



[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 01 ATEX 027

[4] Equipment: Command, control and signalling units series CCF... and EJB...

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

[6] Address: Via Aquileia 6, 34070 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-A1/012141.

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

EN 50014: 1997 + A1...A2 EN 50018: 2000

[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 IIB T6,T5,T4

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

date April 12th, 2001 - translation issued on April 12th, 2001

prepared CERT - M. Balaz

approved CERT - U. Colombo

CESI

CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Responsabile Area Certificazione

page 1/3

[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE N. CESI 01 ATEX 027**

[15] **Description of equipment**

Command, control and signalling units series CCF... and EJB...

The enclosures of these units are made in aluminium or in stainless steel (see technical note A4-4105 annexed to this certificate).

The CCF... and EJB... series are identical in every detail. The code CCF or EJB refers only to the firm which puts the product into the market.

The various items of the code show the size of the enclosure (from 1 to 6), constructional modifications, the type of material used, the presence of glass windows.

The complete codes of all the units subject of this certificate are reported in the drawing A1-4100 annexed to the certificate.

The enclosures of the command, control and signalling units are subject of the certificate of component CESI 00 ATEX 036 U. All the constructional details of the enclosures are reported in the drawings annexed to this certificate of component.

The types of electrical and electronic components installed inside the command, control and signalling units are reported in the technical note A4-4105 together with their electrical characteristics.

On the enclosures of the CCF and EJB units, accessories and windows as indicated in the certificate of component CESI 00 ATEX 036 U and type M-0...command and signalling operators as indicated in the certificate of component CESI 01 ATEX 025 U can be installed.

Electrical characteristics

Rated voltage 24 ÷ 1000 V a.c. 12 ÷ 250 d.c.

Rated frequency 50 ÷ 60 Hz ----

Max. current in fuses and contacts 400 A 400 A

Ambient temperature - 20 ÷ + 40 °C

- 20 ÷ + 55 °C

Maximum lamp power 5 W for ambient temperature - 20 ÷ + 40 °C

3 W for ambient temperature - 20 ÷ + 55 °C

Temperature class T6, T5, T4 as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure

Maximum values of the power which can be dissipated inside the enclosure CCFE-6 having the maximum volume

Ambient temperature	+ 40 °C			+55 °C		
Temperature class	T6	T5	T4	T6	T5	T4
Dissipated power [W]	600	910	1740	460	680	1300

The maximum power which can be dissipated inside the enclosure and the maximum current on contacts and fuses are a function of enclosure size, of the temperature class and of the ambient temperature as specified in details in the documentation annexed to this certificate.

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[13]

Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE N. CESI 01 ATEX 027**

The accessories used for cable entry and for closing unused apertures shall be certified according to the standards EN 50014 and EN 50018.

The service temperature of windows and of signal and control operators type M-0... shall not exceed 100 °C.

Warning label

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

Additional warnings

In case of enclosures including capacitors:

“After de-energizing, wait 10 minutes before opening”

In case of enclosures of temperature class T4 or in case of enclosures of temperature class T5 when the temperature is higher than 70 °C at the cable entry point or 80 °C at the branching point of the conductors:

“Use cables suitable for a temperature of 100 °C:

[16] **Report n. EX-A1/012141**

Routine tests

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

The routine overpressure test shall be carried out with the static method (clause 15.1.3.1 of EN 50018 standard) at the pressure of:

- 11.9 bar for enclosure size from 1 to 5
- 11.5 bar for enclosure size 6

Descriptive documents (prot. EX-A1/012142)

- | | |
|--|------------------|
| - n. A4-4105 Rev. 0 (2 p.) | dated 17.07.2000 |
| - n. A1-4100 Rev. 1 | dated 07.07.2000 |
| - n. A4-4129 Rev. 0 | dated 26.06.2000 |
| - Safety instructions mod. F-253 Rev. 0 (5 p.) | dated 17.07.2000 |
| - EC declaration of conformity | dated 17.07.2000 |

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.

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

EXTENSION n. 01/03



to EC-Type Examination Certificate CESI 01 ATEX 027

Equipment: Command, control and signalling units series CCF... and EJB...

Manufacturer: COR.TEM S.p.A.

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

Admitted variation

- new types CCFE-1, AQS-1 and AQSE-1
- new category II 2 GD (added protection against the risk of explosion from combustible dusts in conformity with the standard EN 50281-1-1)
- use of glass windows of rectangular shape
- maximum current on contacts: 650 A

The results of verifications and tests are reported in the confidential report EX-A3/033811.

Identification and description of the equipment

The enclosures of these units are made in aluminium or in stainless steel (see technical note A4-4418 annexed to this extension).

The various items of the code indicate the size of the enclosure (from 1 to 6), constructional modifications, the type of material used, the presence of glass windows.

The enclosures of the command, control and signalling units series CCF and EJB are subject of the component certificate CESI 00 ATEX 036 U. All the constructional details of the enclosures are reported in the drawings annexed to this certificate.

The types of electric and electronic components installed in the units are indicated in the technical note A4-4418 together with their electrical characteristics.

On the units subject of this extension it is possible to mount windows as indicated in the component certificate CESI 00 ATEX 036 U and command and signalling operators CORTEM type M-0 subject of the component certificate CESI 01 ATEX 025 U.

The complete codes of the units subject of this extension are reported in the drawings A1-4100 and A1-4417.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 027.

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date 10th October 2003 translation issued on 10th October 2003

prepared CERT – M. Balaz

approved CERT – U. Colombo

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CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione

Il Responsabile

page 1/3

EXTENSION n. 01/03





to EC-Type Examination Certificate CESI 01 ATEX 027

Identification and description of the equipment (follows)

The enclosures series CCF and EJB are made in two different versions as regards the degree of protection IP:

- enclosures with silicone grease placed between the body and the cover: IP 65
- enclosures with sealing gasket placed between the body and the cover: IP 66/67

According to the protection adopted the units series CCF and EJB can have the following marking (together with the code relevant to the maximum surface temperature):

	II 2 G	EEx d IIB	enclosures protected only against flammable gases
	II 2 GD	EEx d IIB IP 65	enclosures with silicone grease
	II 2 GD	EEx d IIB IP 66/67	enclosures with sealing gasket without command and signalling operators
	II 2 GD	EEx d IIB IP 66	enclosures with sealing gasket with command and signalling operators type M-0.

Electrical characteristics

Rated voltage	24 ÷ 1000 V a.c.	12 ÷ 250 d.c.
Rated frequency	50 ÷ 60 Hz	----
Max. current in contacts	650 A	650 A
Ambient temperature	- 20 ÷ + 40 °C - 20 ÷ + 55 °C	
Maximum lamp power	5 W for ambient temperature – 20 ÷ + 40 °C 3 W for ambient temperature – 20 ÷ + 55 °C	
Temperature class of the units cat. G:	T6, T5, T4 as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure	
Max. surface temperature of the enclosure of the units cat. GD:	T85°C ÷ T135°C as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure	

The accessories used for cable entries and for closing unused apertures on the enclosures category 2 G shall be certified according to the standards EN 50014 and EN 50018.

The accessories used for cable entries and for closing unused apertures on the enclosures category 2 GD shall be certified according to the standards EN 50014, EN 50018 and EN 50281-1-1 and shall have a degree of protection IP equal to that of the enclosure.

The service temperature of windows and of signal and control operators type M-0... shall not exceed 100 °C.

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EXTENSION n. 01/03

to EC-Type Examination Certificate CESI 01 ATEX 027

Warning label

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

Additional warnings

In case of enclosures including capacitors:

“After de-energizing, wait 10 minutes before opening”

In case of enclosures of temperature class T4 or T5:

“Use cables suitable for a temperature of 100 °C:

Routine tests

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

The routine overpressure test shall be carried out with the static method (clause 15.1.3.1 of EN 50018 standard) at the pressure of:

- 11.9 bar for enclosure size from 1 to 5
- 11.5 bar for enclosure size 6

Descriptive documents (prot. EX-A3/033814)

- | | |
|----------------------------|------------------|
| - n. A4-4418 Rev. 0 (3 p.) | dated 18.03.2003 |
| - n. A1-4417 Rev. 0 | dated 18.03.2003 |

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

Essential Health and Safety Requirements

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

EN 50014 - 1997 + A1..A2 – General requirements

EN 50018 - 2000 + A1 - Flameproof enclosures "d"

EN 50281-1-1 – 1998 + A1 – Electrical apparatus for use in the presence of combustible dust. Part 1-1: Electrical apparatus protected by enclosures – Construction and testing.

EXTENSION n. 02/05



to EC-Type Examination Certificate CESI 01 ATEX 027

Equipment: Command, control and signalling units series CCF... and EJB...

Manufacturer: COR.TEM S.p.A.

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

Admitted variation

Installation of ignition transformers in the enclosures

The results of verifications and tests are reported in the confidential report EX-A5033526.

Identification and description of the equipment

The ignition transformers can be installed inside the command, control and signalling units series CCF... and EJB...

Electrical characteristics

Ignition transformers

- | | | |
|-----------------------|--|--|
| - Primary voltage | max. 1000 V | |
| - Secondary voltage | max. 15 kV | |
| | max. impulse 25 kV for 3 micro-seconds | |
| - Secondary current | 15 mA | |
| - Ambient temperature | | - 20 ÷ + 40 °C |
| | | - 20 ÷ + 55 °C |
| - Maximum lamp power | | 5 W for ambient temperature - 20 ÷ + 40 °C |
| | | 3 W for ambient temperature - 20 ÷ + 55 °C |

Temperature class for category 2G. units: T6 or T5 as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

Maximum surface temperature for category 2.D units: T85 °C or T100°C as a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 027.

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date 8th June 2005 translation issued on 8th June 2005

prepared CERT - M. Balaz

approved CERT - U. Colombo

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
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EXTENSION n. 02/05

to EC-Type Examination Certificate CESI 01 ATEX 027

Identification and description of the equipment (follows)

According to the protection adopted the units series CCF and EJB can have the following marking (together with the code relevant to the maximum surface temperature):

	II 2 GD	EEx d IIB	IP 66/67	enclosures with sealing gasket without command and signalling operators
	II 2 GD	EEx d IIB	IP 66	enclosures with sealing gasket with command and signalling operators type M-0.

Warning label

In case of enclosures including capacitors:
“After de-energizing, wait 10 minutes before opening”

Descriptive documents (prot. EX-A5033231)

- n. A4-4736 Rev. 0	dated	02.07.2003
- n. A1-4503 Rev. 0	dated	02.07.2003

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

Essential Health and Safety Requirements

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

EN 50014 - 1997 + A1..A2 – General requirements

EN 50018 - 2000 + A1 - Flameproof enclosures "d"

EN 50281-1-1 – 1998 + A1 – Electrical apparatus for use in the presence of combustible dust. Part 1-1: Electrical apparatus protected by enclosures – Construction and testing.

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EXTENSION n. 03/08

to EC-Type Examination Certificate CESI 01 ATEX 027



Equipment: Command and control units series EJB

Manufacturer: CORTEM S.p.A.

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

Admitted variation

- Conformity to EN 60079-0 (2006), EN60079-1 (2004), EN 61241-0 (2006), EN 61241-1 (2004) Standards
- Update of nameplate
- New electrical characteristics of ignition transformers
- Execution IIB + H₂
- Add new boxes:
 - EJB-55, EJB-55B, EJBX-55, EJBX-55B
 - EJBX7 (only for stainless steel material)

Equipment identification and description

The marking of the equipment shall include the following:

For gas only:

II 2 G Ex d IIB T6/T5/T4

With silicone grease on the flanges:

II 2 GD Ex d IIB T6/T5/T4 Ex tD A21 IP65 T85°C/T100°C/T135°C

or:

II 2 GD Ex d IIB+H₂ T6/T5/T4 Ex tD A21 IP65 T85°C/T100°C/T135°C

With seal gasket but without operators series M-0 installed:

II 2 GD Ex d IIB T6/T5/T4 Ex tD A21 IP66/67 T85°C/T100°C/T135°C

or:

II 2 GD Ex d IIB+H₂ T6/T5/T4 Ex tD A21 IP66/67 T85°C/T100°C/T135°C

With seal gasket and with operators series M-0 installed:

II 2 GD Ex d IIB T6/T5/T4 Ex tD A21 IP66 T85°C/T100°C/T135°C

or:

II 2 GD Ex d IIB+H₂ T6/T5/T4 Ex tD A21 IP66 T85°C/T100°C/T135°C

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01ATEX027.

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date 6 february 2008 - translation issued 6 february 2008

prepared Giorgio Chinnici

verified Mirko Balaz

approved Fiorenzo Bregani

Giorgio Chinnici
Mirko Balaz

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

Fiorenzo Bregani

page 1/3

EXTENSION n. 03/08

to EC-Type Examination Certificate CESI 01 ATEX 027

Electrical characteristics of the ignition transformer

Primary voltage: 1000 V max
Secondary voltage: 20 kV (impulse 25 kV max for 3 µsec)
Secondary current: 50 mA

Constructive characteristics

The execution IIB+H₂ and the new boxes:

- EJB-55, EJB-55B, EJBX-55, EJBX-55B
- EJBX7 (only for stainless steel material)

Are subject of the component certificate CESI 00 ATEX 036U. All the constructional details of the enclosures are reported in the documents annexed to the above mentioned component certificate.

Cable entries

The accessories used for cable entries and for unused holes shall be subject of separate certification:

- in the unit of category II 2G shall be certified according to the standards: EN 60079-0 (2006); EN 60079-1 (2004);
- in the unit of category II 2GD shall be certified according to the standards: EN 60079-0 (2006); EN 60079-1 (2004); EN 61241-0 (2006); EN 61241-1 (2004) and shall guarantee a degree of protection IP66 according to EN 60529 (1991) Standard.

Warning label

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

Additional warnings

For enclosures including capacitors:

"After de-energizing, wait 10 minutes before opening"

For enclosures of temperature class T4:

"Use cables suitable for a temperature of 100 °C:

For enclosures with temperature class T5, when the temperature under rated condition is higher than 70°C at the cable entry point or 80°C at the branching point of the conductors:

"use cables suitable for temperatures of 90°C"

Report n. EX- A8003819

Routine tests

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

The overpressure routine test shall be carried out with static method, at the pressure of

- 11.9 bar for enclosure size from 1 to 5
- 11.5 bar for enclosure size 6
- 10 bar for enclosure size 7

in conformity to the par. 15.1.3.1 of the EN 60079-1 Standard

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EXTENSION n. 03/08

to EC-Type Examination Certificate CESI 01 ATEX 027

Descriptive documents (prot. EX-A8003821)

- Technical Note n. A4-4974 Rev. 0 (2 pages)	dated 21 march 2007
- Drawing A1-4100 Rev. 2 (1 page)	dated 21 march 2007
- Drawing A1-4417 Rev. 1 (1 page)	dated 21 march 2007
- Drawing A4-4951 Rev. 0 (1 page)	dated 02 april 2007
- Drawing A4-4952 Rev. 0 (1 page)	dated 02 april 2007
- EC Declaration of Conformity (1 page)	dated 21 march 2007
- Safety instructions F-276 C (8 pages)	dated 21 march 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
- EN 60079-1 : 2004 Flamoproof enclosures "d".
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust.
General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

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EXTENSION n. 05/10

to EC-Type Examination Certificate CESI 01ATEX027

Equipment: Command and control units series EJB...

Manufacturer: **COR.TEM S.p.A.**

Address: Via Aquileia 10, 34070 - Villesse (GO)

Admitted variation

- Updating to new standard editions EN 60079-0 (2006), EN 60079-1 (2007)
- New minimum ambient temperature $T_a = - 50\text{ }^{\circ}\text{C}$
- New boxes types EJB-7 and EJB 7B manufactured in aluminium
- Installation of batteries inside the boxes
- Installation of inverter inside the boxes
- Installation of surge protective devices inside the boxes
- Use of sealed cable glands for fiber optic cables
- Installation of power transformers inside the boxes
- Installation of radio frequency sources inside the boxes
- Execution IM2 Ex d I (for stainless steel enclosure only)

Equipment identification and description

The equipment shall include the following markings:

- II 2G Ex d IIB T6/T5/T4 or
- II 2GD Ex d IIB T6/T5/T4 ; Ex tD A21 IP65 (66/67) T85/T100/T 135 °C or
- II 2GD Ex d IIB+H₂ T6/T5/T4 ; Ex tD A21 IP65 (66/67) T85/T100/T 135 °C or
- I M2 Ex d I (for stainless steel boxes only)

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01ATEX027

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date 26/04/2010

prepared Sergio Mezzetti

verified Mirko Balaz

approved Fiorenzo Bregani

CESI S.p.A.
Energy Division
"Certification Technical Department"

pagina 1/5

EXTENSION n. 05/10

to EC-Type Examination Certificate CESI 01ATEX027

Equipment identification and description (follows)

The accessories used for cable entries and for closing unused apertures shall be separately certified:

- For **II 2GD** units the accessories must be certified in compliance with the EN 60079-0, EN 60079-1, EN 61241-0, EN 61241-1
- For **II 2G** and **I M2** units the accessories must be certified in compliance with the EN 60079-0 and EN 60079-1, standards.

In both cases the degree of protection IP6X, declared by the manufacturer on the label, must be ensured in compliance to the EN 60529 Standard

Main electrical characteristics

Rated Voltage	24 ÷ 1000Vac	12 ÷ 250Vdc
Max. current on the fuse contacts	650 A	
Rated frequency	50/60 Hz	
Max power on the lamps	5W (per Ta + 40 °C) 3W (per Ta + 55 °C)	
Ambient Temperature range	- 20°C ÷ + 40 °C - 20°C ÷ + 55 °C - 50°C ÷ + 40 °C - 50°C ÷ + 55 °C	
Temperature class	T6, T5, T4 depending on boxes size, ambient temperature and dissipated power	

Temperature class admitted for the new boxes EJB-7B ed EJB-7

For Ta max. + 40 °C

	<i>Temperature class</i>	<i>Max. Dissipated Power (W) with signalling</i>	
EJB-7B	T6	600	(signalling LED only)
	T5	600	(signalling LED and lamps)
	T5	910	(signalling LED only)
	T4	1740	(without LED and lamps)
EJB-7	T6	770	(signalling LED only)
	T5	770	(signalling LED and lamps)
	T5	1170	(signalling LED only)
	T4	2270	(without LED and lamps)

For Ta max. + 55 °C

	<i>Temperature class</i>	<i>Max. Dissipated Power (W) with signalling</i>	
EJB-7B	T6	460	(signalling LED only)
	T5	460	(signalling LED and lamps)
	T5	680	(signalling LED only)
	T4	1300	(without LED and lamps)
EJB-7	T6	590	(signalling LED only)
	T5	590	(signalling LED and lamps)
	T5	890	(signalling LED only)
	T4	2090	(without LED and lamps)

EXTENSION n. 05/10

to EC-Type Examination Certificate CESI 01ATEX027

Equipment identification and description (follows)

Description of the admitted variations

Ambient Temperature

The constructions of group II can be realized for minimum ambient temperature of $-50\text{ }^{\circ}\text{C}$.

All the components and the equipment used inside the Ex-d enclosures shall be suitable for the minimum service temperature..

In particular:

- | | |
|---|---|
| - Installation of batteries inside the boxes | Ta min. = $-30\text{ }^{\circ}\text{C}$ |
| - Installation of motors inverter inside the boxes | Ta min. = $-15\text{ }^{\circ}\text{C}$ |
| - Installation of surge protective devices inside the boxes | Ta min. = $-25\text{ }^{\circ}\text{C}$ |
| - Use of sealed cable glands for fiber optic cables | Ta min. = $-50\text{ }^{\circ}\text{C}$ |
| - Installation of power transformers inside the boxes | Ta min. = $-50\text{ }^{\circ}\text{C}$ |
| - Installation of radio frequency sources inside the boxes | Ta min. = $-50\text{ }^{\circ}\text{C}$ |

The electrical characteristics of the components installable on the boxes are reported in details in the documentation annexed to this extension.

Boxes with batteries

On boxes series EJB... can be installed batteries having 1.5 Ah or less for supply memory restore of electronics devices.

Batteries type G-0309 4 o 7 Ah and related inverter are admitted for supply the emergency fluorescent lamps.

In any case the minimum distance of 20 mm between the installed components and the internal enclosure walls must be respected.

Boxes with inverter

On boxes series EJB-4, EJB-45, EJB-5, EJB-6 and EJB-7 depending of the max. ambient temperature ($+40\text{ }^{\circ}\text{C}$ or $+55\text{ }^{\circ}\text{C}$), inverters can be installed with the max. admitted dissipated power from 73W (for enclosures EJB-4) to 232 W (for enclosures EJB-7), as well as reported in the annexed documentation (Technical Note A4-5190)

Boxes with surge protective devices

On boxes can be installed surge protective devices type PRD or similar, up to 65kA of max. protection, in any case, the minimum distance of 20 mm between the installed surge protective device and the internal enclosure walls must be respected

Boxes with fiber optic cables

The boxes are suitable for the installation of special sealed cable glands for incoming and outcoming of multi-fiber optical cable. The sealed cable glands must be ATEX certified.

Single optical fiber cables are forbidden.

The limits of optical power and irradiance admitted for the optical cables are:

- | | |
|-------------------------------|--------------------------|
| - 35 mW and 5 mW/m^2 | for class temperature T4 |
| - 15 mW and 5 mW/m^2 | for class temperature T6 |

EXTENSION n. 05/10

to EC-Type Examination Certificate CESI 01ATEX027

Equipment identification and description (follows)

Boxes with power transformer

Boxes are suitable for installation of single-phase or three-phase power transformer having the maximum dissipated power (W) lower or equal to the values indicated on the certificate.

The only box type EJB-7 is suitable for installation of three-phase power transformer with max. power 15 kA.

Boxes with radiofrequency sources

Boxes are suitable for installation of radio frequency sources for continuous and pulses signal transmission in the range of frequencies from 9kHz and 60GHz.

The antennas can be installed inside or outside of the boxes.

For the outside installation, the antennas must be:

- realized in compliance with one of the protection mode indicated in the EN 60079-0 standard
- or
- installed outside the dangerous zone

The operating limits of radiofrequency sources are reported in the annexed documentation to this extension.

Warning label

For boxes with capacitors

“ After de-energizing. Wait 10 minutes before opening ”

For boxes with temperature class T4

“ Use cables suitable for a temperature of 100 °C”

For boxes with temperature class T5

“ Use cables suitable for a temperature of 90 °C”

For boxes with batteries or cells

“Warning – Do not open when an explosive gas atmosphere is present”

Report n° EX- B0011474

Routine tests

The manufacturer shall carry out the routine tests prescribed at par. 27 of the EN 60079-0 and at par. 24 of the EN 61241-0 Standards.

Overpressure tests

Ta \geq -20 °C

The manufacturer shall carry out the overpressure routine tests, with the static method (par. 15.1.3.1 of EN 60079-1 Standard), at the following pressure values:

- 11.9 bar, on boxes Ex-d sizes 1 ÷ 5;
- 11.5 bar, on boxes Ex-d size 6
- 10.0 bar, on boxes Ex-d size 7;

Ta \geq - 50 °C

On the all “Ex-d” boxes of group II, the manufacturer shall carry out the overpressure routine tests, with the static method (par. 15.1.3.1 of EN 60079-1 Standard), at the pressure values of 13.7 bar:

EXTENSION n. 05/10

to EC-Type Examination Certificate CESI 01ATEX027

Descriptive documents (prot. EX- B0011478)

- Technical Note A4-5190 (7 pg.)	Rev. 00	dated	16/02/2009
- Drawing n° A3-5390 (6 sheets)	Rev. 00	dated	16/02/2009
- Drawing n° A1-5274	Rev. 00	dated	16/02/2009
- Drawing n° A3-5422	Rev. 00	dated	09/02/2010
- Safety Instruction F-276 C (8 pg.)	Rev. 01	dated	16/02/2009
- Declaration of Conformity		dated	16/02/2009

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
- EN 60079-1 : 2007 Flameproof enclosures "d".
- EN 61241-0 : 2006 Electrical apparatus for use in the presence of combustible dust. General requirements
- EN 61241-1 : 2004 Protection by enclosures "tD"

**EXTENSION n. 06/12**

to EC-Type Examination Certificate CESI 01 ATEX 027

Equipment: Command, control and signaling units series CCF and EJB**Manufacturer:** COR.TEM S.p.A.**Address:** Via Aquileia, 10 – 34070 Villesse (GO) – Italy.**Admitted variation**




- Update to new edition of EN60079-0: 2009, EN 60079-1: 2007, EN 60079-31: 2009 standards.
- Removed the use of silicon grease on flange joint for IP protection degree.
- New size of enclosure EJB-55B has been added.
- Codes upgrades for EJB-55 and EJB-55C types due to the introduction of the new model.

Conformity to new edition of the harmonized European standard

The equipment subject of the certificate CESI 01 ATEX 027 and annexed extension are conform to the standards:

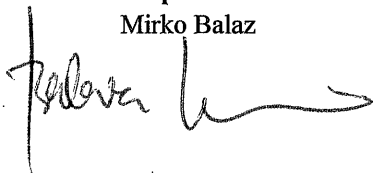
EN 60079-0: 2009 EN 60079-1: 2007 EN 60079-31: 2009

The equipment shall be marked as follows:

	II2G	Ex d IIB T6, T5, T4 Gb	
	I M2	Ex d I Mb	<i>(Stainless Steel enclosures only)</i>
	II2GD	Ex d IIB T6, T5, T4 Gb	<i>or</i>
		Ex tb IIIC T85°C, T100°C, T135°C Db	Ex d IIB+H2 T6, T5, T4 Gb
		IP66/67 (IP66 with operators)	Ex tb IIIC T85°C, T100°C, T135°C Db
			IP66/67 (IP66 with operators)

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 027.

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Date 6th April 2012 - translation issued the 6th April 2012**Prepared**
Mirko Balaz

Approved

Fiorenzo Bregani

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

Fiorenzo Bregani

Page 1/3

EXTENSION n. 06/12

to EC-Type Examination Certificate CESI 01 ATEX 027

Description of equipment

The EJB-.. and EJBX-.. and type AQS-1 flameproof enclosures series employed as command, control and signaling units, are subject of the component certificate CESI 00 ATEX 036U. The certificate annexed documents contains all constructional details of enclosures.

The EJB-..and EJBX-.. and type AQS-1 command, control and signaling units series have unchanged characteristics respect to those indicated into CESI 01 ATEX 027 certificate and relatives extensions.

Admitted constructional modifications

- The command, control and signaling units EJB-.. and EJBX-.. and type AQS-1 series are realized with O-ring gasket placed in the cover (enclosure internal side) for IP guaranty on flanged joint.

- To the series of command, control and signaling units is added a new size of aluminium alloy enclosure EJB-55, with the modification of the height of enclosure. The codes upgrades have been made for EJB-55B (new size), EJB-55 and EJB-55C due to the introduction of the new model.

Electrical characteristics for new EJB-55B size

Rated Voltage	24 ÷ 1000Vac	12 ÷ 250Vdc
Max. current on the contacts	650 A	
Rated frequency	50/60 Hz	
Max.power on the lamps	5W (for T _{amb} + 40 °C) 3W (for T _{amb} + 55 °C)	
Temperature class / max. surface temperature: max. Tamb + 40 °C	Max. Dissipated Power (W) with signalling	
T6 / T85°C	210	(signalling LED only)
T5 / T100°C	210	(signalling LED and lamps)
T5 / T100°C	315	(signalling LED only)
T4 / T135°C	600	(without LED and lamps)
max. Tamb + 55 °C	Max. Dissipated Power (W) with signalling	
T6 / T85°C	160	(signalling LED only)
T5 / T100°C	160	(signalling LED and lamps)
T5 / T100°C	235	(signalling LED only)
T4 / T135°C	450	(without LED and lamps)

Electrical characteristics for all other sizes

Unchanged.

Ambient temperature for all sizes

- 20 ÷ + 40°C.
- 20 ÷ + 55°C.
- 50 ÷ + 40°C.
- 50 ÷ + 55°C.

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.

Temperature class for all other sizes

For category 2G apparatus: T6 or T5 or T4 is a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

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EXTENSION n. 06/12

to EC-Type Examination Certificate CESI 01 ATEX 027

Maximum surface temperature for all other sizes

For category 2GD apparatus: T85 °C or T100°C or T135°C is a function of the enclosure dimension, ambient temperature and power dissipated inside the enclosure.

Warning label

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

- For enclosures with capacitors:

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

- For enclosures with temperature class T4:

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

- For enclosures with temperature class T5:

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

- For enclosures with batteries or cells:

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

Report n. EX-B2011737

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 empty enclosure with the static method (paragraph 15.1.3.1 of EN 60079-1 standard), at:

- 13.7 bar on all Ex-d empty enclosure of group II for minimum ambient temperature until –50 °C;
- 11.9 bar on Ex-d empty enclosure size 1÷5 for minimum ambient temperature until –20 °C;
- 11.5 bar on Ex-d empty enclosure size 6 for minimum ambient temperature until –20 °C;
- 10.0 bar on Ex-d empty enclosure size 7 for minimum ambient temperature until –20 °C.

Descriptive documents (prot. EX- B2011738)

- Technical note A4-5651 (pg. 4)	rev.0	dated	02.04.2012
- Safety Instruction F-276C (pg. 8)	rev.2	dated	02.04.2012
- EC Declaration of Conformity no. 0019 (pg. 1)	rev.0	dated	29.03.2012
- Drawing n° A3-5422 (pg. 1)	rev.1	dated	02.04.2012

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".

**EXTENSION n. 08/13**

to EC-Type Examination Certificate CESI 01 ATEX 027

Equipment: Command, control and signaling units series CCF and EJB**Manufacturer:** COR.TEM S.p.A.**Address:** Via Aquileia, 10 – 34070 Villesse (GO) – Italy.**Admitted variation**


- New type of equipment named Surge Protection Device has been added.

Description of equipment


The Surge Protection Devices are employed to protect electrical equipment when affected by sudden overvoltages. To this scope the Surge Protection Devices use two Gas Discharge Tube varistors.

The Surge Protection Device are installed inside the enclosures type EJB-4B or EJBX-4B. Cable entries should be made by use of ATEX certified cable glands type Elfit or similar.

The equipment described above shall be marked as follows:

 II2GD Ex d IIB T5 Gb
Ex tb IIIC T100°C Db
IP66/67

or

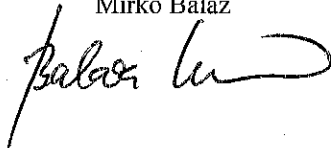
 II2GD Ex d IIB+H2 T5 Gb
Ex tb IIIC T100°C Db
IP66/67

This extension and annexed descriptive documents must be annexed to the EC-Type Examination Certificate CESI 01 ATEX 027.

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Date 15th May 2013 - translation issued the 15th May 2013

Prepared
Mirko Balaz



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EXTENSION n. 08/13

to EC-Type Examination Certificate CESI 01 ATEX 027

Electrical characteristics

DC Sparkover Voltage $\pm 15\%$ at 100V/s:	600 V
Impulse Sparkover Voltage	
100 V/ μ s:	850 V
1000 V/ μ s:	1100 V
Max Impulse Discharge Current:	20kA
Ambient Temperature range	- 20 \div + 55°C - 50 \div + 55°C
Temperature class / max. surface temperature	T5 / T100°C

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.

Warning label

- "Use screws of quality A2-70 according UNI 7323 with ultimate tensile strength of at least 700 N/mm²".
- "Use cables suitable for temperatures of 90°C".

Report n. EX- B3013091

Descriptive documents (prot. EX- B3013096)

- Technical note A4-5937 (pg. 3)	rev.0	dated	22.04.2013
- Drawing n° A3-5936 (pg. 1)	rev.0	dated	22.04.2013
- Annex Datasheets of materials (pg. 5)	rev.0	dated	22.04.2013

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: 2031	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".

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