



# [1] EU-TYPE EXAMINATION CERTIFICATE

## [2] Equipment or Protective System intended for use in potentially explosive atmospheres - Directive 2014/34/EU Annex III - MODULE B: EU-TYPE EXAMINATION

[3] EU-type Examination Certificate number: **IMQ 20 ATEX 036 X**

[4] PRODUCT: **Command, control units and terminals boxes**  
TYPE/SERIES: **CBX...**

[5] MANUFACTURER: **COELBO S.r.l.**

[6] ADDRESS: **Via S. Margherita 83 - 20861 Brugherio (MB) - Italy**

[7] This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documents therein referred to.

[8] IMQ, notified body N° 0051, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 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 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 Report No.: **AT19-0045780-01**


[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

**EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-1:2007, EN 60079-7:2015, EN 60079-7:2007, EN 60079-11:2012, EN 60079-18:2015, EN 60079-18:2009, EN 60079-31:2014, EN 60079-31:2009**

[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 and construction of the specified product. 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 equipment or protective system shall include the following:

	II 2G	Ex eb IIC T6/T5/T4 Gb or Ex db eb ia/ib mb [ib] IIC T6/T5/T4 Gb	or	Ex e IIC T6/T5/T4 Gb or Ex d e ia/ib mb [ib] IIC T6/T5/T4 Gb
	II 2D	Ex tb IIIC T85°C/T100°C/T135°C Db		

This document is composed of 6 pages including 1 annex

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B.U. PRODUCT CONFORMITY ASSESSMENT  
CERTIFICATION SECTOR - MANAGER

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[13] **Annex**

[14] EU-type Examination Certificate number: **IMQ 20 ATEX 036 X**

[15] **Description of product:**

Ex db eb/Ex d e command, control units and Ex eb/Ex e terminal boxes series CBX... are assembled in enclosures made in stainless steel with component certificate IECEx/ATEX.

All terminals and components are covered by their own Ex components certificates.

The terminals must be fitted in accordance with IEC 60079-0 and IEC 60079-7 with regard to creepage and clearance distances, and according to related safety instructions.

Enclosure with "tb" type of protection only, can receive terminals and other internal electrical devices even not covered by an IECEx and ATEX certificate. Maximum dissipated power according size of the enclosure must be anyway respected. If operators are mounted on the lid, they must be certified according IEC 60079-0 and IEC 60079-31 standards.

The cover is fixed to the body with screws or with hinges and screws or hinges and locks. Between body and cover a gasket guarantee the protection degree IP66. The walls of the boxes can be drilled and taped with maximum size and maximum number of holes as specified in the manufacturer documents. Some models can be supplied with separate gland plates, suitable to be drilled according to manufacturer's instructions. The plate is assembled onto lateral sides of enclosure by means of screws. Protection degree is provided by a gasket between plate and enclosure side, and by suitable washer for screws. IP65 or IP66 depending on gasket used on lateral gland plates.

The cable glands or plugs, with separate IECEx/ATEX certificate, are mounted according to related manufacturer's installation instructions. Each enclosure is provided with internal earthing certified terminal or earthing screw or bolt. Metal enclosures are provided by external earthing screw or bolt. With reference to marking, the others type of protection additional to Ex e/Ex eb depending to the components actually mounted.

[15.1] **Models/Series Identification:**

Key code	
<b>CBX [a][b][c]-[d]-[nFC][nFL]</b>	
<b>CBX</b>	indicates enclosures series
<b>[a][b][c]</b>	indicate the dimensions of width, length and depth of the box in cm (see table below)
<b>[d]</b>	indicates <b>VV</b> = lid closed with screws <b>CV</b> = lid with hinges, closed with screws <b>CC</b> = lid with hinges, closed with locking device
<b>[nFC]</b>	number (n) of flanges short side (when provided)
<b>[nFL]</b>	number (n) of flanges long side (when provided)

**Models Sizes:**

Enclosure code	Nominal dimension (mm)	WIDTH (mm)	HEIGHT (mm)	DEPTH (mm)	Minimum thickness (mm)
CBX 13 13 09	130x130x90	130÷170	130÷170	90÷100	1,2
CBX 14 14 09	140x140x90	140÷170	140÷170	90÷130	1,2
CBX 17 17 09	170x170x90	170÷220	170÷220	90÷100	1,2
CBX 22 12 09	220x120x90	220÷270	120÷170	90÷100	1,2
CBX 22 16 09	220x165x90	220÷270	165÷200	90÷150	1,5

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CBX 22 22 09	220x220x90	220÷270	220÷270	90÷150	1,5
CBX 33 22 11	330x220x110	330÷400	220÷300	110÷150	1,5
CBX 33 33 11	330x330x110	330÷400	330÷400	110÷150	1,5
CBX 40 40 13	400x400x130	400÷490	400÷490	130÷150	1,5
CBX 44 22 13	440x220x130	440÷530	220÷300	130÷150	1,5
CBX 44 33 13	440x330x130	440÷530	330÷400	130÷150	1,5
CBX 49 36 13	490x365x130	490÷600	365÷450	130÷150	1,5
CBX 50 40 13	500x400x130	500÷600	400÷490	130÷150	1,5
CBX 52 42 13	520x420x130	520÷600	420÷500	130÷150	1,5
CBX 60 20 13	600x200x130	600÷720	200÷280	130÷150	1,5
CBX 63 48 13	630x480x130	630÷900	480÷680	130÷150	1,5
CBX 74 40 13	740x400x130	740÷1000	400÷750	130÷150	1,5
CBX 80 60 13	800x600x130	750÷1100	600÷850	130÷150	1,5
CBX 22 16 09	220x165x150	220÷270	165÷200	150÷225	1,5
CBX 22 22 15	220x220x150	220÷270	220÷270	150÷225	1,5
CBX 33 22 15	330x220x150	330÷400	220÷300	150÷225	1,5
CBX 33 33 15	330x330x150	330÷400	330÷400	150÷225	1,5
CBX 40 40 15	400x400x150	400÷490	400÷490	150÷225	1,5
CBX 44 22 15	440x220x150	440÷530	220÷300	150÷225	1,5
CBX 44 33 15	440x330x150	440÷530	330÷400	150÷225	1,5
CBX 49 36 15	490x365x150	490÷600	365÷450	150÷225	1,5
CBX 50 40 15	500x400x150	500÷600	400÷490	150÷225	1,5
CBX 52 42 15	520x420x150	520÷600	420÷500	150÷250	1,5
CBX 60 20 15	600x200x150	600÷720	200÷280	150÷250	1,5
CBX 63 48 15	630x480x150	630÷900	480÷680	150÷250	1,5
CBX 74 40 15	740x400x150	740÷1000	400÷750	150÷300	1,5
CBX 80 60 15	800x600x150	800÷1100	600÷850	150÷300	1,5
CBX 10 10 09*	100X100X90	100÷135	100÷155	90÷100	1,2
CBX 10 16 09*	100X160X90	100÷135	160÷215	90÷100	1,2
CBX 10 22 09*	100X220X90	100÷135	220÷275	90÷100	1,2
CBX 10 28 09*	100X280X90	100÷135	280÷300	90÷100	1,2

NOTE: Enclosure dimensions can be increased/decreased up to ones included in the ranges listed in Columns "Width", "Height", "Depth" in Table above. Model name changes consequently, following the criteria shown in Key code.

The thickness of enclosures mentioned in Table is the minimum allowable. The maximum thickness is 3 mm.

[15.2] **Ratings:**

Maximum rated voltage: 1000 Vac/dc

Maximum rated current: 350 A

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The maximum allowed power dissipation Pd within the range of CBX... equipment is indicated in table below.

Size	S (K/W)	Pdmax (W)																	
		T6						T5						T4					
		+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C	+40°C	+45°C	+50°C	+55°C	+60°C	+65°C
CBX_101009	6,22	6,4	5,6	4,8	4,0	3,2	2,4	8,8	8,0	7,2	6,4	5,6	4,8	14,5	13,7	12,9	12,1	11,3	10,5
CBX_101609	4,40	9,1	8,0	6,8	5,7	4,5	3,4	12,5	11,4	10,2	9,1	8,0	6,8	20,5	19,3	19,2	17,0	15,9	14,8
CBX_102209 <sup>(1)</sup>	12,8	3,1	2,7	2,3	2,0	1,6	1,2	4,3	3,9	3,5	3,1	2,7	2,3	7,0	6,6	6,3	5,9	5,5	5,1
CBX_102809 <sup>(1)</sup>	9,34	4,3	3,7	3,2	2,7	2,1	1,6	5,9	5,4	4,8	4,3	3,7	3,2	9,6	9,1	8,6	8,0	7,5	7,0
CBX_131309	4,33	9,2	8,1	6,9	5,8	4,6	3,5	12,7	11,6	10,4	9,2	8,1	6,9	20,8	19,6	18,5	17,3	16,2	15,0
CBX_141409	3,90	10,3	9,0	7,7	6,4	5,1	3,9	14,1	12,8	11,6	10,3	9,0	7,7	23,1	21,8	20,5	19,3	18,0	16,7
CBX_171709	2,94	13,6	11,9	10,2	8,5	6,8	5,1	18,7	17,0	15,3	13,6	11,9	10,2	30,6	28,9	27,2	25,5	23,8	22,1
CBX_221209	2,70	14,8	13,0	11,1	9,3	7,4	5,6	20,4	18,5	16,7	14,8	13,0	11,1	33,3	31,5	29,6	27,8	25,9	24,1
CBX_221609	2,52	15,9	13,9	11,9	9,9	7,9	6,0	21,8	19,9	17,9	15,9	13,9	11,9	35,7	33,8	31,8	29,8	27,8	25,8
CBX_221615	1,68	23,8	20,9	17,9	14,9	11,9	8,9	32,8	29,8	26,8	23,8	20,9	17,9	53,6	50,7	47,7	44,7	41,7	38,7
CBX_222209	1,62	24,7	21,6	18,5	15,4	12,3	9,3	34,0	30,9	27,8	24,7	21,6	18,5	55,6	52,5	49,4	46,3	43,2	40,1
CBX_222215	1,36	29,5	25,8	22,1	18,4	14,7	11,0	40,5	36,8	33,1	29,5	25,8	22,1	66,3	62,6	58,9	55,2	51,5	47,9
CBX_332211	1,18	33,9	29,7	25,4	21,2	16,9	12,7	46,6	42,4	38,1	33,9	29,7	25,4	76,2	72,0	67,8	63,5	59,3	55,1
CBX_332215	1,00	40,0	35,0	30,0	25,0	20,0	15,0	55,0	50,0	45,0	40,0	35,0	30,0	90,1	85,1	80,0	75,0	70,0	65,0
CBX_333311	0,88	45,6	39,9	34,2	28,5	22,8	17,1	62,7	57,0	51,3	45,6	39,9	34,2	102,7	97,0	91,3	85,6	79,9	74,2
CBX_333315	0,75	53,2	46,6	39,9	33,3	26,6	20,0	73,2	66,5	59,9	53,2	46,6	39,9	119,7	113,1	106,4	99,8	93,1	86,5
CBX_404013	0,65	62,0	54,2	46,5	38,7	31,0	23,2	85,2	77,5	69,7	62,0	54,2	46,5	139,5	131,7	124,0	116,2	108,5	100,7
CBX_404015	0,56	71,5	62,5	53,6	44,7	35,7	26,8	98,3	89,3	80,4	71,5	62,5	53,6	160,8	151,9	143,0	134,0	125,1	116,2
CBX_442213	1,86	21,5	18,8	16,1	13,4	10,7	8,0	29,5	26,8	24,1	21,5	18,8	16,1	48,3	45,6	42,9	40,2	37,6	34,9
CBX_442215	1,47	27,2	23,8	20,4	17,0	13,6	10,2	37,5	34,1	30,7	27,2	23,8	20,4	61,3	57,9	54,5	51,1	47,7	44,3
CBX_443313	0,69	57,7	50,5	43,3	36,1	28,8	21,6	79,3	72,1	64,9	57,7	50,5	43,3	129,8	122,6	115,4	108,2	101,0	93,8
CBX_443315	0,60	66,8	58,4	50,1	41,7	33,4	25,0	91,8	83,4	75,1	66,8	58,4	50,1	150,2	141,9	133,5	125,2	116,8	108,5
CBX_493613	0,59	67,6	59,1	50,7	42,2	33,8	25,3	92,9	84,5	76,0	67,6	59,1	50,7	152,1	143,6	135,2	126,7	118,3	109,8
CBX_493615	0,51	77,8	68,0	58,3	48,6	38,9	29,2	106,9	97,2	87,5	77,8	68,0	58,3	174,9	165,2	155,5	145,8	136,1	126,3
CBX_504013	0,54	74,7	65,3	56,0	46,7	37,3	28,0	102,7	93,3	84,0	74,7	65,3	56,0	168,0	158,7	149,3	140,0	130,7	121,3
CBX_504015	0,47	85,5	74,8	64,2	53,5	42,8	32,1	117,6	106,9	96,2	85,5	74,8	64,2	192,5	181,8	171,1	160,4	149,7	139,0
CBX_524213	0,50	80,3	70,2	60,2	50,2	40,1	30,1	110,4	100,4	90,3	80,3	70,2	60,2	180,6	170,6	160,6	150,5	140,5	130,5
CBX_524215	0,44	91,7	80,3	68,8	57,3	45,9	34,4	126,1	114,6	103,2	91,7	80,3	68,8	206,4	194,9	183,4	172,0	160,5	149,0
CBX_602013	1,34	29,9	26,2	22,4	18,7	15,0	11,2	41,1	37,4	33,7	29,9	26,2	22,4	67,3	63,6	59,9	56,1	52,4	48,6
CBX_602015	1,05	37,9	33,2	28,4	23,7	19,0	14,2	52,1	47,4	42,7	37,9	33,2	28,4	85,3	80,6	75,8	71,1	66,4	61,6
CBX_634813	0,38	105,8	92,6	79,3	66,1	52,9	39,7	145,4	132,2	119,0	105,8	92,6	79,3	238,0	224,8	211,6	198,3	185,1	171,9
CBX_634815	0,33	119,7	104,7	89,7	74,8	59,8	44,9	164,5	149,6	134,6	119,7	104,7	89,7	269,2	254,3	239,3	224,4	209,4	194,4
CBX_744013	0,49	81,0	70,9	60,8	50,6	40,5	30,4	111,4	101,3	91,1	81,0	70,9	60,8	182,3	172,2	162,0	151,9	141,8	131,7
CBX_744015	0,41	97,7	85,5	73,3	61,1	48,9	36,7	134,4	122,2	110,0	97,7	85,5	73,3	219,9	207,7	195,5	183,3	171,0	158,8
CBX_806013	0,24	166,7	145,8	125,0	104,2	83,3	62,5	229,2	208,3	187,5	166,7	145,8	125,0	375,0	354,2	333,3	312,5	291,7	270,8
CBX_806015	0,23	173,9	152,2	130,4	108,7	87,0	65,2	239,1	217,4	195,7	173,9	152,2	130,4	391,3	369,6	347,8	326,1	304,3	282,6

<sup>(1)</sup> Values valid when enclosure is installed with long side in vertical position. If installed with long side in horizontal position same values of CBX 221209 can be considered.

The maximum number of terminals which may be fitted into each junction box is calculated using the following formula:

$$P_d = N \cdot (R_m + R_f) \cdot I^2$$

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Pd = power dissipation [W], according to following table  
 N = number of terminals  
 Rm = terminal resistance [ $\Omega$ ], evacuate at service temperature  
 Rf = resistance [ $\Omega$ ] of one conductor when using maximum diagonal cable length, evaluate at service temperature  
 I = actual current [A] through the conductor up to the maximum permitted certified current of the terminal when fitted in a junction box

[15.3] **Safety Ratings:** None

[15.4] **Ambient temperature and temperature classes:**

Tamb: -60/-55/-50/-45/-40/-35/-30/-25/-20 °C ÷ +40/+45/+50/+55/+60/+65°C.

The temperature class (T6/T5/T4 for gas and T85°C/T100°C/T135°C for dust) is a function of the maximum power dissipated as specified at [15.2].

[15.5] **Degree of protection (IP code):** IP66 or IP65

[15.6] **Warnings:**

On the label: DO NOT OPEN WHEN ENERGIZED.

Cable temperature Tc = ...°C

[16] **Report:** AT19-0045780-01

[16.1] **Routine (factory) tests:**

The manufacturer shall carry out the dielectric routine test (prescribed at clause 7.1 of the EN 60079-7 standard) between the supply terminals and earth. The applied voltage shall be at least at (1 000 + 2U) Vac or 1 500 Vac, whichever is greater, where "U" is the r.m.s. working voltage.

[16.2] **Conformity with the documentation:**

The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.

Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;
- the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**

Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.

Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user.

These should be specified to the manufacturer by the user;

It is not a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.

Installation of equipment has to proceed according to EN 60079-14.

The type and number of terminals and components which can be installed in the various enclosures is indicated in detail, together with the maximum admissible currents in manufacturer's documents.

When selecting the permitted continuous current for cross section, the maximum permitted

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electrical current for the terminals and the connecting cable or conductor should be taken into consideration.

The accessories used for cable entries and for closing unused openings shall be certified according to IEC 60079-0, IEC 60079-7 and IEC 60079-31 standards. A minimum degree of protection IP66 shall be guaranteed according to IEC 60529 standard.

[17] **Special Condition of use (X):**

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 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.

[18] **Essential Health and safety Requirements:**

This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].

This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VIII of the Directive

ESHR 1.4 Not verified.

ESHR 1.5 Not verified.

ESHR 3 Not applied.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:  
n/a

[19] **Descriptive documents:**

DL-AT19-0045780-01, rev. 0, dated 2020-09-18.

[20] **Certification Validity Conditions:**

The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.

The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.

One copy of the mentioned documentation is kept in IMQ file.

[21] **Variations**

2020, September:

- First issue