

CESI



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Schema di certificazione

CESI-ATEX

CERTIFICATE



[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 03 ATEX 333 /04

[4] Product: **Terminal boxes series CTB, CSTB, SA and CTBE**

[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 03 ATEX 333 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-B7012205.

[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:

- II 2 GD Ex eb IIC T6, T5, T4 Gb
Ex tb IIIC T75°C, T110°C Db
IP66
or
- II 2 GD Ex ia IIC T6, T5, T4 Gb
Ex ia IIIC T75°C, T110°C Db
IP66
or
- II 2 GD Ex eb ia IIC T6, T5, T4 Gb
Ex tb ia IIIC T75°C, T110°C Db
IP66

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

Date 2017.06.26 - Translation issued the 2017.06.26

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CESI S.p.A.

Testing & Certification Division
 Business Area Certification
 Il Responsabile



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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Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /04

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

- Updating to standards EN 60079-0: 2012 + A11:2013, EN60079-7:2015 and EN60079-31:2014.
- New minimum ambient temperature -60 °C and maximum ambient temperature +85 °C.
- The enclosures can be drilled on the bottom side.
- New thicknesses for plain gaskets, removable plates, bodies and covers were added.
- New enclosures sizes CTB916130 has been added.
- New enclosures series CTBE.. have been added.

Description of equipment

Increased safety Terminal boxes **SA..**, **SAG..**, **CTB..**, **CSTB..** and **CTBE..** series are used to hold Ex eb and/or Ex ia terminal blocks for rail mounting, scope of separated ATEX certification. They consist in enclosures made of Aluminium alloy, Polyester resin glass fibre reinforced or Stainless steel for **SA..** series, while **CTB..**, **CSTB..** and **CTBE..** series are made of Stainless steel only.

The covers of boxes are fixed to the bodies with Stainless steel screws, whose number depends on the size and on possible accessories. The degree of protection IP66 is guarantee by the EPDM/SBR or Silicon gaskets placed between the covers and the body.

The walls and the bottom of the boxes can be drilled with maximum size and maximum number of holes as specified in the manufacturer documents. The cable glands or plugs, with separate ATEX certificate, are mounted using locknut and gasket.

Each enclosure is provided with internal and external earthing screw or bolt. Each conductor should be provided with terminal lugs.

The enclosures can be equipped with the terminal blocks specified into manufacturer documents or with other terminal blocks scope of separated ATEX certification with identical characteristics.

Electrical characteristics

	Standard applications	Signal circuits applications	
		T6/T75°C with max. T _{amb} +60°C	T4/T110°C with max. T _{amb} +85°C
Rated voltage	1000 Vac/dc	-	-
Rated current	312 A	1 A for Ex eb exec. 100 mA for Ex ia exec.	10 A for Ex eb exec. 100 mA for Ex ia exec.
Rated frequency	50/60 Hz	-	-
Terminal section	1.5 ÷ 300 mm ²	-	-

Degree of protection (EN 60529): IP 66.

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

The type and number of terminals which can be installed in the various enclosures, is indicated in detail together with the maximum admissible current, in the manufacturer documentation. When selecting the permitted current for cross section, the maximum current admitted for the terminals, connecting cables or conductors should be taken into consideration.

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Operative temperature ranges:

Table 1.

Standard temperature ranges					
Enclosure material	Type of gasket for enclosure	Ambient temperature	Temperature class	Max. surface temp.	Max. service temperature of terminals (*)
Aluminium alloy, Stainless steel, Polyester resin	VMQ SPS 060 (SA**, SA**/P) SILICONCELL (CTB**, CTBE** covers, SA**SS, CTB** gland plates) EPDM/SBR (SA**SS bodies)	-40°C +40°C	T6	T75°C	+80°C
		-40°C +55°C	T5	T75°C	+95°C

Table 2.

Temperature range for Signal circuits (max. 1A for not Ex i circuits, max. 100mA for Ex i circuits)					
Enclosure material	Type of gasket for enclosure	Ambient temperature	Temperature class	Max. surface temp.	Max. service temperature of terminals (*)
Aluminium alloy, Stainless steel, Polyester resin	VMQ SPS 060 (SA**, SA**/P) SILICONCELL (CTB**, CTBE** covers, SA**SS, CTB** gland plates) EPDM/SBR (SA**SS bodies)	-40°C +60°C	T6	T75°C	+80°C

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Table 3.

Low and high temperature ranges					
Enclosure material	Type of gasket for enclosure	Ambient temperature	Temperature class	Max. surface temp.	Max. service temperature of terminals (*)
Aluminium alloy, Stainless steel	VMQ SPS 060 (SA**) VMQ MG1077N40 (SA**SS bodies) SILICONCELL (CTB**, CTBE** covers, SA**SS, CTB** gland plates)	-60°C +40°C	T6	T75°C	+80°C
		-60°C +55°C	T5	T75°C	+95°C
		-60°C +65°C(**)	T5	T75°C	+95°C
Polyester resin	VMQ SPS 060 (SA**/P)	-40°C +65°C(**)	T5	T75°C	+95°C

Table 4.

High temperature range for Signal circuits (max. 10A for not Ex i circuits, max. 100mA for Ex i circuits)					
Enclosure material	Type of gasket for enclosure	Ambient temperature	Temperature class	Max. surface temp.	Max. service temperature of terminals (*)
Stainless steel	VMQ MG1077N40 (SA**SS bodies) SILICONCELL (CTB**, CTBE** covers, SA**SS, CTB** gland plates)	-60°C +85°C	T4	T110°C	+120°C

(*) – The maximum Service temperature of terminals installed inside the enclosures should be equal or greater than the temperature indicated into the tables shown above.

(**) – The maximum dissipated power and rated current admitted for these temperature ranges should be decreased applying the decreasing factors as specified into Table 5.

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Maximum dissipated power and rated current admitted

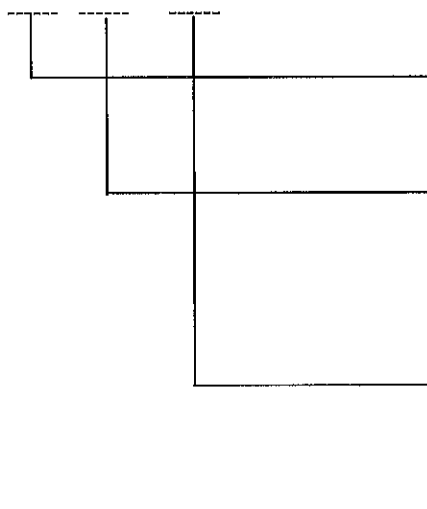
In the table below are shown the Power (W) and Current (A) decreasing factors applicable to remain within the Temperature class declared in the manufacturer documents.

Table 5.

Enclosure Material	Temperature Class	Ambient Temperature	Power decreasing factor	Current decreasing factor
Polyester resin	T6	+40°C	None	None
	T5	+55°C	None	None
	T5	+60°C	-25%	-15%
Aluminium alloy or Stainless Steel	T6	+40°C	None	None
	T5	+55°C	None	None
	T5	+65°C	-25%	-15%

Identification of Terminal boxes SA, SAG**, CTB**, CSTB** and CTBE**:**

SA.. -



Code of the series:

SA: Standard boxes

SAG: Boxes with 7mm thickness walls

Boxes size (*refer to manufacturer documents*)

Constructional material and number of gland plates:

Blank: Aluminium alloy

/P: Polyester resin glass fibre reinforced

SS: Stainless steel without gland plates

SSC: Stainless steel with locking devices on cover and without gland plates

SSF1, SSF2, SSF3, SSF4: Stainless steel with 1, 2, 3 or 4 gland plates

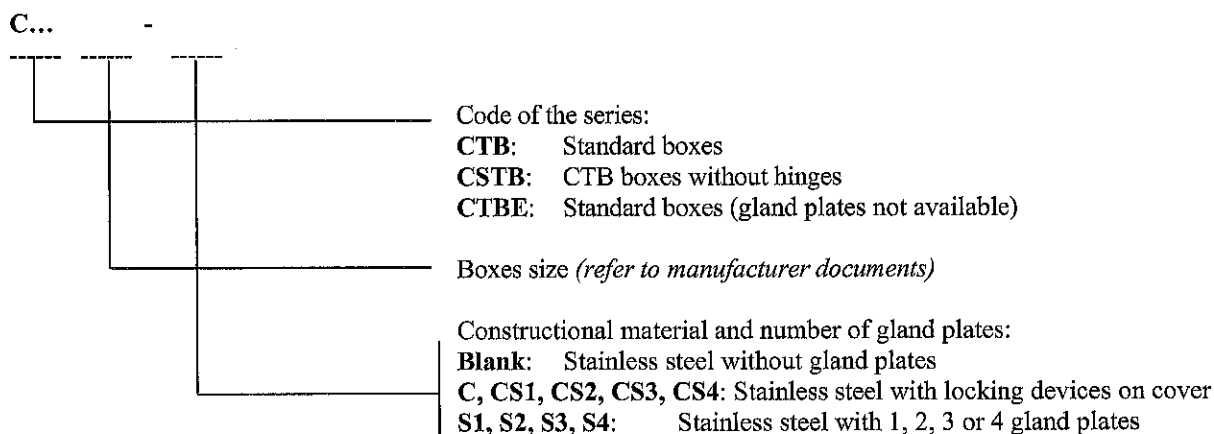
SSCF1, SSCF2, SSCF3, SSCF4: Stainless steel with locking devices on cover and 1, 2, 3 or 4 gland plates

Other suffix can be added on the code for particular configurations.

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Other suffix can be added on the code for particular configurations.

Warning labels:

- "Do not open when energized".
- For Terminal boxes SA., CTB., CSTB. and CTBE. series with temperature class T4:
"Use cables suitable for a minimum temperature of 110°C".
- For Terminal boxes SA., CTB., CSTB. and CTBE. series with temperature class T5:
"Use cables suitable for a minimum temperature of 90°C".

[16] Report n. EX- B7012205

Routine tests

None.

[17] Special conditions for safe use (X)

None.

Installation conditions

- Accessories used for cable entries and for unused holes shall have a degree of protection IP66 and shall be suitably certificated.
- When selecting the admitted current for cross section, the maximum permitted current for the terminals and the connecting cable or conductor should be taken into consideration. The terminals 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.
- For terminal boxes with type of protection Ex ia the distances between 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 service temperature range of the terminals used shall be taken into consideration.
- Installation instruction documents provides details of dielectric strength routine test of 2U+1000 VAC with a minimum value of 1500 VAC between the supply terminals and earth.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 03 ATEX 333 /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 60079-7: 2015 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;

EN 60079-11: 2012 Explosive atmospheres – Equipment protection by intrinsic safety “i”;

EN 60079-31: 2014 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.

[19] **Descriptive documents (prot. EX- B7012755)**

- Technical note A4-6265 (pg. 9)	rev.0	dated	2017.04.10
- Safety, maintenance and mounting instructions F-408 (pg. 20)	rev.0	dated	2017.04.10
- Declaration of Conformity Facsimile no. 0048 (pg. 1)		dated	2017.04.10
- Drawing no. A1-5703 (4 sheets)	rev.1	dated	2017.04.10
- Drawing no. A1-6266 (1 sheet)	rev.0	dated	2017.04.10
- Drawing no. A3-5704 (3 sheets)	rev.1	dated	2017.04.10
- Drawing no. A3-6267 (2 sheets)	rev.0	dated	2017.04.10
- Tables for max number of conductors and max number of terminals no. A4-5050 (35 sheets)	rev.1	dated	2017.04.10
- Annex (18 sheets)	rev.0	dated	2017.04.10

One copy of all documents is kept in CESI files.

Certificate history

Issue nr	Issue Date	Summary description of variation
04	2017.06.26	Updating to standards EN 60079-0: 2012+A11:2013, EN60079-7:2015 and EN60079-31:2014. New minimum ambient temperature -60°C and maximum ambient temperature +85°C. The enclosures can be drilled on the bottom side. New thicknesses for plain gaskets, gland plates, bodies and covers were added. Plain gaskets made of CR/NBR materials were replaced with plain gaskets made of SBR. New enclosure sizes CTB916130 has been added. New enclosures series CTBE.. have been added.
03	2013.07.19	Updating to standards EN 60079-0 (2012), EN60079-7 (2007), EN60079-11 (2012) and EN60079-31:2014. New min. ambient temperature -40°C for SA../P series. New max. ambient temperature +60°C and Temp. class T6. New thicknesses for aluminium and polyester enclosure covers. New types of Silicon gaskets.
02	2009.05.12	New stainless steel CTB.. enclosure series has been added.
01	2008.05.21	Updating to standards EN 60079-0 (2006), EN60079-7 (2003), EN60079-11 (2007), EN 61241-0 (2006), EN 61241-1 (2004) and EN 61241-11 (2006). New SAG606018 and SA202012 sizes were added. New max. ambient temperature +55, +65 and +80°C. New min. ambient temperature -30°C for SA../P series.
00	2003.12.19	First Issue of the Certificate.