eurofins | Product Testing

[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment intended for use in potentially explosive atmospheres**
Directive 2014/34/EU – Annex III

[3] Certificate Number: **EPT 20 ATEX 4075 X** **issue 0**

[4] Equipment: **Explosion proof command, control, signaling and interfaces units**

Series: **EJBC**

[5] Manufacturer: **CORTEM S.P.A.**

[6] Address: Via Aquileia, 10 – 34070 Villesse (Go) - Italy

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26th February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II of the Directive.
The examination and test results are recorded in the confidential Report N° EPT.20.REL.01/ 2013057.

[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the harmonized standards:

EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-11:2012, EN 60079-31:2014

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.
Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment.
These requirements are not object of this Certificate.

[12] The equipment shall include the sign Ex and at least one of the following strings:

II 2G Ex db IIC T6...T4 Gb **-60/-40°C < Tamb< +40/55°C**
II 2G Ex db [ia Ga] IIC T6...T5 Gb
II 2D Ex tb IIIC T85°C...T135°C Db
II 2D Ex tb [ia Da] IIIC T85°C...T100°C Db
I M2 Ex db I Mb
I M2 Ex db [ia Ma] I Mb

CE

Place and date of issue:
Torino, 2020-11-30

Dionisio Bucchieri
Directive Responsible

Paolo Trisoglio
Managing Director

Eurofins Product Testing Italy eurofins Notified Body N. 0477

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO

PRD N° 119B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

This Certificate has 6 pages and it is reproducible only in its entirely. Conditions of validity are reported below.

[13] [14] **ANNEX**
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[15] Equipment description

The command, control, signaling and interface units EJBC... series are made of Ex-d enclosures (already certificated IECEX EUT 20.0023U, EPT 20 ATEX 4074U) with electrical devices. The command, control, signaling and interface units EJBC series can have installed on their walls signal, control operators and maneuvers series M-0... with lamps 3W, 5W or electronic led up to 240V (certificate IECEX CES 14.0030U / CESI 01 ATEX 025U), monoled M-0487 (certificates IECEX CES 11.0030U / CESI 00 ATEX 060U). Inside the enclosure switches, indicators, contactors, transformers, analogue and digital components can be installed. Small cells or batteries, eventually connected in series, are installable inside the enclosure according to the requirements of the § 23 of IEC 60079-0. A transmitting/receiving antenna with an IECEx/ATEX full compliance certificate, suitable for the maximum internal pressure and service temperature, can be also installed on the wall of the equipment.

The EJBC series are manufactured in copper free aluminum alloys EN AB 43000 or EN AB 44100 or EN AB 42000 according to UNI EN 1676. The EJBCX series are manufactured in stainless steel AISI 303, AISI 304, AISI 316, AISI 316L. The products can be supplied with external painting with surface resistance lower than 10^8 Ω, having minimum thickness of 60 µm and maximum thickness of 200 µm, color grey RAL 7035, with or without the coating named CORALUM to protect the box against corrosion. CORALUM is a surface protection treatment based on an electro-ceramic coating applied by electrolytic deposition method directly on the aluminum alloy. Alternatively it is possible the use of other types of painting made in non-metallic materials according to customer specification; various kind of colors are allowed. In this case a warning label is added regarding the risk of electrostatic charge.

Drain and breather valves, manufactured by Elfit, ECD-2... series, certified CESI 01 ATEX 081U, IECEx CES 14.0016U with types of protection Ex d, Ex tb can be installed in accordance with their own specific limitations. The EJBC can also be used with only terminal blocks installed inside.

Type Code:

EJBC- ☐ ☐ ☐ ☐ ☐

- Code of the series (EJBCX for the stainless-steel versions)
- SIZE: **45 - 5**
- HEIGH: BLANK for standard, B for low height
- Not relevant for explosion protection
- Not relevant for explosion protection
- Not relevant for explosion protection

Equipment characteristics:

Nominal voltage: 12-250 V dc / 24-1000 V ac

Nominal frequency: 0/50/60 Hz

Max. current 650 A

Rated voltage: up to 750Vdc

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Maximum electrical equipment ratings inside the boxes:

Description	V	Output dissipated (W)	A
Analogic digital instruments	660	10	5
Electronic gear case	400	10	-
Plc, multiplexer, amplifier	240	80	-
Control and gauging device	240	100	-
Automatic breakers	660	-	650
Fuses	660	-	400
Air thermal relays	500	12	10
Alectronic control device	660	100	-
Air contactors	660	30	650
Sequence timer	240	5	10
Photoelectrical cell	240	2	-
Capacitors (discharge time)	660	-	-
Transformers	660	200	-
Resistors	240	300	-
Terminals	660	-	-
Ballasts	277	40	7,5

Maximum dissipated power:

Type	Maximum dissipated power inside enclosures			
	Tamb. = +40°C (+55°C)			
	No signaling lamps, only LED are allowed		With signaling lamps and/or LED	Without signaling lamps and LED
	T6 / T85°C	T5 / T100°C	T5 / T100°C	T4 / 135°C
EJBC 45	140 W (105 W)	240 W (180 W)	140 W (105 W)	480 W (360 W)
EJBC 45 B	120 W (90 W)	210 W (160 W)	120 W (90 W)	430 W (320 W)
EJBC 5	210 W (160 W)	315 W (235 W)	210 W (160 W)	600 W (450 W)
EJBC 5 B	170 W (130 W)	250 W (190 W)	170 W (130 W)	480 W (360 W)

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Boxes are suitable for installation of motor inverter units complete with internal cooling fan having the following characteristics in terms of power and size of the enclosure dimensions:

Box size	Motor inverter maximum power for Ta +40°C (+55°C)	Maximum dissipated power	Cooling fan maximum capacity
EJBC-45 / EJBC-45B	2,2 (1,5) kW	73W	44m³/h
EJBC-5 / EJBC-5B	5,5 (4,0) kW	172W	44m³/h

Boxes are suitable for ignition transformer with following electrical characteristics: max primary voltage 1000 V - max secondary voltage 20 kV (impulse 25 kV max for 3 ms) – max secondary current 50 mA.

The radio frequency source for continuous transmissions and for pulsed transmissions inside the enclosures shall not exceed the following values: max threshold power, effective output power of the transmitter multiplied by the antenna gain 2W - thermal initiation time 20µs. For pulsed radar and other transmissions where the pulses are not short compared with the thermal initiation time, the threshold energy values shall not exceed 50µJ.

Boxes are suitable for incoming and outgoing fiber optics cables; the limits of irradiated power and irradiance are:
temperature class T6, power 15 mW, irradiance 5 mW/mm²;
temperature class T4, power 35 mW, irradiance 5 mW/mm².

Cable entries

The entries into the enclosures are provided with threaded holes in the walls of the enclosure.

The cable glands to be used with the equipment must be Ex db and Ex tb (IP66) in compliance with the requirements of EN/IEC 60079-0 and EN/IEC 60079-1 / EN/IEC 60079-31.

Warning label

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

"Warning - do not open when energized"

For equipment with capacitors:

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

For enclosures with batteries or cells:

"Warning – Do not open when an explosive atmosphere is present".

For equipment with temperature class T5:

"Use cables suitable for temperature of 90°C".

For equipment with temperature class T4:

"Use cables suitable for temperature of 100°C".

For equipment without standard painting:

"Potential electrostatic charging hazards".

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Routine tests
Overpressure tests at 19,1 bar (for equipment with minimum T amb -60°C) or at 17,1 bar (for equipment with minimum T amb - 40°C), according to § 15.2.3.2 of IEC 60079-1 standard, must be carried out on each enclosure, including (also separately from the enclosure) all the following components not type tested at least at 51 bar (for equipment with minimum T amb -60°C) or at 46,5 bar (for equipment with minimum T amb - 40°C): control and signal operators series M-0... CESI 01 ATEX 025U with lamps 3W, 5W or electronic led up to 240V; monoled M-0487, CESI 00 ATEX 060U.

[16] **Assessment Report n° EPT.20.REL.01/2013057.**

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this certificate performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

[17] **Specific condition of use**

The flameproof joints of the enclosures are not intended to be repaired.

The accessories used for cable entries and for closing unused openings shall be certified according to EN/IEC 60079-0, EN/IEC 60079-1 and EN/IEC 60079-31. A minimum degree of protection IP66/67 shall be guaranteed according to IEC 60529 standard.

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

Assured by compliance with harmonized standards.

[19] **Descriptive documents**

The equipment object of this Certificate are described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Type of document	Document identification	Rev.	Date
Technical note	"TECHNICAL NOTE A4-7540"	00	2020-06-08
Safety instructions	"F-472 R0: enclosures series EJBC.. safety, maintenance and mounting instruction"	00	2020-06-08
Dimensional drawing	Drawing code "A1-7538".	00	2020-06-08

[20] **Terms and conditions**

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

- changes in the design or construction of the product;
- changes or amendments to the Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

[21] **History**

This Certificate is at its first issue.

Dionisio Bucchieri
Directive Responsible

End of Certificate