CESI

CERTIFICATE

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[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 01 ATEX 036X /07

[4] Product: **Command, control and signalling units series CCA-.., GUB-.. and CCAI-..**

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

[6] Address: **Via Aquileia, 10 - 34070 Villesse (Gorizia) - Italia**

[7] This supplementary certificate extends EU–Type Examination Certificate **CESI 01 ATEX 036X** to apply to Product 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 Product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or 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-C2011420**.

[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 Product in 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 Product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this Product. These are not covered by this certificate.

[12] The marking of the Product shall include the following:

I M2 **Ex db I Mb** *(Stainless steel Equipment only)*

or

II 2GD **Ex db IIC T6** *or* **T5 Gb**
Ex tb IIIC T85°C *or* **T100°C Db**
IP66

Date 29/03/2023 - Translation issued the 29/03/2023
(Revision 1 of the Translation issued on 29/07/2022)

Prepared	**Verified**	**Approved**
Adrián Lucas Vagni	Alessandro Fedato	Roberto Piccin

Schema di certificazione CESI-ATEX

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

[13] # Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 036X /07**

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

Variation 7.1:

The Equipment **Command, control and signalling units series CCA-.., GUB-.. and CCAI-..** previously assessed in compliance with the Standard EN 60079-0:2012+A11:2013 have been re-assessed on the basis of the new edition EN IEC 60079-0:2018.

Variation 7.2:

The Equipment can be supplied with external/internal coating and valves ECD-2 series.

Unchanged the other constructional characteristics of the Equipment **Command, control and signalling units series CCA-.., GUB-.. and CCAI-...**

Description of Product

The Equipment **Command, control and signalling units Series CCA-.., GUB-.. and CCAI-..** are composed by an Ex db flameproof enclosure used to install common electrical devices such as contactors, switches, measuring instruments, programmable logic controllers and contact blocks. They can be equipped with command and signalling operators series M-0.. certified as components with separate certificate such as pilot lights and command actuators mounted on the cover (for the version CCAI-C..) or on the enclosure walls. Furthermore, they can be supplied with circular transparent glass window sealed on the cover to permit instrument reading, etc.

These Equipment have the body and the cover made in aluminium alloy or stainless steel and are in Ex db I (stainless steel only), Ex db IIC and Ex tb IIIC execution.

The covers of **CCA-..C** and **CCAI..** versions have a cylindrical joint and are fixed with quality A2-70 stainless steel screws.

Gaskets between cover and body and for all other accessories are made in silicon and they guarantee the protection degree IP66.

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

*Identification of **Command, control and signalling units Series CCA-.., GUB-.. and CCAI-..:***

Aluminium alloy Equipment			**Aluminium alloy Equipment with glass window**	
GUB series	**CCA series**		**GUB series**	**CCA series**
GUB	-	-	-	-
GUB-S	-	-	-	-
GUB-0	CCA-0E	CCA-0C	GUB-0V	CCA-0EH
GUB-01	CCA-01E	CCA-01C	GUB-01V	CCA-01EH
-	CCA-01PF	-	-	-
GUB-02	CCA-02E	CCA-02C	GUB-02V	CCA-02EH
GUB-03	CCA-03E	CCA-03C	GUB-03V	CCA-03EH
GUB-04	CCA-04E	CCA-04C	GUB-04V	CCA-04EH
GUB-05	-	-	-	-

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Stainless steel Equipment				Stainless steel Equipment with glass window	
GUB series	**CCA series**			**CCAI series**	**CCAIF series**
GUBSS	-	-	-	-	-
GUB-SSS	-	-	-	-	-
GUB-0SS	CCA-0ESS	CCAI2020	CCAIF-2020	CCAI2020H	CCAIF-2020H
GUB-01SS	CCA-01ESS	CCAI3020	CCAIF-3020	CCAI3020H	CCAIF-3020H
GUB-02SS	CCA-02ESS	CCAI3030	-	CCAI3030H	-
GUB-03SS	CCA-03ESS	CCAI4030	CCAIF-4030	CCAI4030H	CCAIF-4030H
GUB-04SS	CCA-04ESS	-	-	-	-
GUB-05SS	-	-	-	-	-

Ambient temperature

- **-20°C ÷ +40°C** or **-20°C ÷ +55°C**: Command, control and signalling units for group I (made in stainless steel only), group IIC and group IIIC;
- **-40°C ÷ +40°C** or **-40°C ÷ +55°C**: Command, control and signalling units for group IIC and group IIIC with polycarbonate pilot lights;
- **-60°C ÷ +40°C** or **-60°C ÷ +55°C**: Command, control and signalling units for group IIC and group IIIC without polycarbonate pilot lights.

In all cases, if control-signal operators are installed, they must be suitable for the temperature assigned to the Equipment.

Electrical characteristics

Rated voltage:	12 ÷ 250	Vdc
	24 ÷ 1000	Vac
Nominal frequency:	50/60	Hz
Max. rated current:	650	A
Maximum power for lamps:	3	W with Tamb. +55 °C

Table of typical electrical and electronic Equipment 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	-	650
Fuses	660	-	400
Air thermal relays	500	12	10
Electronic control device	660	100	-
Air contactors	660	30	650
Sequence timer	240	5	10
Photoelectrical cell	240	2	-
Capacitors (discharge time 30 sec)	660	-	-
Transformers	660	200	-
Resistors	240	300	-
Terminals	660	-	-
Ballasts	277	40	7,5

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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.

Maximum dissipated power:

Table 1.

Maximum dissipated power inside enclosures					
Enclosure type		Tamb. = +40°C		Tamb. = +55°C	
		T6 / T85 °C	T5 / T100 °C	T5 / T100 °C	T4 / T135 °C
GUB	-	4 W	6 W	3 W	4 W
GUB-S	-	6 W	9 W	5 W	6 W
GUB-0	GUB-0V	10 W	16 W	8 W	12 W
GUB-01	GUB-01V	15 W	24 W	13 W	19 W
GUB-02	GUB-02V	32 W	51 W	26 W	39 W
GUB-03	GUB-03V	51 W	74 W	37 W	55 W
GUB-04	GUB-04V	112 W	197 W	84 W	150 W
GUB-05	-	165 W	250 W	125 W	190 W

Table 2.

Maximum dissipated power inside enclosures							
Enclosure type		Tamb. = +40°C			Tamb. = +55°C		
		No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.	No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.
		T6 / T85 °C	T5 / T100 °C	T5 / T100 °C	T6 / T85 °C	T5 / T100 °C	T5 / T100 °C
CCA-0E	CCA-0EH	8 W	9 W	13 W	6 W	7 W	9 W
CCA-01E	CCA-01EH	11 W	12 W	17 W	9 W	10 W	13 W
CCA-02E	CCA-02EH	23 W	25 W	36 W	20 W	22 W	28 W
CCA-03E	CCA-03EH	40 W	44 W	58 W	29 W	32 W	43 W
CCA-04E	CCA-04EH	93 W	100 W	164 W	70 W	77 W	125 W

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Table 3.

Maximum dissipated power inside enclosures						
Enclosure type	**Tamb. = +40°C**			**Tamb. = +55°C**		
	No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.	No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.
	T6 / T85 °C	**T5 / T100 °C**	**T5 / T100 °C**	**T6 / T85 °C**	**T5 / T100 °C**	**T5 / T100 °C**
CCA-0C	8 W	9 W	13 W	6 W	7 W	9 W
CCA-01C	11 W	12 W	17 W	9 W	10 W	13 W
CCA-02C	23 W	25 W	36 W	20 W	22 W	28 W
CCA-03C	40 W	44 W	58 W	29 W	32 W	43 W
CCA-04C	93 W	100 W	164 W	70 W	77 W	125 W

Table 4.

Maximum dissipated power inside enclosures						
Enclosure type	**Tamb. = +40°C**			**Tamb. = +55°C**		
	No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.	No signalling lamps, only LED are allowed.	With signalling lamps and/or LED	No signalling lamps, only LED are allowed.
	T6 / T85 °C	**T5 / T100 °C**	**T5 / T100 °C**	**T6 / T85 °C**	**T5 / T100 °C**	**T5 / T100 °C**
CCAI2020	30 W	35 W	42 W	25 W	27 W	34 W
CCAI3020	50 W	54 W	68 W	39 W	42 W	53 W
CCAI3030	80 W	85 W	120 W	60 W	65 W	100 W
CCAI4030	105 W	112 W	170 W	90 W	100 W	140 W

Installation conditions

The accessories used for the cable entries and to close the unused holes, shall be subject of a separate certification, shall be used according to the Safety Instructions reported in the relevant certificate and shall guarantee the same type/degree of protection assigned to the Equipment. Moreover, the accessories shall be suitable to be use in the ambient temperature range assigned to the Equipment.

In case of cylindrical threads, the coupling shall be locked against loosening using thread-lock compound.

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Warning labels

"Use screws of quality A2-70 with tensile strength of at least 700 N/mm^2."

"Warning - do not open when energized"

For equipment with capacitors:

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

For equipment 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 products complete with external coating in non-metallic material with a thickness > 0.2 mm:

"Warning – Potential electrostatic charging hazard – for cleaning use only a damp cloth"

[16] **Report n. EX-C2011420**

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 16 of the EN 60079-1:2014 standard.

The routine overpressure test shall be carried out with the static method (paragraph 15.2.3 of the EN 60079-1:2014 standard) with the following pressure values:

- 13.8 bar on all **CCA-.., GUB-..** and **CCAI-..** for minimum ambient temperature until -20 °C;
- 19.0 bar on all **CCA-.., GUB-..** and **CCAI-..** for minimum ambient temperature until -60 °C.

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[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 036X /07**

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

- The accessories used for cable entries and for closing unused openings shall be certified according to EN IEC 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 Equipment shall be used in the following ambient temperature range:
  - o -20°C ÷ +55°C: For all Group I (made in stainless steel only), Group II and Group III Equipment;
  - o -40°C ÷ +55°C: For all Group II and Group III Equipment with polycarbonate pilot lights;
  - o -60°C ÷ +55°C: For all Group II and Group III Equipment without polycarbonate pilot lights.

- For radio application the antenna shall be installed in safe area or it shall respect one of the specific type of protection indicated in EN IEC 60079-0 and installed according to EN 60079-14.

  If the radio antenna is installed into the Ex db enclosure it shall respect the following characteristics:

  o Radio frequency: from 9 KHz to 60 GHz

  Threshold power, effective output power of the transmitter multiplied by the antenna gain:

  o for group IIC = 2,0 W.

  Thermal initiation time:

  o for group IIC = 20 µs.

  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 those given follow:

  o for group IIC = 50 µJ.

Conditions of manufacture

- For ignition transformers application, the following electrical characteristics are admitted:
  - o Primary voltage: 1000 V max.
  - o Secondary voltage: 20 kV (impulse 25 kV max for 3 msec.).
  - o Secondary current: 50 mA.

- For surge protective devices application, the following configuration are admitted:

PDR type	Max. protection [kA]	Protection Breaker (C curve type) [A]
PDR65	65	50
PDR40	40	40
PDR20	20	25
PDR8	8	20

- For circuit breakers or contactors 600 A - 650 A the distances between devices and between device and wall sides as indicated on drawing A1-5261 Rev.1 for the version GUB-05 shall be respected.

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[18] **Essential Health and Safety Requirements**
Compliance with the Essential Health and Safety Requirements is not affected by this variation.

EHSR are assured by compliance with safety conditions and by compliance with the following standards:

EN IEC 60079-0: 2018	Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-1: 2014	Part 1: Equipment protection by flameproof enclosures "d"
EN 60079-31:2014	Part 31: Equipment dust ignition protection by enclosure 't'

[19] **Descriptive documents** (prot. EX-C2011537)

*A4-7669 Technical Note (9 pg.) Rev.0	dated	25.06.2021
*F-257 Safety and maintenance instructions (16 pg.) Rev.5	dated	25.06.2021
-A1-5261 Drawing Rev.1	dated	14.01.2016
-A2-6233 Drawing (2 pg.) Rev.2	dated	12.07.2016
-A3-5362 Drawing (4 pg.) Rev.1	dated	14.01.2016
-A3-6485 Drawing Rev.2	dated	12.07.2016
-A3-6103 Drawing Rev.1	dated	14.01.2016
-A4-4129 Drawing (2 pg.) Rev.2	dated	25.01.2013

*Note: an * is placed before the title of documents which are new or revised, annexed to this supplement.*
One copy of all documents mentioned above is kept in CESI files.

Certificate history

Issue N.	Issue Date	Summary description of variation
00	09/11/2001	First Issue of the Certificate.
01	14/01/2003	Mounting of BT type surge arresters and ignition transformers inside the enclosures.
02	08/06/2007	Updating to standards EN 60079-0 (2006), EN60079-1 (2004) and EN 61241-0 (2006), EN 61241-1 (2004). New characteristics for ignition transformers. New models of boxes type CCA-04H and CCA-04EH with glass windows.
03	26/04/2010	Updating to standards EN60079-0:2006, EN60079-1:2007. New minimum ambient temperature -50°C. New model of box type GUB-05 made of aluminium alloy. Installation of batteries, surge protective devices and of radio frequency sources inside the boxes. Max. current admitted on contacts 650A. Use of sealed cable glands for fiber optic cables. New traffic light units CCA-02E/S and GUB-03/S. Execution IM2 Ex d I (for stainless steel enclosure only).
04	16/04/2012	Updating to standards EN60079-0:2009, EN60079-1:2007 and EN60079-31:2009.
05	16/12/2013	New MCCB automatic breakers or on load isolator switches (MOLDED CASE CIRCUIT BREAKER) has been added.
06	28/10/2016	Updating to standards EN 60079-0: 2012 + A11:2013, EN60079-1:2014 and EN60079-31:2014. New minimum ambient temperature -60°C. Special condition for safe use have been added.
07	29/07/2022	Standard update to EN IEC 60079-0:2018. Added external/internal coating and valves ECD-2 series.
07_Rev.1	29/03/2023	Editorial correction