



CESI

CERTIFICATE



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Schema di certificazione

CESI-ATEX

[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 02 ATEX 073 X /04

[4] Product: **Command, control and interface units EJB.. series (and AQS-1 model)**

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

[6] Address: **Via Aquileia, 10 – 34070 Villesse (GO) – Italy.**

[7] This supplementary certificate extends EC-Type Examination Certificate CESI 01 ATEX 027 to apply to products 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 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-B6027394.

[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 equipment or protective system is 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 equipment or protective system in accordance to the Directive 2014/34/EU. 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:

IM2 Ex db [ia Ma] IMb *(Stainless Steel enclosures only)*

**II 2(1) GD Ex db [ia Ga] IIB T6, T5 Gb or Ex db [ia Ga] IIB+H₂ T6, T5 Gb
 Ex tb IIIC T85°C, T100°C Db
 IP66 or IP66/67** *(IP66 with operators)*

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

Date 2016.10.31 - Translation issued the 2016.10.31

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CESI S.p.A.

Testing & Certification Division
Business Area Certification
Il Responsabile

(Roberto Piccin)



PRD N. 018B
 Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
 Signatory of EA, IAF and ILAC Mutual Recognition Agreements

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[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 073 X /04

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

- Updating to standards EN60079-0:2012+A11:2013, EN60079-1:2014, EN60079-11:2012, EN60079-26:2015 and EN60079-31:2014.
- New minimum ambient temperature -60°C .
- New enclosures type EJBX-01 and EJBT... series have been added.
- Special conditions for safe use (X) added.

Description of equipment

The **EJB-..** Command, control and interface units series are equipments composed by an Ex db or Ex tb flameproof enclosure covered by CESI 00 ATEX 036U certificate used to install common electrical devices such as contactors, switches, measuring instruments, programmable logic controllers, contact blocks. Pilot lights, maneuvers and push button covered by CESI 01 ATEX 025U and CESI 00 ATEX 060U certificates can be mounted on the cover or on the enclosure walls. Furthermore, circular or rectangular transparent glass windows sealed on the cover can be installed to permit the inner instrument reading.

The **EJB-..** Command, control and interface units series can incorporate also associated apparatus for interface with intrinsic safety circuits. These associated apparatus are subject of separate certification with type of protection [Ex ia] IIB or IIC for group IIB+H₂.

The **EJB-..** Command, control and interface units series have the body and the cover made in aluminium alloy or stainless steel and are in Ex db [ia Ma] I Mb (stainless steel only), Ex db [ia Ga] IIB Gb, Ex db [ia Ga] IIB+H₂ Gb and Ex tb [ia Da] IIC Db execution.

The **EJB-..** series is available in two particular execution:

- with external flange for type **EJB-..**;
- with internal flange for type **AQS-1**.

Gaskets between cover and body flanged joint and for all other accessories are made in silicon and they guarantee the protection degree IP66, while IP67 for enclosures without operators only.

The flanged joint between the body of **EJB-..** Command, control and interface units series and the covers are fixed with quality A2-70 stainless steel screws.

The walls of the enclosures can be drilled and threaded with maximum size and maximum number of hubs as specified in the manufacturer documents annexed. Each enclosure is provided with internal and external earthing screw or bolt.

Electrical characteristics

Rated voltage:	12 ÷ 250	VDC
	24 ÷ 1000	VAC
Nominal frequency:	50/60	Hz
Max. rated current:	400	A
Maximum power for lamps:	3W with T _{amb.} +55°C	
Electrical characteristics for Associated Apparatus: max. Voltage U _m ≤ 250V.		

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Constructional characteristics

Degree of protection (EN 60529): IP66 (with operators installed);
IP66/67 (without operators installed).

Ambient temperature ranges

- $-20^{\circ}\text{C} \div +40^{\circ}\text{C}$ or $-20^{\circ}\text{C} \div +55^{\circ}\text{C}$: Command, control and interface units for group I (made in stainless steel only), group IIB, IIB+H₂ and group IIIC;
- $-40^{\circ}\text{C} \div +40^{\circ}\text{C}$ or $-40^{\circ}\text{C} \div +55^{\circ}\text{C}$: Command, control and interface units for group IIB, IIB+H₂ and group IIIC with polycarbonate pilot lights;
- $-60^{\circ}\text{C} \div +40^{\circ}\text{C}$ or $-60^{\circ}\text{C} \div +55^{\circ}\text{C}$: Command, control and interface units for group IIB, IIB+H₂ and group IIIC without polycarbonate pilot lights.

When Ex i circuits are present 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.

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

Table of typical electrical and electronic equipments inside the boxes:

DESCRIPTION	[V]	DISSIPATED POWER (W)	[A]
Analogical / digital instruments	660	10	5
Electronic gear case	400	10	-
PLC, multiplexer, amplifier	240	80	-
Control and gauging device	240	100	-
Automatic breakers	660	-	400
Fuses	660	-	400
Air thermal relays	500	12	10
Electronic control device	660	100	-
Air contactors	660	30	400
Sequence timer	240	5	10
Photoelectrical cell	240	2	-
Capacitors (discharge time 30sec.)	660	-	-
Transformers	660	200	-
Resistors	240	300	-
Terminals	660	-	-
Ballasts	277	40	7.5

The ratings above specified are maximum values admitted; actual values will be subject to the electrical equipment/component used from case to case. Depending on the system conditions, the mode of operation, the utilization category, etc., the manufacturer will define ratings, which will be within the range of these limiting values and will comply with the relevant Standards.

Intrinsic safety circuits:

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

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Model identification:

Aluminium alloy enclosures		Stainless steel enclosures
EJB series	EJBT series	EJBX series
AQS-1	-	-
EJB-01	EJBT0	EJBX-01
-	-	EJBX-01B
EJB-1	EJBT1	EJBX-1
EJB-2	EJBT2	EJBX-2
-	EJBT2CB	-
-	EJBT2C	-
EJB-3	EJBT3	EJBX-3
EJB-3B	EJBT3B	EJBX-3B
EJB-4	EJBT4	EJBX-4
EJB-4B	EJBT4B	EJBX-4B
EJB-45	EJBT45	EJBX-45
EJB-45B	EJBT45B	EJBX-45B
EJB-48BA	-	-
EJB-5	EJBT5	EJBX-5
EJB-5B	EJBT5B	EJBX-5B
EJB-55	EJBT55	EJBX-55
EJB-55B	EJBT55B	EJBX-55B
EJB-503	-	-
EJB-55C	-	-
EJB-6	EJBT6	EJBX-6
EJB-6B	EJBT6B	EJBX-6B
EJB-7	EJBT7	EJBX-7
EJB-7B	-	-

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Maximum dissipated power:

Table 1

Type			Maximum dissipated power inside enclosures			
			Tamb. = +40°C		Tamb. = +55°C	
Aluminium alloy		Stainless steel	Without signalling lamps, only LED are allowed	With lamps and/or LED	Without signalling lamps, only LED are allowed	With lamps and/or LED
			T6 / T85 °C	T5 / T100 °C	T6 / T85 °C	T5 / T100 °C
-	AQS-1	-	100 W	100 W	75 W	75 W
EJBT0 / EJBT2CB	EJB-01	-	30 W	30 W	25 W	25 W
EJBT1 / EJBT2C	EJB-1	EJBX-1	45 W	45 W	34 W	34 W
EJBT2	EJB-2	EJBX-2	60 W	60 W	45 W	45 W
EJBT3	EJB-3	EJBX-3	75 W	75 W	56 W	56 W
EJBT3B	EJB-3B	EJBX-3B	55 W	55 W	40 W	40 W
EJBT4	EJB-4	EJBX-4	100 W	100 W	75 W	75 W
EJBT4B	EJB-4B	EJBX-4B	75 W	75 W	56 W	56 W
EJBT45	EJB-45	EJBX-45	140 W	140 W	105 W	105 W
EJBT45B	EJB-45B	EJBX-45B	120 W	120 W	90 W	90 W
-	EJB-48BA	-	120 W	120 W	90 W	90 W
EJBT5	EJB-5	EJBX-5	210 W	210 W	160 W	160 W
EJBT5B	EJB-5B	EJBX-5B	170 W	170 W	130 W	130 W
-	EJB-503	-	230 W	230 W	176 W	176 W
EJBT55	EJB-55	EJBX-55B	260 W	260 W	200 W	200 W
EJBT55B	EJB-55B	-	260 W	260 W	160 W	160 W
-	EJB-55C	EJB-55	360 W	360 W	270 W	270 W
EJBT6	EJB-6	EJBX-6	600 W	600 W	460 W	460 W
EJBE-6B	EJB-6B	EJBX-6B	490 W	490 W	370 W	370 W
-	EJB-7	-	770 W	770 W	590 W	590 W
-	EJB-7B	-	600 W	600 W	460 W	460 W
-	-	EJBX-7	610 W	610 W	470 W	470 W

Cable entries

The accessories used for cable entries and plugs for not used holes shall be subject of separate certification, suitable for type of enclosure execution, according to the applicable standards.

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Warning labels:

"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".

[16] Report n. EX- B6027394

Routine tests

The routine overpressure test shall be carried out on empty enclosure with the static method (paragraph 15.2.3.2 of EN 60079-1 Standard), at:

- 14.0 bar on all EJB enclosures for minimum ambient temperature until -20 °C;
- 16.0 bar on all EJB enclosures for minimum ambient temperature until -60 °C.

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

*With the updating to the new standards the following special condition for safe use are added; moreover the X suffix is added to the certificate number and beginning from this supplement it becomes **CESI 02 ATEX 073X**.*

- The accessories used for cable entries and for closing unused openings shall be certified according to EN 60079-0, EN 60079-1 and EN 60079-31. A minimum degree of protection IP66/67 shall be guaranteed according to EN 60529 standard.
- The command, control and signalling units shall be used in the following ambient temperature range:
 - from -20°C up to +40°C/+55°C: all versions of command, control and interface units for group I (made in stainless steel only), group IIB, IIB+H₂ and group IIIC;
 - from -40°C up to +40°C/+55°C: all versions of command, control and interface units for group IIB, IIB+H₂ and group IIIC with polycarbonate pilot lights;
 - from -60°C up to +40°C/+55°C all versions of command, control and interface units for group IIB, IIB+H₂ and group IIIC without polycarbonate pilot lights.
- The minimum distance between flameproof flanged joint of the enclosure and external obstacle should be:
 - 20 mm for IIB execution.
 - 30 mm for IIB+H₂ execution.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 073 X /04**

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

Compliance with the Essential Health and Safety Requirements has been assured by compliance to the following standards:

- EN 60079-0: 2012 + A11:2013 – Explosive atmospheres – Part 0: Equipment - General requirements;
- EN 60079-1: 2014 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
- EN 60079-11: 2012 Explosive atmospheres – Equipment protection by intrinsic safety “i”;
- EN 60079-26: 2015 Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga;
- EN 60079-31: 2014 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.

[19] **Descriptive documents (prot. EX- B6027397)**

- | | | | |
|---|-------|-------|------------|
| - Technical note A4-6585 (pg. 7) | rev.0 | dated | 2016.07.21 |
| - Safety, maintenance and mounting instructions F-270 (pg. 8) | rev.6 | dated | 2016.07.21 |
| - Declaration of Conformity Facsimile no. 0032 (pg. 1) | | dated | 2016.07.21 |
| - Drawing no. A3-6586 (1 sheet) | rev.0 | dated | 2016.07.21 |

One copy of all documents is kept in CESI files.

Certificate history

Issue nr	Issue Date	Summary description of variation
04	2016.10.31	Updating to standards EN 60079-0: 2012 + A11:2013, EN60079-1:2014, EN60079-11:2012, EN60079-26:2015 and EN60079-31:2014. New minimum ambient temperature -60°C. New enclosures EJBX-01 and EJB... series and Special conditions for safe use (X) have been added.
03	2012.04.18	Updating to standards EN 60079-0 (2009), EN60079-1 (2007), EN60079-11 (2007), EN60079-26 (2007) and EN60079-31 (2009). Elimination of silicon grease on plane joints for IP degree of protection. New EJB-55B model was added. Update of EJB-55 and EJB-55C coding.
02	2010.05.31	Updating to standards EN 60079-1 (2007), EN60079-26 (2007). New exec. for group I (for stainless steel enclosure only). New minimum ambient temperature for group II. New EJB-7 and EJB-7B types were added.
01	2007.11.20	Updating to standards EN 60079-0 (2006), EN60079-1 (2004), EN60079-11 (2007), EN60079-26 (2004), EN 61241-0 (2006), EN 61241-1 (2004) and EN 61241-11 (2006). New execution IIB+H ₂ . New EJB-01, AQS.-1, EJB-55, EJB-55B and EJBX7 types were added.
00	2002.10.06	First Issue of the Certificate.