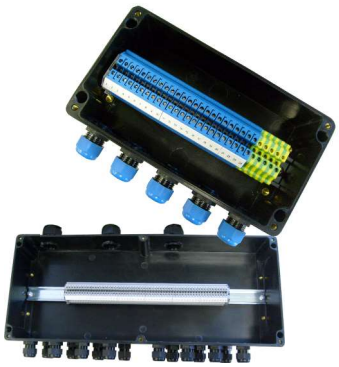
Operation and instruction manual

Ex e Junction and Controlboxes type INDEX.E.AB.xx

Glass fibre reinforced Polyester



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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 explosion-proof switch module.

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: Ⓔx II 2G Ex e.....[ia....] II Gb
Ⓔx II 2D Ex tb ..... IIIC Db

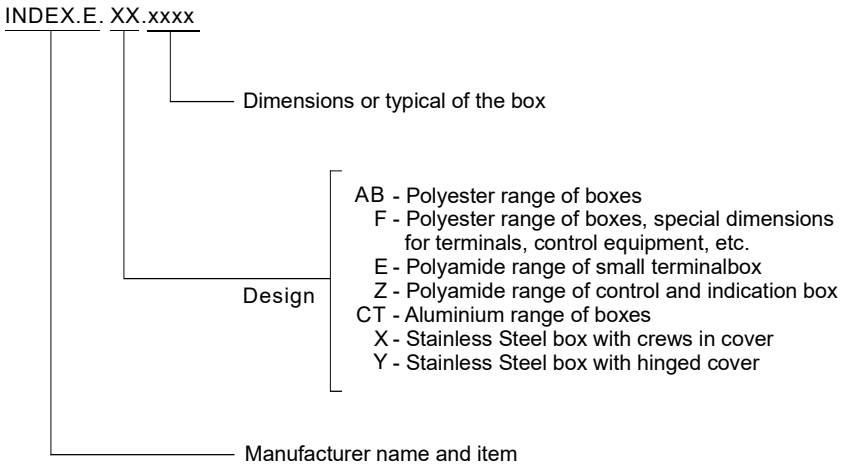
possible explosion-proof protection - d, e, m, ia / ib / etc.
possible temperature class - T4, T5, T6 - 85°C, 100°C, 135°C

Can be used in zone 1,2, 21 en 22
Ambient temperature: -20°C ≤ Ta ≤ 40°C
Optional temperature: -40°C ≤ Ta ≤ 80°C
Degree of protection: IP65 / IP66
Certificate CML 18ATEX 3276X
IECEx CML 18.0132X

Conformity to standards

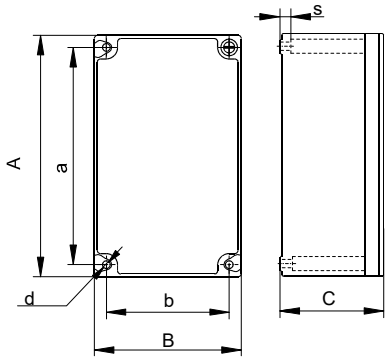
The explosion-proof box is designed and manufactured according to standard of ISO 9001.
The explosion-proof box is in conformity with ATEX directive and the standards IEC60079, EN60079 and IEC61241, EN61241

Model and implication of INDEX.E

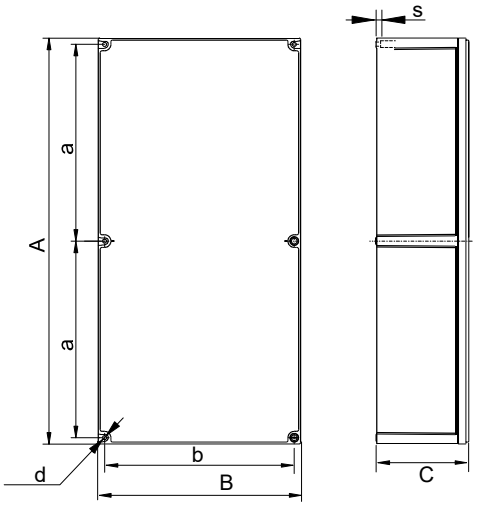


Ex mark: ⟨Ex⟩ II 2G Ex e.....ia.... II Gb
⟨Ex⟩ II 2D Ex tb ..... IIIC Db
possible explosion-proof protection - d, e, m, ia / ib / etc.
possible temperature class - T4, T5, T6 - 85°C , 100°C, 135°C
Can be used in zone 1,2, 21 en 22
Ambient temperature: -20°C ≤ Ta ≤ 40°C
Optional temperature: -40°C ≤ Ta ≤ 60°C
Degree of protection: IP65 / IP66

INDEX.E.AB.XX
- type 1 to 15 as per tabel below
- Design - Polyester box
- Manufacturer name and item

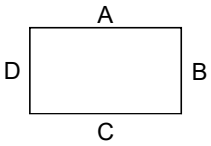


All types except INDEX.E.AB.11 and INDEX.E.AB.14



Type INDEX.E.AB.11 and INDEX.E.AB.14

Illustration	Dimensions (mm)								
	Enclosure type	External			Fixing				Torque cover
		A	B	C	a	b	d	s	Nm
	INDEX.E.AB.1	80	75	55	68	45	4.2	8	0.6
	INDEX.E.AB.2	110	75	55	98	45	4.2	8	0.6
	INDEX.E.AB.3	160	75	55	148	45	4.2	8	0.6
	INDEX.E.AB.4	190	75	55	178	45	4.2	8	0.6
	INDEX.E.AB.6	122	120	90	106	82	6.4	8	1.35
	INDEX.E.AB.7	220	120	90	204	82	6.4	8	1.35
	INDEX.E.AB.8	160	160	90	140	110	6.4	8	1.35
	INDEX.E.AB.9	260	160	90	240	110	6.4	8	1.35
	INDEX.E.AB.10	360	160	90	340	110	6.4	8	1.35
	INDEX.E.AB.11	560	160	90	540	110	6.4	8	1.35
	INDEX.E.AB.12	255	250	120	235	200	7.2	8	1.35
	INDEX.E.AB.13	400	250	120	380	200	7.2	8	1.35
	INDEX.E.AB.14	600	250	120	290	200	7.2	8	1.35
Polyester enclosure type INDEX.E.AB	INDEX.E.AB.15	400	405	120	381	356	7.2	8	1.35



Enclosure type	Cable glands in side A and C								Cable glands in side B and D						
	M16	M20	M25	M32	M40	M50	M63	M75	M16	M20	M25	M32	M40	M50	M63
INDEX.E.AB.1	2	1	1						1	1					
INDEX.E.AB.2	4	2	2						1	1					
INDEX.E.AB.3	6	4	3						1	1					
INDEX.E.AB.4	7	5	3						1	1					
INDEX.E.AB.6	6	5	2	1					4	3	1				
INDEX.E.AB.7	15	11	4	3					4	3	1				
INDEX.E.AB.8	12	8	3	2	1				8	6	2	1	1		
INDEX.E.AB.9	21	15	4	3	3				8	6	2	1	1		
INDEX.E.AB.10	35	21	10	5	5				8	6	2	1	1		
INDEX.E.AB.11	39	24	10	9	7				8	6	2	1	1		
INDEX.E.AB.12	34	20	7	4	3	2	1		25	18	8	3	2	1	1
INDEX.E.AB.13	43	36	14	6	5	2	2	2	25	18	8	3	2	1	1
INDEX.E.AB.14	66	54	16	14	6	6	5	2	25	18	8	3	2	1	1
INDEX.E.AB.15	43	36	11	7	5	5	4	2	42	32	10	6	5	3	3

Enclosure type	Max. number of connections									Max power in Watt			
										T.Amb:-40°C.+40°C		T.Amb:-40°C.+60°C	
	2.5mm²	4mm²	6mm²	10mm²	16mm²	35mm²	50mm²	70mm²	95mm²	T5	T6	T5	T6
INDEX.E.AB.1	7	3								9	7	6	4
INDEX.E.AB.2	14	8								11	8	7	5
INDEX.E.AB.3	22	16								15	11	10	6
INDEX.E.AB.4	28	16								17	13	12	7
INDEX.E.AB.6	13	11	8							22	16	14	9
INDEX.E.AB.7	33	28	22	18	15	11				34	26	23	14
INDEX.E.AB.8	21	19	15	12	10	7				33	24	22	14
INDEX.E.AB.9	38	32	25	19	16	10				48	36	32	20
INDEX.E.AB.10	58	49	36	29	25	8				63	47	42	26
INDEX.E.AB.11	96	81	61	49	41	16				93	69	62	39
INDEX.E.AB.12	76	63	48	19	16	13	4			75	56	50	31
INDEX.E.AB.13	132	110	82	33	28	22	9	9	6	107	80	71	45
INDEX.E.AB.14	208	174	132	53	45	35	18	18	9	151	113	101	63
INDEX.E.AB.15	132	110	82	33	28	22	9	9	6	155	116	103	65

Complete composite enclosures with ATEX or IECEx certificate can only be provided if all work is carried out by employees of INDEX ELEKTRO in the INDEX ELEKTRO workshop or service office.

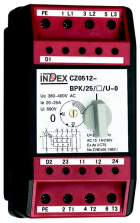
Ex mark: Ⓔx II 2G Ex e.....ia.... II Gb
Ⓔx II 2D Ex tb ..... IIIC Db

possible explosion-proof protection - d, e, m, n, ia / ib / etc.
possible temperature class - T4, T5, T6 - 80°C , 100°C, 130°C

Can be used in zone 1,2, 21 en 22
Ambient temperature: -20°C ≤ Ta ≤ +40°C
Option temperature: -40°C ≤ Ta ≤ +80°C


Following Ex certified components can be built inside Ex e boxes

- Pushbuttons series and contact - type Z0201 o.e.
- Pilot lights modules - type Z0202 o.e.
- Potentiometer modules - type Z0203 o.e.
- Ammeter, or Voltmeter - type Z0205 o.e.
- Illuminated pushbutton module - type Z0203 o.e.
- Fuses with holder - type Z0509 o.e.
- Fuses for direct mounting - type Z0804 o.e
- Main switches - type Z0513 o.e.
- Circuit breakers - type Z0511 o.e.
- Earth leakage circuit breakers - type Z0511 o.e.
- Motor protectionswitches - type Z0512 o.e.
- Thermal relays - type Z0512 o.e.
- Contactors and reversing contactors - type Z0512 o.e.
- Auxiliary relays - type Z0512 o.e.
- Timer relays - type Z0512 o.e.
- Transformers - type Z0516 o.e.
- Buzzer (with or without flash) type Z1208 or TP-MS75M-83 o.e.
- Hour counter type - TP-DS64A o.e.
- Heaters - type LP or SM o.e.
- Thermostat - type H o.e.
- Socket outlets - type Z025x, type Ma.xxxxxx. o.e
- Windows type Z - 8002/x
- Coupling units type Z8004 / Z8005 / Z8006 o.e.
- Terminals Ex e - as Phoenix UT, UK or MBK type, Weidmuller WDU or WDE type, Wago etc
- Earthbars
- Earth and connection pin like Z0307 or Z0303


- Cable gland, reducer etc. polyamide series IE2, Z0220 o.e.
- Cable gland, reducer etc. brass series IE3, Z0221, INDEX.IR, o.e
- Cable gland, reducer etc. Stainless Steel series INDEX.IR o.e.
- Breathers

- Ex d boxes series INDEX.B or INDEX.C (certified for zone 1)
- Ex d boxes - KOP, (certified for zone 1)

- Other materials - zone 1 certified like display's, computers etc.

Materials without Ex certification like

- Wiring
- Wiring duct
- Tubing
- Windows
- Dinrail and mounting rail
- Screws, bolts and nuts
- Cabling
- Mounting brackets
- Tagplates
- Bulkhead Couplings
- etc.

Materials only for zone 2 declaration.

- Barriers, amplifiers etc - Ex n certified
- PLC - Ex n certified
- Displays or HMI's - Ex n certified
- Sockets outlets - Ex n certified
- Other materials zone 2 certified

See for more information product manuels from each item.

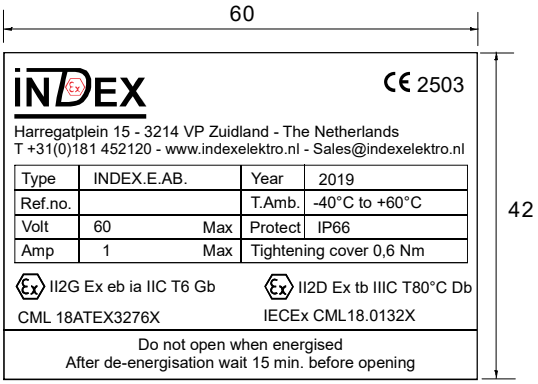
Safety and Maintenance Instruction

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 IECEx 60079 and EN60079 on electrical apparatus for explosive atmosphere. Read carefully this instruction before installation or maintenance.

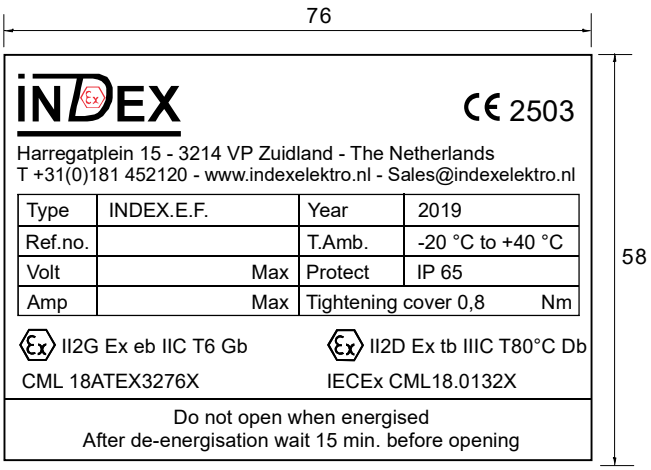
After each opening (at least once a year for inspection) the following points must be checked/performed:
- Compliance with permitted ambient temperatures;
- Damages on the box
- Damages on the gaskets
- Clean upper dust and avoid dust accumulating.

1. Enclosures must be installed and maintenanced 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 without the written permission of Index Elektro BV.
8. Repairs may only be carried out by qualified electrician from INDEX ELEKTRO BV.
9. All operations of installation, replacement or inspection must **not** be performed when electrical circuit is alive.
10. All technical data indicated on the tag plate of the box have to be observed. Also all other information on tag plate or extra text plate has to be respected.
11. Accessories used for cable entries must meet IECEx 60079 and EN 60079 standards. Their minimum protection must be IP54. When gaskets are used to maintain raintightness, be sure the gaskets are mounted in their adequate locations.
12. All unused holes for cable entries etc., have to be closed with appropriate plugs, which are Atex / IECEx certified.
13. Handle carefully all joint parts so to avoid damaging coupling surface.
14. If cover of Ex box is fitted with bolts, all bolts must be present and completely screwed. (For tightening moment of bolts of Ex box see the sheets before, 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. Use screws with same diameter, pitch and length of thread.
15. Disconnect power immediately if a coloured lens of a signalling light is damaged or broken, until a new lens has been fitted.
16. All Ex enclosures with external earth bolt must be connected to earth with an external earth conductor with adequate cross section (at least 4 mm2).
17. All metal parts in and outside the box must by connected to earth (such as cable glands etc.).
18. When a metal cable gland used in polyester or polyamide boxes an extern eartbolt is required.
19. The respective valid national regulations shall be observed

Label 1 - Small boxes see tabel



Label 2 - Standard boxes see tabel



Type = Index Elektro types as per table
Ref.no. = Index Elektro order number + indentification number (as per list)
Volt = Max. voltage
Amp = Max. current
Year = Year of construction
T.Amb. = Ambient temperature
Protect = IP range

Enclosure type	Label	Enclosure type	Label	Enclosure type	Label	Enclosure with main switch	Label
INDEX.E.AB.1	1	INDEX.E.F.01	2	INDEX.E.E	3	INDEX.E.F.31	4-1
INDEX.E.AB.2	1	INDEX.E.F.11	2			INDEX.E.F.32	4-2
INDEX.E.AB.3	1	INDEX.E.F.31	2	INDEX.E.CT.090907	1	INDEX.E.F.53	4-3
INDEX.E.AB.4	1	INDEX.E.F.32	2	INDEX.E.CT.141410	2	INDEX.E.F.54	4-4
INDEX.E.AB.6	2	INDEX.E.F.51	2	INDEX.E.CT.202012	2	INDEX.E.F.73	4-5
INDEX.E.AB.7	2	INDEX.E.F.52	2	INDEX.E.CT.302318	2	INDEX.E.F.92	4-6
INDEX.E.AB.8	2	INDEX.E.F.53	2	INDEX.E.CT.473018	2		
INDEX.E.AB.9	2	INDEX.E.F.71	2	INDEX.E.CT.623018	2		
INDEX.E.AB.10	2	INDEX.E.F.72	2				
INDEX.E.AB.11	2	INDEX.E.F.73	2				
INDEX.E.AB.12	2	INDEX.E.F.81	2				
INDEX.E.AB.13	2	INDEX.E.F.82	2				
INDEX.E.AB.14	2	INDEX.E.F.83	2				
INDEX.E.AB.15	2	INDEX.E.F.92	2				
		INDEX.E.F.93	2				