

**CESI****CERTIFICATE**

CESI S.p.A.  
Via Rubattino 54  
I-20134 Milano - Italy  
Tel: +39 02 21251  
Fax: +39 02 21255440  
e-mail: info@cesi.it  
www.cesi.it

[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 036 X/06**

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

[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 036 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-B6027367.

[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:

	<b>I M2</b>	<b>Ex db I Mb</b>	<i>(Stainless Steel enclosures only)</i>
	<b>II 2 GD</b>	<b>Ex db IIC T6, T5 Gb</b> <b>Ex tb IIIC T85°C, T100°C Db</b> <b>IP66</b>	

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Date 2016.10.28 - Translation issued the 2016.10.28

Prepared  
Alessandro Fedato

Verified  
Mirko Balaz

Approved  
Roberto Piccin

**CESI S.p.A.**

Testing & Certification Division  
Business Area Certification  
Il Responsabile

*(Roberto Piccin)*

Schema di certificazione

**CESI-ATEX**

**ACCREDIA**  
ISTITUTO ITALIANO DI ACCREDITAMENTO

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 no. CESI 01 ATEX 036 X/06**

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

- Updating to standards EN 60079-0: 2012 + A11:2013, EN60079-1:2014 and EN60079-31:2014.
- New minimum ambient temperature -60°C.
- Special conditions for safe use (X) added.

**Description of equipment**

The **GUB-...** and **CCA..** command, control and signalling units series are equipments 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.

The **GUB-...** and **CCA..** command, control and signalling units series have the body and the cover made in aluminium alloy or stainless steel and are in Ex db I (stainless steel enclosures 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 to guarantee the protection degree IP66.

The walls of the enclosures can be drilled and threaded with maximum size and maximum number of holes 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:	650	A
Maximum power for lamps:	3W with T <sub>amb.</sub> +55°C	

**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	-	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 30sec)	660	-	-
Transformers	660	200	-
Resistors	240	300	-
Terminals	660	-	-
Ballasts	277	40	7,5

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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.

### Model identification:

Aluminium alloy enclosures			Aluminium alloy enclosures 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	-	-	-	-

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

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**Maximum dissipated power:**

**Table 1**

<b>Maximum dissipated power inside enclosures</b>					
<b>Enclosure type</b>		<b>Tamb. = +40°C</b>		<b>Tamb. = +55°C</b>	
		<b>T6 / T85 °C</b>	<b>T5 / T100 °C</b>	<b>T6 / T85 °C</b>	<b>T5 / T100 °C</b>
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**

<b>Maximum dissipated power inside enclosures</b>							
<b>Enclosure type</b>		<b>Tamb. = +40°C</b>			<b>Tamb. = +55°C</b>		
		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.
		<b>T6 / T85 °C</b>	<b>T5 / T100 °C</b>	<b>T5 / T100 °C</b>	<b>T6 / T85 °C</b>	<b>T5 / T100 °C</b>	<b>T5 / T100 °C</b>
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

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### Constructional characteristics

Degree of protection (EN 60529): IP66

### 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 signalling units for group I (made in stainless steel only), group IIC 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 signalling units for group IIC 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 signalling units for group IIC and group IIIC without polycarbonate pilot lights.

### 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 labels:**

*"Use screws of quality A2-70 according UNI 7323 with tensile strength of at least 700 N/mm<sup>2</sup>";*

*"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- B6027367

### **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:

- 13.8 bar on all GUB and CCA enclosures for minimum ambient temperature until  $-20^{\circ}\text{C}$ ;
- 19.0 bar on all GUB and CCA enclosures for minimum ambient temperature until  $-60^{\circ}\text{C}$ .

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[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 01 ATEX 036X**.*

### Installation conditions:

- The accessories used for cable entries and for closing unused openings shall be certified according to IEC 60079-0, IEC 60079-1 and IEC 60079-31. A minimum degree of protection IP66 shall be guaranteed according to IEC 60529 standard.
- The Command, control and signalling units shall be used in the following ambient temperature range:
  - from -20°C up to +44°C/+55°C: all versions of Command, control and signalling units for group I (made in stainless steel only), group IIC and group IIIC;
  - from -40°C up to +44°C/+55°C: all versions of Command, control and signalling units for group IIC and group IIIC with polycarbonate pilot lights;
  - from -60°C up to +44°C/+55°C all versions of Command, control and signalling units for group IIC and group IIIC 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 IEC 60079-0 and installed according to IEC 60079-14.

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

- Radio frequency: from 9 KHz to 60 GHz.

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

- for group IIC = 2,0 W.

Thermal initiation time:

- 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:

- for group IIC = 50 µJ.

### Manufacturing conditions:

- For ignition transformers application, the following electrical characteristics are admitted:
  - Primary voltage: 1000 V max.
  - Secondary voltage: 20 kV (impulse 25 kV max for 3 msec.).
  - 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]
<b>PDR65</b>	65	50
<b>PDR40</b>	40	40
<b>PDR20</b>	20	25
<b>PDR8</b>	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 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 60079-31: 2014 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.

[19] **Descriptive documents (prot. EX- B6027370)**

- Technical note A4-6569 (pg. 9)	rev.0	dated	2016.07.12
- Safety, maintenance and mounting instructions F-257 (pg. 16)	rev.4	dated	2016.07.12
- Declaration of Conformity Facsimile no. 0021 (pg. 1)		dated	2016.07.12
- Drawing no. A1-5261 (1 sheet)	rev.1	dated	2016.01.14
- Drawing no. A2-6233 (2 sheets)	rev.2	dated	2016.07.12
- Drawing no. A3-5362 (4 sheets)	rev.1	dated	2016.01.14
- Drawing no. A3-6485 (1 sheet)	rev.2	dated	2016.07.12
- Drawing no. A3-6103 (1 sheet)	rev.1	dated	2016.01.14
- Drawing no. A4-4129 (2 sheets)	rev.2	dated	2013.01.25
- Datasheet of materials (21 sheets)	rev.0	dated	2016.07.12

One copy of all documents is kept in CESI files.

**Certificate history**

Issue nr	Issue Date	Summary description of variation
06	2016.10.28	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.
05	2015.12.16	New MCCB automatic breakers or on load isolator switches (MOLDED CASE CIRCUIT BREAKER) has been added.
04	2012.04.16	Updating to standards EN60079-0:2009, EN60079-1:2007 and EN60079-31:2009.
03	2010.04.26	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).
02	2007.06.08	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.
01	2003.01.14	Mounting of BT type surge arresters and ignition transformers inside the enclosures.
00	2001.11.09	First Issue of the Certificate.

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