



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 CML 16.0074X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 [Issue 1 \(2023-04-27\)](#)
[Issue 0 \(2016-11-09\)](#)
Date of Issue: 2024-11-04
Applicant: **CORTEM S.p.A**
Via Aquileia 10
34070 Villesse
Gorizia
Italy
Equipment: **Series SA..., CTB..., CSTB... and CTBE... Enclosures with Equipment**
Optional accessory:
Type of Protection: **Ex eb, tb, ia, op pr, mb, db, [ia]**
Marking: Ex eb IIC T6/T5/T4 Gb
Ex tb III C T85°C/T100°C Db
-60°C ≤ Ta ≤ +85°C
Marking to include symbols for all other protection concepts applied.
Refer to certificate annex for further detail regarding marking.

Approved for issue on behalf of the IECEx
Certification Body:

D R Stubbings

Position:

Technical Consultant

Signature:
(for printed version)

Date:
(for printed version)

2024-11-04

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:

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United Kingdom





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Date of issue: 2024-11-04

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Manufacturer: **CORTEM S.p.A**
Via Aquileia 10
34070 Villesse
Gorizia
Italy

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 60079-28:2015](#) Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

[IEC 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Report:

[GB/CML/ExTR24.0209/00](#)

Quality Assessment Report:

[IT/CES/QAR06.0002/18](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Series SA..., CTB..., CSTB... and CTBE... Enclosures with Equipment

See Annex for full description and Conditions of Manufacture

SPECIFIC CONDITIONS OF USE: YES as shown below:

See Annex for Conditions of Certification



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Update of the certificate number of Series 3300XL Proximitors,
Addition of 12 new parts to the existing certificate,
Update to the latest harmonized standards.

Annex:

[Certificate Annex IECEx CML 16.0074X Issue 2_1.pdf](#)

Annexe to: IECEx CML 16.0074X Issue 2

Apparatus: Series SA..., CTB..., CSTB... and CTBE... Enclosures with Equipment

Applicant: Cortem S.p.A



Description

The Series SA..., CTB..., CSTB... and CTBE... Enclosures with Equipment are a range of enclosures, as previously certified under a general-purpose junction box certification, certificates IECEx CES 13.0001 / CESI 03ATEX333, which may be fitted with additional parts/components. The temperature options of the previously certified general purpose junction boxes are as follows.

Standard Range of Temperature:

Enclosure Material	Model	Type of Gasket	Ambient Temperature	Temp. Class	Max Surface Temp.	Max Service Temp. of terminals
Aluminium alloy	SA**, SA**/P	VMQ SPS 060	-40°C +40°C	T6	T75°C	+80°C
			-40°C +55°C	T5	T75°C	+95°C
Stainless steel	CTB**, CTBE** covers, SA**SS, CTB** gland plates)	SILICON CELL	-40°C +40°C	T6	T75°C	+80°C
			-40°C +55°C	T5	T75°C	+95°C
Polyester resin	SA**SS bodies	EPDM/SBR	-40°C +40°C	T6	T75°C	+80°C
			-40°C +55°C	T5	T75°C	+95°C

Range for low and high temperatures admitted

Enclosure Material	Model	Type of Gasket	Ambient Temperature	Temp Class	Max Surface Temp.	Max Service Temp. of terminals
Aluminium alloy Stainless steel	SA**	VMQ SPS 060	-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
	(SA**SS bodies)	VMQ MG1077N 40	-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
	(CTB**, CTBE** covers, SA**SS, CTB** gland plates)	SILICON CELL	-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	SA**/P	VMQ SPS 060	-40°C +65°C (*)	T5	T75°C	+95°C



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High temperature:

Enclosure Material	Model	Type of Gasket	Ambient Temperature	Temp Class	Max Surface Temp	Max service temp of terminals
Stainless steel	SA**SS bodies	VMQ MG1077N 40	-60°C +85°C	T4	T110°C	+120°C
	(CTB**, CTBE** covers, SA**SS, CTB** gland plates)	SILICON CELL	-60°C +85°C	T4	T110°C	+120°C

* The equipment shall be marked with a T4 temperature class when are installed components that increase the ambient temperature. The maximum dissipated power and rated current admitted for these temperature ranges should be decreased applying the decreasing factors as specified in the (taken from IECEx CES 13.0001 Issue 2)

The additional parts / components which may be fitted in the Enclosures with Equipment covered by this certificate are as follows:

Part	Certificate Numbers	Coding
Series 3300XL Proximitors	IECEX CSA 16.0042X	Ex ia IIC
Splice Cassette Type 8186/.	IECEX PTB 10.0060U	Ex op pr IIC
Enclosure Heater (TEF Series)	IECEX NEM 11.0005X	Ex e IIC Ex e mb IIC
Heater, Type SL ... THERM D... T...	IECEX PTB 07.0055X	Ex db IIC Ex tb IIIC
Heater, Type CP ...Therm D ... T...	IECEX PTB 07.0052X	Ex db IIC Ex tb IIIC
Fieldbus Segment protector Type R-SP-E***	IECEX PTB 05.0010X	Ex e mb IIC Ex eb mb IIC
Temperature Transmitter Model IPAQ C202X	IECEX KIWA 15.0015X	Ex ia IIC
Temperature Transmitter Model IPAQ C520X	IECEX KIWA 14.0001X	Ex ia IIC
Fieldbus Barrier type R4D0-FB- IA*	IECEX BVS 13.0119X	Ex e ib mb [ja Ga] IIC T4 Gb Ex e ib mb [ja IIIC Da] IIC T4 Gb
Heating Resistor,	IECEX LCI 07.0020X	Ex d IIC



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Part	Certificate Numbers	Coding
Type: CREx 020		Ex tb IIIC
Regulating thermostat Type: REx	IECEX LCI 07.0021	Ex d IIC Ex tb IIIC
Interconnection block for field bus Types: F240 to F273	IECEX LCI 11.0068X	Ex ia IIC
Fieldbus XE Megablock and Terminator	IECEX DEK 16.0036X	Ex eb mb IIC
Model 644R HART Temperature Transmitter	IECEX BAS 07.0053X	Ex ia IIC
Model 644H Fieldbus Temperature Transmitter	IECEX BAS 07.0053X	Ex ia IIC
Enhanced model 644 Temperature Transmitter	IECEX BAS 12.0069X	Ex ia IIC
Transmitter Type T32.**.*-*	IECEX BVS 08.0018X	Ex ia IIC
Load Isolation Switch Module CZ0513 Series	IECEX CML 19.0055U	Ex db eb IIC Gb
Handle of switch CZ8000	IECEX CML 17.0042U	Ex eb IIC Ex tb IIIC
Operators M-0603, M-0604, M-0605	IECEX CES 11.0029U	Ex e IIC Ex tb IIIC
Pilot LED M-0612 and M-0487	IECEX CES 11.0030U	Ex db IIC Ex db eb IIC Ex tb IIIC
Contact blocks type M-0530 and M-0531	IECEX CES 11.0031U	Ex de IIC
AMMETER type B-0140A and VOLTMETER type B-0140V	IECEX CES 12.0022U	Ex e IIC Ex tb IIIC
Temperature transmitter iTEMP type TMT82-**A1/2/** and TMT82-**A3/4/5**	IECEX EPS 17.0039X	Ex ia IIC
Surge protector type BlitzductorConnect BCO *L2 BD EX 24	IECEX TUR20.0025X	Ex ia [ia Ga] IIC Gb Ex ib IIC T6 Gb [Ex ia Da] IIIC



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Each enclosure produced may be fitted with a mixture of any of the above parts, in any quantity, providing the total power dissipation of the complete assembly is within the limits described under IECEx CES 13.0001, for the applicable enclosure size. All previously certified enclosure sizes are included.

Equivalent certified parts to those specified above, which meet the criteria specified in the manufacturer's documentation, may be installed as alternative options.

The coding of the complete assemblies is to include the symbol for the protection concept(s) of all previously certified parts installed.

The enclosures used are constructed in cast or sheet steel, aluminium alloy, sheet stainless steel (or mild steel for the CTB models) or polyester resin. The cover is fixed to the body with four or six anti-loosening screws. Between the body and cover there is a gasket which maintains the ingress protection rating. There is also the presence in some boxes of the hinges and two anti-loosening screws for the closing of the cover.

Cable entries are provided in the enclosure walls. The number, size and location of entries are in accordance with those defined under IECEx CES 13.0001. The stainless-steel enclosures may be provided with gland plates.

Four or six holes are provided on the base of the enclosure to enable mounting. Stainless steel enclosures are provided with wall mounting brackets.



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Conditions of Manufacture

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

- i. The product incorporates certified parts or safety critical components. The manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate. This includes monitoring the status of the general-purpose junction box certification (certificate IECEx CES 13.0001).
- ii. The marking shall include the symbol for each protection concept covering all previously certified parts fitted in an enclosure.
Where the Fieldbus Barrier type R4D0-FB-IA* (IECEX BVS 13.0119X), or any alternative part using associated I.S. is fitted, the marking shall also include the applicable associated I.S. symbols in square brackets.
The dust coding when this fieldbus barrier is installed shall be as defined on this certificate.
- iii. The maximum power dissipation of any arrangement of parts fitted into an enclosure shall not exceed the maximum power figure assigned to the particular enclosure size, defined under IECEx CES 13.0001.
The maximum power figure assigned under IECEx CES 13.0001 depends on the upper ambient temperature, temperature class and enclosure size; this shall be taken into account in defining the relevant power figure.
- iv. The manufacturer shall take all reasonable steps to ensure the items fitted within the enclosure are used within their minimum and maximum service/ambient temperatures, as stated in the schedule of limitations/conditions for safe use for each of these previously certified parts.
- v. The IECEx certificate and instruction manual for each previously certified part fitted into the enclosure shall be provided with the equipment to the end-user.
- vi. All parts fitted in the enclosures shall be installed in accordance with their IECEx certificate, their instruction manual and with IEC 60079-14.
- vii. The minimum ambient temperature marked on the equipment shall be no lower than the minimum ambient or service temperature assigned to any of the previously certified fitted parts.
- viii. Any increased safety terminals fitted are to be selected in accordance with the certificates for the general-purpose junction boxes, IECEx CES 13.0001, taking into consideration their rated service temperature range and any other limitations defined by the terminal certification.
- ix. Information shall be provided to the end-user which determines the supply ratings of each part installed within the enclosure, as well as the power dissipation limit defined for the enclosure.
- x. When the following parts are installed, the maximum ambient marked on the equipment shall be no higher than +40°C (with corresponding T6 temperature class):
 - Enclosure heater (IECEX NEM 11.0005X)
 - Heater Type SL (IECEX PTB 07.0055X)



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- Heater Type CP (IECEX PTB 07.0052X)
 - Regulating thermostat, Type: Rex (IECEX LCI 07.0021)
- xi. When the following heaters are installed, they shall be set to switch off at a temperature of no more than +30°C:
- Enclosure heater (IECEX NEM 11.0005X)
 - Heater Type SL (IECEX PTB 07.0055X)
 - Heater Type CP (IECEX PTB 07.0052X)
 - Heating Resistor Type CREx 020 (IECEX LCI 07.0020X)
- Where a separate thermostat is relied on to limit the temperature, this shall be IECEx equipment certified.
- Any conditions on the certificates for the thermostat shall be addressed by the manufacturer.
- xii. The following heaters shall only be installed in the metal options of the external enclosure and not in the polyester enclosure:
- Heater Type SL (IECEX PTB 07.0055X)
 - Heater Type CP (IECEX PTB 07.0052X)
- xiii. When the following parts are installed, the equipment shall be marked with a maximum ambient temperature of +40°C and T4 / T85°C:
- Segment protector Type R-SP-E*** (IECEX PTB 05.0010X)
 - Fieldbus Barrier type R4D0-FB-IA* (IECEX BVS 13.0119X)
 - Interconnection block for fieldbus, Types: F240 to F273 (IECEX LCI 11.0068X)
 - Fieldbus XE Megablock and Terminator, Types: F244-XE to F273-XE and FCS-MBT-XE (IECEX DEK 16.0036X)
- xiv. When the following parts are installed, the maximum ambient marked on the equipment shall be no higher than +60°C (with corresponding T6 temperature class):
- Splice cassette type 8186/. (IECEX PTB 10.0060U)





Specific Conditions of Use

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

- i. Once wiring has been completed, each unit shall be subjected to a routine dielectric strength test in accordance with IEC 60079-7, clause 7.1. The test voltage applied shall be based on the assigned maximum supply voltage, which is dependent on the parts installed.
The relevant test voltage safety factor shall be applied in accordance with IEC 60079-7, clause 6.1. The voltage shall be applied for 60 seconds. No flashover or breakdown shall occur.
- ii. The limits of the supply ratings of each previously certified part installed and the power limit defined for the enclosure shall be observed during installation and operation.
There may be parts installed which employ intrinsic safety; the ratings and entity parameters of these parts shall also be observed.
- iii. The enclosure may employ several protection concepts, in addition to increased safety ('e') and dust protection by enclosure ('t').
The coding includes the symbol(s) for each protection concept employed. All parts installed inside the enclosure are previously certified.
The certificate and instructions for each previously certified part shall be observed during installation and operation.
- iv. When fitted with 'op pr' splice case (certificate IECEx PTB 10.0060U), the fibre cable outside the enclosure shall be installed such that mechanical damage is prevented and shall satisfy the requirements of IEC 60079-28 'op pr'.
- v. This condition applies when the equipment is marked 'Ex eb op pr'. The fibre ST connectors contained within the increased safety enclosure shall not be separated whilst energised if an explosive atmosphere may be present.
- vi. If not used, ST connectors within the increased safety enclosure must have dust covers fitted.
- vii. The maximum optical power rating of the 'op pr' splice case (certificate IECEx PTB 10.0060U) is 100 mW.
- viii. When the heater covered by certificate IECEx NEM 11.0005X is fitted, the heater shall be connected to a fuse with the following ratings:
Maximum current: 16 A
Minimum breaking capacity: 1500 A
- ix. When the heater covered by certificate IECEx NEM 11.0005X is fitted, the heating element supply circuit shall include an electrical protection device in conformity with clause 4.4 of IEC 62086-1 / IEC 60079-30-1.
This heater shall be set to switch off at a temperature of no greater than +30°C.
- x. When the Temperature Transmitter, Model IPAQ C202X (IECEx KIWA 15.0015X) or Temperature Transmitter, Models IPAQ C520X / Model IPAQ C520XS (IECEx KIWA 14.0001X) are installed, the following condition applies:



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The communication port (USB connection) may only be connected to the associated ICON Interface if the temperature transmitter is outside the hazardous area and with no sensor connected to it that is in the hazardous area.

- xi. Cable glands and entry devices, whether selected by the equipment manufacturer or end user, shall be suitably IECEx certified, suitable for the service temperature range and shall be installed in accordance with IEC 60079-14.
- xii. The cable used with the Heating Resistor, Type: CREx 020 (IECEX LCI 07.0020X) shall have an operating temperature rating of greater than +131°C.
- xiii. The Interconnection block for field bus, Types: F240 to F273 (IECEX LCI 11.0068X) shall only be connected to intrinsically safe certified apparatus.
- xiv. The overall equipment shall comply with the temperature ranges for the enclosure material and gasket type, and with the temperature range determined by the Ex-Components installed within the equipment.

Components used which are covered by Ex Certificates issued to older editions of Standards

Certificate number	Standards (incl Ed)	Assessment Result
IECEX CML 17.0042U	IEC 60079-31 Ed 2	Technical differences evaluated and found satisfactory. For detail see ExTR
IECEX CES 11.0029U	IEC 60079-0:2007 Ed:5 IEC 60079-7:2006 Ed:4 IEC 60079-31:2008 Ed:1	Technical differences evaluated and found satisfactory. For detail see ExTR
IECEX CES 11.0030U	IEC 60079-0:2011 Ed:6.0 IEC 60079-7:2015 Ed:5.0 IEC 60079-31:2013 Ed: 2	Technical differences evaluated and found satisfactory. For detail see ExTR
IECEX CES 11.0031U	IEC 60079-0:2007 Ed:5 IEC 60079-1:2007 Ed:6 IEC 60079-7:2006 Ed:4	Technical differences evaluated and found satisfactory. For detail see ExTR
IECEX CES 12.0022U	IEC 60079-0:2011 Ed:6.0 IEC 60079-7:2006 Ed:4 IEC 60079-31:2008 Ed: 1	Technical differences evaluated and found satisfactory. For detail see ExTR



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