

Features

- Stainless steel enclosures
- Suitable for operation in Zones 1, 2, 21 and 22
- Certified Ex de, Ex ib and Ex tb
- Five enclosure size options
- Up to 56 operators per control station, lid-mounted contact blocks
- Wide choice of operators, including
 - Pushbuttons
 - LED indicators
 - LED indicators for Ex ia circuits
 - Illuminated pushbuttons
 - Emergency stop buttons
 - Pushbuttons with key release
 - Control switches
 - Potentiometers
 - Ammeters/Voltmeters
- Customizable configuration of operators and cable gland types as per specification
- Wide range of labels and accessories available

Assembly



Function

The versatile control stations of the FXLSCS series can be equipped flexibly with operator elements and LED indicators. A comprehensive range of control functions, contact blocks, cable glands and further accessories allow the configuration of each control station to exactly meet any application requirements and ensure optimal space efficiency.

The enclosures are manufactured from electropolished AISI 316L stainless steel to provide excellent tarnish and corrosion resistance. This surface finish is ideally suited to meet hygienic requirements valid in pharmaceutical and food processing plants.

All FXLS enclosures feature a return flange sealing method which prevents accumulated dirt, dust and moisture from entering the enclosure when the lid is opened. Concealed hinges facilitate opening the control stations.

Durable materials and components of high quality allow the control stations to be used in ambient temperatures between -40 °C and +55 °C.



Configuration Examples



Technical Data**Electrical specifications**

Operating voltage	250 V AC max.
Operating current	16 A max.

Mechanical Specification

Cover fixing	M6 stainless steel hex head bolts, optional quarter-turn key locks
Protection degree	IP66
Cable entry	cable glands as per specification, through enclosure body or via gland plate
Cable entry areas	see cable entries table

Material

Enclosure	1.5 mm AISI 316L (1.4404) stainless steel
Finish	electropolished
Seal	one piece closed cell neoprene
Mass	see dimensions data table
Grounding	M10 brass internal/external earth stud through enclosure body M6 internal stainless steel grounding stud welded to lid

Ambient conditions

Ambient temperature	-40 ... 55 °C (-40 ... 131 °F)
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Data for application in connection with Ex-areas

EC-Type Examination Certificate	SIRA 13ATEX3059X
Group, category, type of protection, temperature class	 II 2 GD Ex de IIC T6, T5, T4 Gb Ex ib IIC T6, T5, T4 Gb Ex de ib IIC T6, T5, T4 Gb Ex tb IIIC T80 °C, T95 °C, T130 °C Db

International approvals

IECEX approval	IECEX SIR 13.0021
Customs Union TR	RU C-DE B.00567

Conformity

Protection degree	EN 60529
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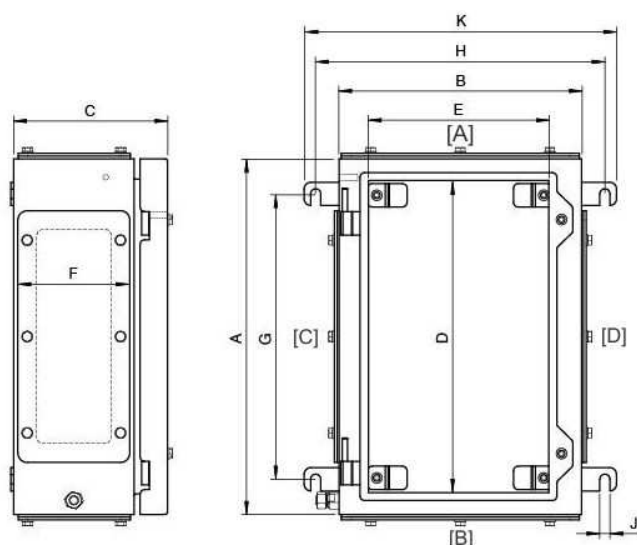
General information

Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .
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Accessories

Optional accessories	see accessories table
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Dimensions



Legend

- A – Maximum external dimension
- B – Maximum external dimension
- C – Maximum external dimension
- D – Internal dimension
- E – Internal dimension
- F – Internal depth
- G – Fixing holes center
- H – Fixing holes center
- J – Fixing holes diameter
- K – Maximum external dimension with mounting bracket
- [A] – Entry face
- [B] – Entry face
- [C] – Entry face
- [D] – Entry face

For details see dimensions data table

Dimensions Data Table

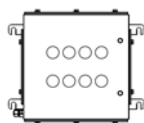
Type	Dimensions [mm]				Dimensions internal [mm]			Fixation [mm]			Weight approx.	Cover fixing screws
	A	B	C	K	D	E	F	G	H	Diam. J	[kg]	Stainless steel
FXLS2**	260	260	165	335	213	193	129	185	310	11	3.8	M6
FXLS3**	306	306	165	381	259	239	129	231	356	11	5.7	M6
FXLS5**	458	382	165	457	411	315	129	383	432	11	8.7	M6
FXLS6**	480	480	165	555	433	413	129	405	530	11	11	M6
FXLS8**	620	450	165	525	573	383	129	545	500	11	12	M6

Weight shows empty enclosure; it will increase according to operators and installations.

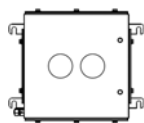
Cable Entries - maximum quantity per size

Type	Cable entry area at faces		Cable gland quantity face A/B								Cable gland quantity face C/D						
	A & B [mm]	C & D [mm]	M12	M16	M20	M25	M32	M40	M50	M12	M16	M20	M25	M32	M40	M50	
FXLS2**	80 x 215	80 x 146	33	23	14	10	4	3	3	21	15	8	6	3	2	2	
FXLS3**	80 x 261	80 x 185	39	29	17	12	5	4	3	27	21	11	8	4	3	2	
FXLS5**	80 x 337	80 x 337	51	38	21	16	7	5	4	51	39	21	16	7	5	4	
FXLS6**	80 x 435	80 x 359	66	48	27	20	9	7	6	54	39	23	18	7	6	5	
FXLS8**	80 x 407	80 x 464	63	45	26	20	8	7	5	69	51	30	22	10	8	6	

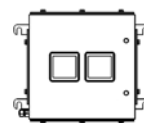
Max. gland quantity per gland size. For combination of different sizes please contact Pepperl+Fuchs.

Enclosure size FXL2 configuration: max. 8 functions – operator types see overleaf

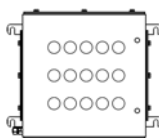
Maximum configuration (1)



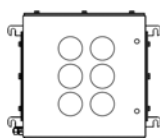
Large operator configuration (2)



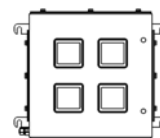
Windows and large labels (3)

Enclosure size FXL3 configuration: max. 15 functions – operator types see overleaf

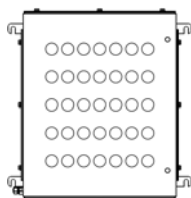
Maximum configuration (1)



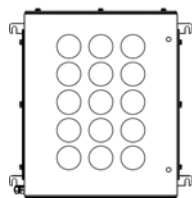
Large operator configuration (2)



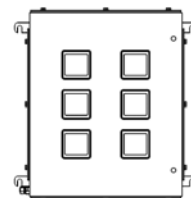
Windows and large labels (3)

Enclosure size FXL5 configuration: max. 35 functions – operator types see overleaf

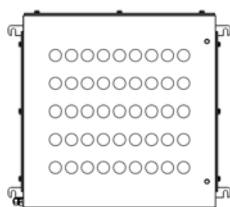
Maximum configuration (1)



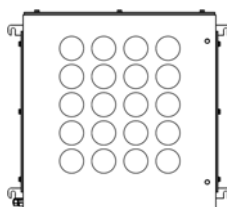
Large operator configuration (2)



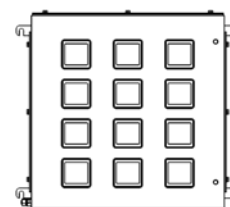
Windows and large labels (3)

Enclosure size FXL6 configuration: max. 45 functions – operator types see overleaf

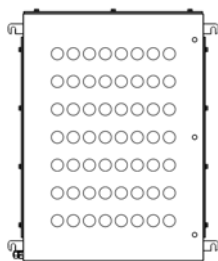
Maximum configuration (1)



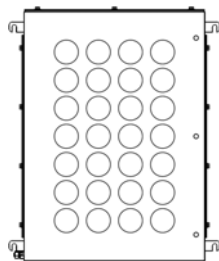
Large operator configuration (2)



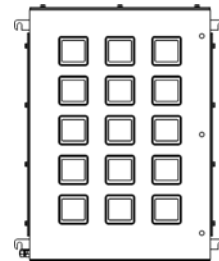
Windows and large labels (3)

Enclosure size FXL8 configuration: max. 56 functions – operator types see overleaf

Maximum configuration (1)



Large operator configuration (2)



Windows and large labels (3)

- (1) Small operators with small label holders and 2 pole contact blocks
Small operators include all pushbuttons, small switching actuators, LED indicators and potentiometers, see overleaf
- (2) Large switching actuators and all operators fitted with 4 pole contact blocks, protective lid or padlockable shroud
- (3) Viewing windows with ammeter or voltmeter and operators with large label holders

For further configurations please contact Pepperl+Fuchs.

Note: position of grounding stud can vary depending on configuration.

Type code / model number

Enclosure type

FXL metal enclosure with return flange

: **Material**: **S** stainless steel: **Enclosure size**: **2, 3, 5, 6, 8**

see dimensions data table

: **Type of explosion protection**: **1** Ex de, Ex tb: **3** Ex ib, Ex tb: **5** Ex de ib, Ex tb: **Gland plate at face(s)**: **0** none: **1** face B: **2** faces A, B: **3** faces B, C, D: **4** faces A, B, C, D: **Enclosure depth**

: standard depth, see dimensions data table

: **D** increased depth: **Type of solution**: **CS** control station: **Item number**

: Yxxxxxx

FXL	S					.CS	-Yxxxxxx
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Optional Enclosure Accessories

M10 stainless steel grounding stud assembly

M6 stainless steel internal earth stud welded to bottom gland plate

Mounting plate, galvanized steel 2.5 mm thick

Engraved traffolyte tag label

Engraved stainless steel tag label

Color in-fill stainless steel tag label

Quarter turn key locks

Ex de Pushbuttons and Emergency Stops

Pushbutton Actuators	Type Code
Red pushbutton with blank insert	PA
Red pushbutton with insert labeled "O"	PR
Red pushbutton with insert labeled "STOP"	PC
Red pushbutton with insert labeled "OFF"	PD
Green pushbutton with blank insert	PE
Green pushbutton with insert labeled "I"	PG
Green pushbutton with insert labeled "START"	PF
Green pushbutton with insert labeled "ON"	PH
Yellow pushbutton with blank insert	PY
Amber pushbutton with blank insert	PM
White pushbutton with blank insert	PW
Blue pushbutton with blank insert	PB
Blue pushbutton with insert labeled "RESET"	PJ
Black pushbutton with blank insert	PK
Black pushbutton with insert labeled "0"	PL
Black pushbutton with insert labeled "I"	PN
Black pushbutton with insert labeled "II"	PP
Black pushbutton with insert labeled "III"	PQ
Black pushbutton with insert labeled "IV"	PT
Black pushbutton with insert labeled "↑"	PU
Black pushbutton with insert labeled "↓"	PV



Blue Pushbutton Actuator



Emergency Stop Actuator

Emergency Stop Actuators	Type Code
Pull-to-release mushroom button, red, labeled "EMERGENCY STOP"	ER
Key-release mushroom button, red	JR

Other Pushbutton Actuators	Type Code
Double pushbutton red/green labeled "0 - I"	DM
Mushroom pushbutton, black	MK (*)
Key pushbutton, latching two position, black/silver	HS

(*) change from 'MB'



Key Pushbutton



Mushroom Pushbutton



Key-release Mushroom Button

Contact Blocks, lid-mounted	Type Code
Contact block with 1x NO / 1x NC contacts	A
Contact block with 2x NC contacts	B
Contact block with 2x NO contacts	D
Contact block with 2x NO / 2x NC contacts	50
Contact block with 4x NC contacts	51
Contact block with 4x NO contacts	52
Contact block with 1x NO / 3x NC contacts	53
Contact block with 3x NO / 1x NC contacts	54



Lid-mounted Contact Block

Technical Data Contact Blocks				
Utilization category	AC12	AC15	DC13	DC13
Rated operating voltage	250 V	250 V	110 V	24 V
Rated operating current	16 A	10 A	1 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²

Ex de Illuminated Pushbuttons

Illuminated Pushbutton Actuators	Type Code
Red illuminated pushbutton	IR
Green illuminated pushbutton	IG
Amber illuminated pushbutton (*)	IY
White illuminated pushbutton	IW
Blue illuminated pushbutton	IB

(*) change from yellow



Blue Pushbutton Actuator

LED Contact Modules, lid-mounted	Type Code
LED module 12 - 250 V AC/DC with 1x NO contact	K
LED module 12 - 250 V AC/DC with 1x NC contact	H (*)

(*) change from 'L'



Lid-mounted LED Module

Technical Data LED Contact Modules		
Utilization category	AC15	DC13
Rated operating voltage	12 ... 250 V	12 ... 24 V
Rated operating current	10 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²
Power consumption	≤ 1 W	≤ 1 W

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Ex de Control Switches, 2 Pole Contact Blocks

Switching Actuators For Use With 2 Pole Contact Blocks	Switching Diagram	Contact Block *	Action	Marking			Type Code
Small actuator, 2 position with left OFF	1	D	latching - latching	0	I	I	N6
Small actuator, 2 position	2	A	latching - latching	I	II	II	N7
Small actuator, 3 position with center OFF	4	D	latching - latching - latching	I	0	II	N8
Small actuator, 3 position with left OFF	3	A	latching - latching - latching	0	I	II	N9
Large actuator, 2 position with left OFF, padlockable in "0"	1	D	latching - latching	0	I	I	S6
Large actuator, 2 position	2	A	latching - latching	I	II	II	S7
Large actuator, 3 position with center OFF, padlockable in "0"	4	D	latching - latching - latching	I	0	II	S8
Large actuator, 3 position with left OFF	3	A	latching - latching - latching	0	I	II	S9
Key switch actuator, 2 position with left OFF	1	D	latching - latching	0	I	I	KA
Key switch actuator, 3 position with center OFF	4	D	latching - latching - latching	I	0	II	KC

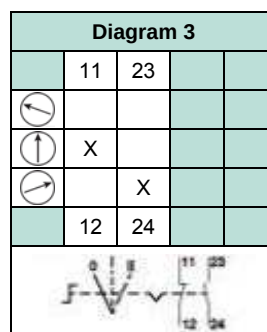
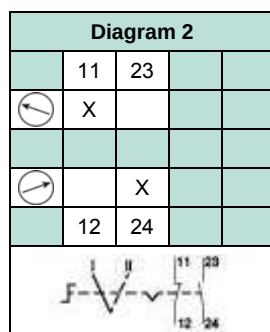
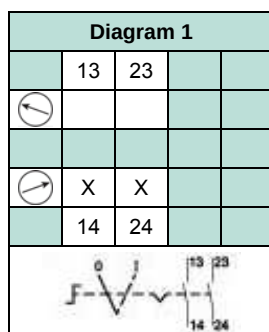
Note: all switching actuators are black, the large ones are shrouded

(*) Switching diagram shows combination of contact block with actuator

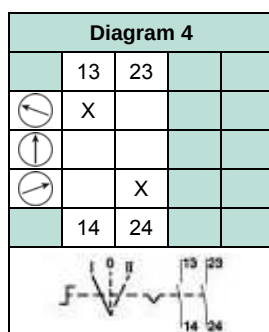
Contact Blocks 2 Pole, lid-mounted	Type Code
Contact block with 1x NO / 1x NC contacts	A
Contact block with 2x NC contacts	B
Contact block with 2x NO contacts	D

Switching Diagrams 2 Pole Contact Blocks

Note: diagram 3 has changed



Small Actuator



Lid-mounted Contact Block



Large Actuator with Shroud

Technical Data Contact Blocks				
Utilization category	AC12	AC15	DC13	DC13
Rated operating voltage	250 V	250 V	110 V	24 V
Rated operating current	16 A	10 A	1 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²

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Ex de Control Switches, 4 Pole Contact Blocks

Switching Actuators For Use With 4 Pole Contact Blocks	Switching Diagram	Contact Block *	Action	Marking			Type Code
Large actuator, 2 position with left OFF, padlockable in "0"	5	52	latching - latching	0		I	S6
Large actuator, 2 position	6	50	latching - latching	I		II	S7
Large actuator, 3 position with center OFF, padlockable in "0"	7	52	latching - latching - latching	I	0	II	S8

Note: all switching actuators are black and shrouded

(*) Switching diagram shows combination of contact block with actuator

Contact Blocks 4 Pole, lid-mounted	Type Code
Contact block with 2x NO / 2x NC contacts	50
Contact block with 4x NC contacts	51
Contact block with 4x NO contacts, left OFF	52
Contact block with 1x NO / 3x NC contacts	53
Contact block with 3x NO / 1x NC contacts	54

Switching Diagrams 4 Pole Contact Blocks

Diagram 5					Diagram 6					Diagram 7				
	13	23	33	43		11	21	33	43		13	23	33	43
								X	X		X	X		
	X	X	X	X		X	X						X	X
	14	24	34	44		12	22	34	44		14	24	34	44



Lid-mounted Contact Block 4 Pole

Technical Data Contact Blocks				
Utilization category	AC12	AC15	DC13	DC13
Rated operating voltage	250 V	250 V	110 V	24 V
Rated operating current	16 A	10 A	1 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²

Ex de Control Switches, 4 Pole Rotary Switching Blocks

	4 Pole Rotary Switching Block, lid-mounted			Rotary Switching Actuator					
Large Control Switches, 4 Pole	Type Code	Switching Diagram	Action	Marking					Type Code
									
Switch 2 position with left OFF (*)	60	5	latching - latching	0				I	T6
Switch 2 position	61	6	latching - latching	I				II	T7
Switch 3 position with center OFF (*)	62	7	latching - latching - latching	I		0		II	T8
Switch 3 position with center OFF (*)	63	8	spring - latching - spring	I		0		II	T8
Switch 3 position, right with spring return	66	10	latching - latching - spring	0		I		II	T0
Switch 4 position	65	11	latching - latching - latching - latching	I	II		III	IV	T9

Note: all switching actuators are black and shrouded. (*) = padlockable in "0" position

Always indicate type codes for both rotary actuator and switching block

Switching Diagrams 4 Pole Rotary Switching Blocks

Diagram 5					Diagram 6					Diagram 7					Diagram 8				
	13	23	33	43		11	21	33	43		13	23	33	43		13	23	33	43
								X	X		X	X				X	X		
	X	X	X	X		X	X						X	X				X	X
	14	24	34	44z		12	22	34	44		14	24	34	44		14	24	34	44

Diagram 10					Diagram 11				
	11	23	33	43		11	23	33	43
	X					X			
							X		
		X							
								X	
			X	X					X
	12	24	34	44		12	24	34	44



Control Switch 4 Pole

Technical Data Switching Blocks

Utilization category	AC12	AC15	DC13	DC13
Rated operating voltage	250 V	250 V	110 V	24 V
Rated operating current	16 A	10 A	1 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²	2 x 2.5 mm ²

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PEPPERL+FUCHS
PROTECTING YOUR PROCESS

Ex de / Ex ia LED Indicators

Lens for LED	Type Code
Red indicator lens cover	LR
Green indicator lens cover	LG
Amber indicator lens cover (*)	LY
White indicator lens cover	LW
Blue indicator lens cover	LB

(*) change from yellow



Red LED Indicator

LED Modules, lid-mounted	Type Code
10 - 28 V AC/DC LED Module, certified Ex de / Ex ia	G
20 - 250 V AC/DC LED Module, certified Ex de	R
250 - 400 V AC/DC LED Module, certified Ex de	Q



Lid-mounted LED Module

Technical Data LED Modules	
Rated operating voltage (type G)	10 ... 28 V AC/DC
Rated operating voltage (type R)	20 ... 250 V AC/DC
Rated operating voltage (type Q)	250 ... 400 V AC
Terminals, max. core cross-section	2 x 2.5 mm ²
Power consumption	≤ 2 W
Ex i data for application in connection with Ex-areas (type G)	
EC-Type Examination Certificate	SIRA 14ATEX1293U
Group, category, type of protection	II 1G Ex ia IIC Ga
IECEx approval	IECEx SIR 14.0075U
Voltage Ui	28 V
Power Pi	0.651 W
Internal capacitance Ci	0
Internal inductance Li	0

Ex e Ammeters

Ammeter/Voltmeter Window with Mounting Kit	Type Code
Window including lid mounting kit	WL



Ammeter

Ammeter Units	Type Code
Ammeter 0 - 1 A, scales see below	AA (*)
Ammeter 0 - 5 A, scales see below	AB (*)
Ammeter 4 - 20 mA, scale included	AC
Ammeter 0 - 20 mA, scale included	AD

(*) change from 'A' resp. 'B'

Ammeter Scales	Type Code	Type Code
	0 ... 1 A	0 ... 5 A
Ammeter scale 0 ... 1 / 5 A	1A	5A
Ammeter scale 0 ... 2.5 / 12.5 A	1B	5B
Ammeter scale 0 ... 5 / 25 A	1C	5C
Ammeter scale 0 ... 10 / 50 A	1D	5D
Ammeter scale 0 ... 15 / 75 A	1E	5E
Ammeter scale 0 ... 25 / 125 A	1F	5F
Ammeter scale 0 ... 30 / 150 A	1G	5G
Ammeter scale 0 ... 40 / 200 A	1H	5H
Ammeter scale 0 ... 50 / 250 A	1I	5I
Ammeter scale 0 ... 60 / 300 A	1J	5J
Ammeter scale 0 ... 75 / 375 A	1K	5K
Ammeter scale 0 ... 100 / 500 A	1L	5L
Ammeter scale 0 ... 150 / 750 A	1M	5M
Ammeter scale 0 ... 200 / 1000 A	1N	5N
Ammeter scale 0 ... 250 / 1250 A	1O	5O
Ammeter scale 0 ... 300 / 1500 A	1P	5P
Ammeter scale 0 ... 400 / 2000 A	1Q	5Q
Ammeter scale 0 ... 500 / 2500 A	1R	5R
Ammeter scale 0 ... 600 / 3000 A	1S	5S
Blank plastic ammeter scale	X	X

Please note: Type Codes have changed

Technical Data Ammeter	
Rated operating voltage	500 V AC
Rated operating current	20 mA / 1 A / 5 A
Terminals, max. core cross-section	2 x 2.5 mm ²
Accuracy class	1.5

Ex e Voltmeters

Voltmeter Units	Type Code
Voltmeter 0 - 25 V, scale included	V1
Voltmeter 0 - 40 V, scale included	V2
Voltmeter 0 - 150 V, scale included	V3
Voltmeter 0 - 250 V, scale included	V4
Voltmeter 0 - 500 V, scale included	V5

Mounting kit see ammeters



Voltmeter

Technical Data Voltmeter

Rated operating voltage	500 V AC
Terminals, max. core cross-section	2 x 2,5 mm ²

Ex de Potentiometer

Potentiometer Actuator	Type Code
Potentiometer actuator, black, labeled "0 - 10"	R2



Potentiometer Actuator

Potentiometer Blocks, lid-mounted	Type Code
1000 Ω potentiometer	6
2000 Ω potentiometer	7
5000 Ω potentiometer	8
10000 Ω potentiometer	9



Lid-mounted Potentiometer Block

Technical Data Potentiometer

Rated operating voltage	max. 200 V AC	max. 200 V DC
Terminals, max. core cross-section	2 x 2.5 mm ²	2 x 2.5 mm ²
Power consumption	≤ 0.1 W	≤ 0.1 W

Operator Accessories

Accessory	Type Code
Blanking plug	BK
Small label holder with printed label as per specification	ZS
Large label holder with printed label as per specification	ZL
Emergency Stop label, yellow, round, adhesive	ZE
Emergency Stop label, yellow, rectangular, adhesive	ZF
Protective lid, plastic	ZA
Emergency stop shroud, plastic, padlockable	ZP
Protective shroud, stainless steel	ZC
Protective shroud, stainless steel, padlockable	ZD
Locknut spanner, plastic	TP
Locknut spanner for key switches, plastic	TB

Please note: Type Codes have changed



Small Label Holder



Blanking Plug



Protective Lid, Plastic



Protective Shroud, Stainless Steel



Emergency Stop Shroud