



Product manual controller INDEX.Z .□□.□□□□. □□□□.□□□□



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INDEX.Z - Rev.24.07.18



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 controlbox only for its intended purpose.
- 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 control box only if it is are 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.

Conformity to standards

The explosion-proof switch module is designed and manufactured according to standard of ISO 9001.

The explosion-proof switch module is conformity to the directive 94/9/EC, ATEX and the following standards:

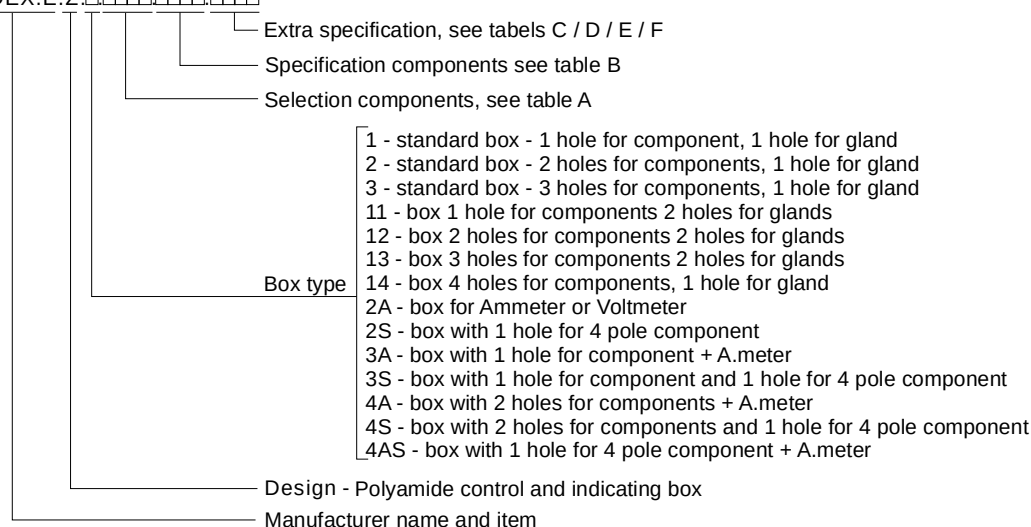
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IEC60079-1	: 2003	EN60079-1	: 2004
IEC60079-7	: 2001	EN60079-7	: 2003
IEC61241-0	: 2004	EN61241-0	: 2006
IEC61241-1	: 2004	EN61241-1	: 2004

Applicable scope

The function of the controlbox is based on the main Ex components can be used as following:

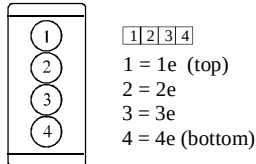
Z0201 control unit, the Z0202 indicating unit, Z0203 Potentiometer and Z0205 Volt- and Ammeter

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INDEX.Z - Table A ~ F



Selection component - table A

Code	Description	Type
1	Pushbutton	Z0201 - P1
2	Double pushbutton	Z0201 - P2
3	Emergency - push pull	Z0201 - P3
4	Mushroom button	Z0201 - P4
5	Pushbutton with key	Z0201 - Y1
6	2-Pole switch as per tabel D	Z0201 - x
7	4-Pole switch as per tabel E	Z0201 - x
8	Pilot light	Z0202
9	Blind plug	Z0201 - B
A	Ammeter	Z0205 - x
B	Emergency stop button with key	Z0201 - Y0
C	Illuminated pushbutton NO	Z0212 - 4
D	Illuminated pushbutton NC	Z0212 - 3
E	Potentiometer	Z0205 - x
F		
G	Emergency - turn to release - 40mm.	Z0201 - P6
H	Emergency - turn to release - 55mm.	Z0201 - P7

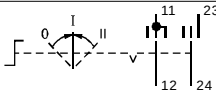
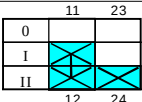
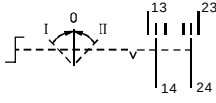
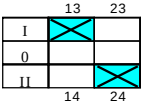
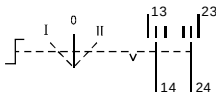
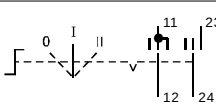
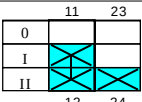
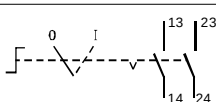
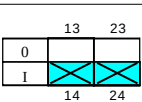
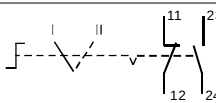
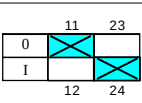
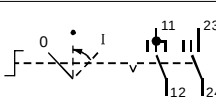
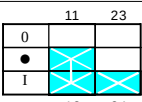
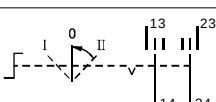
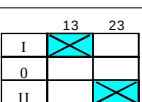
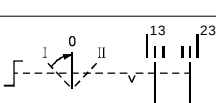
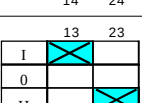
Specification component - table B

Code	Description	Type
1	Contact 1 x NO/1xNC	Z0201 - 60
2	Contact 2 x NC	Z0201 - 61
3	Contact 2 x NO	Z0201 - 62
4		
5	Pilot light red	Z0202 - 601 - LR
6	Pilot light green	Z0202 - 601 - LG
7	Pilot light yellow	Z0202 - 601 - LY
8	Pilot light blue	Z0202 - 601 - LB
9	Pilot light white	Z0202 - 601 - LW
A	Potentiometer 1.000 Ohm	Z0203 - 604
B	Potentiometer 2.000 Ohm	Z0203 - 605
C	Potentiometer 5.000 Ohm	Z0203 - 606
D	Potentiometer 10.000 Ohm	Z0203 - 607
E	Potentiometer 100.000 Ohm	Z0203 - 608
F	Contact 2 x NO/2x NC	Z0201 - 650
G	Contact 4 x NC	Z0201 - 651
H	Contact 4 x NO	Z0201 - 652
I	Contact 3 x NO/1x NC	Z0201 - 653
J	Contact 1 x NO/3x NC	Z0201 - 654

Label pushbutton - table C

Code	Engraving	Colour	Colour text
Z0201 - P - A		green	
Z0201 - P - B	I	green	white
Z0201 - P - C	ON	green	white
Z0201 - P - D	START	green	white
Z0201 - P - E		red	
Z0201 - P - F	O	red	white
Z0201 - P - G	OFF	red	white
Z0201 - P - H	STOP	red	white
Z0201 - P - I		white	
Z0201 - P - J	II	white	black
Z0201 - P - K	↑	white	black
Z0201 - P - L	Start	white	black
Z0201 - P - M	Stop	white	red
Z0201 - P - N	O	white	red
Z0201 - P - O	↑↑	white	black
Z0201 - P - P		yellow	
Z0201 - P - Q	II	yellow	white
Z0201 - P - R		black	
Z0201 - P - S	+	black	white
Z0201 - P - T	-	black	white
Z0201 - P - U	I	black	white
Z0201 - P - V	II	black	white
Z0201 - P - W	III	black	white
Z0201 - P - X	IV	black	white
Z0201 - P - Y		bleu	
Z0201 - P - Z	Reset	blue	white

Specification 2-pole switch - table D

Illustration	Label	Contacts	Code		
 Base mount	0 I II	 	A	B	
	I 0 II	 	C	D	
	I 0 II	 	E	F	P
	0 I II	 	G	H	Q
	0 I	 	I	J	R
	I II	 	K	L	S
	0 • I	 	M	N	
	I 0 II	 	T	V	
	I 0 II	 	U	W	



SY



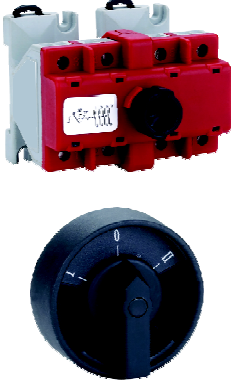
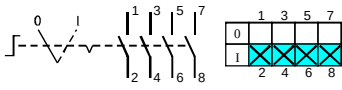
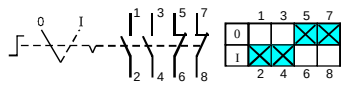
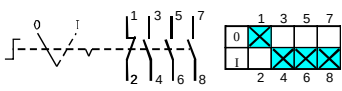
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K

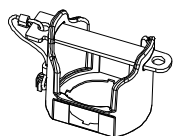
Handle Ø39mm
Knob Ø60mm
Key switch

Specification 4-pole switch - table E

Illustration	Label	Contacts	Code
 Railmontage Base mount	0 I		A
	0 I		B
	0 I		C
	I II III IV		D
	I 0 II		E

Selection component for emergency - table F

Code	Description	Type
1	Underplate rectangular - 80 x 40	Z4003/1
2	Underplate round 55 mm	Z4003/2
3	Emergency safety cap	Z4019 - 2-7
4	safety cap	Z4019 - 1-7



Z - 4019 / 2 - 7



Z - 4019 / 1 - 7



Z - 4003/2



Z - 4003/1



Operation / installation

- 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.
- The controlboxes are provided to be used together with the control components.
- For the sake of ensuring normal operation and safety of explosionproof controlbox, user must abide by the following provisions:
 - Explosion-proof controlbox is designed to be used under the following atmospheric conditions:
 - The pressure is 80kPa(0.8bar)~110kPa(1.1bar)
 - The volume ratio of standard oxygen content is 21% air.
- Proposed tightening screw torque: 0.6 ~0.8 Nm.
- The mounting should be firm and reliable.
- Only certified cable glands and stopping plugs are permitted to be used together with the controlboxes.

Repairs / Maintenance

- Observe the relevant national regulations for your country!
- Only parts from our company that can be used to replace or maintain, and the operation should be carried out by professional electrician!
- The following points must be checked during maintenance:
 - * Compliance with permitted temperatures;
 - * Check if there is any crack in the box or components.
 - * Check if the component has been fixed reliably.
 - * Check if the wiring is loose.

Recycling / Disposal

- The respective valid national regulations for waste disposal shall be observed when disposing of apparatus!
- We are pleased to answer any questions. In this case you can contact INDEX ELEKTRO BV.

Technical data

Ex mark:  II 2G Ex eb IIC Gb - Possible explosionproof protection - d, e, m, n, ia, ib, etc
 II 2D Ex ia IIC Ga - Possible temperature class - T4, T5, T6 - 80°C, 100°C, 130°C

Degree of protection: IP65 / IP 66
Max Voltage: 400 VAC / 16A - 110 VDC / 1A

Connection terminals 2,5 qmm, wire insulation stripping 8 mm.
Tightening torque: ~0.5 Nm.
Ambient temperature: -20°C ~ +40°C / Optional -40°C ~ +55°C
Light source: LED
Electric life: 100.000 hours



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 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 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 control 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 rain tightness, be sure they same 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 joints 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 in case 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 metalparts in and outside the box must by connected to earth (such as cable glands etc.)
18. When metal cable gland used in polyester or polyamide boxes an extern earthead is required.
19. The respective valid national regulations shall be observed

See for more information about equipment in the box the product manuals from each item.