



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx CES 11.0032X**

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Certificate history:

Status: **Current**

Issue No: 3

Issue 2 (2019-03-22)

Issue 1 (2013-01-07)

Issue 0 (2012-02-08)

Date of Issue: 2020-07-10

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

Equipment: **Command, Control and Signalling units SA**, CTB** and CSTB** series**

Optional accessory:

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

Marking: **Ex db eb IIC T6 or T5 Gb**
Ex eb IIC T6 or T5 Gb
Ex ia IIC T5 Gb
Ex db eb ib mb IIC T6 or T5 Gb
Ex tb IIIC T85°C or T100°C Db
IP66

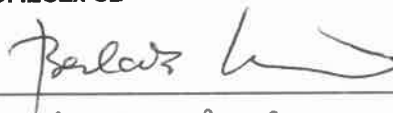
Approved for issue on behalf of the IECEx
Certification Body:

Mirko Balaz

Position:

Head of IECEx CB

Signature:
(for printed version)


10-7-2020

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 www.iecex.com or use of this QR Code.



Certificate issued by:

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

CESI



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Certificate No.: **IECEX CES 11.0032X**

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Date of issue: 2020-07-10

Issue No: 3

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

Additional
manufacturing
locations:

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2014 Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
Edition:4.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
Edition:5.0

This Certificate **does not** indicate compliance with 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 Reports:

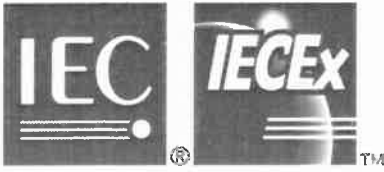
IT/CES/ExTR11.0033/00
IT/CES/ExTR12.0018/02

IT/CES/ExTR12.0018/00

IT/CES/ExTR12.0018/01

Quality Assessment Report:

IT/CES/QAR06.0002/14



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Command, Control and Signalling units SA**, CTB** and CSTB** series are used to hold Ex db and/or Ex eb components such as Pilot LED, Contact blocks, Actuators, Ammeter or voltmeter and Terminals, scope of separated IECEx certification. They consist in "Ex-e" enclosures made of Aluminium alloy, Polyester resin glass fibre reinforced or Stainless steel for SA** series, while CTB** and CSTB** series are made of Stainless steel only.

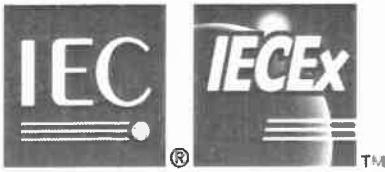
The covers of boxes are fixed to the bodies with Stainless steel screws, whose number depends on the size and on possible accessories. The degree of protection IP66 is guaranteed by the EPDM/SBR or Silicon gaskets placed between the covers and the body. The walls and the bottom of the boxes can be drilled with maximum size and maximum number of holes as specified in the manufacturer documents. The cable glands or plugs, with separate IECEx 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.

For further information see Annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The pertinent special condition for safe use "X" or Schedule of Limitations "U" of the actual enclosure certificate and the actual certificate of the items used in the combination assembled, have to be strictly foreseen.
- When terminals and Equipments / Components for intrinsically safe circuits "i" are used, even if the terminals are Ex eb, they are installed in such a way that the clearances and creepage distances between intrinsically safe and non-intrinsically safe circuits are set forth in IEC 60079-14 and IEC 60079-11 Standards are duly accounted for.
- When using intrinsically safe circuits, the ratings and intrinsically safe parameters of these parts shall be observed.
- When using more than one intrinsically safe circuit, the rules for interconnections required by IEC 60079-14, IEC 60079-7 and IEC 60079-11 Standards shall be observed.
- When on the box is installed CORTEM ammeter or voltmeter only (without other devices), the marking on tag shall be Ex eb IIC Gb instead of Ex db eb IIC Gb.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 3

Variation 3.1

The Command, Control and Signalling units SA**, CTB** and CSTB** series originally assessed in compliance to IEC 60079-0:2011 have been re-assessed on the basis of the IEC 60079-0:2017 Standard.

Variation 3.2

The Command, Control and Signalling units SA**/P series made in polyester resin previously assessed, new colours for boxes were added.

Variation 3.3

The Command, Control and Signalling units SA**, CTB** and CSTB** series can be supplied with external painting.

Variation 3.4

The Command, Control and Signalling units SA** and SAG** series made of aluminium alloy can be supplied with internal anticondensation/antifungal non-conductive painting and draining and breathing valve ECD-2** and ECDE series, scope of separate certification.

Variation 3.5

To the Command, Control and Signalling units SA**, CTB** and CSTB** series can be supplied with fuses B-0305 and B-0306 types.

Variation 3.6

To the Command, Control and Signalling units SA**, CTB** and CSTB** series were updated description and electrical characteristics for components CZ0203 series.

Unchanged the other electrical and constructional characteristics of Command, Control and Signalling units SA**, SAG**, CTB** and CSTB** series previously assessed.

Annex:

CORTEM IECEx CES 11.0032X_Issue 3 ANNEX - Control unit SA_CTB_CSTB.pdf



IECEX Certificate of Conformity

CESI

Prot: C0009979

Annex to certificate:

IECEX CES 13.0032X Issue No.:3 of 2020-07-10

Applicant:

CORTEM S.p.A.

Via Aquileia 10, I - 34070 Villesse (GO), Italy

Apparatus:

Command, control and signalling units SA**, CTB** and CSTB** series.

Description of the equipment:

Command, Control and Signalling units SA**, CTB** and CSTB** series are used to hold Ex db and/or Ex eb components such as Pilot LED, Contact blocks, Actuators, Ammeter or voltmeter and Terminals, scope of separated IECEX certification. They consist in enclosures made of Aluminium alloy, Polyester resin glass fibre reinforced or Stainless steel for SA** series, while CTB** and CSTB** 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 IECEX 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 products can be supplied with external painting. In this case a warning label shall be applied regarding the risk of electrostatic charge. Furthermore, on request can be applied an internal anticondensation/antifungal painting and draining and breathing valve ECD-2** or ECDE series, scope of separate certification.

They can be equipped with the following components IECEX certified:

- Pilot LED type M-0612 and M-0487 (IECEX CES 11.0030U);
- Pilot LED type CZ0201 (IECEX CMQ 08.0006U);
- Contact blocks type M-0530 and M-0531 (IECEX CES 11.0031U);
- Contact blocks series CZ0201 (IECEX CQM 08.0005U);
- Command and signalling actuators series: M-0603, M-0604 and M-0605 (IECEX CES 11.0029U);
- Manoeuvres and Actuators series CZ4000 (IECEX CQM 15.0035U);
- Ammeter or voltmeter B-0140 (IECEX CES 12.0022U);
- Potentiometers series CZ0203 (IECEX CQM 11.0033U);
- Buzzers series CZ1208 (IECEX EUT 16.0011U);
- Ex e terminals (CABUR, WEIDMULLER or others IECEX certified);
- Ex ia Proximity systems (IECEX CSA 16.0042X);
- Signal lamp with button module type CZ0212 (Presafe 16 ATEX 9083U);
- Ammeter, Voltmeter Type CZ0205 (Sira 14 ATEX 3169U);
- Fuses types B-0305 and B-0306 (IECEX CML 19.0170U).

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

Marking options

The following marking codes are listed below as possible non-exhaustive options:

Ex ia IIC T5 Gb
Ex tb ia IIIC T85°C Db
IP66

Only when single Intrinsically safe component installed.

Ex eb ia IIC T6 or T5 Gb
Ex ia tb IIIC T85°C or T100°C Db
IP66

Ex db eb ib mb IIC T6 or T5 Gb
Ex ib tb IIIC T85°C or T100°C Db
IP66

As well as other combinations of the type of protection symbols and levels of protection based on the relevant marking of component certificate actually selected in combination are available, following the requirement of IEC 60079-0.



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IECEX CES 13.0032X Issue No.:3 of 2020-07-10

Applicant:

CORTEM S.p.A.

Via Aquileia 10, I - 34070 Villesse (GO), Italy

Apparatus:

Command, control and signalling units SA, CTB** and CSTB** series.**

Component - electrical characteristics

Components	Rating Voltage	Current	Power
Pilot LED type M-0612	from 12V up to 240Vac/dc.	-	< 1.5W
Pilot LED type M-0487	from 2.1V up to 4Vac/dc.	20mA	-
Contact blocks type M-0530 and M-0531	690V	10A	-
Command and signalling actuators series: M-0603, M-0604 and M-0605	-	-	-
Ammeter or voltmeter type B-0140	600V ac/dc.	-	1.1 VA (ammeter) 3.0 VA (voltmeter)
Proximity System type 3300XL	Ui/Uo 28Vac/dc.	li/lo 140mA	Pi = 0.91W Po = 0.742W
Operation heads CZ4000	-	-	-
2/4 Pole switch module type CZ0201	400Vac 110Vdc	16A 1A	-
Signal lamp module type CZ0202	from 10V up to 28Vac/dc, from 20V up to 250Vac/dc, from 380V up to 400Vac, from 50V up to 277Vac/dc, Ui : 28Vac/dc.	li : 93mA	Pi : 0.651W
Control module type CZ0203	200Vdc	-	0.1W
(Flash) Buzzer type CZ1208	from 10V up to 28Vac/dc, from 20V up to 250Vac/dc.	-	-
Fuses type B-0305	125Vac/dc	1A	-
Fuses type B-0306	250Vac/dc	1A	-
Signal lamp with button module type CZ0212	Lamp: from 10V up to 28Vac/dc, from 20V up to 250Vac/dc, from 50V up to 277Vac/dc, Ui : 28Vac/dc. Button: 250Vac/dc, 24Vdc, Ui : 30Vac/dc.	li : 93mA 10A 1A li : 100mA	Pi : 0.651W Pi : 1W
Ammeter, Voltmeter Type CZ0205	500Vac/dc	40mA 10A	-

Electrical characteristics:

Max. rated voltage: 600 Vac/dc;

Max. rated current: 16 A;

Rated frequency 50 / 60 Hz.

The ratings specified are maximum values, 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 utilisation category, etc., the manufacturer will define 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 currents in the annexed documents. When selecting the permitted continuous current for cross section, the maximum permitted electrical current for the terminals and the connecting cable or conductor should be taken into consideration.



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Via Aquileia 10, I - 34070 Villesse (GO), Italy

Apparatus:

Command, control and signalling units SA, CTB** and CSTB** series.**

Electrical characteristics (follows):

Pilot LED type M-0612, contact blocks type M-0530, M-0531 terminals: section 2,5 mm²;

Ammeter and voltmeter type B-0140 terminals: section 2,5 mm²;

Signal and Control equipments CZ.. series: section 2.5 mm².

Degree of protection (IEC 60529):

IP 66.

Ambient temperature range:

From -40°C to +40°C (T6 / T85°C);

-40°C to +55°C (T5 / T100°C);

Installation conditions:

- Accessories used for cable entries and for unused holes shall have degree of protection IP 66 and shall be certificate according to the standards IEC 60079-0 and IEC 60079-7.

- When selecting the permitted continuous current for cross section, the maximum permitted electrical current for the terminals and the connecting cables or conductors should be taken into consideration.

Warning label:

- "Do not open when energized".

- For Command, Control and Signalling units **SA****, **SAG**** and **CTB**** series with temperature class T5:

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

- For products complete with external painting made in non-conductive material and for GRP materials different to standard black coloured:

"Warning - Potential electrostatic charging hazard – see instructions".

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

SA* -

Code of the series:

SA
SAG

Boxes size (301410, 473018 etc.)

Material and number of gland plates:

blank: aluminium alloy boxes.

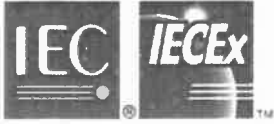
IP: polyester resin boxes.

SS: stainless steel boxes without gland plates.

SSC: stainless steel boxes with locking devices on cover and without gland plates.

SSF1, SSF2, SSF3, SSF4: stainless steel boxes with 1, 2, 3 or 4 gland plates.

SSFC1, SSFC2, SSFC3, SSFC4: stainless steel boxes with locking devices on cover and 1, 2, 3 or 4 gland plates.



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CORTEM S.p.A.

Via Aquileia 10, I - 34070 Villesse (GO), Italy

Command, control and signalling units SA**, CTB** and CSTB** series.

CTB -

		<p><i>Code of the series:</i> CTB: standard boxes</p>
		<p><i>Boxes size (see Table 4 or 5):</i></p>
		<p><i>Material and number of gland plates:</i> S1, S2, S3, S4: stainless steel boxes with 1, 2, 3 or 4 gland plates. blank: stainless steel boxes without gland plates. C, CS1, CS2, CS3, CS4: with locking devices on cover. M1, M2, M3, M4: for mild steel boxes with 1, 2, 3 or 4 gland plates. M: for mild steel boxes without gland plates.</p>

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

Table 1.

Aluminium boxes SA series sizes	Aluminium reinforced boxes (7mm wall thickness) SAG series sizes	Polyester resin glass fibre reinforced SA**/P series sizes
111108	111108	111108
171108	171108	171108
141410	141410	141410
202012	202012	202012
301410	301410	301410
302310	302310	302310
302318	302318	302318
473018	473018	473018
-	623018	623018
-	606018	-

Table 2.

SA** Stainless steel boxes sizes with cover fixed by screws and hinges when requested				
Without gland plates	With 1 gland plate	With 2 gland plates	With 3 gland plates	With 4 gland plates
111108	-	-	-	-
171108	-	-	-	-
141410	-	-	-	-
161610	-	-	-	-
202020	-	-	-	-
261210	-	-	-	-
261610	-	-	-	-
262614	-	-	-	-



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Via Aquileia 10, I - 34070 Villesse (GO), Italy

Command, control and signalling units SA**, CTB** and CSTB** series.

Table 2, follows.

SA** Stainless steel boxes sizes with cover fixed by screws and hinges when requested				
Without gland plates	With 1 gland plate	With 2 gland plates	With 3 gland plates	With 4 gland plates
301410	-	-	-	-
302310	-	-	-	-
302318	302318	302318	302318	302318
303020	303020	303020	303020	303020
303030	303030	303030	303030	303030
362614	362614	362614	362614	362614
402618	402618	402618	402618	402618
403618	403618	403618	403618	403618
404020	404020	404020	404020	404020
404030	404030	404030	404030	404030
473018	473018	473018	473018	473018
505020	505020	505020	505020	505020
505030	505030	505030	505030	505030
602618	602618	602618	602618	602618
603618	603618	603618	603618	603618
606020	606020	606020	606020	606020
606030	606030	606030	606030	606030
623018	623018	623018	623018	623018
707030	707030	707030	707030	707030
1007030	1007030	1007030	1007030	1007030
10010030	10010030	10010030	10010030	10010030

Table 3.

SA** Stainless steel boxes sizes with cover fixed by locking devices and hinges				
Without gland plates	With 1 gland plate	With 2 gland plates	With 3 gland plates	With 4 gland plates
302318	302318	302318	302318	302318
303020	303020	303020	303020	303020
303030	303030	303030	303030	303030
362614	362614	362614	362614	362614
402618	402618	402618	402618	402618
403618	403618	403618	403618	403618
404020	404020	404020	404020	404020
404030	404030	404030	404030	404030
473018	473018	473018	473018	473018
505020	505020	505020	505020	505020
505030	505030	505030	505030	505030



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Via Aquileia 10, I - 34070 Villesse (GO), Italy

Command, control and signalling units SA**, CTB** and CSTB** series.

Table 4.

CTB** Stainless steel boxes sizes with cover fixed by screws and hinges (CSTB without hinges)				
Without gland plates	With 1 gland plate	With 2 gland plates	With 3 gland plates	With 4 gland plates
(CSTB) 121208	-	-	-	-
(CSTB) 151509	-	-	-	-
(CSTB) 191910	-	-	-	-
221513	221513	221513	221513	221513
262616	262616	262616	262616	262616
262620	262620	262620	262620	262620
303016	303016	303016	303016	303016
303020	303020	303020	303020	303020
382616	382616	382616	382616	382616
382620	382620	382620	382620	382620
453816	453816	453816	453816	453816
453820	453820	453820	453820	453820
484816	484816	484816	484816	484816
484820	484820	484820	484820	484820
503516	503516	503516	503516	503516
503520	503520	503520	503520	503520
624516	624516	624516	624516	624516
624520	624520	624520	624520	624520
744520	744520	744520	744520	744520
765020	765020	765020	765020	765020
808030	808030	808030	808030	808030
866420	866420	866420	866420	866420
916120	916120	916120	916120	916120
916130	916130	916130	916130	916130
987420	987420	987420	987420	987420