



UK Type Examination Certificate CML 22UKEX3250X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Command, control and signalling units series CCA-..., GUB-... and CCAI-...**
- 3 Manufacturer **CORTEM S.p.A**
- 4 Address **Via Aquileia,
10 – 34070 Villesse (Gorizia)
Italy**

- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-1:2014

EN 60079-31:2014

- 10 The equipment shall be marked with the following:



I M2

*(Stainless steel
Equipment only)*

Ex db I Mb

or



II 2 G D

Ex db IIC T6 or T5 Gb

Ex tb IIIC T85°C or T100°C Db

IP66



L A Brisk



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11 Description

The Equipment **Command, control and signalling units Series CCA-..,GU-.. 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 to +40°C or -20°C to +55°C:** Command, control and signalling units for group I (made in stainless steel only), group IIC and group IIIC;
- **-40°C to +40°C or -40°C to +55°C:** Command, control and signalling units for group IIC and group IIIC with polycarbonate pilot lights;
- **-60°C to +40°C or -60°C to +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 to 250	Vdc
	24 to 1000	Vac
Nominal frequency:	50/60	Hz
Max. rated current:	650	A
Maximum power for lamps:	3 W with Tamb. +55°C	



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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

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



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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

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



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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 used 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.

Warning labels

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

"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".



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12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	02 Aug 2023	R15260E/00	Issue of the prime certificate. CESI 01 ATEX 036X, Issue 07 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed or referred to in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

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

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

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

Routine tests

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

The following conditions relate to safe installation and/or use of the equipment.

- i. 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.
- ii. The Equipment shall be used in the following ambient temperature range:
 - -20°C to +55°C: For all Group I (made in stainless steel only), Group II and Group III Equipment;
 - -40°C to +55°C: For all Group II and Group III Equipment with polycarbonate pilot lights;
 - -60°C to +55°C: For all Group II and Group III Equipment without polycarbonate pilot lights.
- iii. 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:

- 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 μ s.

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 μ J.

Certificate Annex

Certificate Number CML 22UKEX3250X
Equipment Command, control and signalling units series CCA-..., GUB-...
and CCAI-..
Manufacturer CORTEM S.p.A



The following documents describe the equipment defined in this certificate:

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For drawings describing the equipment, refer to attached certificate CESI 01 ATEX 036X, Issue 07 and the associated reports. In addition to the drawings associated with CESI 01 ATEX 036X, Issue 07, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
A4-8218	1 of 1	0	02 Aug 2023	Marking plate for CCA, GUB command control and signalling units