(1) EU-Type-Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3)	**Certificate Number**	**TÜV CY 20 ATEX 0206317 X**
(4)	for the equipment:	Junction box Type: JBOX Ex e - 7.2 kV
(5)	of the manufacturer:	**Costruzioni Elettrotecniche CEAR S.r.l.**
(6)	Address:	Via Monza, 102 20060 Gessate (MI) - ITALY
	Order number:	0206317
	Date of issue:	2020-06-15

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EU-Type-Examination Certificate and the documents therein referred to.

(8) TÜV CYPRUS Ltd, notified body No. 2261 in accordance with Article 17 of the Council Directive of 2014/34/EU of February 26, 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 the confidential report No. 20 0206317.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2018 **EN 60079-7:2015** **EN 60079-31:2014**

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

(12) The marking of the equipment or protective system must include the following:

I M2 Ex eb I Mb
II 2G Ex eb IIC T4 Gb
II 2D Ex tb IIIC T135°C Db

TÜV CYPRUS Ltd (TUV NORD Group),
The head of the notified body,
D. Demosthenous

Notified body Member of TUV Nord 2261

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(13) **SCHEDULE**

(14) **EU-Type-Examination Certificate No. TÜV CY 20 ATEX 0206317 X**

(15) Description of equipment

The junction box is built as increased safety box, type of protection "eb", designed to be used in explosive atmospheres for the presence of gas and/or dust and it's suitable for the installation in mines with possible presence of firedamp, in classified Group I Category M2.

The junction box consist of a strong pressed carbon steel (AISI304) or stainless steel (AISI316), with an appropriate thickness, insulators for cables connections, copper bars.
The inlet cable is 240 mm^2 and outlet cables are 2 x 185 mm^2.
The whole carpentry is subjected to a suitable cycle of dust coating system, suitable for highly aggressive environments, with red RAL 3020 textured. The carpentry, based on the customer requirements, can be available also in not painted version and each single part of the structure was built with a continuous sealed weld TIG type.

The junction box is designed to be supplied with the following optional, whether it's used on the surface or for mines environmental:

- An external auxiliary box directly connected with the main junction box available for the installation of auxiliary terminal blocks connection Cabur CBD2 covered by CESI 01 ATEX 090U certificate and Weidmuller VDU2.5 covered by DEMKO 14 ATEX 1338U certificate. This auxiliary box is also covered by the present certificate.
- Internal grid for housing of anti-condensation packs. Each solution adopted respects the original system configuration certificate.

Allowable ambient temperature range:

Permissible range of ambient temperature: -50°C to +50°C.

Identification code:

The junction box's identification code is composed as follow:

JBOX Ex e - 7.2 kV

- JBOX Ex e: junction box type of protection "eb"
- 7.2 kV: rated voltage [kV]

Overall Dimensions of Junction Box: 850mm x 263mm x 560mm

Overall Dimensions of Auxiliary Box: 270mm x 80mm x 160mm

Ratings:

Max. Rated Voltage (V)	7.2 kV
Max. Rated Current (A)	630 A
Rated frequency	50 / 60 Hz

Terminal block Rating:		
Max Rated Voltage (V)	750 V	Cabur
Max. Rated Current (A)	20 A	Cabur
Max Rated Voltage (V)	690 V	Weidmuller
Max. Rated Current (A)	24 A	Weidmuller

Warning labels:

The following warning marks are present in the junction box's nameplate:
"WARNING – DO NOT OPEN WHEN THE JUNCTION BOX IS ENERGIZED OR WORKING"

(16) Test documents are listed in the test report No. 20 0206317.

Routine test:

A dielectric strength test has to be carried out on junction box and auxiliary box in accordance with Clause 6.1 of EN 60079-7:2015, with voltage (2Un+1000)V in period of at least 60 s or 1.2x(2Un+1000)V at least 100 ms.

(17) Special conditions for safe use

- Terminal blocks (Manufactured by Weidmuller) can be used with either one or two wires into either side of the terminal. When two wires are used they must be of the same type, and of equal sizes. No other wire sizes or types than the ones specified in instructions must be used. The terminal blocks must either be mounted next to another block of the same type and size or with an end plate.
- Unused terminals (Manufactured by Weidmuller) shall be tightened.
- Cable glands shall be installed according to the requirements of EN 60079-14 for group II or EN 50628 for group I.
- Use special cables with temperature resistance up to 110 °C.

(18) Essential Health and Safety Requirements

No additional ones. Assured by compliance with the standards set out in the [9].