

## Features

- Stainless steel enclosures
- Suitable for operation in Zones 1, 2, 21 and 22
- Certified Ex de and Ex tb
- Up to 4 operators per control unit, base-mounted contact block
- Wide choice of operators, including
  - Pushbuttons
  - LED indicators
  - Illuminated pushbuttons
  - Emergency stop buttons
  - Pushbuttons with key release
  - Control switches
  - Potentiometers
  - Ammeters
- Customizable configuration of operators and cable gland types as per specification
- Wide range of labels and accessories available

## Assembly



## Function

The versatile control units of the LCS series are available as standard off-the-shelf control units or can be flexibly equipped with a great variety of operators, labels, cable glands and accessories.

The comprehensive range of control functions allow the configuration of each control unit to exactly meet any application requirements and ensure optimal space efficiency.

The enclosures are manufactured from electropolished 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.

Durable materials and components of high quality allow the control units 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 screws
Protection degree	IP66
Cable entry	cable glands as per specification, see also dimensions data table
Cable entry areas	face A and face B
Terminal capacity	2.5 mm <sup>2</sup>

**Material**

Enclosure	1.5 mm AISI 316L (1.4404) stainless steel
Finish	electropolished
Seal	one piece closed cell neoprene, optional silicone gasket
Weight	see dimensions data table
Grounding	M6 internal/external brass grounding bolt

**Ambient conditions**

Ambient temperature	-40 ... 55 °C (-40 ... 131 °F) @ T4 -40 ... 40 °C (-40 ... 104 °F) @ T6 -50 °C (-58 °F) on request
---------------------	--

**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 tb IIIC T80 °C, T95 °C, T130 °C Db

**International approvals**

IECEx approval	IECEx SIR 13.0021
----------------	-------------------

**Conformity**

Protection degree	EN 60529
-------------------	----------

**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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .
---------------------------	---

**Accessories**

Optional accessories	see accessories table
----------------------	-----------------------

## Standard Control Units

Type	Functions	Contact configuration	D*	Labeling
LCS1.PGMX.B	Pushbutton, green	1x NO / 1x NC		I
LCS1.PRMX.B	Pushbutton, red	1x NO / 1x NC		0
LCS1.ERMX.B	Emergency stop mushroom button, red	1x NO / 1x NC		Emergency Stop / Not Aus
LCS1.ERMA.B	Emergency stop mushroom button, red, with protective shroud, plastic	1x NO / 1x NC		Emergency Stop / Not Aus
LCS1.ERMP.B	Emergency stop mushroom button, red, with protective shroud, plastic, padlockable	1x NO / 1x NC		Emergency Stop / Not Aus
LCS1.IGIX.B	Illuminated pushbutton, green	1x NO		
LCS1.IRJX.B	Illuminated pushbutton, red	1x NC		
LCS1.JRMX.B	Key-release emergency mushroom button, red	1x NO / 1x NC		
LCS1.DMMX.B	Double pushbutton, red/green	1x NO / 1x NC		0 - I
LCS1.N1OX.B	Small control switch, 2 position with left OFF	2x NO	1	0 - I
LCS1.N2MX.B	Small control switch, 2 position	1x NO / 1x NC	2	I - II
LCS1.N3OX.B	Small control switch, 3 position with center OFF	2x NO	4	I - 0 - II
LCS1.S1OX.B	Large control switch, 2 position with left OFF	2x NO	1	0 - I
LCS1.S2MX.B	Large control switch, 2 position	1x NO / 1x NC	2	I - II
LCS1.S3OX.B	Large control switch, 3 position with center OFF	2x NO	4	I - 0 - II
LCS1.K1OX.B	Key switch, 2 position with left OFF	2x NO	1	0 - I
LCS1.K3OX.B	Key switch, 3 position with center OFF	2x NO	4	I - 0 - II
LCS1.LGLX.B	LED indicator, green			
LCS1.LRLX.B	LED indicator, red			
LCS2.WLAA.B	Ammeter 1A			Scale 0 – 1 – 5 A
LCS2.PGMX.PRMX.B	Pushbutton, green Pushbutton, red	1x NO / 1x NC 1x NO / 1x NC		I 0
LCS2.PGMX.ERMX.B	Pushbutton, green Emergency stop mushroom button, red	1x NO / 1x NC 1x NO / 1x NC		I Emergency Stop / Not Aus
LCS2.PGMX.JRMX.B	Pushbutton, green Key-release emergency mushroom button, red	1x NO / 1x NC 1x NO / 1x NC		I

\* see switching diagrams at operator overview tables overleaf

Table continues overleaf.

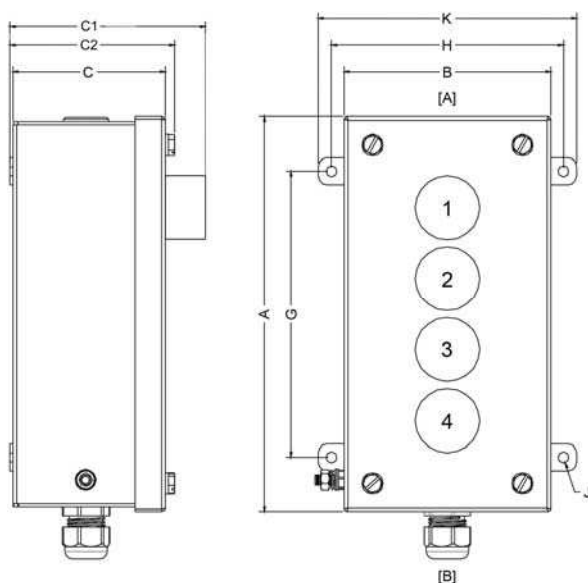
## Standard Control Units continued

Type	Functions	Contact configuration	D*	Labeling
LCS3.WLAA.N5OX.B	Ammeter 1A Small control switch, 3 position with left OFF	2x NO	3	Scale 0 – 1 – 5 A 0 - I - II
LCS3.PGMX.PRMX.ERMX.B	Pushbutton, green Pushbutton, red Emergency stop mushroom button, red	1x NO / 1x NC 1x NO / 1x NC 1x NO / 1x NC	I 0	Emergency Stop / Not Aus
LCS3.LGLX.PGMX.PRMX.B	LED indicator, green Pushbutton, green Pushbutton, red	1x NO / 1x NC 1x NO / 1x NC	I 0	RUNNING
LCS3.LRLX.PGMX.PRMX.B	LED indicator, red Pushbutton, green Pushbutton, red	1x NO / 1x NC 1x NO / 1x NC	I 0	TRIPPED
LCS3.LRLX.LYLX.LGLX.B	LED indicator, red LED indicator, yellow LED indicator, green			
LCS3.LRLX.DMMX.JRMX.B	LED indicator, red Double pushbutton, red/green Key-release emergency mushroom button, red	1x NO / 1x NC 1x NO / 1x NC	I 0 - I	TRIPPED none
LCS3.WLAA.PGMX.PRMX.B	Ammeter 1A Pushbutton, green Pushbutton, red	1x NO / 1x NC 1x NO / 1x NC	I 0	Scale 0 – 1 – 5 A
LCS4.LRLX.PGMX.PRMX.ERMX.B	LED indicator, red Pushbutton, green Pushbutton, red Emergency stop mushroom button, red	1x NO / 1x NC 1x NO / 1x NC 1x NO / 1x NC	I 0	Emergency Stop / Not Aus

\* see switching diagrams at operator overview tables overleaf

For further configurations please contact Pepperl+Fuchs.

## Dimensions



## Legend

- A – Maximum external dimension
- B – Maximum external dimension
- C – Maximum external dimension
- C1 – Maximum external dimension with operator
- C2 – Maximum external dimension with screws
- 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

For details see dimensions data table

## Dimensions

Type	Dimensions [mm]						Fixation [mm]			Weight [kg]
	A	B	C	C1	C2	K	G	H	Diam. J	
LCS1.*	102	116	85.5	132	92.2	145	41	130	6.1	0.65
LCS2.*	142	116	85.5	132	92.2	145	81	130	6.1	1.15
LCS3.*	220	116	85.5	132	92.2	145	161	130	6.1	1.65
LCS4.*	220	116	85.5	132	92.2	145	161	130	6.1	1.65

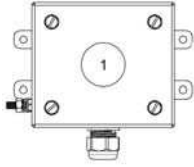
Weight shows empty enclosure; it will increase according to operators and installations.  
Dimension C1 is maximum, it will differ according to operator elements.

Standard cable entries:

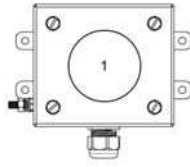
Face A: 1 x M20 polyamide stopping plug

Face B: 1 x M20 polyamide cable gland

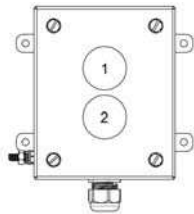
For further entry configurations please contact Pepperl+Fuchs.

**Type LCS1 configuration: max. 1 function – operator types see overleaf**

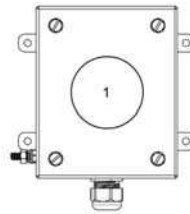
Maximum configuration (1)



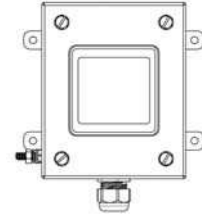
Large operator configuration (2a)

**Type LCS2 configuration: max. 2 functions – operator types see overleaf**

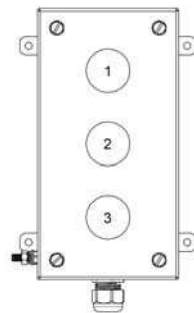
Maximum configuration (1)



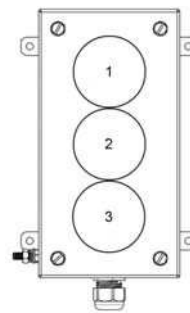
Large operator configuration (2)



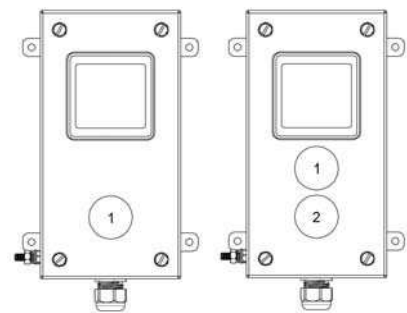
Windows and large labels (3)

**Type LCS3 configuration: max. 3 functions – operator types see overleaf**

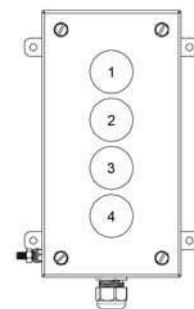
Maximum configuration (1)



Large operator configuration (2a)



Windows and large labels (3)

**Type LCS4 configuration: max. 4 functions – operator types see overleaf**

Maximum configuration (1)

- (1) Small operators with 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  
2a) 4 pole contact blocks not possible
- (3) Viewing windows with ammeter in combination with operators, label holders depending on configuration

For further configurations please contact Pepperl+Fuchs.

Note: the use of label holders depends on operator configuration.

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

Type code / model number

Series

LC Control Unit

: **Material**

: **S** stainless steel

: **Enclosure type / quantity of operators**

: **1 ... 4** see dimensions data table

: **Function 1**

: **xxxx** see operator type codes

: **Function 2**

: **xxxx** see operator type codes

: **Function 3**

: **xxxx** see operator type codes

: **Function 4**

: **xxxx** see operator type codes

: **Entry configuration / cable glands**

: **x**

LC	S	n	.xxxx	.xxxx	.xxxx	.xxxx	.x

Optional Enclosure Accessories

M6 AISI 316L stainless steel internal / external grounding stud assembly

Engraved traffolyte tag label

Engraved AISI 316L stainless steel tag label

Color in-fill stainless steel tag label

## 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
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



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	MB
Key pushbutton, latching two position, black/silver	HS



Key Pushbutton



Mushroom Pushbutton



Key-release Mushroom Button



## Ex de Pushbuttons and Emergency Stops

Contact Blocks, base-mounted	Type Code
Contact block with 1x NO / 1x NC contacts	M
Contact block with 2x NC contacts	C
Contact block with 2x NO contacts	O
Contact block with 2x NO / 2x NC contacts	01
Contact block with 4x NC contacts	02
Contact block with 4x NO contacts, left OFF	03



Base-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	0.5 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>

## Ex de Illuminated Pushbuttons

Illuminated Pushbutton Actuators	Type Code
Red illuminated pushbutton	IR
Green illuminated pushbutton	IG
Yellow illuminated pushbutton	IY
White illuminated pushbutton	IW
Blue illuminated pushbutton	IB



Blue Pushbutton Actuator

LED Contact Modules, base-mounted	Type Code
LED module 12 - 250 V AC with 1x NO contact	I
LED module 12 - 250 V AC with 1x NC contact	J



Base-mounted LED Module

Technical Data LED Contact Modules		
Utilization category	AC15	DC13
Rated operating voltage	12 ... 250 V	12 ... 24 V
Rated operating current	6 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>
Power consumption	≤1W	≤1W

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.comUSA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.comGermany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

## Ex de Control Switches, 2 Pole Contact Blocks

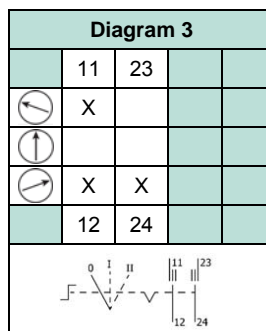
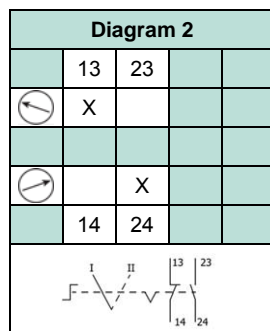
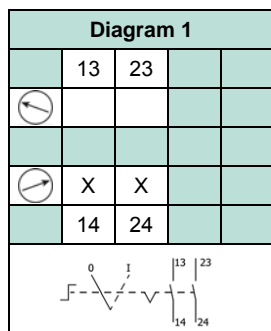
Switching Actuators For Use With 2 Pole Contact Blocks	Switching Diagram	Contact Block *	Action	Marking			Type Code
Small actuator, 2 position with left OFF	1	O	engage - engage	0		I	N1
Small actuator, 2 position	2	M	engage - engage	I		II	N2
Small actuator, 3 position with center OFF	4	O	engage - engage - engage	I	0	II	N3
Small actuator, 3 position with left OFF	3	O	engage - engage - engage	0	I	II	N5
Large actuator, 2 position with left OFF, padlockable in "0"	1	O	engage - engage	0		I	S1
Large actuator, 2 position	2	M	engage - engage	I		II	S2
Large actuator, 3 position with center OFF, padlockable in "0"	4	O	engage - engage - engage	I	0	II	S3
Large actuator, 3 position with left OFF	3	O	engage - engage - engage	0	I	II	S5
Key switch actuator, 2 position with left OFF	1	O	engage - engage	0		I	K1
Key switch actuator, 3 position with center OFF	4	O	engage - engage - engage	I	0	II	K3

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

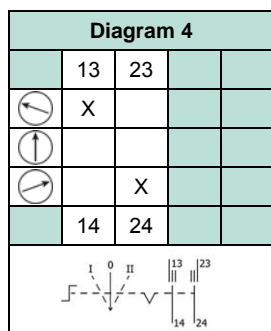
\* when used with

Contact Blocks 2 Pole, base-mounted	Type Code
Contact block with 1x NO / 1x NC contacts	M
Contact block with 2x NC contacts	C
Contact block with 2x NO contacts	O

## Switching Diagrams 2 Pole Contact Blocks



Small Actuator



Base-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	0.5 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

**PEPPERL+FUCHS**  
PROTECTING YOUR PROCESS

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	03	engage - engage	0		I	S1
Large actuator, 2 position	6	01	engage - engage	I		II	S2
Large actuator, 3 position with center OFF, padlockable in "0"	7	03	engage - engage - engage	I	0	II	S3

Note: all switching actuators are black and shrouded. \* when used with

Contact Blocks 4 Pole, base-mounted	Type Code
Contact block with 2x NO / 2x NC contacts	01
Contact block with 4x NC contacts	02
Contact block with 4x NO contacts	03

Switching Diagrams 4 Pole Contact Blocks

Diagram 5					Diagram 6					Diagram 7				
	1	3	5	7		1	3	5	7		1	3	5	7
								X	X		X	X		
	X	X	X	X		X	X						X	X
	2	4	6	8		2	4	6	8		2	4	6	8



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	0.5 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>

Ex de Control Switches, 4 Pole Rotary Switching Blocks

Large Control Switches, 4 Pole	4 Pole Rotary Switching Block, base-mounted			Rotary Switching Actuator					
	Type Code	Switching Diagram	Action	Marking					Type Code
				⊖	⊕	⊖	⊕	⊖	
Switch 2 position with left OFF (*)	10	5	engage - engage	0				I	T1
Switch 2 position	11	6	engage - engage	I				II	T2
Switch 3 position with center OFF (*)	12	7	engage - engage - engage	I		0		II	T3
Switch 3 position with center OFF, spring return (*)	13	8	spring - engage - spring	I		0		II	T3
Switch 3 position, right with spring return	16	10	engage - engage - spring	0		I		II	T5
Switch 4 position	15	11	engage - engage - engage - engage	I	II		III	IV	T4

Note: all switching actuators are black and shrouded. (\*) = padlockable in "0" position.  
Always indicate type codes for both rotary operator and switching block.

Switching Diagrams 4 Pole Rotary Switching Blocks

Diagram 5					Diagram 6					Diagram 7					Diagram 8				
	1	3	5	7		1	3	5	7		1	3	5	7		1	3	5	7
⊖					⊖			X	X	⊖	X	X			⊖	X	X		
										⊕					⊕				
													X	X				X	X
⊖	X	X	X	X	⊖	X	X			⊖			X	X	⊖			X	X
	2	4	6	8		2	4	6	8		2	4	6	8		2	4	6	8

Diagram 10					Diagram 11				
	1	3	5	7		1	3	5	7
⊖	X				⊖	X			
					⊖		X		
⊕		X			⊕			X	
					⊖				X
⊖			X	X	⊖				X
	2	4	6	8		2	4	6	8



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	0.5 A	1 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>

Release date 2014-07-05 T170323

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

## Ex de LED Indicators

Lens for LED	Type Code
Red indicator lens cover	LR
Green indicator lens cover	LG
Yellow indicator lens cover	LY
White indicator lens cover	LW
Blue indicator lens cover	LB



Red LED Indicator

LED Modules, base-mounted	Type Code
20 - 250 V AC LED Module	L



Base-mounted LED Module

Technical Data LED Modules		
Rated operating voltage	20 ... 250 V AC	20 ... 250 V DC
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>
Power consumption	≤1W	≤1W

## Ex e Ammeters

Ammeter Window	Type Code
Ammeter window including lid mounting kit	WL

Ammeter Units	Type Code
Ammeter 1 A, scales see below	A
Ammeter 5 A, scales see below	B

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



Ammeter

Technical Data Ammeter	
Rated operating voltage	690 V AC
Rated operating current	1 A / 5 A
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>
Accuracy class	1.5

## Ex de Potentiometer

Potentiometer Actuator	Type Code
Potentiometer actuator, black, labeled "0 - 10"	R1



Potentiometer Actuator

Potentiometer Blocks, base-mounted	Type Code
1000 Ω potentiometer	1
2000 Ω potentiometer	2
5000 Ω potentiometer	5
10000 Ω potentiometer	0

Technical Data Potentiometer		
Rated operating voltage	max. 200 V AC	max. 200 V DC
Terminals, max. core cross-section	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>
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	S
Large label holder with printed label as per specification	L
Emergency Stop label, yellow, round, adhesive	E
Protective lid, plastic	A
Emergency stop shroud, plastic, padlockable	P
Protective shroud, stainless steel	C
Protective shroud, stainless steel, padlockable	D
Locknut spanner, plastic	T



Small Label Holder



Blanking Plug



Protective Lid, Plastic



Protective Shroud, Stainless Steel



Emergency Stop Shroud