity



Prot: B3033834

Annex to certificate: IECEX CES 12.0019 Issue No.:1 of 2013-08-27
Applicant: COR.TEM S.p.A., Via Aquileia 10,
 I - 34070 Villesse (GO), Italy
Electrical Apparatus: Control panels series EJBE... and EJBXE...

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)

PAD B3033834 (1889319) - USO AZIENDALE

Ex d enclosure can be equipped with operators. Control operators like push buttons and handles are made in aluminium alloy and stainless steel or completely in stainless steel (suitable for -50°C) except to pilot lights that are made in polycarbonate (suitable only for -40°C). The models EJBE-...I and EJBXE-...I can be equipped with intrinsic safety associated apparatus [Ex ia Ga] with separate CoC.

Ex e enclosure can be equipped with the following components certified IECEx:

- Pilot light type M-0612 (IECEX CES 11.0030U)
- Contact blocks type M-0530 and M-0531 (IECEX CES 11.0031U)
- Command and signalling actuators series: M-0603, M-0604 and M-0605 (IECEX CES 11.0029U)
- Ex e terminals (CABUR, WEIDMULLER or others certified IECEx in execution Ex e IIC).



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Electrical Apparatus: Control panels series EJBE... and EJBXE...

Electrical characteristics

Ex d flameproof enclosure

Max. rated voltage: 690Vac - 50/60Hz, 250Vdc
 Max. rated current: 312A

Ex e terminal box

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

Degree of protection (EN 60529): IP 66

Ambient temperature:

From -40°C or -20°C to +40°C,
 -40°C or -20°C to +55°C,
 From -50°C to +40°C without pilot lights with poly carbonate lens and Ex e operators,
 -50°C to +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 (see Table 1, below). These parameters are described in the descriptive documents.

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.

Table 1 - Maximum dissipated power:

Table 1a

Type		Maximum dissipated power in the Ex d enclosure					
		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



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Electrical Apparatus: Control panels series EJBE... and EJBXE...

Table 1 (follows) - Maximum dissipated power:

Table 1b

Type		Maximum dissipated power in the Ex d enclosure (EJB) with associated apparatus			
		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	T6/T85°C	T5/T100°C
EJBE-3I	EJBXE-3I	75 W	75 W	56 W	56 W
EJBE-3BI	EJBXE-3BI	55 W	55 W	40 W	40 W
EJBE-4I	EJBXE-4I	100 W	100 W	75 W	75 W
EJBE-4BI	EJBXE-4BI	75 W	75 W	56 W	56 W
EJBE-5I	EJBXE-5I	210 W	210 W	160 W	160 W
EJBE-5BI	EJBXE-5BI	170 W	170 W	130 W	130 W
EJBE-6I	EJBXE-6I	600 W	600 W	460 W	460 W
EJBE-6BI	EJBXE-6BI	490 W	490 W	370 W	370 W

Table 1c

Type		Maximum dissipated power in the Ex e enclosure		
		Tamb. = +40°C	Tamb. = +55°C	
Aluminium alloy	Stainless steel	T6/T85°C	T6/T85°C	T5/T100°C
		EJBE-3	EJBXE-3	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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CESI

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Electrical Apparatus: Control panels series EJBE... and EJBXE...

Installation and certification 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.

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 IEC 60079-7 standard.

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 IEC 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.

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

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

Warning label:

Use screws of quality A2-70 according UNI 7323 with tensile strength of at least 700 N/mm² (for Ex d enclosure)

"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"