



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx INE 13.0065X Issue No: 1 Certificate history:  
Status: **Current** Page 1 of 4 [Issue No. 1 \(2014-12-12\)](#)  
Date of Issue: **2014-12-12** [Issue No. 0 \(2014-03-12\)](#)

Applicant: **COELBO S.r.l.**  
Via S. Margherita, 83  
I - 20861 Brugherio (MB)  
**Italy**

Electrical Apparatus: **Enclosures type CCF/CCV**  
*Optional accessory:*

Type of Protection: **d, d [ia], tb, tb[ia]**

Marking:  
Ex d IIB or IIB+H2 or II (H2) T.. Gb  
Ex tb IIIC T.. Db IP65 or IP66  
Ex d[ia] IIB or IIC Ga] IIB or IIB+H2 T.. Gb  
Ex tb[ia Da] IIIC T.. Db IP65 or IP66

*Approved for issue on behalf of the IECEx  
Certification Body:*

Thierry HOUEIX

*Position:*

Ex Certification Officer

*Signature:  
(for printed version)*

*Date:*

2014-12-12

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 the [Official IECEx Website](#).

Certificate issued by:

**INERIS**  
**Institut National de l'Environnement Industriel  
et des Risques**  
**BP n2**  
**Parc Technologique ALATA**  
**F-60550 Verneuil-En-Halatte**  
**France**

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Manufacturer: **COELBO S.r.l.**  
Via S. Margherita, 83  
I - 20861 Brugherio (MB)  
**Italy**

Additional Manufacturing  
location(s):

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 electrical apparatus 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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'

*This Certificate **does not** indicate compliance with electrical 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:

[FR/INE/ExTR13.0065/01](#)

Quality Assessment Report:

[IT/CES/QAR10.0009/04](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Range of flameproof enclosures made in Aluminum light alloy EN AB/AC 43100 AISi10.

These enclosures are intended to contain mainly electrical and/or electronical "NIS" components, they can also contain "IS" elements covered by a separated IECEx certificate.

These enclosures can be fitted with the command and signalling units covered by the certificate IECEx INE 14.0023U and window specified in manufacturer's descriptive documentation.

The versions containing intrinsic safety associated apparatus have to respect power limits reported in table 2, otherwise the enclosure shall be equipped with an internal thermal probe.

These enclosures get the degree of protection IP66 or IP65 in accordance with IEC 60529.

### CONDITIONS OF CERTIFICATION: YES as shown below:

- The width of the flameproof joints is greater than the values specified in the IEC 60079-1 standard.
- The cover and the body shall be fixed by stainless steel screws quality A2-70 or better.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Purpose of the Issue No1:

Application of group IIB+H2 for all enclosure sizes.

For the enclosures with volume greater than 80500 cm<sup>3</sup>, only for NSI version:

-Application of a new minimum ambient temperature, from -20°C to -40°C, for group IIB or IIB+H2;

-Addition of a version only H2 with temperature range from -50°C to +40°C or +50°C or +60°C;

### **Annex:**

[IECEx INE 13.0065X-01\\_Annex.pdf](#)



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## **PARAMETERS RELATING TO THE SAFETY**

For enclosure without intrinsic safety element:

Enclosure CCF or CCV	Minimum Temperature	Maximum Temperature	Gas Group
All except 16, 16A and 16B	-20°C or -50°C	+40°C or +50°C or +60°C	IIB or IIB+H <sub>2</sub>
Only 16, 16A, 16B	-20°C or -40°C	+40°C or +50°C or +60°C	IIB or IIB+H <sub>2</sub>
Only 16, 16A, 16B	-50°C	+40°C or +50°C or +60°C	II(H <sub>2</sub> )

Maximum supply voltage : 1000 Vac or Vdc  
Maximum dissipated powers are defined in the Table 1.

For enclosure with intrinsic safety element:

This version is intended to use in range of ambient temperatures from:  
-20°C to +40°C or +50°C or +60°C.

Maximum supply voltage for Non 'IS' elements : 1000 Vac or Vdc  
Maximum supply voltage for "IS" elements : 250 V  
Maximum dissipated powers are defined in the Table 2, for enclosures without thermal probes.  
Maximum dissipated powers are defined in the Table 1, for enclosures with thermal probes.  
The maximum threshold of thermal probe shall be:  
(maximum barrier's temperature -5°C)±5°C

## **MARKING**

Marking has to be readable and indelible; it has to include the following indications:

### **A. Enclosures without intrinsic safety element:**

#### **All enclosures except 16, 16A and 16B versions:**

- COELBO
- I-20861 Brugherio (MB)
- CCF... or CCV...(\*)
- IECEx INE 13.0065X
- (Serial number)
- Ex d IIB or IIB+H<sub>2</sub> T6 or T5 or T4 or T3 Gb
- Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP65 or IP66
- ...°C < Tamb < ...°C (\*\*)
- T.Cable : (\*\*\*)



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- **WARNINGS:**

DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

(\*) Type is completed by numbers and/or letters corresponding to different versions of the enclosure.

(\*\*) See parameters relating to the safety.

(\*\*\*) See Table.

**Only 16, 16A and 16B versions:**

- COELBO
- I-20861 Brugherio (MB)
- CCF...or CCV...(\*)
- IECEx INE 13.0065X
- (Serial number)
- Ex d IIB or IIB+H<sub>2</sub> or II(H<sub>2</sub>) T6 or T5 or T4 or T3 Gb (\*\*)
- Ex tb IIIC T85°C or T100°C or T135°C or T200°C Db IP65 or IP66
- ...°C < Tamb < ...°C (\*\*)
- T.Cable : (\*\*\*)

- **WARNINGS:**

DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

(\*) Type is completed by numbers and/or letters corresponding to different versions of the enclosure.

(\*\*) See parameters relating to the safety.

(\*\*\*) See Table.

**B. Enclosures with intrinsic safety element:**

- COELBO
- I-20861 Brugherio (MB)
- CCF... or CCV...(\*)
- IECEx INE 13.0065X
- (Serial number)
- Ex d[ja IIB or IIC Ga] IIB or IIB+H<sub>2</sub> T6 or T5 or T4 or T3 Gb
- Ex tb[ja Da] IIIC T85°C or T100°C or T135°C or T200°C Db IP65 or IP66
- ...°C < Tamb < ...°C (\*\*)
- T.Cable : (\*\*\*)

- **WARNINGS:**

DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

(\*) Type is completed by numbers and/or letters corresponding to different versions of the enclosure.

(\*\*) See parameters relating to the safety.

(\*\*\*) See Table.



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**Table 1: Enclosure without intrinsic safety element**

	T6 for max ambient:			T5 for max ambient:			T4 for max ambient:			T3 for max ambient:		
	40°C	50°C	60°C	40°C	50°C	60°C	40°C	50°C	60°C	40°C	50°C	60°C
	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]
CCF0	23	17	10	33	27	20	57	50	43	90	83	77
CCF1	31	22	13	44	35	26	75	66	57	119	110	101
CCF1A	35	25	15	50	40	30	86	76	66	136	126	116
CCF2	57	41	24	82	65	49	139	122	106	220	204	188
CCF3	70	50	30	100	80	60	170	150	130	270	250	230
CCF3A	91	65	39	130	104	78	221	195	169	351	325	299
CCF4	51	37	18	74	55	42	125	111	92	199	139	129
CCF4A	66	48	24	96	72	54	161	143	120	257	179	167
CCF5	81	59	30	118	89	66	199	177	148	318	222	207
CCF5A	99	72	36	144	108	81	243	216	180	387	270	252
CCF6	90	66	33	131	99	74	222	197	164	353	246	230
CCF6A	110	80	40	160	120	90	269	239	199	429	299	279
CCF7	112	82	41	164	123	92	276	245	205	440	307	286
CCF7A	136	99	49	198	148	111	334	297	247	532	371	346
CCF8	110	80	40	160	120	90	270	240	200	430	300	280
CCF8A	146	105	64	210	169	129	351	310	269	555	514	473
CCF9	139	100	61	201	162	123	335	296	257	530	491	452
CCF9A	169	121	74	243	196	148	405	358	310	641	594	547
CCF10	167	120	73	240	194	147	401	354	307	634	588	541
CCF10A	200	144	88	288	232	176	480	424	368	760	704	648
CCF10B	233	168	103	335	270	205	559	494	429	885	820	755
CCF11	220	159	97	317	256	194	529	467	405	837	775	714
CCF11A	256	184	113	368	297	225	614	542	471	972	900	829
CCF11B	291	210	128	419	338	256	699	618	536	1107	1025	944
CCF12	250	180	110	360	290	220	600	530	460	950	880	810
CCF12A	289	208	127	416	335	254	694	613	532	1099	1018	937
CCF12B	328	236	144	473	381	289	788	696	604	1247	1156	1064
CCF13	72	52	32	103	83	63	172	152	132	273	253	233
CCF14	111	80	49	160	129	98	267	236	205	422	391	360
CCF16	402	290	177	579	467	354	965	853	740	1528	1416	1303
CCF16A	461	332	203	664	535	406	1107	978	849	1753	1624	1495
CCF16B	521	375	229	750	604	458	1249	1103	958	1978	1832	1686
CCF20	142	103	63	205	165	125	342	302	262	541	501	462
CCF20A	194	140	86	280	226	171	467	412	358	739	685	630
CCF20B	257	185	113	370	298	226	616	545	473	976	904	832
T.CABLE	80°C			95°C			130°C			175°C		



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**Table 2: Enclosure with intrinsic safety element**

	Ambient temperature of the enclosure:								
	40°C			50°C			60°C		
	Maximum ambient temperature of IS barriers :			Maximum ambient temperature of IS barriers :			Maximum ambient temperature of IS barriers :		
	60°C	70°C	80°C	60°C	70°C	80°C	60°C	70°C	80°C
	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]	P[W]
CCF0	7	10	17	-	7	10	-	-	7
CCF1	9	13	22	-	9	13	-	-	9
CCF1A	10	15	25	-	10	15	-	-	10
CCF2	16	24	41	-	16	24	-	-	16
CCF3	20	30	50	-	20	30	-	-	20
CCF3A	26	39	65	-	26	39	-	-	26
CCF4	14	28	42	-	14	28	-	-	14
CCF4A	18	36	54	-	18	36	-	-	18
CCF5	22	44	66	-	22	44	-	-	22
CCF5A	27	54	81	-	27	54	-	-	27
CCF6	25	49	74	-	25	49	-	-	25
CCF6A	30	60	90	-	30	60	-	-	30
CCF7	31	61	92	-	31	61	-	-	31
CCF7A	37	74	111	-	37	74	-	-	37
CCF8	30	60	90	-	30	60	-	-	30
CCF8A	47	82	111	-	47	82	-	-	47
CCF9	45	78	106	-	45	78	-	-	45
CCF9A	54	94	128	-	54	94	-	-	54
CCF10	53	93	127	-	53	93	-	-	53
CCF10A	64	112	152	-	64	112	-	-	64
CCF10B	75	130	177	-	75	130	-	-	75
CCF11	70	123	167	-	70	123	-	-	70
CCF11A	82	143	194	-	82	143	-	-	82
CCF11B	93	163	221	-	93	163	-	-	93
CCF12	80	140	190	-	80	140	-	-	80
CCF12A	93	162	220	-	93	162	-	-	93
CCF12B	105	184	249	-	105	184	-	-	105
CCF13	23	40	55	-	23	40	-	-	23
CCF14	36	62	84	-	36	62	-	-	36
CCF16	129	225	306	-	129	225	-	-	129
CCF16A	148	258	351	-	148	258	-	-	148
CCF16B	167	291	396	-	167	291	-	-	167
CCF20	46	80	108	-	46	80	-	-	46
CCF20A	62	109	148	-	62	109	-	-	62
CCF20B	82	144	195	-	82	144	-	-	82





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## **ROUTINE EXAMINATIONS AND TESTS**

Each equipment defined above has to have successfully passed; before delivery:

### **Enclosures from 800 cm<sup>3</sup> to 4700 cm<sup>3</sup>:**

In accordance with clause 16.1 of the IEC 60079-1 standard, an overpressure test of a period comprised between 10 and 60 seconds under:

- 10.2 bar for -20°C.
- 13.4 bar for -50°C.

### **Enclosures from 4701 cm<sup>3</sup> to 17700 cm<sup>3</sup>:**

In accordance with clause 16.1 of the IEC 60079-1 standard, an overpressure test of a period comprised between 10 and 60 seconds under

- 11.6 bar for -20°C.
- 14.6 bar for -50°C.

### **Enclosures from 17701 cm<sup>3</sup> to 80500 cm<sup>3</sup>:**

In accordance with clause 16.1 of the IEC 60079-1 standard, an overpressure test of a period comprised between 10 and 60 seconds under

- 13.7 bar for -20°C.
- 16.7 bar for -50°C.

### **Enclosures from 80501 cm<sup>3</sup> to 160600 cm<sup>3</sup>:**

In accordance with clause 16.1 of the IEC 60079-1 standard, an overpressure test of a period comprised between 10 and 60 seconds under

- 15.6 bar for -20°C.
- 17.7 bar for -40°C and -50°C.