



Ex d Control and distribution boxes INDEX.B.CO
Operation and instruction manual

Aluminium
Stainless Steel



INDEX ELEKTRO BV
Harregatplein 15
3214 VP Zuidland
Netherlands



T. +31(0)181 452120
<http://www.indexelektro.nl>
email Sales@indexelektro.nl



Purpose of these instructions

Working in hazardous areas, the safety of personnel and plant depends on complying with all relevant safety regulations. Assembly and maintenance staff working on installations therefore have a particular responsibility. They require precise knowledge of the applicable standards and regulations. These instructions give a brief summary of the most important safety measures. It supplements the corresponding regulations which the staff must study.



SAFETY INSTRUCTIONS

Use the explosion-proof box only for its intended purpose. Explosion-proof boxes are not suitable for Zone 0 hazardous areas! Incorrect or impermissible use or non-compliance with these instructions invalidates our warranty provision. No changes to the device impairing its explosion protection are permitted. Use the explosion-proof box only if it is clean and undamaged. Any damage can invalidate the Ex-protection.

Observe the following during installation and operation:

- National safety regulations
- National accident prevention regulations;
- National installation regulations(e.g. IEC 60079-14);
- Generally recognized technical regulations;
- Safety guidelines in these operating instructions;
- Characteristic values given on Ex labels

Applicable scope

Transport and storage in original packaging only. National safety and installations regulations and the generally accepted rules of engineering practice must be observed when mounting and operating this equipment.

Technical data

Ex mark: Ⓜ II 2G Ex db [.....] IIB/IIC T4/T5/T6 Gb
 Ⓜ II 2D Ex tb IIIC 80°/95°/130°C Db

Can be used in zone 1,2, 21 en 22
 Ambient temperature: $-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$
 Optional temperature: $-40^{\circ}\text{C} \leq T_a \leq 80^{\circ}\text{C}$
 Degree of protection: IP65 / IP66
 Max. voltage prim. 1000 V / Sec. 10 kV (for ignition)
 I max. 1000 A

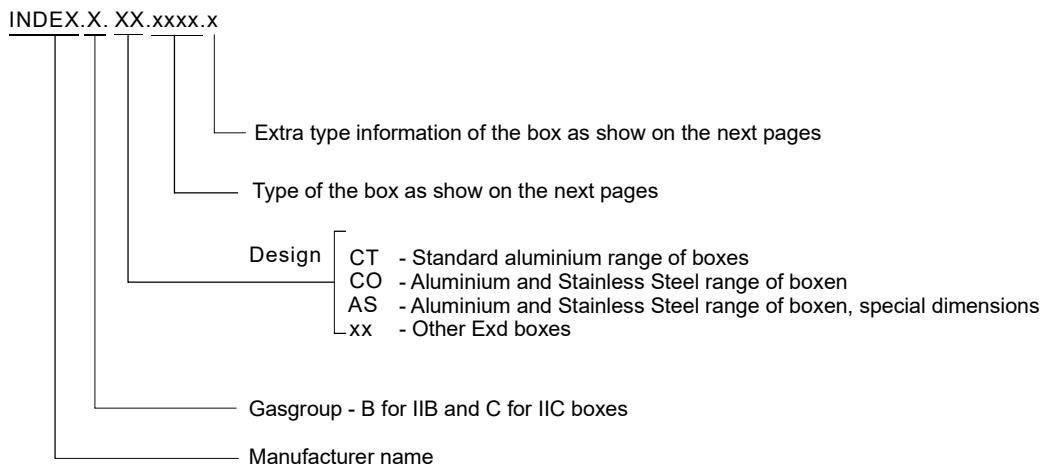
Certificate CML 18ATEX1026X
 IECEX CML 18.0021X

Conformity to standards

The explosion-proof box is designed and manufactured according to standard of ISO 9001. The explosion-proof box is in conformity with ATEX directive and the standards:

IEC60079 - 0,	EN60079 - 0
IEC60079 - 1,	EN60079 - 1
IEC60079 - 11,	EN60079 - 11
IEC60079 - 31	EN60079 - 31
IEC61241,	EN61241

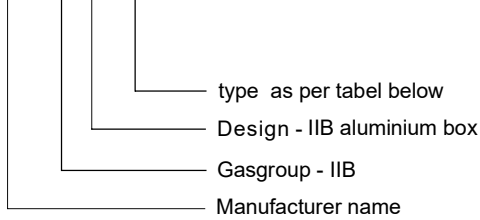
Model and implication of INDEX.Ex d boxes.





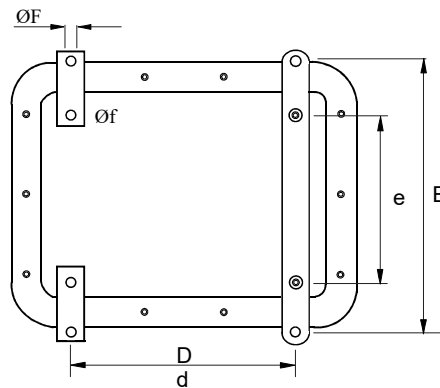
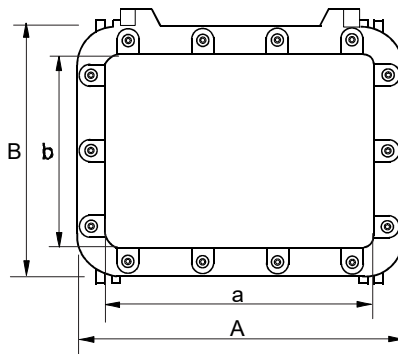
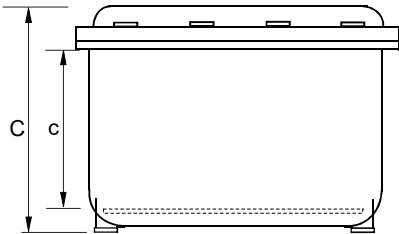
Control box Ex d - type INDEX.B.CO.xx

INDEX.B.CO.XXX



Technical data:

Ex mark: Ex II 2G Ex db [...] IIB+H2 T6..T4
 Ex II 2D Ex tb [...] IIIC T85°...T135°C
 Can be used in zone 1, 2, 21 en 22
 Ambient temperature: $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
 Optinal: $-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$
 Degree of protection: IP66
 Material: copper free aluminium LM6 (copper <0.05%)
 Optional: offshore coating in RAL colour



	Nm Torque
Material	
Standard Bolt INOX Class 70	see next page

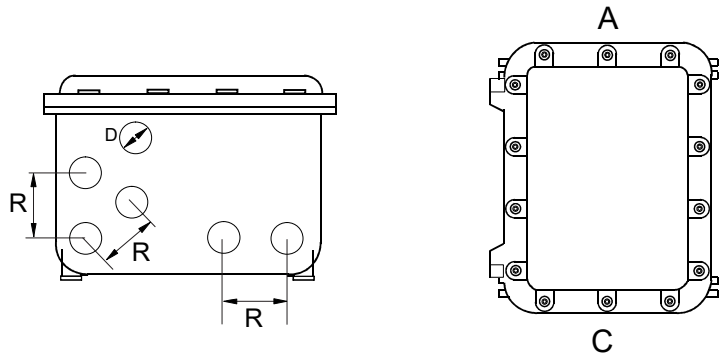
Note Preload = 50%



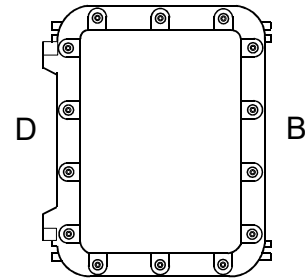
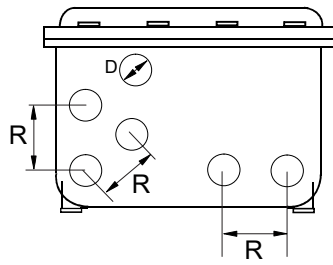
Enclosure type	Dimensions (mm)												Weight	Torque Values
	External			Internal			Fixing dimensions			Fixing with brackets				
	A	B	C	a	b	c	d	e	f	D	E	F		
INDEX.B.CO.0	150	150	127	93	93	96	60	104	M6	60	140	7	3.2	11
INDEX.B.CO.1	200	150	127	143	93	96	110	104	M6	110	140	7	4.1	11
INDEX.B.CO.2	250	200	150	190	140	124	160	154	M6	160	190	7	6.8	11
INDEX.B.CO.3	300	250	150	225	175	117	180	185	M6	180	230	9	10.6	25
INDEX.B.CO.3A	300	250	200	225	175	167	180	185	M6	180	230	9	11.9	25
INDEX.B.CO.4	350	250	150	275	175	117	230	185	M6	230	230	9	12.0	25
INDEX.B.CO.4A	350	250	200	275	175	167	230	185	M6	230	230	9	13.3	25
INDEX.B.CO.5	400	300	200	318	218	164	275	225	M8	275	275	9	18.0	25
INDEX.B.CO.5A	400	300	250	318	218	214	275	225	M8	275	275	9	20.0	25
INDEX.B.CO.6	450	300	200	368	218	164	325	225	M8	325	275	9	20.0	25
INDEX.B.CO.6A	450	300	250	368	218	214	325	225	M8	325	275	9	22.5	25
INDEX.B.CO.7	500	400	200	405	305	152	350	315	M10	350	370	11	31.0	48
INDEX.B.CO.7A	500	400	250	405	305	202	350	315	M10	350	370	11	34.0	48
INDEX.B.CO.8	550	350	200	455	255	152	400	265	M10	400	320	11	31.0	48
INDEX.B.CO.8A	550	350	250	455	255	200	400	265	M10	400	320	11	34.0	48
INDEX.B.CO.9	600	400	200	500	300	145	450	315	M10	450	370	11	38.0	48
INDEX.B.CO.9A	600	400	250	500	300	195	450	315	M10	450	370	11	43.0	48
INDEX.B.CO.10	650	450	200	548	356	145	500	360	M10	500	420	11	49.0	48
INDEX.B.CO.10A	650	450	250	548	356	195	500	360	M10	500	420	11	55.0	48
INDEX.B.CO.10B	650	450	300	548	356	245	500	360	M10	500	420	11	61.5	48
INDEX.B.CO.11	700	500	250	586	386	194	520	395	M12	520	465	13	68.0	85
INDEX.B.CO.11A	700	500	300	586	386	244	520	395	M12	520	465	13	76.0	85
INDEX.B.CO.11B	700	500	350	586	386	294	520	395	M12	520	465	13	84.0	85
INDEX.B.CO.12	750	550	250	636	436	190	570	445	M12	570	515	13	82.0	85
INDEX.B.CO.12A	750	550	300	636	436	240	570	445	M12	570	515	13	90.0	85
INDEX.B.CO.12B	750	550	350	636	436	290	570	445	M12	570	515	13	98.0	85
INDEX.B.CO.13	600	200	140	520	120	105	470	135	M6	470	180	9	15.5	25
INDEX.B.CO.14	750	220	175	670	140	130	610	150	M8	610	200	9	24.0	25
INDEX.B.CO.16	920	670	330	800	550	245	650	560	M16	650	660	16	135.0	130
INDEX.B.CO.16A	920	670	390	800	550	305	650	560	M16	650	660	16	150.0	130
INDEX.B.CO.16B	920	670	450	800	550	365	650	560	M16	650	660	16	160.0	130
INDEX.B.CO.20B	450	450	470	356	356	405	300	360	M10	300	420	11	51.0	48



Enclosure type	Max. dissipated power by T.ambient											
	Max. ambient temp +40				Max. ambient temp +50				Max. ambient temp +60			
	T6	T5	T4	T3	T6	T5	T4	T3	T6	T5	T4	T3
INDEX.B.CO.0	15	20	35	70	10	15	30	65	5	15	25	60
INDEX.B.CO.1	20	30	50	100	15	20	40	90	10	20	35	85
INDEX.B.CO.2	40	55	90	180	30	40	80	175	15	30	70	160
INDEX.B.CO.3	50	70	110	240	35	55	100	220	20	40	85	205
INDEX.B.CO.3A	60	85	140	295	40	65	120	275	25	50	105	255
INDEX.B.CO.4	60	80	130	280	40	60	120	260	25	50	100	240
INDEX.B.CO.4A	70	95	160	340	50	75	140	320	30	60	125	295
INDEX.B.CO.5	90	120	205	430	60	100	180	405	40	75	160	380
INDEX.B.CO.5A	100	145	240	510	70	115	210	475	45	95	185	445
INDEX.B.CO.6	100	135	230	490	70	110	205	455	45	85	175	420
INDEX.B.CO.6A	115	160	270	570	80	130	240	535	50	100	205	495
INDEX.B.CO.7	130	180	305	645	90	145	270	600	55	110	230	555
INDEX.B.CO.7A	150	205	350	740	105	165	310	695	65	130	270	645
INDEX.B.CO.8	125	175	295	620	90	140	260	580	55	105	225	540
INDEX.B.CO.8A	140	200	340	715	100	160	300	670	65	120	260	620
INDEX.B.CO.9	150	205	350	740	105	165	310	690	65	125	270	640
INDEX.B.CO.9A	170	234	400	850	120	190	355	795	75	145	305	735
INDEX.B.CO.10	180	240	430	905	130	205	380	845	80	155	320	785
INDEX.B.CO.10A	205	290	485	1035	150	230	430	965	90	175	375	895
INDEX.B.CO.10B	230	325	545	1160	165	260	480	1080	100	200	420	1000
INDEX.B.CO.11	230	325	545	1150	165	260	480	1075	100	200	420	1000
INDEX.B.CO.11A	255	360	610	1290	185	290	540	1205	115	220	465	1120
INDEX.B.CO.11B	280	400	670	1425	200	320	595	1330	130	240	515	1235
INDEX.B.CO.12	265	375	630	1340	190	300	555	1250	120	230	485	1160
INDEX.B.CO.12A	295	415	700	1490	210	335	620	1390	130	255	540	1290
INDEX.B.CO.12B	325	460	775	1635	235	365	680	1530	145	280	590	1420
INDEX.B.CO.13	70	100	170	360	50	80	150	335	30	60	130	310
INDEX.B.CO.14	110	155	260	555	80	125	230	515	50	95	200	480
INDEX.B.CO.16	425	600	1015	2145	305	480	895	2005	190	365	775	1860
INDEX.B.CO.16A	470	660	1120	2370	340	530	990	2215	210	405	855	2055
INDEX.B.CO.16B	515	725	1225	2555	370	580	1080	2425	230	445	940	2250
INDEX.B.CO.20B	230	325	545	1155	150	260	480	1080	100	200	420	1000



Enclosure type Standard	Side	Holes for glands (D)															
		R	1/2"NPT M20x1.5	R	3/4"NPT M25x1.5	R	1"NPT M32x1.5	R	1.1/4"NPT M40x1.5	R	1.1/2"NPT M50x1.5	R	2"NPT M63x1.5	R	2.1/2"NPT M75x1.5	R	3"NPT M90x2
INDEX.B.CO.0	A - C	45	3	50	2	-	1	-	-	-	-	-	-	-	-	-	
INDEX.B.CO.1	A - C	45	3	50	2	-	1	-	-	-	-	-	-	-	-	-	
INDEX.B.CO.2	A - C	45	5	50	5	60	3	90	2	-	1	-	-	-	-	-	
INDEX.B.CO.3	A - C	45	5	55	4	60	3	90	2	100	2	-	-	-	-	-	
INDEX.B.CO.3A	A - C	45	8	55	6	60	6	70	3	70	3	85	2	-	1	-	1
INDEX.B.CO.4	A - C	50	5	50	4	60	5	95	2	95	2	-	-	-	-	-	-
INDEX.B.CO.4A	A - C	50	8	55	6	55	6	70	3	70	3	85	2	-	1	-	1
INDEX.B.CO.5	A - C	55	8	60	8	65	6	100	2	100	2	-	1	-	-	-	-
INDEX.B.CO.5A	A - C	50	11	50	11	60	8	70	6	70	6	100	2	-	1	-	1
INDEX.B.CO.6	A - C	55	8	55	8	65	6	100	2	100	2	-	1	-	-	-	-
INDEX.B.CO.6A	A - C	50	11	50	11	60	8	70	6	70	6	100	2	-	1	-	1
INDEX.B.CO.7	A - C	55	10	55	10	70	7	100	3	100	3	95	3	-	-	-	-
INDEX.B.CO.7A	A - C	55	15	55	15	70	8	80	5	80	5	95	3	-	1	-	1
INDEX.B.CO.8	A - C	60	8	60	8	70	5	100	2	100	2	120	2	-	-	-	-
INDEX.B.CO.8A	A - C	60	11	60	11	70	6	80	5	80	5	120	2	-	1	-	1
INDEX.B.CO.9	A - C	60	8	60	8	70	4	90	3	90	3	90	3	-	-	-	-
INDEX.B.CO.9A	A - C	60	15	60	15	70	8	80	5	80	5	90	3	160	2	160	2
INDEX.B.CO.10	A - C	55	11	55	11	65	5	85	4	85	4	110	3	-	-	-	-
INDEX.B.CO.10A	A - C	55	17	55	17	65	10	85	7	85	7	110	3	180	2	180	2
INDEX.B.CO.10B	A - C	55	17	55	17	65	14	85	8	85	8	110	5	180	2	180	2
INDEX.B.CO.11	A - C	60	12	60	12	65	9	90	4	90	4	110	3	-	-	-	-
INDEX.B.CO.11A	A - C	60	17	60	17	65	10	90	7	90	7	110	3	180	2	180	2
INDEX.B.CO.11B	A - C	60	22	60	22	65	14	90	8	90	8	110	5	180	2	180	2
INDEX.B.CO.12	A - C	55	14	55	14	65	11	90	4	90	4	90	4	240	2	240	2
INDEX.B.CO.12A	A - C	55	20	55	20	65	12	90	8	90	8	90	7	240	2	240	2
INDEX.B.CO.12B	A - C	55	26	55	26	65	17	90	8	90	8	90	8	240	2	240	2
INDEX.B.CO.13	A - C	50	2	55	2	-	1	-	1	-	1	-	-	-	-	-	-
INDEX.B.CO.14	A - C	60	2	60	2	65	2	-	1	-	1	-	-	-	-	-	-
INDEX.B.CO.16	A - C	60	15	60	15	70	7	90	5	90	5	95	5	-	-	-	-
INDEX.B.CO.16A	A - C	60	23	60	23	70	14	90	10	90	10	95	5	-	-	-	-
INDEX.B.CO.16B	A - C	60	30	60	30	70	20	90	14	90	14	120	8	160	3	160	3
INDEX.B.CO.20B	A - C	55	22	55	22	65	14	85	8	85	8	110	6	180	2	180	2



Enclosure type Standard	Side	Holes for glands (D)															
		R 1/2"NPT M20x1.5		R 3/4"NPT M25x1.5		R 1"NPT M32x1.5		R 1.1/4"NPT M40x1.5		R 1.1/2"NPT M50x1.5		R 2"NPT M63x1.5		R 2.1/2"NPT M75x1.5		R 3"NPT M90x2	
INDEX.B.CO.0	B - D	45	3	50	2	-	1	-	-	-	-	-	-	-	-	-	
INDEX.B.CO.1	B - D	45	5	50	3	60	2	-	-	-	-	-	-	-	-	-	
INDEX.B.CO.2	B - D	50	7	55	6	60	4	90	2	90	2	-	-	-	-	-	
INDEX.B.CO.3	B - D	45	7	55	5	55	4	90	2	90	2	-	-	-	-	-	
INDEX.B.CO.3A	B - D	45	10	55	8	60	8	70	5	70	5	100	2	-	1	-	1
INDEX.B.CO.4	B - D	50	7	50	6	60	5	95	3	95	3	-	-	-	-	-	-
INDEX.B.CO.4A	B - D	50	10	55	10	60	8	70	5	70	5	130	2	-	1	-	1
INDEX.B.CO.5	B - D	55	12	60	10	65	9	100	3	100	3	140	2	-	-	-	-
INDEX.B.CO.5A	B - D	50	17	50	17	60	11	80	6	80	6	90	5	160	2	160	2
INDEX.B.CO.6	B - D	50	14	60	12	65	12	100	4	100	3	140	2	-	-	-	-
INDEX.B.CO.6A	B - D	50	20	50	20	60	17	80	6	80	6	90	5	160	2	160	2
INDEX.B.CO.7	B - D	55	14	55	14	70	9	100	4	100	4	120	3	-	-	-	-
INDEX.B.CO.7A	B - D	55	20	55	20	70	10	80	9	80	9	120	3	200	2	-	1
INDEX.B.CO.8	B - D	60	14	60	14	70	9	90	5	90	5	110	4	-	-	-	-
INDEX.B.CO.8A	B - D	60	20	60	20	70	10	80	9	80	9	110	4	200	2	200	2
INDEX.B.CO.9	B - D	60	16	60	16	70	6	80	6	80	6	120	4	-	-	-	-
INDEX.B.CO.9A	B - D	60	23	60	23	70	12	80	11	80	11	120	4	160	3	160	3
INDEX.B.CO.10	B - D	60	17	60	17	65	8	85	5	85	5	110	5	-	-	-	-
INDEX.B.CO.10A	B - D	60	26	60	26	65	16	85	9	85	9	110	5	180	3	180	3
INDEX.B.CO.10B	B - D	60	26	60	26	65	23	85	10	85	10	110	9	180	3	180	3
INDEX.B.CO.11	B - D	60	18	60	18	65	15	90	6	90	6	110	5	-	-	-	-
INDEX.B.CO.11A	B - D	60	26	60	26	65	16	90	11	90	11	110	5	180	3	180	3
INDEX.B.CO.11B	B - D	60	34	60	34	65	23	90	12	90	12	110	9	180	3	180	3
INDEX.B.CO.12	B - D	65	18	65	18	70	15	80	6	80	6	110	5	200	3	200	3
INDEX.B.CO.12A	B - D	65	26	65	26	70	16	80	12	80	12	90	9	200	3	200	3
INDEX.B.CO.12B	B - D	65	34	65	34	70	23	80	12	80	12	90	10	200	3	200	3
INDEX.B.CO.13	B - D	65	7	65	7	85	6	-	1	-	1	-	-	-	-	-	-
INDEX.B.CO.14	B - D	60	10	70	9	90	7	90	4	90	4	-	-	-	-	-	-
INDEX.B.CO.16	B - D	60	21	60	21	70	10	90	8	90	8	100	7	-	-	-	-
INDEX.B.CO.16A	B - D	60	32	60	32	70	20	90	16	90	16	100	7	140	5	140	5
INDEX.B.CO.16B	B - D	60	42	60	42	70	29	90	23	90	23	120	12	140	5	140	5
INDEX.B.CO.20B	B - D	55	22	55	22	65	14	85	8	85	8	110	6	180	2	180	2

All boxes have the possibility for using pushbuttons, signallights, switches, potentiometers, cable glands, windows, breathers, flame arrestors, etc.

Pushbuttons / signallights / switches etc.

Technical data:

Ex mark: Ⓜ II 2 G Ex d IIC Gb

Ⓜ II 2 D Ex tb IIIC Db

Ambient temperature: $-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

optional temperature: $-50^{\circ}\text{C} \leq T_a \leq 80^{\circ}\text{C}$

Degree of protection: IP66

Voltage: AC 24V/10A - 230V/6A - 400V/4A - 50/60Hz.

Voltage: DC 24V/2.8A - 125V/0,55A - 250V/0.27A

Material body: Brass zinc plated

Material knob switch and lens: Polycarbonate

Components may be used in boxes with maximum free volume by group IIB+H2: 160.6 dm³ and for group IIC: 62.9 dm³. The components with width of cylindrical joints of 19 mm shall be fitted on enclosures with a maximum volume of 2 dm³



Breather, drainvalve, flame arrestor, etc.

Technical data type CT:

Ex mark: Ⓜ II 2 G Ex d IIC T6 Gb (for boxes with max. volume of 100 dm³)

Ⓜ II 2 G Ex d IIB+H2 T6 Gb (for boxes with max. volume of 157 dm³)

Ⓜ II 2 D Ex tb IIIC Db

Ambient temperature: $-50^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Degree of protection: Drain and breathing valves IP66 when closed, IP64 when open

Material body: Stainless Steel 316L

Technical data type CO:

Ex mark: Ⓜ II 2 G Ex d IIC T6 Gb (for boxes with max. volume of 62.9 dm³)

Ⓜ II 2 G Ex d IIB+H2 T6 Gb (for boxes with max. volume of 160.6 dm³)

Ambient temperature: $-60^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Degree of protection: IP64 - Drain and breathing valves IP66 when closed, IP64 when open

Material body: Stainless Steel 316L



Windows

Technical data:

Ex mark: Ⓜ II 2 G Ex d IIC Gb

Ⓜ II 2 D Ex tb IIIC Db

Ambient temperature: $-20^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

optional temperature: $-50^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Degree of protection: IP66

Material body: Aluminium light alloy

Material glass: Thermoresistant glass

Only enclosures whose cemented window joints are still mechanically support once a door or lid is opened may be used in order to comply with Clause 6.1.2 of 60079-1 Ed 7"



This list contains electric component, which can be built in an Ex d cabinet.

Earth leakage circuit breakers - Circuit breakers - AC contactors and DC contactors - Analog instruments - Digital instruments - Analog or digital controls - Amplifiers - Barriers - Capacitor - Frequency inverters - Rectifiers - Transmitters - Terminals - Connectors - Ammeters, Voltmeters, Hour counters etc. - Motor protection switch - Motor starters - Thermal relays - Transformers - Ignition transformers - PLC's - LED's, lightbulb, Fluorescent lamp, Xenon lamp etc. Printed circuit - Relays - Auxiliary relays - Timers - Safety relays, etc
Switching materials like burner automat etc.
Select roller - Separators - Switches - Pushbuttons - Signallights etc.
Fuses, fuseholders - Counters, Numerators etc.
Thermostat - Hydrostat - Heaters etc.
Solenoids - Resistors - Ballasts - Power supplies - Earthbars, Power bars, Terminals and Earth terminals
Display's or HMI's
Wiring, Wiring duct, Tubing, Dinrails and Mounting rails - Screws bolts and nuts - Cabling - etc..

Notes

- No fans will be fitted and devices with fans will have them disabled
- Only single non-array LEDs will be used as indicator of backlight
- At least 40% of each cross sectional area remains free and areas aggregated will no less than 12.5mm
- Devices enclosures must be in plastic (no metal allowed)
- IECEx certification is only possible when the empty box has IECEx certified
- Batteries >1.5Ah or >1% of the free volume of the enclosure may not be installed
 - Only the following connections to the cells are permitted:
 - Spot welding
 - Friction connections using a battery holder
 - Total volume of button cells used shall be no more than 2.5 cm³
 - Only primary cells are permitted
 - Cells shall be securely mounted so as not to be capable of coming loose

Remarks

1. Please note when selecting the components that the internal cabinet temperature is not outside the range of the operating temperature of the individual components.
2. For instructions of cable glands, pushbuttons etc. see the instruction manual of these product.



Safety and Maintenance Instruction

This Safety Instruction is meant for skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in accordance with IEC 60079 on electrical apparatus for explosive atmosphere. Read carefully this instruction before installation or maintenance.

- 1 Enclosures must be installed and maintained in accordance with all standards regarding electrical installations in hazardous areas classified for explosive gas and/or dust atmospheres.
- 2 Avoid any dust accumulation.
- 3 The boxes must not be operated in zone 0 hazardous areas.
- 4 Ambient temperature, maximum voltage and maximum current must not exceed mentioned values on the tagplate .
- 5 Changes of the design and modifications to the equipment are not permitted.
- 6 The boxes shall be operated as intended and only in undamaged and perfect condition.
- 7 If box or part of box is damaged, the power has to be disconnected immediately.
Contact Index Elektro BV for further instructions. It is not allowed to repair the box.
- 8 Repairs may only be carried out by qualified electrician from INDEX ELEKTRO BV.
- 9 All operations of installation, replacement or control must not be performed when electrical circuit is alive.
- 10 All technical data indicated on the label of the box have to be observed.
Also all other information on the label or extra text plate have to be respected.
- 11 Accessories used for cable entries must meet EN 60079-0, EN 60079-1 and EN60079-31 standards. Their minimum protection must be IP 65. In case of conical thread clean and lubricate the parts before mounting. In case of cylindrical thread clean the parts and use glue with suitable temperature rating against loosening. When gaskets are used to maintain rain tightness, be sure the same are mounted in their adequate locations.
- 12 All unused holes for cable entries etc., must be closed with Atex certified plugs.
- 13 Handle carefully all joints parts so to avoid damaging coupling surface.
- 14 After each opening (at least once a year for inspection) the plain joints and bolts of Ex d box has to be cleaned and spread with (silicone) grease to guarantee explosion safety and mentioned IP protection .
- 15 If cover of Ex d box is fitted with bolts (EJB or CCF type), all bolts must be al present and completely screwed. (For tightening moment of bolts of Ex d box see the label and the information in this manual). If one of these conditions is not regarded, the enclosure has to be disconnected from power supply immediately, because the enclosure is not explosion proof.
In case of lost bolts we recommend to replace them with new screws in stainless steel ISO 4762 A2-70. Use screws with same diameter, pitch and length of thread.
- 16 If the cover of Ex d box is threaded (GUB or CCA type), the thread of the cover has to be clean and greased before mounting. Do not use excessive force or tools to mount the cover, the mounting has to be easy and smoothly, only by hand force. Be sure that the cover is mounted completely to the surface of the Ex d box. Use the locking screw to prevent the cover from loosening.
- 17 Disconnect power immediately in case a coloured lens of a signalling light is damaged or broken, until a new lens has been fitted.
- 18 All Ex d enclosures with external earth bolt must be connected to earth with an external earth conductor with adequate cross section (at least 4 mm²).
- 19 Only fixed cables may be imported. An appropriate strain relief for the cable has to be guaranteed. If used in areas with flammable dust, only ATEX/IECEx tested cable and wiring lead-ins with a minimum ingress protection of IP6X may be used.
- 20 If an earth strip with terminal clamps is used (instead of earth terminals),each terminal clamp may accept two earth wires up to 6 mm². If only one earth wire is connected, this must be bent into a loop, so that the terminal clamp exerts an even contact pressure.
- 21 Be sure when mounting Ex d box, a minimum distance from all flameproof joints to any is obstacle is observed, in order to assure proper function of flameproof joint. Distance for IIA situations 10 mm, for IIB situations 30mm and IIC situations 40mm.



Notes:

- No fans will be fitted and devices with fans will have them disabled
- Only single non-array LEDs will be used as indicator of backlight
- The components may be mounted in any configuration, provided that a free space of at least 20% for IIB and 40% for IIC boxes is present in every cross section areas aggregated will no less than 12.5 mm
- Device enclosures must be in plastic (no metal allowed)
- A copy of the certificates for all certified parts shall be included with each piece of equipment
- IECEx certification is only possible when the empty box has IECEx certified
- Only button cells may be used in the enclosures and their total volume may not exceed 2,5 cm³
- The maximum power of the enclosures is specified on the respective certificate and shall not be exceeded. The certificates for the enclosures used are shown on page 3 of this document

If drain breather valve is fitted:

- The ambient temperature shall be no higher than +60°C
- The free volume is limited to 100 dm³ for gas group IIC and 157 dm³ for gas group IIB+H2 by using Cortem drain breather
- The free volume is limited to 62.9 dm³ for gas group IIC and 160.6 dm³ for gas group IIB+H2 by using Ribco drain breather.

Command and signalling units

- The free volume is limited to 62,9 dm³ for gas group IIC and 160,6 dm³ for gas group IIB+H2 if the DP/DFP or RS/RX units are fitted.
- Command and signalling units type DP/DFP and RS/RX are suitable for an ambient up to +80°C
- The free volume is limited to 2 dm³ for DP/DFP and RS/RX command and signalling unit components whose width of cylindrical joints is 19 mm.

When Exi devices are used :

- intrinsically safe parts are included in the enclosure, the clearances between non-intrinsically safe and intrinsically safe connections and circuits shall be at least 50 mm or according to IEC/EN 60079-11 clause 6.2
- The devices must be in plastic enclosure with certificate number.
- Only active intrinsic safety devices may be installed in the enclosures and will be de-energised by a thermostat when internal ambient is within 5°C of their "worst case" ambient
- The max. current off the thermostat is always 3/2 of the required rate.

Special condities for safe use (condition of certification)

- For enclosure types INDEX.C.CT.XXX flamepath retaining screws shall be A2-70
- For enclosure types INDEX.B.CT.XXX flamepath retaining screws shall be A2 or A4
- For enclosure types INDEX.B.CO.XXX the cover and the body shall be fixed by stainless steel screws quality A2.70
- For enclosure types INDEX.B.AS.xxx inding in 91 or 93 fasteners securing flameproof joints shall be A4-70, for all other models fasteners shall be A2-70
- For enclosure types INDEX.C.AS.XXX, INDEX.B.AS.XXX.x and INDEX.B.CO.XXX the width of flameproof joints is different to those specified in tables of IECEx-1 standard. Contact Index Elektro for more information.
- For enclosure types INDEX.B.AS.XXX.x fitted with a window, the user shall take into consideration that the windows of the enclosures only underwent an impact corresponding to an energy of a low risk at 2J
- The widths of the flameproof joints for command and signalling units type DP/DFP and RS/RX fitted are greater than those specified of rable 60079-1



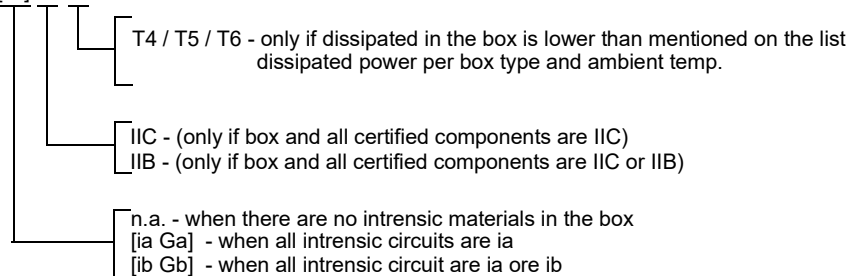
Label for all boxes

INDEX		CE 2503	
Harregatplein 15 - 3214 VP Zuidland - The Netherlands T +31(0)181 452120 - www.indexelektro.nl - Sales@indexelektro.nl			
Type		Year	2019
Ref.no.		T.Amb.	°C to °C
Volt	Max.	Protect	IP
Amp	Max.	Diss.power	Watt
II2G Ex db IIB+H ₂ T5 Gb		II2D Ex tb IIIC T80°C	
CML 18ATEX1026X		IECEX CML18.0021X	
Do not open when energised After de-energisation wait 15 min. before opening Renew silicone grease every time cover is opened Tightening bolts in cover with Nm. Make sure drain and breather valves are always closed			

If cells are present in the enclosure then there is a additional warning,
 “Do not open whilst an explosive atmosphere may be present”.

- Type = Index Elektro types as per box type
- Ref.no. = Index Elektro order number + indentification number (as per list) - e.g. 200123 - 345123
- Volt = Max. voltage - 1000 Volt max / generated voltage max 10 kV
- Amp = Max. current - 1000 Amp
- Year = Year of construction
- T.Amb. = Ambient temperature - as per box type
- Protect= IP range - as per box type

Ex coding : II 2 G - Ex db [xx] IIX Tx Gb



Ambient temperature standard -20°C ~ +40°C
 Ambient temperature special - see mentioned information on box