

Position switches LS, proximity switches LS, pressure switches MCS

Moeller's safety/position switches are used everywhere where positions must be exactly registered. The LSE-Titan electronic safety/position switch allows the switching point to be set quickly and without complication. Proximity switches in various designs switch reliably and without contact.



Electronic safety position switches LSE-Titan

- Switching point simply and variably adjustable
- Analogue 0-10 V DC or 4- 20 mA
- Cage Clamp

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Safety door switches safety position switches

- Safety for personnel and processes
- Safety and interlocking of protective doors
- Safe switch off in emergencies
- Prevent tampering

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Safety position switches LS-Titan

- Positions reliably registered
- Cage Clamp and screw terminals
- Metal or insulated
- Positively opening contacts
- Simple mounting of the various operating heads

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Proximity switches LSI, LSC, LSO

- Non-contact, safe switching: inductive, capacitive and optical
- Various types of construction

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Pressure switches MCSN/MCS

- For pressure monitoring of liquids and gases e.g. compressed air.
- Two adjustable switching points (ON an OFF switching points)
- 1 pole or 3 pole for actuation of control circuits or load switching

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Position switches



Safety switches



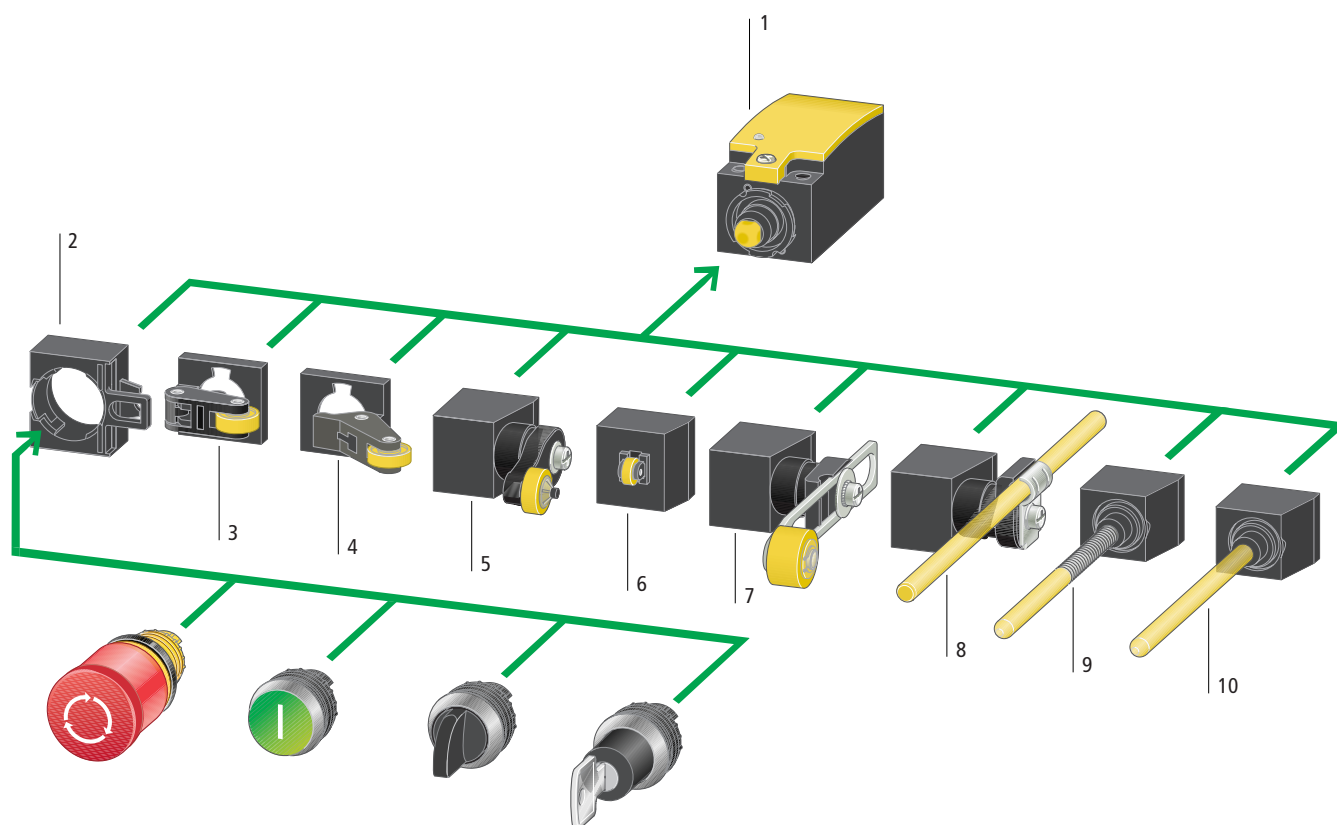
Proximity switches
Pressure switches



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LS, LSM

Basic devices

Basic device	1
according to EN 50047	
With screw-on cover	
Contacts: 1NO/1NC, 2NO, 2NC	
Cage Clamp, screw terminal	
As snap-action or standard-action switch	
As electronic snap-action switch, (individually adjustable)	
As 4-20 mA analog signal encoder	
As 0-10 V DC analog signal encoder	
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Operating heads

Can be rotated by 90°

Fixing adapter	2
Actuation by front element RMQ-Titan	
Roller lever	3
For one-sided operation with higher operating speed	
Angled roller lever	4
For actuation along the unit axis	
Rotary lever	5
For actuation from the side, for pendulum movements	

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Operating heads

Can be rotated by 90°

Roller plunger	6
For actuation from the side with low actuating force	
Adjustable roller lever	7
For length adjustment as required	
Actuating rod	8
On conveyor belts for lightweight goods	
Spring-rod	9
For flexible actuation from all sides	
Actuating rod	10
Withdrawable mechanism from front	
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LS, LSM product features

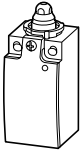
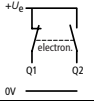
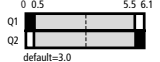
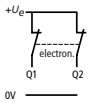
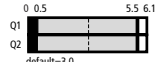
- Modular system
- IP65 and IP66 degree of protection
-  (except LSM)

- Personnel protection
- Positive operation
- ☹ Safety function by positive opening according to IEC/EN 60947-5-1 Up to category 4 according to EN 954-1

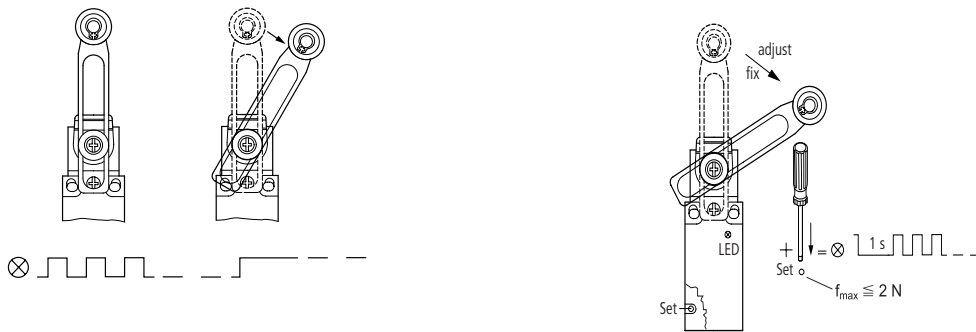
- Suitable for use with electronic devices to IEC/EN 61131-2
- Devices for world markets

Notes

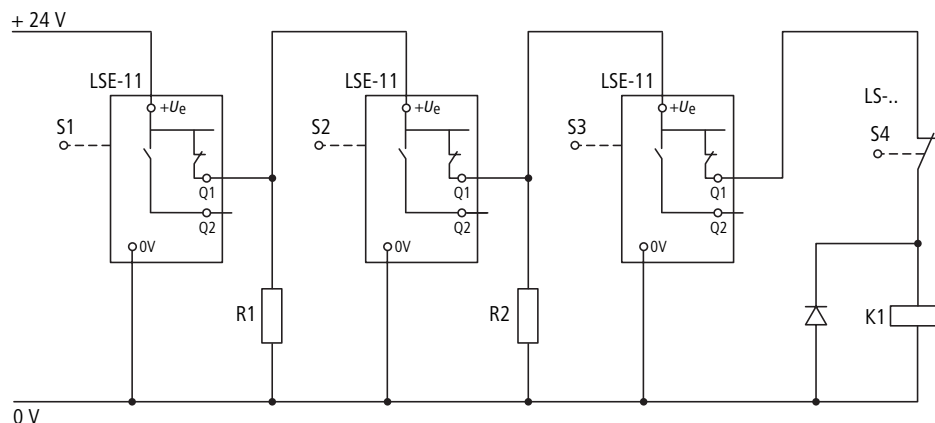
Do not use as a mechanical stop/shipping brace. Cage Clamp is a registered trademark of Wago Kontakttechnik, 32423 Minden, Germany.

Contacts N/O = Normally open N/C = Normally closed ⊕ = positive opening safety function to IEC/EN 60947-5-1 N/O = Normally open N/C = Normally closed		Contact sequence	Contact travel ■ = contact closed □ = contact open ▨ = setting range	Colour of enclosure cover	Insulated material Part no. Article no.	Price see price list	Std. pack
IP66, IP67 operating point electronically adjustable Basic unit Visible status display, comparable with positive opening function Conditional short-circuit, restart after reset							
 	1 N/O	1 N/C				LSE-11 266121	1
		2 N/C				LSE-02 266122	1 off

Notes LSE-11 and LSE-02: Individual operating point adjustment:

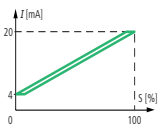
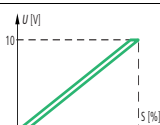


circuit example for series connection:
 LSE-11 and LSE-02 can be used in safety circuits



S1 is connected to 24 V DC
 S2, S3 each switch with a delay of 0.7 s
 R1, R2 e.g. series element M22-XLED60 (2820 Ω/0.5 W)

Analog electronic position switches IP66, IP67

Basic unit Visual status indication Q1 = analog output Q2 = diagnostics output (the diagnostics output has a 0 V signal in the event of a fault.)	4 – 20 mA			LSE-AI 269461	1 off
	0 – 10 V			LSE-AU 274096	1 off

Auxiliary contacts: ⊕ = safety function, by positive opening to IEC/EN 60947-5-1

Contact sequence

Contact travel

■ = contact closed
□ = contact open

Colour of enclosure cover

Housing

Terminal connection

Part no.
Article no.

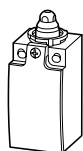
Price
see price list

Std. pack

Rounded plunger, IP66, IP67

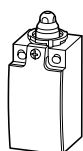
Basic unit

Front fixing, non expandable



	2 N/C ⊕				Insulated material	Cage Clamp	LS-02/F 292365		1 off
	2 N/C ⊕				Insulated material	Screw terminal	LS-S02/F 106780		1 off
	2 N/C ⊕				Metal	Cage Clamp	LSM-02/F 292371		1 off
1 N/O	1 N/C ⊕				Insulated material	Cage Clamp	LS-11/F 290176		1 off
1 N/O	1 N/C ⊕				Insulated material	Screw terminal	LS-S11/F 106784		1 off
1 N/O	1 N/C ⊕				Metal	Cage Clamp	LSM-11/F 292372		1 off
1 N/O	1 N/C ⊕				Insulated material	Cage Clamp	LS-11D/F 292366		1 off
1 N/O	1 N/C ⊕				Insulated material	Screw terminal	LS-S11D/F 106792		1 off
1 N/O	1 N/C ⊕				Metal	Cage Clamp	LSM-11D/F 292373		1 off
1 N/O	1 N/C ⊕				Insulated material	Cage Clamp	LS-11DA/F 292369		1 off
1 N/O	1 N/C ⊕				Insulated material	Screw terminal	LS-S11DA/F 106796		1 off
1 N/O	1 N/C ⊕				Metal	Cage Clamp	LSM-11DA/F 292376		1 off
1 N/O	1 N/C ⊕				Insulated material	Cage Clamp	LS-11S/F 292367		1 off
1 N/O	1 N/C ⊕				Insulated material	Screw terminal	LS-S11S/F 106799		1 off
1 N/O	1 N/C ⊕				Metal	Cage Clamp	LSM-11S/F 292374		1 off
2 N/O					Insulated material	Cage Clamp	LS-20/F 292368		1 off
2 N/O					Insulated material	Screw terminal	LS-S20/F 106809		1 off
2 N/O					Metal	Cage Clamp	LSM-20/F 292375		1 off
2 N/O					Insulated material	Cage Clamp	LS-20A/F 292370		1 off
2 N/O					Insulated material	Screw terminal	LS-S20A/F 106811		1 off
2 N/O					Metal	Cage Clamp	LSM-20A/F 292377		1 off
th operating heads									
	2 N/C ⊕				Insulated material	Cage Clamp	LS-02 266107		10 off
	2 N/C ⊕				Insulated material	Cage Clamp	LS-02-SW 272009		10 off
	2 N/C ⊕				Insulated material	Screw terminal	LS-S02 106729		10 off
	2 N/C ⊕				Insulated material	Screw terminal	LS-S02-SW 106782		10 off
	2 N/C ⊕				Metal	Cage Clamp	LSM-02 266142		2 off

Expandable with operating heads

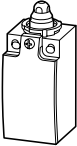
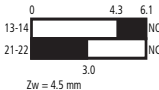
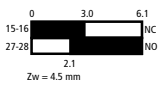
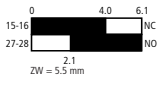
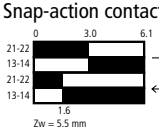
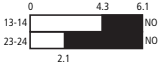


2 N/C ⊕			Yellow circle	Insulated material	Cage Clamp	LS-02 266107	10 off
2 N/C ⊕			Black circle	Insulated material	Cage Clamp	LS-02-SW 272009	10 off
2 N/C ⊕			Yellow circle	Insulated material	Screw terminal	LS-S02 106729	10 off
2 N/C ⊕			Black circle	Insulated material	Screw terminal	LS-S02-SW 106782	10 off
2 N/C ⊕			Yellow circle	Metal	Cage Clamp	LSM-02 266142	2 off

Notes

Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.



Auxiliary contacts: ☺ = safety function, by positive opening to IEC/EN 60947-5-1		Contact sequence	Contact travel ■ = contact closed □ = contact open	Colour of enclosure cover	Housing	Terminal connection	Part no. Article no.	Price see price list	Std. pack
N/O = Normally open		N/C = Normally closed							
Rounded plunger, IP66, IP67									
Basic unit									
Expandable with operating heads									
	1 N/O	1 N/C ☺				Insulated material EN 50047 Form B	Cage Clamp	LS-11 266109	10 off
	1 N/O	1 N/C ☺					Cage Clamp	LS-11-SW 272006	10 off
	1 N/O	1 N/C ☺					Screw terminal	LS-S11 106783	10 off
	1 N/O	1 N/C ☺					Screw terminal	LS-S11-SW 106807	10 off
	1 N/O	1 N/C ☺				Metal EN 50047 Form B	Cage Clamp	LSM-11 266144	2 off
	1 N/O	1 N/C ☺				Insulated material	Cage Clamp	LS-11D 266114	10 off
	1 N/O	1 N/C ☺				Insulated material	Cage Clamp	LS-11D-SW 272007	10 off
	1 N/O	1 N/C ☺				Insulated material	Screw terminal	LS-S11D 106791	10 off
	1 N/O	1 N/C ☺				Insulated material	Screw terminal	LS-S11D-SW 106797	10 off
	1 N/O	1 N/C ☺				Metal	Cage Clamp	LSM-11D 266149	2 off
	1 N/O	1 N/C ☺				Insulated material	Cage Clamp	LS-11DA 292361	1 off
	1 N/O	1 N/C ☺				Insulated material	Screw terminal	LS-S11DA 106795	1 off
	1 N/O	1 N/C ☺				Metal	Cage Clamp	LSM-11DA 292363	1 off
	1 N/O	1 N/C ☺				Insulated material EN 50047 Form B	Cage Clamp	LS-11S 266105	10 off
	1 N/O	1 N/C ☺				Insulated material EN 50047 Form B	Cage Clamp	LS-11S-SW 272020	10 off
	1 N/O	1 N/C ☺					Screw terminal	LS-S11S 106798	10 off
	1 N/O	1 N/C ☺					Screw terminal	LS-S11S-SW 106806	10 off
	1 N/O	1 N/C ☺				Metal EN 50047 Form B	Cage Clamp	LSM-11S 266140	2 off
	2 N/O					Insulated material	Cage Clamp	LS-20 266120	10 off
	2 N/O					Insulated material	Cage Clamp	LS-20-SW 272008	10 off
	2 N/O					Insulated material	Screw terminal	LS-S20 106808	10 off
	2 N/O					Insulated material	Screw terminal	LS-S20-SW 106812	10 off
	2 N/O					Metal	Cage Clamp	LSM-20 266155	2 off
	2 N/O					Insulated material	Cage Clamp	LS-20A 292362	1 off
	2 N/O					Insulated material	Screw terminal	LS-S20A 106810	1 off
	2 N/O					Metal	Cage Clamp	LSM-20A 100051	2 off

Notes

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Auxiliary contacts: $\ominus$ = safety function, by positive opening to IEC/EN 60947-5-1

Contact sequence

Contact travel

■ = contact closed
□ = contact open

Colour of enclosure cover

Housing

Terminal connection

Part no.
Article no.

Price
see price list

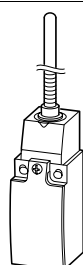
Std. pack

N/O =
Normally open

N/C =
Normally closed

Spring-rod actuator IP66, IP67

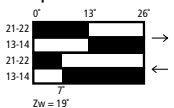
Do not use spring-rod actuator as a safety position switch; admissible only with snap-action contact.



1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Snap-action contact



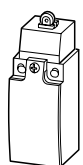
Insulated material	Cage Clamp
Insulated material	Screw terminal
Metal	Cage Clamp

LS-11S/S 266104
LS-S11S/S 106805
LSM-11S/S 266139

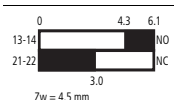
2 off
2 off
2 off

Roller plungers, IP66, IP67

EN 50047 Form C



1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Insulated material	Cage Clamp
EN 50047 Form C	Screw terminal
Metal	Cage Clamp

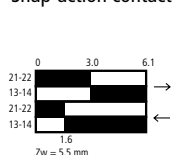
LS-11/P 266112
LS-S11/P 106788
LSM-11/P 266147

2 off
2 off
2 off

1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Snap-action contact

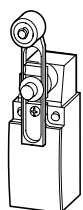


Insulated material	Cage Clamp
EN 50047 Form C	Screw terminal
Metal	Cage Clamp

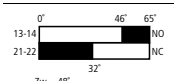
LS-11S/P 266118
LS-S11S/P 106801
LSM-11S/P 266153

2 off
2 off
2 off

Adjustable roller levers, IP66, IP67



1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Insulated material	Cage Clamp
Insulated material	Screw terminal
Metal	Cage Clamp

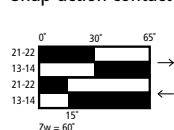
LS-11/RLA 266113
LS-S11/RLA 106790
LSM-11/RLA 266148

2 off
2 off
2 off

1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Snap-action contact

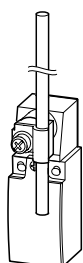


Insulated material	Cage Clamp
Insulated material	Screw terminal
Metal	Cage Clamp

LS-11S/RLA 266119
LS-S11S/RLA 106803
LSM-11S/RLA 266154

2 off
2 off
2 off

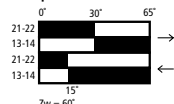
IP66, IP67 actuating rod



1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$
1 N/O	1 N/C $\ominus$



Snap-action contact



Insulated material	Cage Clamp
Insulated material	Screw terminal
Metal	Cage Clamp

LS-11S/RR 266106
LS-S11S/RR 106804
LSM-11S/RR 266141

4 off
4 off
4 off

Notes

Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.



Auxiliary contacts: ☉ = safety function, by positive opening to IEC/EN 60947-5-1

Contact sequence

Contact travel

■ = contact closed
□ = contact open

Colour of enclosure cover

Housing

Terminal connection

Part no.
Article no.

Price see price list

Std. pack

Roller lever IP66, IP67

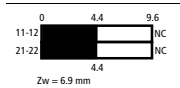
Long



N/O =
Normally
open

N/C =
Normally
closed

2 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-02/L

266108

2 off

2 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S02/L

106781

2 off

2 N/C ☉



Yellow

Metal

Cage Clamp

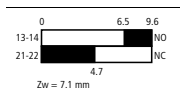
LSM-02/L

266143

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-11/L

266110

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11/L

106785

2 off

1 N/O

1 N/C ☉



Yellow

Metal

Cage Clamp

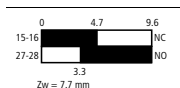
LSM-11/L

266145

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

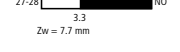
LS-11D/L

266115

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11D/L

106793

2 off

1 N/O

1 N/C ☉



Yellow

Metal

Cage Clamp

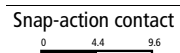
LSM-11D/L

266150

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-11S/L

266116

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11S/L

106800

2 off

1 N/O

1 N/C ☉



Yellow

Metal

Cage Clamp

LSM-11S/L

266151

2 off

Short

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-11/LS

290173

1 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11/LS

106787

1 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-11D/LS

290174

1 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11D/LS

106794

1 off

Roller lever, large

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

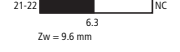
LS-11/LB

290175

1 off

1 N/O

1 N/C ☉



Yellow

Insulated material

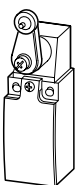
Screw terminal

LS-S11/LB

106786

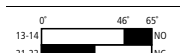
1 off

Rotary lever, IP66, IP67



1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

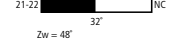
LS-11/RL

266111

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

LS-S11/RL

106789

2 off

1 N/O

1 N/C ☉



Yellow

Metal

Cage Clamp

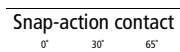
LSM-11/RL

266146

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Cage Clamp

LS-11S/RL

266117

2 off

1 N/O

1 N/C ☉



Yellow

Insulated material

Screw terminal

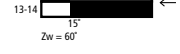
LS-S11S/RL

106802

2 off

1 N/O

1 N/C ☉



Yellow

Metal

Cage Clamp

LSM-11S/RL

266152

2 off

Customer specific complete device IP66, IP67

(*) user-definable customer ID or warehouse No.; up to 10 characters

LS-COMBINATION-*

266168

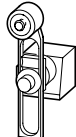
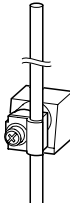
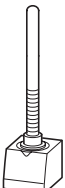
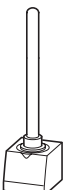
1 off

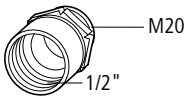
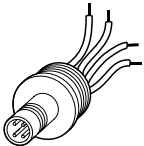
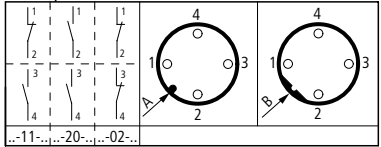
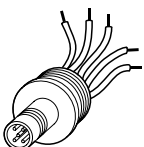
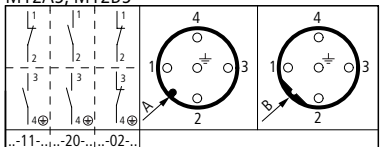
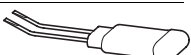
Notes

Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.

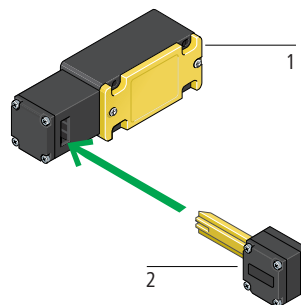
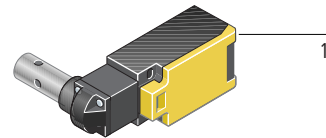
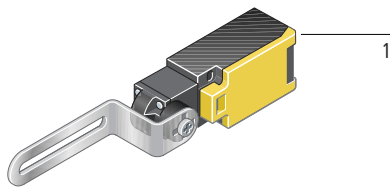
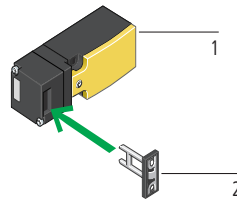
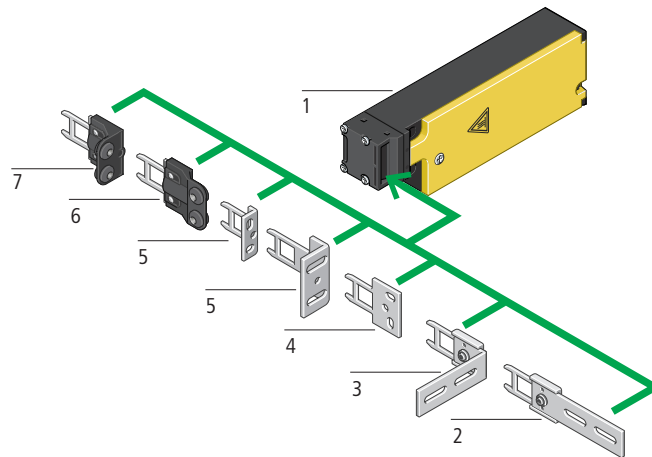




		Insulated material Part no. Article no.	Metal Part no. Article no.	Std. pack	Notes
Operating heads					
Roller plungers					The operating heads can be rotated in 90° stages to match the specified direction of operation.
		LS-XP 266125	LSM-XP 266158	10 off	
Roller lever					
	Long	LS-XL 266123	LSM-XL 266156	10 off	
	Short	LS-XLS 290177			
	Large	LS-XLB 290178		1 off	
Angled roller lever					
		LS-XLA 266124	LSM-XLA 266157	10 off	
Rotary lever					
		LS-XRL 266126	LSM-XRL 266159	5 off	
Adjustable roller levers					
	D = 18 mm	LS-XRLA 266127	LSM-XRLA 266160	4 off	
	D = 30 mm	LS-XRLA30 266128			
	D = 40 mm	LS-XRLA40 266129			
	D = 40 mm (rubber)	LS-XRLA40R 266130			
Actuating rods					
	Plastic rod	LS-XRR 266131	LSM-XRR 266161	4 off	
	Metal rod	LS-XRRM 266132	LSM-XRRM 266162	4 off	
Spring-rod					
	Not to be used as a safety position switch Use only in conjunction with snap-action contact.	LS-XS 266133	LSM-XS 266163	5 off	
Actuating rod					
		LS-XOR 290190		1 off	
Fixing adapter Actuation through RMQ-Titan® front elements					
		M22-LS 266137		10 off	

	For use with	Description	Part no. Article no.	Price see price list	Std. pack	Notes
M20 screw terminal M20 in 1/2"						
		for use with american pipe thread, metal	V1/2"/M20-NA 225269		10 off	The screw connection must be earthed, not total insulation
		for use with american pipe thread, moulded material	V1/2"/M20 225270		10 off	
M20 diaphragm bolt, IP65						
With integral push-through membrane External diameter of cable up to 13 mm IP65 with cable inserted						
			EMS20 225271		25 off	
M20 screw closure						
(self-sealing grommet) For tightening / loosening by using a standard wrench for sealing grommet plugs						
			LS-X20 266134		25 off	
Plug connector, M12 × 1, IP65						
Moulded $U_i = 250 \text{ V}$, $I_{th} = 4 \text{ A}$ Fuse: 6 A gG/gL						
4-pole $U_e = 250 \text{ V}$						
	LS	"A" coded  Standard in IEC/EN 60947-5-2	M12A 266135		10 off	M12A, M12B 
	LS	"B" coded 	M12B 266136		10 off	
5-pole $U_e = 125 \text{ V}$						
	LSM	"A" coded  Standard in IEC/EN 60947-5-2	M12A5 272202		10 off	M12A5, M12B5 
	LSM	"B" coded 	M12B5 272203		10 off	
Cage Clamp twin N/C contact						
			LS-XTW 290179		1 off	







LS-...ZBZ

Basic device 1 Spring or magnet-powered interlock For increased personnel and process protection Tamper-proof Multiple coded actuators Contacts: 1 NO/1 NC or 2 NC → page 3/12	Angled flexible actuator 3 For doors that do not close precisely → page 3/13	Flat compensating actuator 6 For increased tolerance compensation in the direction of door closure → page 3/13
Flat flexible actuator 2 For doors that do not close precisely → page 3/13	Flat actuator 4 For sliding doors → page 3/13	Angled compensating actuator 7 For increased tolerance compensation in the direction of door closure → page 3/13
	Angled actuator 5 For swing doors → page 3/13	

LS-...ZB

Complete device 1 For personnel protection Contacts: 1 NC, 1 NO/1 NO or 2 NC 5 directions of operation possible → page 3/14	Actuator 2 Multiple coding protection against tampering
--	---

LSR-...TKG, LSR-...TS

Complete device 1 For personnel protection Contacts: 1 NO/1 NC or 2 NC For swing doors with fixed connection to the door/hinge pin LSR-...TKG → page 3/14 LSR-...TS → page 3/14

LS4-.../ZB

Complete device 1 Narrow enclosure version For personnel protection Contacts: 1NO, 1NO/1NC → page 3/14	Actuator 2 Multiple coding For horizontal or vertical operation
---	--

Product features

- Interlocking device to EN 1088
- For use in safety circuits
- ☹ Safety function by positive opening according to IEC/EN 60947-5-1
- Degree of protection IP65
- Operating head can be rotated $4 \times 90^\circ$
- With M20 $\times$ 1.5 thread



Notes

Do not use as a mechanical stop/shipping brace.



Attention!

Any change to an original Moeller safety position switch is not permitted and automatically leads to the loss of all approvals

Auxiliary contacts: ☉ = safety function, by positive opening to IEC/EN 60947-5-1

Contact sequence

Rated control voltage for magnetic drive

Part no.
Article no.

Price
see price list

Std. pack

N/O = Normally open

N/C = Normally closed

U_s

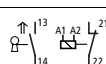
V

Basic units with spring-powered interlock (closed-circuit principle), IP65¹⁾

- With interlock monitoring and auxiliary release mechanism
- Monitoring of door position: continuous

1 N/O

1 N/C ☉

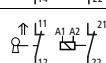


24 V DC

LS-S11-24DFT-ZBZ/X
106829

1 off

2 N/C ☉



24 V DC

LS-S02-24DFT-ZBZ/X
106823

1 N/O

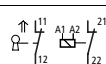
1 N/C ☉



120 V 50/60 Hz

LS-S11-120AFT-ZBZ/X
106825

2 N/C ☉

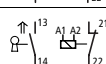


120 V 50/60 Hz

LS-S02-120AFT-ZBZ/X
106778

1 N/O

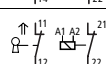
1 N/C ☉



230 V 50/60 Hz

LS-S11-230AFT-ZBZ/X
106827

2 N/C ☉



230 V 50/60 Hz

LS-S02-230AFT-ZBZ/X
106821

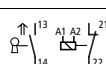


Basic units with magnet-powered interlock (open-circuit principle), IP65²⁾

- With interlock monitoring
- Monitoring of door position: continuous

1 N/O

1 N/C ☉

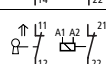


24 V DC

LS-S11-24DMT-ZBZ/X
106830

1 off

2 N/C ☉

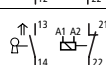


24 V DC

LS-S02-24DMT-ZBZ/X
106824

1 N/O

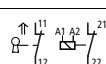
1 N/C ☉



120 V 50/60 Hz

LS-S11-120AMT-ZBZ/X
106826

2 N/C ☉

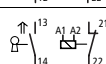


120 V 50/60 Hz

LS-S02-120AMT-ZBZ/X
106820

1 N/O

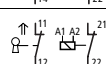
1 N/C ☉



230 V 50/60 Hz

LS-S11-230AMT-ZBZ/X
106828

2 N/C ☉



230 V 50/60 Hz

LS-S02-230AMT-ZBZ/X
106822



Notes

¹⁾ Time control of the release operation possible using ESR4-NT30-30

²⁾ Time control of the release operation possible using ESR4-NV30-30

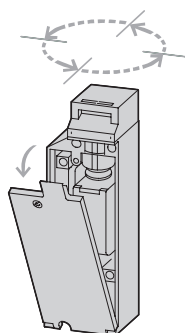
Electric circuitry with DIL contactors and ESR4 safety relays Safety manual TB0-009, order no. 082309

With the actuator inserted, the NO contact is open and the NC contact is closed.

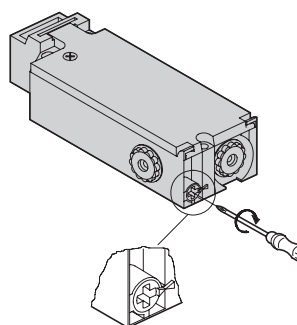


Switch must never be used as a mechanical stop!

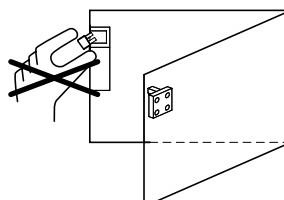
The operating head can be rotated manually in 90° steps to suit the specified level of actuation.



In the event of a loss of voltage, (e.g. during commissioning), the spring-powered LS-...-FT-ZBZ can be released with a screwdriver. The auxiliary release mechanism must be sealed!



Care should be taken during mounting and operation that no foreign bodies enter the actuator's entry aperture.



For degree of protection IP65, use V-M20 cable glands with connecting thread of max. 9 mm length

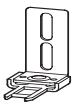
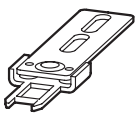
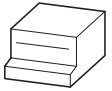
Accessories

V-M20 cable gland

Page

→ 13/35



	Part no. Article no.	Price see price list	Std. pack
Actuators			
Stainless steel For combination with LS-...ZBZ/X basic devices			
Flat actuator For sliding doors 			
	LS-XG-ZBZ 106833		1 off
Angled actuator For swing doors from 250 mm width 			
short	LS-XW-ZBZ 106839		1 off
long	LS-XWA-ZBZ 106838		1 off
Angled, flexible actuator For doors that do not close precisely 			
	LS-XF-ZBZ 106832		1 off
even, flexible coasting actuator For doors that do not close precisely 			
	LS-XFG-ZBZ 106831		1 off
Flat, compensating actuator with increased tolerance in closing direction for inaccurately closing doors 			
	LS-XNG-ZBZ 106834		1 off
Angled, compensating actuator with increased tolerance in closing direction for inaccurately closing doors 			
	LS-XNW-ZBZ 106835		1 off
Accessories			
–			
Dust protection cap Prevents ingress of foreign matter into the device head 			
	LS-XSK-ZBZ 106837		1 off



Auxiliary contacts: $\ominus$ = safety function, by positive opening to IEC/EN 60947-5-1

N/O = Normally open

N/C = Normally closed

Contact sequence

Contact sequence
 = Contact closed
 = Contact open
 Zw = Positive opening sequence

Approval

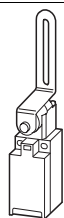
Connection type

Part no.
Article no.

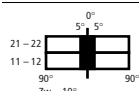
Price
see price list

Std. pack

Safety door flap switch LSR.../TKG, IP65



2 N/C $\ominus$



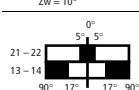
Screw terminal

LSR-S02-1-I/TKG
106848

1 off

1 N/O

1 N/C $\ominus$

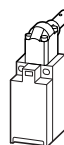


Screw terminal

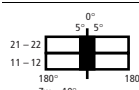
LSR-S11-1-I/TKG
106847

1 off

Hinge-operated safety switch LSR.../TS, IP65



2 N/C $\ominus$



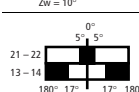
Screw terminal

LSR-S02-1-I/TS
106852

1 off

1 N/O

1 N/C $\ominus$



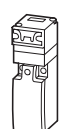
Screw terminal

LSR-S11-1-I/TS
106851

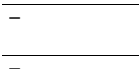
1 off

Safety position switches LS...-ZB, IP65

With the actuator inserted, the NO contact is open and the NC contact is closed.



2 N/C $\ominus$

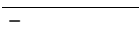


Cage Clamp

LS-02-ZB
106817

2 off

2 N/C $\ominus$



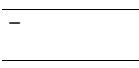
Screw terminal

LS-S02-ZB
106874

1 off

1 N/O

1 N/C $\ominus$



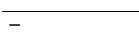
Cage Clamp

LS-11-ZB
106819

2 off

1 N/O

1 N/C $\ominus$



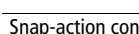
Screw terminal

LS-S11-ZB
106876

1 off

1 N/O

1 N/C $\ominus$



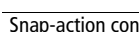
Cage Clamp

LS-11S-ZB
106870

2 off

1 N/O

1 N/C $\ominus$



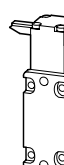
Screw terminal

LS-S11S-ZB
106877

1 off

safety/ position switch LS4.../ZB, IP65

With the actuator inserted, the NO contact is open and the NC contact is closed.



1 N/C $\ominus$



Screw terminal

LS4/S01-1-I/ZB
106855

1 off

1 N/O

1 N/C $\ominus$



Screw terminal

LS4/S11-1-I/ZB
106857

1 off

Notes

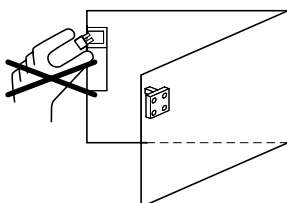
Cage Clamp is a registered trademark of Wago Kontakttechnik, 32432 Minden, Germany.

Electric circuitry with DIL contactors and ESR4 safety relays a Safety manual TB0-009, order no. 082309

Actuator can be repositioned for horizontal or vertical installation. The operating heads can be rotated manually in 90° steps to suit the specified direction of operation.

Electric circuitry with DIL contactors and ESR4 safety relays Safety manual TB0-009, order no. 082309

Note: Care should be taken during mounting and operation that no foreign bodies enter the actuator's entry aperture.



With the actuator inserted, the NO contact is open and the NC contact is closed.

For degree of protection IP65, use V-M20 cable glands with max 9 mm long thread.

Accessories

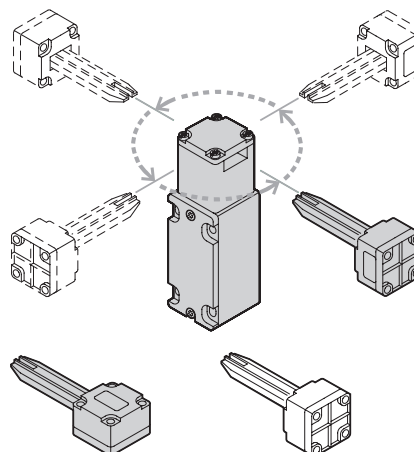
Page

V-M20 cable gland

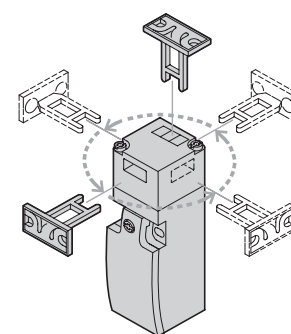
→ 13/35

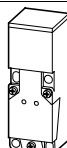
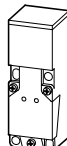
Contact sequences

→ Electronic Catalogue



With the actuator inserted, the NO contact is open and the NC contact is closed.



Contacts	Rated switching distance	Rated operating voltage	Style	Housing	Terminal connection	Fitting in metal	Part no. Article no.	Price see price list	Std. pack
N/O = normally open contact, C/O = changeover contact, P = programmable as N/C or N/O	S_n mm	U_e V DC	mm						
DC version, pulse-switching (PNP)									
	S	1.5	10 – 30	M8 × 1	Metal	2 m connection cable	Flush	LSI-R8S-F1-LD 281962	1 off
	S	1.5			Metal	Plug-in connection M12 x 1	Flush	LSI-R8S-F1-PD 281963	
	S	3			Metal	Plug-in connection M12 x 1	Non-flush	LSI-R8S-NF3-PD 281964	
	S	2		M12 × 1	Insulated material	2 m connection cable	Flush	LSI-R12P-F2-LD 281908	
	S	4			Insulated material	2 m connection cable	Non-flush	LSI-R12P-NF4-LD 281909	
	S	2			Metal	2 m connection cable	Flush	LSI-R12M-F2-LD 281904	
	S	2			Metal	Plug-in connection M12 x 1	Flush	LSI-R12M-F2-PD 281905	
	S	4			Metal	Plug-in connection M12 x 1	Non-flush	LSI-R12M-NF4-PD 281906	
	S	5			M18 × 1	Insulated material	2 m connection cable	Flush	
	S	8		Insulated material		2 m connection cable	Non-flush	LSI-R18P-NF8-LD 281955	
	S	5		Metal		2 m connection cable	Flush	LSI-R18M-F5-LD 281950	
	S	5		Metal		Plug-in connection M12 x 1	Flush	LSI-R18M-F5-PD 281951	
	S	8		Metal		Plug-in connection M12 x 1	Non-flush	LSI-R18M-NF8-PD 281952	
	S	10		M30 × 1.5		Insulated material	2 m connection cable	Flush	
	S	15			Insulated material	2 m connection cable	Non-flush	LSI-R30P-NF15-LD 281961	
	S	10			Metal	2 m connection cable	Flush	LSI-R30M-F10-LD 281956	
	S	10			Metal	Plug-in connection M12 x 1	Flush	LSI-R30M-F10-PD 281957	
	S	15			Metal	Plug-in connection M12 x 1	Non-flush	LSI-R30M-NF15-PD 281958	
	W	20	10 – 65		114 × 40 × 40	Insulated material	Screw terminal	Flush	LSI-Q40P-F20-CD 281998
	W	40	10 – 65	114 × 40 × 40	Insulated material	Screw terminal	Non-flush	LSI-Q40P-NF40-CD 282002	
	S	20	10 – 30	65 × 40 × 40	Insulated material	Plug-in connection M12 x 1	Flush	LSI-Q40P-F20-PD 281999	
	S	35	10 – 30	65 × 40 × 40	Insulated material	Plug-in connection M12 x 1	Non-flush	LSI-Q40P-NF35-PD 282001	
AC voltage version 50/60 Hz V AC									
	S	2	20 – 250	M12 × 1	Insulated material	2 m connection cable	Flush	LSI-R12P-F2-LA 281907	
	S	5	20 – 250	M18 × 1	Insulated material	2 m connection cable	Flush	LSI-R18P-F5-LA 281953	
	S	10	20 – 250	M30 × 1.5	Insulated material	2 m connection cable	Flush	LSI-R30P-F10-LA 281959	
	P	20	20 – 250	114 × 40 × 40	Insulated material	Screw terminal	Flush	LSI-Q40P-F20-CA 281997	
	P	35	20 – 250	114 × 40 × 40	Insulated material	Screw terminal	Non-flush	LSI-Q40P-NF35-CA 282000	



Contacts

Rated switch-
ing distance
 S_n
mm

Rated opera-
ting voltage
 U_e
V DC

Style

mm

Hou-
singConnection
typePart no.
Article no.Price
see price
listStd.
pack

N/O = normally open contact, C/O =
changeover contact, P = pro-
grammable as N/C or N/O

LSC Capacitive proximity switches

Rated operational current I_{emax} 200 mA
Fitting in metal: flush



N/O

3

10 – 30

M12 × 1

Metal

2 m connec-
tion cableLSC-R12M-F3-LD
282005

1 off

N/O

5

10 – 65

M18 × 1

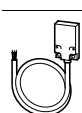
LSC-R18M-F5-LD
282006

C

10

10 – 65

M30 × 1.5

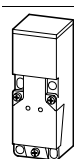
LSC-R30M-F10-LD
282007

N/O

5

10 – 30

32 × 20 × 8

LSC-Q20M-F5-LD
282003

C

20

10 – 65

114 × 40 × 40

Insula-
ted mate-
rialScrew termi-
nalLSC-Q40P-F20-CD
282004Operating
range

Style

Housing

Terminal connection

Part no.
Article no.Price
see price
listStd.
pack S_d

mm

mm

LSO Optical proximity switches

Rated operating voltage U_e 10 – 30 V DC
Rated operational current I_{emax} 150 mA
Output function M/B, programmable

Reflected-light beam



300

M18 × 1

Insulated
material

2 m connection cable

LSO-R18P-S300-LD
281987

1 off

300

M18 × 1

Insulated
materialPlug-in connection M12 x
1LSO-R18P-S300-PD
281988

300

M18 × 1

Metal

2 m connection cable

LSO-R18S-S300-LD
281991

300

M18 × 1

Metal

Plug-in connection M12 x
1LSO-R18S-S300-PD
281992With background suppres-
sion

400

M30 × 1.5

Insulated
material

2 m connection cable

LSO-R30P-S400-LD
281995

400

M30 × 1.5

Insulated
materialPlug-in connection M12 x
1LSO-R30P-S400-PD
281996

Reflected-light barrier

For combination with light-barrier reflector R...-ATL

2000

M18 × 1

Insulated
material

2 m connection cable

LSO-R18P-B2000-LD
281985

1 off

2000

M18 × 1

Insulated
materialPlug-in connection M12 x
1LSO-R18P-B2000-PD
281986

2000

M18 × 1

Metal

2 m connection cable

LSO-R18S-B2000-LD
281989

2000

M18 × 1

Metal

Plug-in connection M12 x
1LSO-R18S-B2000-PD
281990

With polarisation filter

6000

M30 × 1.5

Insulated
material

2 m connection cable

LSO-R30P-B6000-LD
281993

With polarisation filter

6000

M30 × 1.5

Insulated
materialPlug-in connection M12 x
1LSO-R30P-B6000-PD
281994

					Part no. Article no.	Price see price list	Std. pack
Light-barrier reflectors For combination with reflected-light barrier							
		Diameter: 40 mm			LSO-XR40 281983		1 off
		Diameter: 75 mm			LSO-XR75 281984		1 off
Length m	Style input side	Style output side	Rated operating voltage U_e V	LED display	Part no. Article no.	Price see price list	Std. pack
Accessories: Plug and coupling, M12, "A" coded							
3-pole	1	Coupling, angled	Plug, straight	10 – 30	●	LSI-X3M-CAPS1-D4Y 281967	1 off
	2		Cable end open	10 – 30	●	LSI-X3M-CA2-D4Y 281965	
	5		Cable end open	10 – 30	●	LSI-X3M-CA5-D4Y 281966	
	1	Coupling, straight	Plug, straight	≅ 250		LSI-X3M-CSPS1-A4N 281969	
	1.5			≅ 250		LSI-X3M-CSPS1,5-A4N 281968	
	2			≅ 250		LSI-X3M-CSPS2-A4N 281970	
	5			≅ 250		LSI-X3M-CSPS5-A4N 281971	
4-pole	1	Coupling, angled	Plug, straight	10 – 30	●	LSI-X4M-CAPS1-D4Y 281974	1 off
	1	Coupling, straight	Plug, straight	≅ 250		LSI-X4M-CSPS1-A4N 281976	
	1.5			≅ 250		LSI-X4M-CSPS1,5-A4N 281975	
	2	Coupling, angled	Cable end open	≅ 250		LSI-X4M-CA2-A4N 281972	
	2	Coupling, straight	Cable end open	≅ 250		LSI-X4M-CS2-A4N 281973	
	2	Coupling, straight	Plug, straight	≅ 250		LSI-X4M-CSPS2-A4N 281977	
	5			≅ 250		LSI-X4M-CSPS5-A4N 281978	
		Plug, angled	Free	≅ 250		LSI-X4M-PAF-A4N 281979	
		Plug, straight		≅ 250		LSI-X4M-PSF-A4N 281980	
		Coupling, angled		≅ 250		LSI-X4P-CAF-A4N 281981	
		Coupling, straight		≅ 250		LSI-X4P-CSF-A4N 281982	



Cut-in pressure and cut-out pressure:
separate stepless adjustment.
All the intersection points within the dia-
gram area can be set.

Max.
opera-
ting pres-
sure

Part no.
Article no.

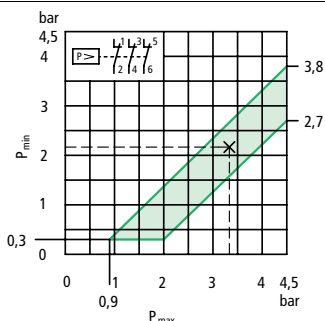
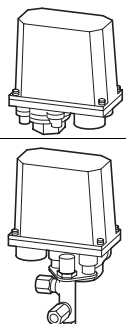
Price
see
price list

Std.
pack

Notes

bar

Pressure switches with main contacts IP65, 3 pole



Min. switching differential: 0.6 bar
Example:
Cut-out pressure 3.3 bar
Cut-in pressure 2.2 bar

Variable
switching
differential

7

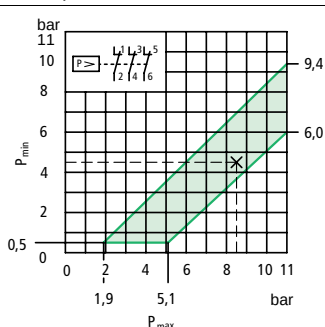
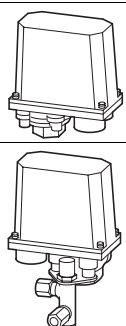
MCSN4
057679

1 off

Features:

- With terminal cover as stan-
dard
- 1 insulated earth terminal
⊕
- One insulated N terminal
- Two cable entry knockouts
for M20, without cable
gland
- IP65 in conjunction with V-
M20 cable gland
- Pressure pipe flange R 1/2"
- when requested: pressure
pipe flange R 1/4"
- Neoprene diaphragm

R 1/4" corresponds to G 1/4
R 1/2" corresponds to G 1/2 to
ISO 228-1



Min. switching differential: 1.4 bar
Example:
Cut-out pressure 8.5 bar
Cut-in pressure 4.5 bar

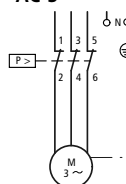
Variable
switching
differential

15

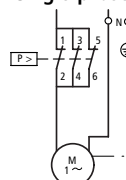
MCSN11
029203

For use as motor switch to
IEC/EN 60947-4-1 for:

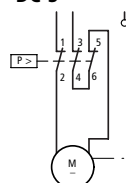
AC-3



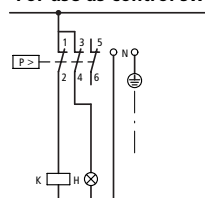
Single-phase current



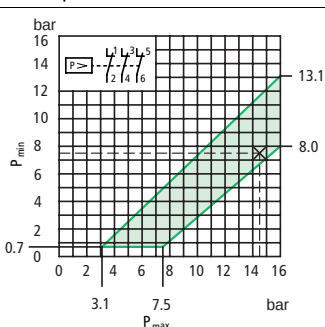
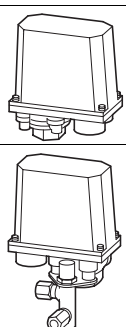
DC-3



For use as control switch:



Cut-in and cut-out pressures
are factory-preset as specified
with type suffix.

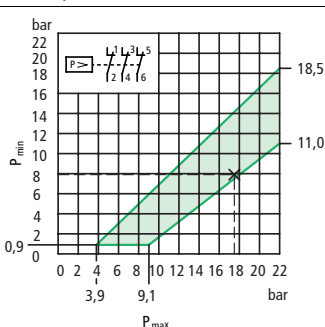
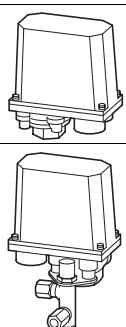


Min. switching differential: 2.4 bar
Example:
Cut-out pressure 14.5 bar
Cut-in pressure 7.5 bar

Variable
switching
differential

25

MCSN16
038695



Min. switching differential: 3.0 bar
Example:
Cut-out pressure 17.5 bar
Cut-in pressure 7.8 bar

Variable
switching
differential

25

MCSN22
048187

With release
valve
for 6 mm Ermeto
coupling

25

MCSN22-V
052933

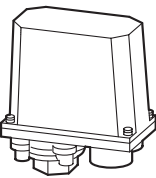
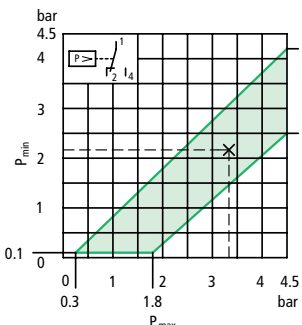
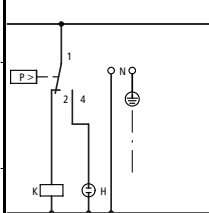
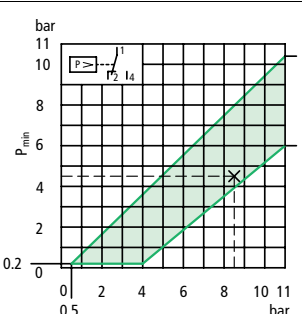
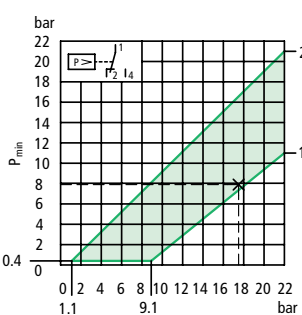


Pressure switches with auxiliary contacts

http://catalog.moeller.net

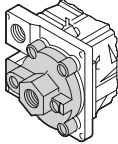
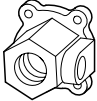
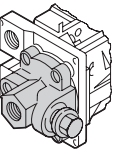
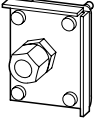
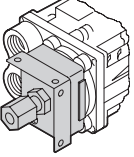
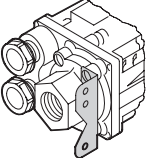
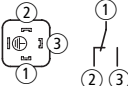
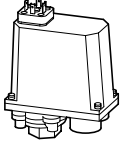
Moeller HPL0211-2007/2008

MCS xCommand

Contacts	Max. operating pressure	Make and break pressure: separately infinitely adjustable. Pressures can be set to any point within the area of the pressure diagram for the appropriate switch.	Part no. Article no.	Price see price list	Std. pack	Notes
Number	bar					
Pressure switch with auxiliary contacts, IP65						
						
1 changeover contact	7	 Min. switching differential: 0.15 bar Example: Cut-out pressure 3.3 bar Cut-in pressure 2.2 bar	MCS4 019711		1 off	 Features: • Pressure pipe flange R 1/4" • If required: pressure pipe flange R 1/2" • IP65 in conjunction with V-M20 cable gland • 1 insulated earth terminal (⊕) • 2 cable entry knockouts for M20 • Neoprene diaphragm Cut-in and cut-out pressures are factory-preset as specified with type suffix: → page 3/20
1 changeover contact with gold-plated contacts	7		MCS4-G 058693			
2 changeover contacts with gold-plated contacts	7		MCS4-SOND910-G 087792			
1 changeover contact	15	 Min. switching differential: 0.3 bar Example: Cut-out pressure 8.5 bar Cut-in pressure 4.5 bar	MCS11 088527		1 off	R 1/4" corresponds to G 1/4 R 1/2" corresponds to G 1/2 according to ISO 228-1 Auxilliary contacts to IEC/EN 60947-1 MCS...-G: Gold-plated contacts, particularly suitable for switching low voltages and currents from 5 V AC/DC 1 mA.
1 changeover contact with gold-plated contacts	15		MCS11-G 058692			
2 changeover contacts with gold-plated contacts	15		MCS11-SOND910-G 087793			
1 changeover contact	25	 Min. switching differential: 0.7 bar Example: Cut-out pressure 17.5 bar Cut-in pressure 7.8 bar	MCS22 098019		1 off	
1 changeover contact with gold-plated contacts	25		MCS22-G 058691			
2 changeover contacts with gold-plated contacts	25		MCS22-SOND910-G 087794			





For use with	Part no. Order number for separate orders	Price see price list	Part no. suffix Order number for orders with basic unit	Price see price list	Std. pack	Notes
Pressure pipe flange						
Other than standard version						
 MCS with R 1/2"	R1/2"-MCS 031617		+R1/2"-MCS 001627		1 off	
MCSN(-V) with R 1/4"	R1/4"-MCSN 033990		+R1/4"-MCSN 001628		1 off	
Pressure pipe flange with pressure gauge connection						
 MCS, MCSN(-V)	M-MCS 071913		+M-MCS 001625		1 off	 Manometer connection R 1/4", Pressure pipe flange always R 1/2" also with MCS
Compression fitting						
 MCS, MCSN	E8-MCS 040949		+E8-MCS 001624		1 off	 External diameter pipe coupling 8 mm Wall fixing bracket built-in, reversible by 180°
Wall fixing brackets						
 MCS, MCSN	W-MCS 050665		+W-MCS 001631		1 off	 Wall mounting bracket can be rotated to right or left in 90° stages
External device plug, IP65						
3-pole plus earth for socket adapters to DIN 43650-A/ISO 4400 Plug configuration:						
						
 MCS MCS...-G Not for use with MCS...SOND910-G			+S3-MCS 201854		1 off	—
Pressure setting						
Standard setting of the cut-in and cut-out pressures When ordering, the type reference must include the following details: 1st wildcard △ cut-in pressure in bar 2nd wildcard △ switch-off pressure in Bar						
MCS, MCSN			+PMIN(*)/PMAX(*) 203948		1 off	

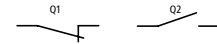
Notes

Ordering example

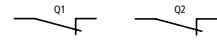
- Desired part no.: MCS4
 - Required cut-in pressure in bar: 2.2
 - Required cut-out pressure in bar: 3
- A maximum of one decimal place after the comma is possible with the pressure definition.



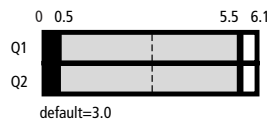
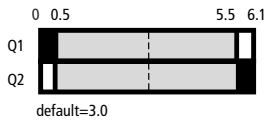
LSE-11



LSE-02



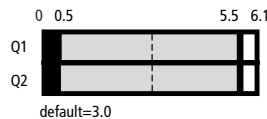
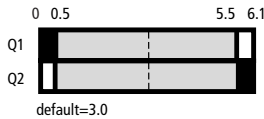
Basic units



Operating heads

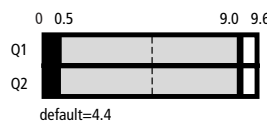
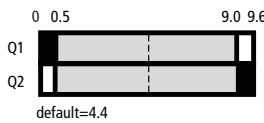
Roller plunger

LS-XP
LSM-XP
PLS-XOR



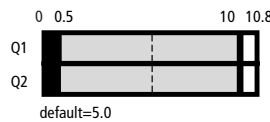
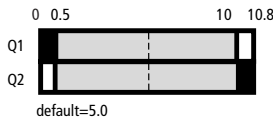
Roller lever

LS-XL
LSM-XL
LS-XL
LS-XLB



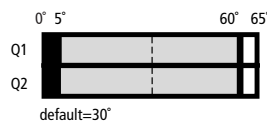
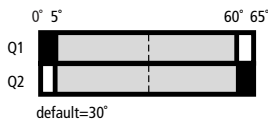
Angled roller lever

LS-XLA
LSM-XLA



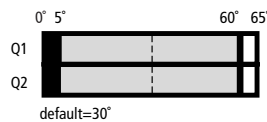
Rotary lever

LS-XRL
LSM-XRL



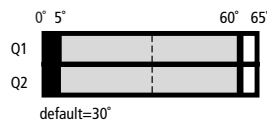
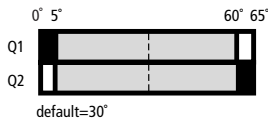
Adjustable roller lever

LS-XRLA
LSM-XRLA
LS-XRLA30
LS-XRLA40
LS-XRLA40R



Actuating rod

LS-XRR
LSM-XRR
LS-XRRM
LSM-XRRM

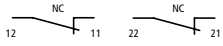


Spring-rod

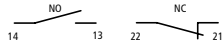
LS-XS
LSM-XS



LS-02
LS-S02
LSM-02



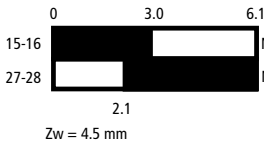
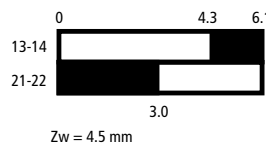
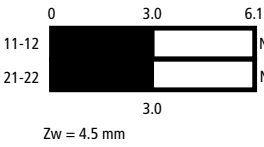
LS-11
LS-S11
LSM-11



LS-11D
LS-S11D
LSM-11D



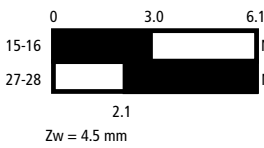
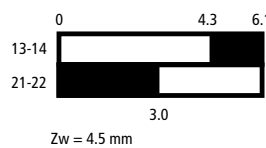
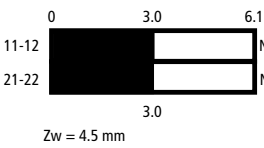
Basic units



Operating heads

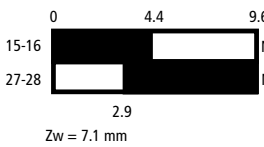
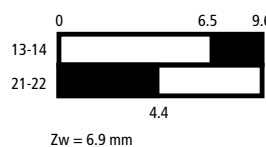
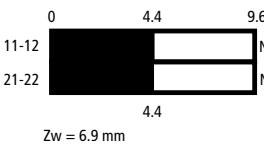
Roller plunger

LS-XP
LSM-XP

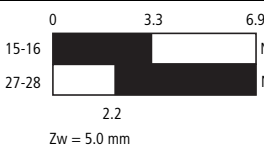
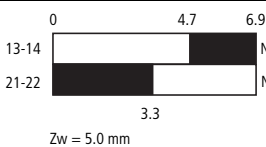
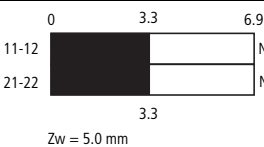


Roller lever

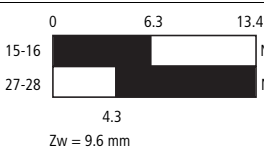
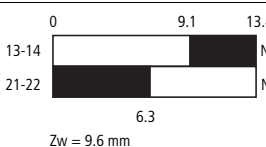
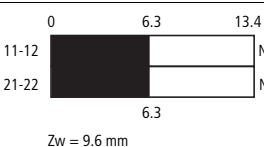
LS-XL, LSM-XL



Roller lever, short
LS-XLS

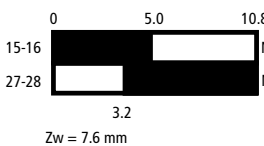
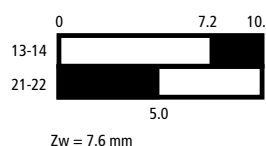
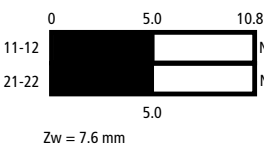


Roller lever, large
LS-XLB



Angled roller lever

LS-XLA, LSM-XLA



Rotary lever

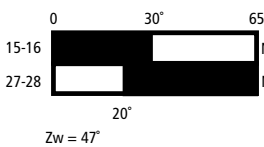
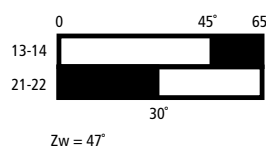
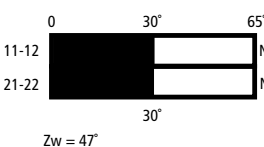
LS-XRL, LSM-XRL

Adjustable roller lever

LS-XRLA, LSM-XRLA,
LS-XRLA30, LS-XRLA40,
LS-XRLA40R

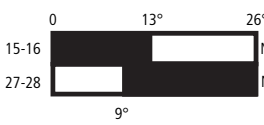
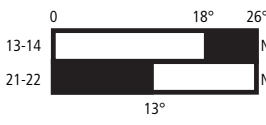
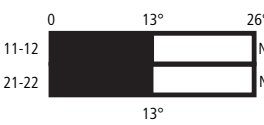
Actuating rod

LS-XRR, LSM-XRR,
LS-XRRM, LSM-XRRM

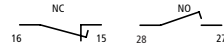


Spring-rod

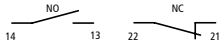
LS-XS, LSM-XS



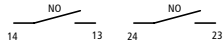
LS-11DA
LS-S11DA
LSM-11DA



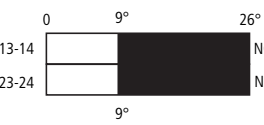
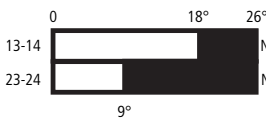
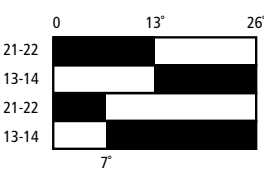
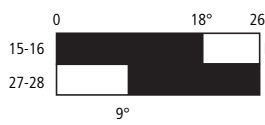
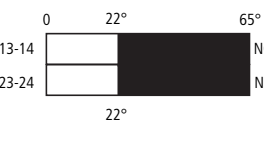
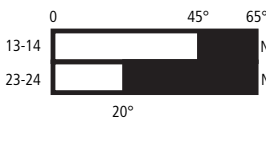
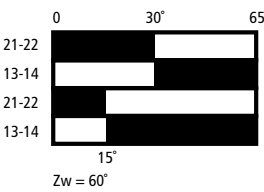
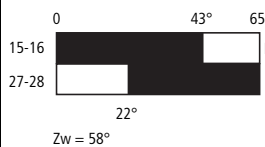
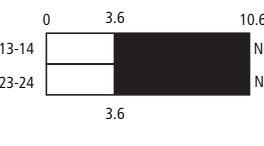
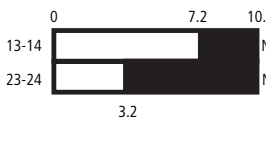
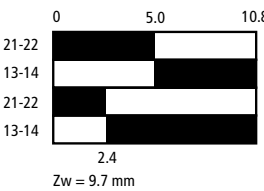
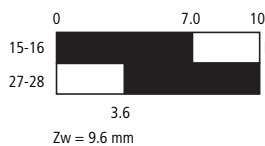
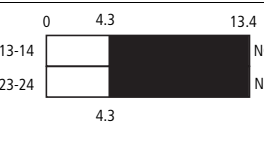
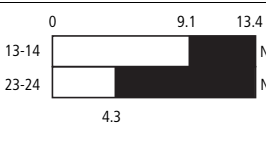
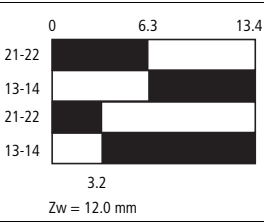
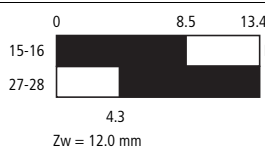
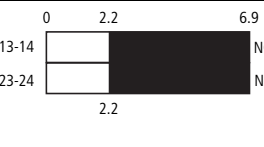
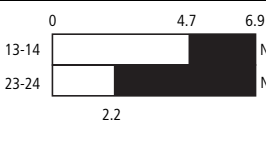
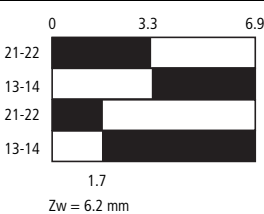
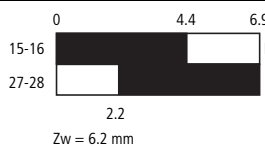
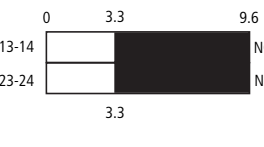
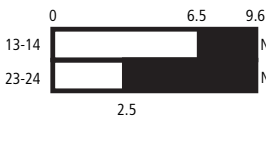
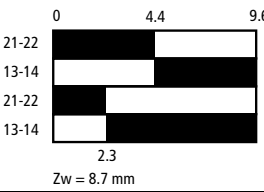
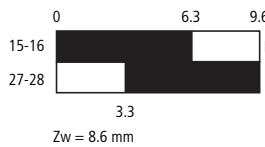
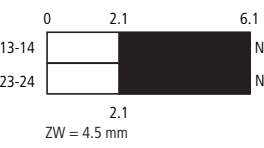
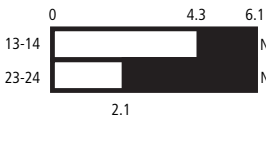
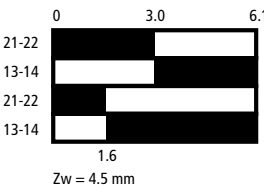
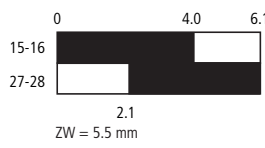
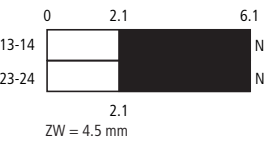
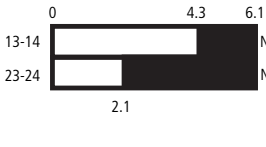
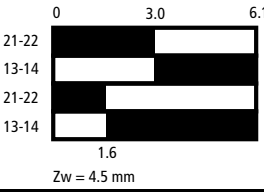
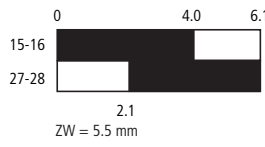
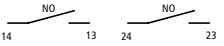
LS-11S
LS-S11S
LSM-11S



LS-20
LS-S20
LSM-20

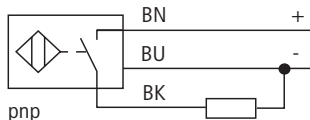


LS-20A
LS-S20A
LSM-20A



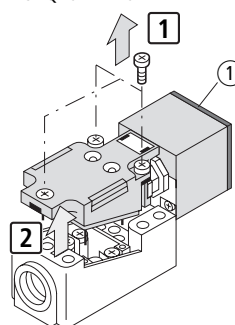


LSI-R85-F1-LD
LSI-R12M-F2-LD
LSI-R12P-F2-LD
LSI-R12P-NF4-LD
LSI-R18M-F5-LD
LSI-R18P-F5-LD
LSI-R18P-NF8-LD
LSI-R30M-F10-LD
LSI-R30P-F10-LD
LSI-R30P-NF15-LD
LSC-R12M-F3-LD
LSC-R18M-F5-LD
LSC-Q20M-F5-LD

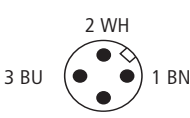
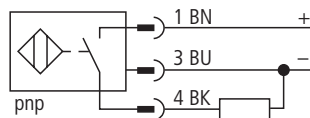


LSI-*-*-LD with 2 m connection cable (open end)

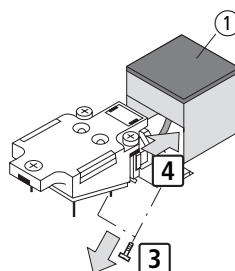
Changing the active area
LSI-Q40P-...-CA



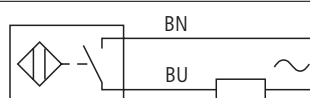
LSI-R85-F1-PD
LSI-R85-NF3-PD
LSI-R12M-F2-PD
LSI-R12M-NF4-PD
LSI-R18M-F5-PD
LSI-R18M-NF8-PD
LSI-R30M-F10-PD
LSI-R30M-NF15-PD
LSI-Q40P-F20-PD
LSI-Q40P-NF35-PD



LSI-*-*-PD with M12 x 1 plug-in connection

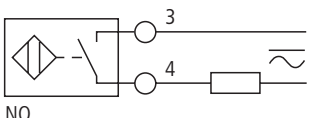


LSI-R12P-F2-LA
LSI-R18P-F5-LA
LSI-R30P-F10-LA

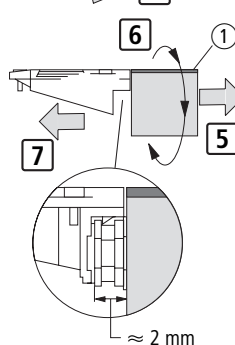
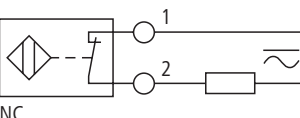


LSI-*-*-LA with 2 m connection cable (open end)

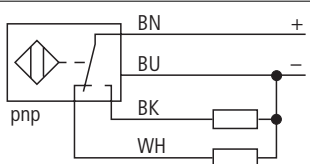
LSI-Q40P-F20-CA
LSI-Q40P-NF35-CA



LSI-*-*-CATerminal connection inside enclosure

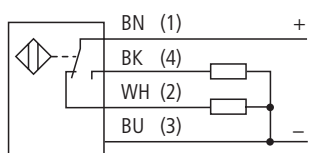


LSC-Q40P-F20-CD
LSC-R30M-F10-LD



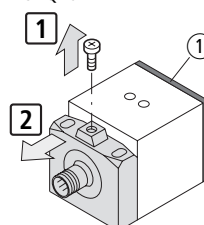
LSC-*-*-LD with 2 m connection cable (open end)
LSC-*-*-CDTerminal connection inside enclosure

LSO-R18P-B2000-LD
LSO-R18P-B2000-PD
LSO-R18P-S300-LD
LSO-R18P-S300-PD
LSO-R18S-B2000-LD
LSO-R18S-B2000-PD
LSO-R18S-S300-LD
LSO-R18S-S300-PD
LSO-R30P-B6000-LD
LSO-R30P-B6000-PD
LSO-R30P-S400-LD
LSO-R30P-S400-PD

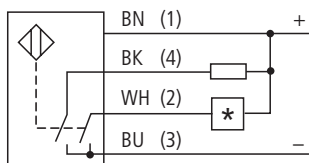


LSO-*-*-LD with 2 m connection cable (open end)
LSO-*-*-PD with M12 x 1 plug connector

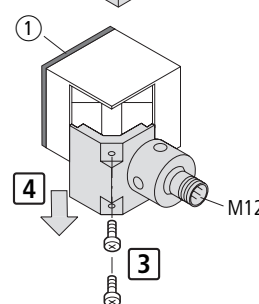
LSI-Q40P-...-PD



LSI-Q40P-F20-CD
LSI-Q40P-NF40-CD



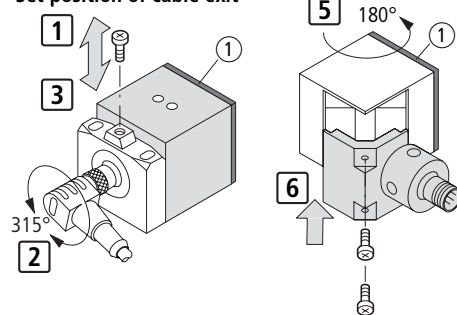
LSI-*-*-CDTerminal connection inside enclosure



Notes

BN Δ brown
BK Δ black
BU Δ blue
WH Δ white

Set position of cable exit



				IP66, IP67 complete units			
				LS, LSM	LSE-11 LSE-02	LSE-AI	LSE-AU
General							
Standards				IEC/EN 60947	IEC/EN 60947 EN 61000-4	IEC/EN 60947 EN 61000-4	IEC/EN 60947 EN 61000-4
Climatic proofing				Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30			
Ambient temperature		°C		-25...+70	-25...+70	-25...+70	-25...+70
Mounting position				As required	As required	As required	As required
Protection type				IP66, IP67	IP66, IP67	IP66, IP67	IP66, IP67
Terminal capacity of screw terminal and Cage Clamp							
Solid		mm ²		1 × (0.5 – 2.5)	1 × (0.5 – 2.5)	1 × (0.5 – 2.5)	1 × (0.5 – 2.5)
Flexible with ferrules to DIN 46228		mm ²		1 × (0.5 – 1.5)	1 × (0.5 – 1.5)	1 × (0.5 – 1.5)	1 × (0.5 – 1.5)
Power supply							
Rated voltage		U _e	V DC		12 – 30	24 (-15%/+20%)	24 (-15%/+20%)
Rated operational current							
12 V		I _e	mA		15		
24 V		I _e	mA		18	28 – 45	24
30 V		I	mA		19		
Contacts/switching capacity							
Rated impulse withstand voltage		U _{imp}	V AC	4000			
Rated insulation voltage		U _i	V	400			
Overvoltage category/pollution degree				III/3	III/3		
Rated operational current							
AC-15	24 V	I _e	A	6			
	230 V/240 V	I _e	A	6			
	400 V/415 V	I _e	A	4			
DC-13	24 V	I _e	A	3	0.2		
	110 V	I _e	A	0.8			
	220 V	I _e	A	0.3			
Analog output Q1							
Output voltage (max. 10 mA)			V DC				0 – 10
Output current			mA			4 – 20	
Fault scenario			V			0	0
Resolution			Steps			100	100
Step tolerance			Steps			1	1
Shunt resistor, resistive load			Ω			< 400	> 1000
Digital diagnostics output Q2 (switching to + pole PNP)							
Response threshold			V mA			approx. U _e < 200	approx. U _e < 200
Control circuit reliability							
at 24 V DC/5 mA		H _F	Fault probability	< 10 ⁻⁷ , < 1 fault in 10 ⁷ operations			
at 5 V DC/1 mA		H _F	Fault probability	< 10 ⁻⁶ , < 1 failure at 5 × 10 ⁶ operations			
Supply frequency			Hz	max. 400			
Short-circuit rating to IEC/EN 60947-5-1							
max. fuse			A gG/gL	6			
Repetition accuracy			mm	± 0.02	± 0.02	± 0.02	± 0.02

Notes

The following applies for LSE-11 and LSE-02: ensure that the power supply operates correctly when setting the operating point.

Cage Clamp is a registered trademark of Wago Kontakttechnik, 32423 Minden, Germany.
Accessories for the Cage Clamp terminals from Wago:
Jumper insert, grey, Wago article no. 264-402





				IP66, IP67 complete units			
				LS, LSM	LSE-11 LSE-02	LSE-AI LSE-AU	LSE-AI LSE-AU
Mechanical variables							
Lifespan							
Standard-action contact	Operations	$\times 10^6$	8				
Snap-action contact	Operations	$\times 10^6$	8		3 (electronic)		
Contact temperature of roller head		°C	≤ 100		≤ 100	≤ 100	≤ 100
Mechanical shock resistance (half-sinusoidal shock, 20 ms)							
Standard-action contact		g	25				
Snap-action contact		g					
Basic unit		g			30	30	30
Operating frequency	Operations/h		≤ 6000		≤ 3000	≤ 3000	≤ 3000
Switching point					0.5 – 5.5 mm, freely adjustable		
Hysteresis		mm			0.4	0.4	0.4
Contact sequence (contact closed open Zw = positive opening clearance)		mm			0.04	0.06	0.06
Actuation							
Mechanical							
Actuating force at beginning/end of stroke							
Basic units		N	1.0/8.0		3.5/8.0	3.5/8.0	3.5/8.0
LS(M)-XP		N	1.0/8.0		1.0/8.0	1.0/8.0	1.0/8.0
LS(M)-XL		N	1.0/8.0		1.0/8.0	1.0/8.0	1.0/8.0
LS(M)-XLA		N	1.0/8.0		1.0/8.0	1.0/8.0	1.0/8.0
Actuating torque of rotary drives		Nm	0.2		0.2	0.2	0.2
Max. operating speed with DIN cam							
Basic units for angle of actuation	$\alpha = 0^\circ/30^\circ$	m/s	1/0.5		1/0.5	1/0.5	1/0.5
LS(M)-XRL for angle of actuation	$\alpha = 0^\circ$	m/s	1.5		1.5	1.5	1.5
LS(M)-XRLA for angle of actuation	$\alpha = 30^\circ$, L = 125 mm	m/s	1.5		1.5	1.5	1.5
LS(M)-XRR for	L = 130 mm	m/s	1.5		1.5	1.5	1.5
LS(M)-XL for angle of actuation	$\alpha = 30^\circ/45^\circ$	m/s	1		1	1	1
LS(M)-XLA for angle of actuation	$\alpha = 30^\circ/45^\circ$	m/s	1		1	1	1
LS(M)-XP for angle of actuation	$\alpha = 0^\circ/30^\circ$	m/s	1/1		1/1	1/1	1/1
Electromagnetic compatibility (EMC)							
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)							
Air discharge		kV			8	8	8
Contact discharge		kV			4	4	4
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m			10	10	10
Burst pulses (IEC/EN 61000-4-4, level 3)							
Supply cables		kV			2	2	2
Signal lines		kV			2	2	2
High-energy pulses (surge) (IEC/EN 61000-4-5)		kV			0.5	0.5	0.5
Immunity to line-conducted interference to (IEC/EN 61000-4-6)		V			10	10	10

Notes

The following applies for LSE-11 and LSE-02: ensure that the power supply operates correctly when setting the operating point.

Cage Clamp is a registered trademark of Wago Kontakttechnik, 32423 Minden, Germany.
Accessories for the Cage Clamp terminals from Wago:
Jumper insert, grey, Wago article no. 264-402

				Connector M12A(B)	M12A(B)5
General					
No. of poles				4	5
Protection type				IP66	IP66
Lifespan, mechanical	Operations			> 500	> 500
Characteristics					
Rated operational voltage	U_e	V AC	250		125
Rated operational current	I_e	A	4		4
Overvoltage category/pollution degree			II/3		II/3

				Safety position switches		
				LS-...ZBZ	LS-...ZB	LS4...ZB
General						
Standards				IEC/EN 60947		
Climatic proofing				Damp heat, constant, to IEC 60068-2-78; damp heat, cyclical, to IEC 60068-2-30		
Ambient temperature			°C	-25...+0	-25...+70	-25...+70
Mounting position				As required		
Protection type				IP 65		
Terminal capacities						
Solid			mm ²	1 × (0.75 – 2.5) 2 × (0.75 – 1.5)	1 × (0.75 – 2.5) 2 × (0.75 – 1.5)	1 × (0.75 – 2.5) 2 × (0.75 – 1.5)
Flexible with ferrule			mm ²	1 × (0.5 – 1.5) 2 × (0.5 – 1.5)	1 × (0.5 – 1.5) 2 × (0.5 – 1.5)	1 × (0.5 – 1.5) 2 × (0.5 – 1.5)
Contacts/switching capacity						
Rated impulse withstand voltage			U_{imp} V AC	4000	6000	6000
Rated insulation voltage			U_i V	400	500	500
Overvoltage category/pollution degree				III/3	III/3	III/3
Rated operational current						
AC-15	24 V	I_e	A	6	10	10
	230 V/240 V	I_e	A	6	6	6
	400 V/415 V	I_e	A	4	4	4
DC-13	24 V	I_e	A	3	3	3
	110 V	I_e	A	0.8	0.8	0.8
	220 V	I_e	A	0.3	0.3	0.3
Supply frequency			Hz	max. 400	max. 400	max. 400
Short-circuit rating to IEC/EN 60947-5-1						
max. fuse			A gG/gL	6	6	6
Repetition accuracy			mm	± 0.02	± 0.02	± 0.02
Mechanical variables						
Lifespan						
Standard-action contact			Operations × 10 ⁶	1	10	10
Snap-action contact			Operations × 10 ⁶			
Mechanical shock resistance (half-sinusoidal shock, 20 ms)						
Standard-action contact			g	10	25	5
Snap-action contact			g			
Operating frequency			Operations/h	≤ 800	≤ 1800	≤ 1800
Actuation						
Mechanical						
Actuating force at beginning/end of stroke						
ZB/ZBZ (push in/pull out)			N	25/15	10/5	15/20
Mechanical holding force acc. to GS-ET-19 (04/2004)						
XG, XW			N	1500		
XFF, XNG, XWA			N	1300		
XF			N	750		
XNW			N	500		
Electromechanical						
For magnet						
Power consumption						
at 120 V AC			VA	8		
at 230 V AC			VA	11		
at 24 V DC			W	8		
Pick-up and drop-out values			× U_s	0.85 – 1.1		
Magnet duty factor			% ED	100		





LSI			http://catalog.moeller.net					
			DC voltage version (PNP)					
			LSI-R8...D	LSI-R12...D	LSI-R18...D	LSI-R30...D	LSI-Q40...-CD	LSI-Q40...-PD
General								
Standards			IEC/EN 60947-5-2					
Ambient temperature		°C	−25...+70	−25...+70	−25...+70	−25...+70	−25...+70	−25...+70
Protection type			IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Shock resistance Shock duration 11 ms		g	30	30	30	30	30	30
Characteristics								
Rated switching distance								
Flush	S_n	mm	1.5	2	5	10	20	20
Non-flush	S_n	mm	2	4	8	15	40	35
Repetition accuracy of S_n		%	2	2	2	2	2	2
Temperature drift of S_n		%	< 10	< 10	< 10	< 10	< 10	< 10
Switching hysteresis of S_n		%	15	15	15	15	15	15
Rated operating voltage	U_e	V DC	10 – 30	10 – 30	10 – 30	10 – 30	10 – 65	10 – 30
Rated operating voltage	U_e	V AC	–	–	–	–	–	–
Supply frequency	S_n	Hz						
Residual ripple of U_e		%	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Operating current in the switched state at 24 V DC	I_b	mA	15	15	15	15	15	15
Maximum load current	I_e	mA	< 150	< 200	< 200	< 200	< 200	< 200
Voltage drop with I_e	U_d	V	1.8	1.8	1.8	1.8	1.8	1.8
Max. operating frequency (resistive load)	f	Hz	≤ 3000	≤ 2000	≤ 1000	≤ 500	≤ 150	≤ 150
Rated operational current min.	I_e	mA						
Short-time current (10 ms, 5 Hz)		A						
Residual current through the load in the blocked state at 230 V AC and 24 V DC	I_r	mA	0.1	0.1	0.1	0.1	0.1	0.1
Switching state display		LED	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Operating voltage display		LED					Green	Green
Short-circuit protection, polarity reversal, wire breakage			●	●	●	●	●	●
Output function								
Two-wire								
Three-wire			●	●	●	●		●
Four-wire							●	
Make contact			●	●	●	●	●	●
Changeover contact							●	
Threaded barrel		mm	M8 × 1	M12 × 1	M18 × 1	M30 × 1.5	114 × 40 × 40	65 × 40 × 40
Threaded barrel			●	●	●	●		
Rectangular housing							●	●
Connection options								
Cable, open			●	●	●	●		
Connector M12, “A”-keyed			●	●	●	●		●
Enclosure material								
Plastic				PA	PA	PA	PBT	PBT
Metal			Stainless steel 1.4301	CuZn chromed	CuZn chromed	CuZn chromed		
Enclosure nut tightening torque								
Plastic		Nm	1	2	5			
Metal		Nm	10	10	25	90		
Installation note								
Sensor to sensor clearance								
Flush			2 × d	2 × d	2 × d	2 × d	2 × d	2 × d
Non-flush			3 × d	3 × d	3 × d	3 × d	4.5 × d	4.5 × d
Terminal capacities								
Solid		mm ²					≤ 2.5	



LSI				http://catalog.moeller.net	
Two-wire AC proximity switches					
LSI-R12...A	LSI-R18...A	LSI-R30...A	LSI-Q40...A	Notes	
IEC/EN 60947-5-2					
−25...+70	−25...+70	−25...+70	−25...+70		
IP 67	IP 67	IP 67	IP 67		
30	30	30	30		
2	5	10	20		
			35		
2	2				
< 10	< 10	< 10	< 10		
15	15	15	15		
20 – 250	20 – 250	20 – 250	20 – 250		
20 – 250	20 – 250	20 – 250	20 – 250		
50 – 60	5060	5060	5060		
< 100	< 400	< 400	< 400		
6	6	6	6		
≤ 20	≤ 20	≤ 20	≤ 20		
2	2	2	2		
1	8	8	8		
1.7	1.7	1.7	1.7		
Yellow	Yellow	Yellow	Red		
●	●	●	Programmable		
●	●	●			
M12 × 1	M18 × 1	M30 × 1.5	114 × 40 × 40		
●	●	●			
			●		
●	●	●			
PA	PA	PA	PBT		
1	2	5			
2 × d	2 × d	2 × d	2 × d		
			≤ 2.5		

UL-File: E244290
Rated switching distance S_n [mm] with LSI
According to the standard, the rated switching distance S_n relates to a measurement control point made of St 37 which is 1 mm thick with the dimensions B 3 H.
LSI...R: B x H = device diameter
LSI...Q: B x H = edge length

- Deviation in the type, size and shape of the approaching metal object
- Ambient temperature
- Different alloys

Ideal band

Correction factor with LSI:

Steel St 37		1.0	× S_n
Nickel chrome	Approx.	0.9	× S_n
Brass	Approx.	0.5	× S_n
Aluminium	Approx.	0.45	× S_n
Copper	Approx.	0.4	× S_n
Galvanized sheet steel	Approx.	0.85	× S_n
Stainless-steel depending on the alloy		1.0 0.1	– × S_n



			DC voltage version (PNP)				
			LSC-R12M-F3-LD	LSC-R18M-F5-LD	LSC-R30M-F10-LD	LSC-Q20M-F5-LD	LSC-Q40P-F20-CD
General							
Standards			IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2
Ambient temperature		°C	-25...+70	-25...+70	-25...+70	-25...+70	-25...+70
Protection type			IP 67	IP 67	IP 67	IP 67	IP 67
Shock resistance Shock duration 11 ms		g	30	30	30	30	30
Characteristics							
Rated switching distance							
Flush	S_n	mm	3	5	10	5	20
Non-flush	S_n	mm	3	5	10	5	30
Repetition accuracy of S_n		%	2	2	2	2	2
Temperature drift of S_n		%	< 20	< 20	< 20	< 20	< 20
Switching hysteresis of S_n		%	20	20	20	20	20
Rated operating voltage	U_e	V DC	10 – 30	10 – 65	10 – 65	10 – 30	10 – 65
Residual ripple of U_e		%	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Operating current in the switched state at 24 V DC	I_b	mA	15	15	15	15	15
Maximum load current	I_e	mA	< 200	< 200	< 200	< 200	< 200
Voltage drop with I_e	U_d	V	1.8	1.8	1.8	1.8	1.8
Max. operating frequency (resistive load)	f	Hz	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
Residual current through the load in the blocked state at 230 V AC and 24 V DC	I_r	mA	0.1	0.1	0.1	0.1	0.1
Switching state display		LED	Yellow	Yellow	Yellow	Yellow	Yellow
Operating voltage display		LED				Green	Green
Short-circuit protection, polarity reversal, wire breakage			●	●	●	●	●
Output function							
Three-wire			●	●		●	
Four-wire					●		●
Make contact			●	●		●	
Changeover contact					●		●
Style							
Threaded barrel		mm	M12 × 1	M18 × 1	M30 × 1.5	32 × 20 × 8	114 × 40 × 40
Threaded barrel			●	●	●		
Rectangular housing						●	●
Connection options							
Cable, open			●	●	●	●	
Terminal capacities							
Solid		mm ²					≤ 2.5
Enclosure material							
Plastic							PBT
Metal			CuZn chromed	CuZn chromed	CuZn chromed	GdZn	
Tightening torque							
Enclosure nut		Nm	10	25	25		

			DC voltage version (PNP)			
			Retro-reflective sensor		Diffuse mode sensor	
			LSO-R18...-B...	LSO-R30...-B...	LSO-R18...-S...	LSO-R30...-S...
General						
Standards			IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2	IEC/EN 60947-5-2
Ambient temperature		°C	-40...+70	-40...+70	-40...+70	-40...+70
Protection type			IP 67	IP 67	IP 67	IP 67
Characteristics						
Range		mm	2000	6000	300	400
Rated operating voltage	U_e	V DC	10 – 30	10 – 30	10 – 30	10 – 30
Maximum load current	I_e	mA	< 150	< 150	< 150	< 150
Operating current in the switched state at 24 V DC	I_b	mA	25	30	25	30
Max. operating frequency (resistive load)	f	Hz	≤ 160	≤ 160	≤ 160	≤ 160
Overcurrent release		mA	220	220	220	220
Readiness delay	t_v	ms	100	100	100	100
Switching state display		LED	Yellow	Yellow	Yellow	Yellow
Alarm display		LED	Yellow, flashing			
Operating voltage display		LED	Green	Green	Green	Green
Fault display		LED	Green, flashing	Green, flashing	Green, flashing	Green, flashing
Terminal connection			●	●	●	●
Style			Programmable	Programmable	Programmable	Programmable
Style						
Threaded barrel		mm	M18 × 1	M30 × 1.5	M18 × 1	M30 × 1.5
Connection options						
Cable, open			●	●	●	●
Connector M12, "A"-keyed			●	●	●	●
Enclosure material						
Plastic			PBT	PBT	PBT	PBT
Metal			Stainless steel 1.4301		Stainless steel 1.4301	
Enclosure nut tightening torque						
Plastic		Nm	5	5	5	5
Metal		Nm	25		25	

Notes

Switching range S_d [mm] with LSO

The switching range is defined conform to IEC/EN 60947-5-2. It relates to reflected-light beams on a white paper card with a 90 % degree of reflection and

- 100 mm edge length with $S_d < 400$ mm
- 200 mm edge length with $S_d \geq 400$ mm

Correction factor with LSO as an optical sensor:

Paper, matt white, 200 g/m² $1.0 \times S_d$
Metal, gloss $1.2...1.6 \times S_d$
Aluminium, black anodized $1.1...1.8 \times S_d$
Expanded polystyrene, white $1 \times S_d$
Cotton, white $0.6 \times S_d$
PVC, grey $0.5 \times S_d$
Wood, untreated $0.4 \times S_d$
Carton, black, gloss $0.3 \times S_d$
Carton, black, matt $0.1 \times S_d$

Short-circuit protection monitored

DC-operated proximity switches are proof against short-circuit. The device is not damaged by the effects of a short-circuit. No matter how long its duration. Once the fault has been cleared, the switch is immediately ready for operation again.





					Pressure switches	
					MCS	MCSN
General						
Standards					IEC/EN 60947-5-1	
Test pressure		bar			32	32
Rupturing pressure		bar			90	90
Operating frequency	Operations/h				≤ 3000	≤ 1500
Climatic proofing					Damp heat, constant to IEC 60068-2-78 Damp heat, cyclic to IEC 60068-2-30	
Ambient temperature		°C			-25...70	-25...70
Protection type					IP 65	IP 65
Mounting position					As required	As required
Mechanical shock resistance to IEC 60068-2-27	Half-sinusoidal shock 20 ms	g			> 10	> 10
Vibration resistance acc. to IEC/EN 60068-2-6	Amplitude 1 mm	Hz			36	36
Lifespan at 50 – 12% pressure differential	Operations	× 10 ⁶			1 – 2	0.5
Terminal capacities						
Solid		mm ²			1 × (0.75 – 2.5)	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)
Flexible with ferrules to DIN 46228		mm ²			1 × (0.5 – 1.5)	1 × (0.5 – 1.5) 2 × (0.5 – 1.5)
Terminations					Tunnel terminal	Flat terminal with clamping washer
Terminal screw					M3	M4
Tightening torque of terminal screw		Nm			0.5	
Contacts/switching capacity						
Rated impulse withstand voltage	U_{imp}	V AC			4000	4000
Rated insulation voltage	U_i	V			400	400
Overvoltage category/pollution degree					III/3	III/3
Max. short-circuit protective device						
Fuseless		Type			PKZ2/ZM16	PKZ2/ZM16
Fuse	gG/gL	A			10	20
Type of coordination						1
Rated operational current						
AC-15	230 V	A			2	
Rated operational current						
AC-3	230 V	A				15
	400 V	A				11.5
Rated operational current						
DC-13	24 V	A			2	
	110 V	A			0.5	
Rated operational current						
DC – 3	24 V	A				16
	110 V	A				12.5
	250 V	A				2
Rated frequency	f	Hz			50	50

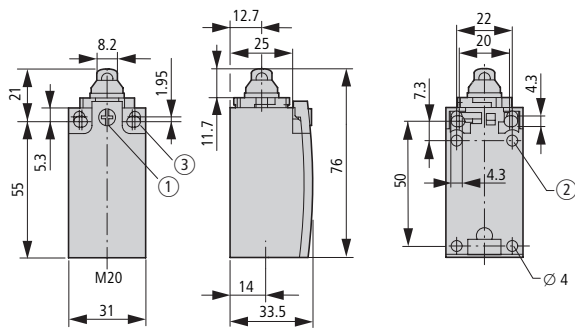
Notes

The following applies to the rated operational current for DC-13:

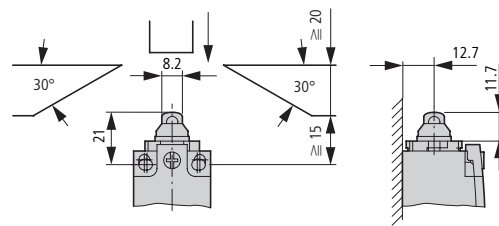
- with 24 V: ...SOND910-G: 0.25 A
- with 110 V: ...SOND910-G: 0.8 A

Position switch

LS-..., LSM-..., LSE-...

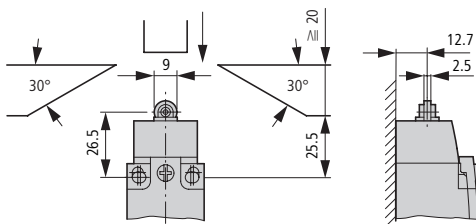


- ① Tightening torque of cover screws: 0.8 Nm $\pm$ 0.2 Nm
- ② only with LS (insulated version)
- ③ Fixing screws 2 x M4 $\geq$ 30
- $M_A = 1.5$ Nm



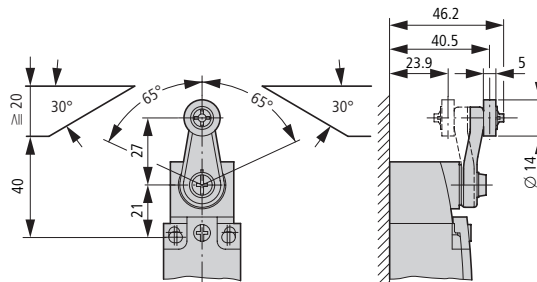
Position switch

LS(M)-.../P



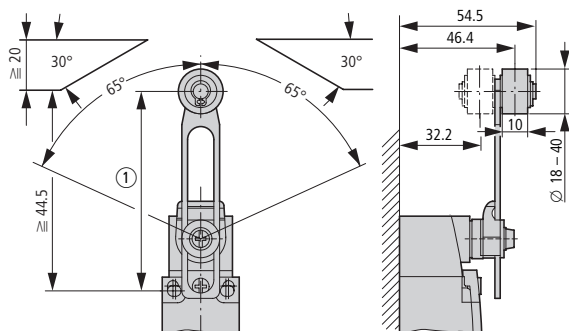
Rotary lever

LS(M)-.../RL



Adjustable roller lever

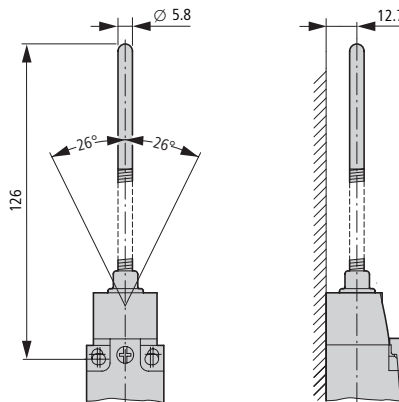
LS(M)-.../RLA



- ① setting range of 54.5 to 97

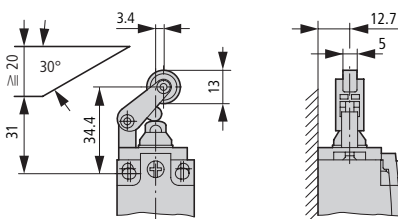
Position switches

LS(M)-.../S



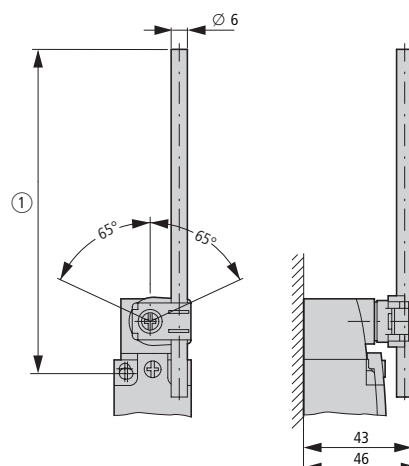
Roller lever

LS(M)-.../L



Actuating rod

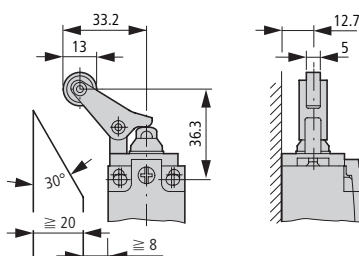
LS(M)-.../RR



- ① LS.../RR $\leq$ 150
- LS.../RRM $\leq$ 210

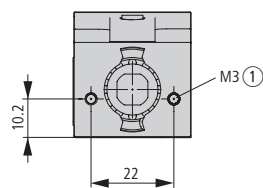
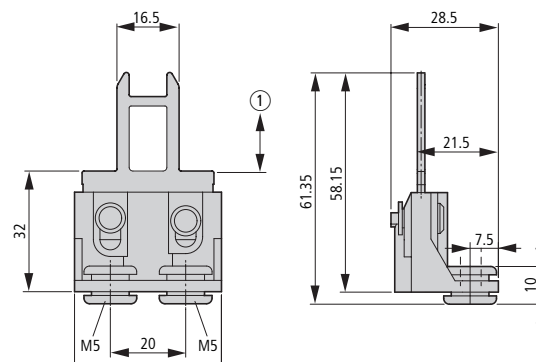
Angled roller lever

LS(M)-XLA



Front fixing, non expandable

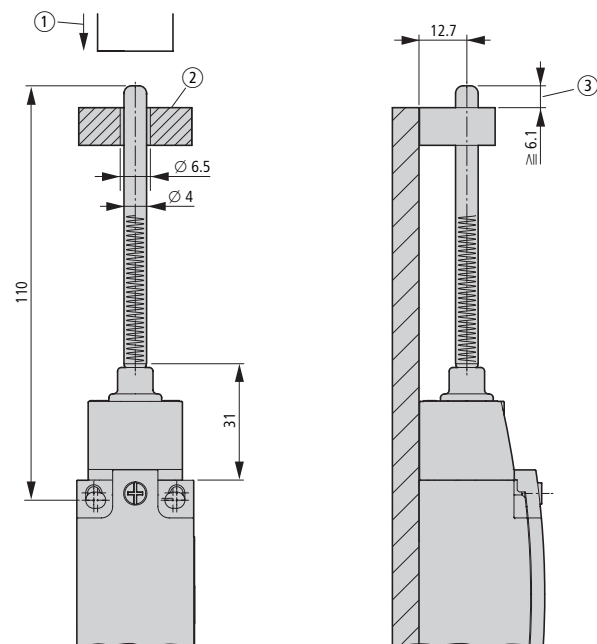
LS(M)-.../F



① screw-in depth max. 12 mm

Actuating rod

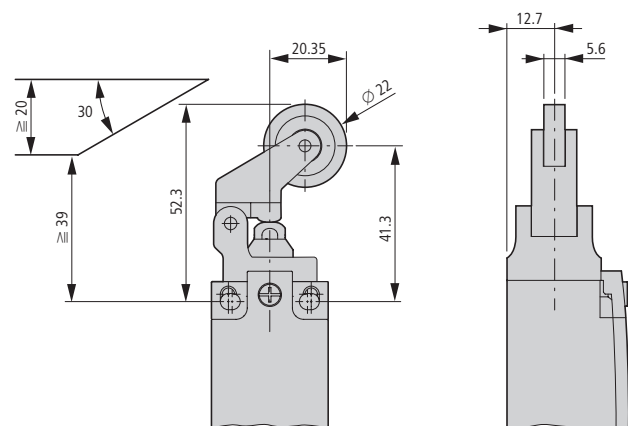
LS(M)-.../OR



- ① Approach direction, vertical
- ② guide is done by customer, not included
- ③ max. push-through

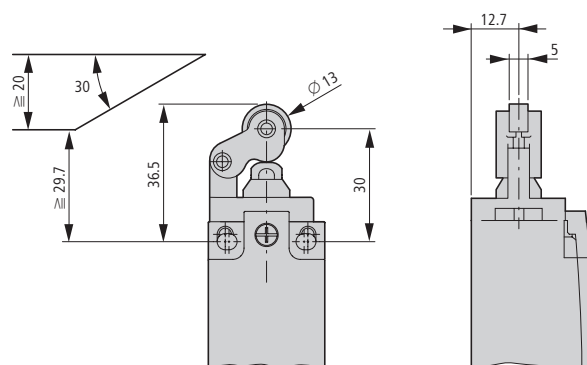
Roller lever, large

LS(M)-.../LB

① Tightening torque of cover screws: 0.8 Nm $\pm$ 0.2 Nm

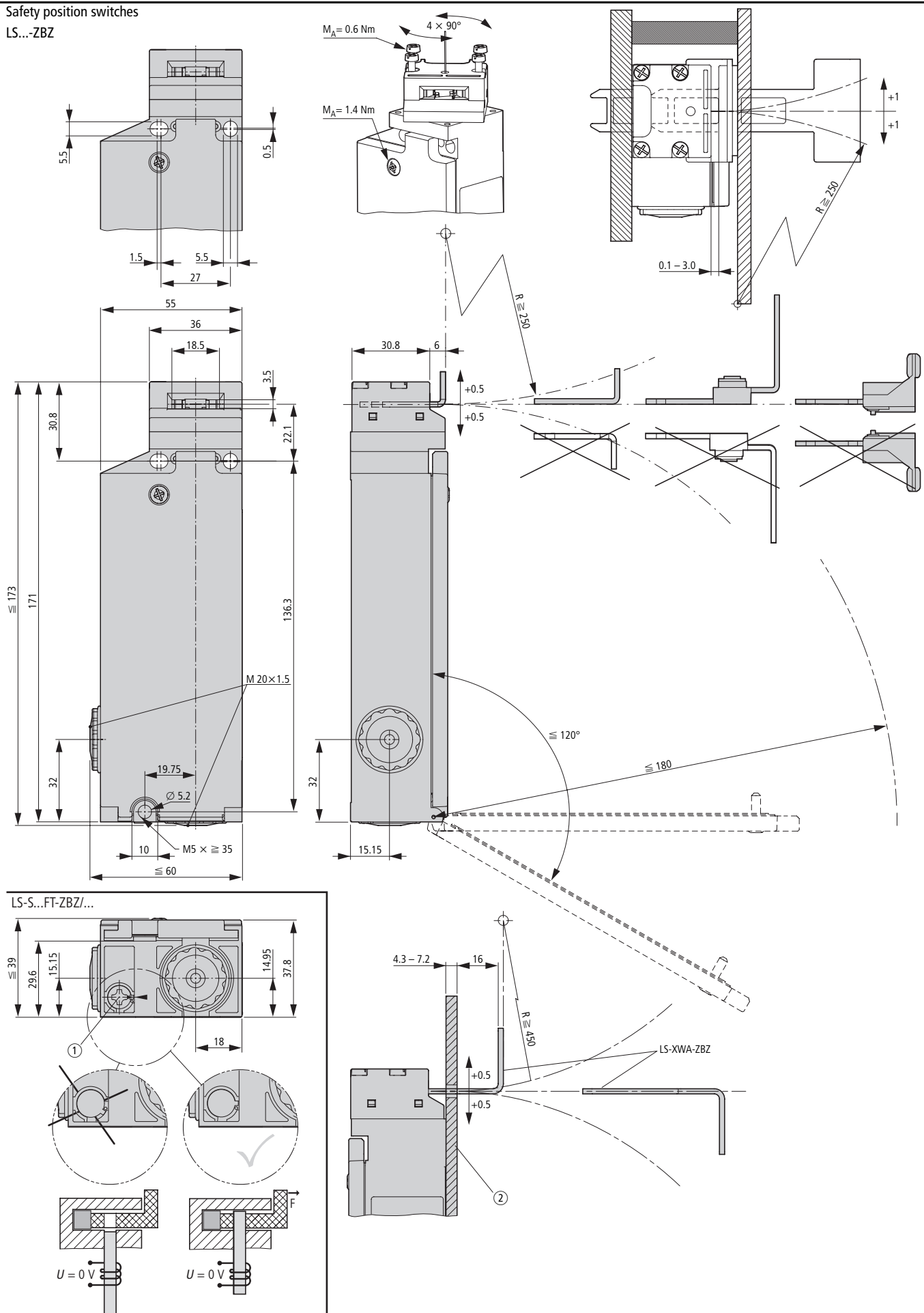
Roller lever, short

LS(M)-.../LS



Safety position switches

LS...-ZBZ



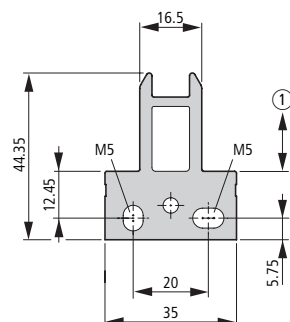
Switch must not be used as a mechanical stop.

- ① = the auxiliary release mechanism must be sealed for proper operation!
- ② can be used as stop with the corresponding material selection and design

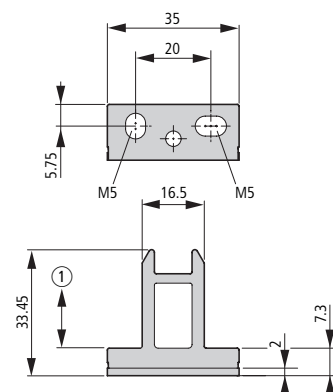


Actuators

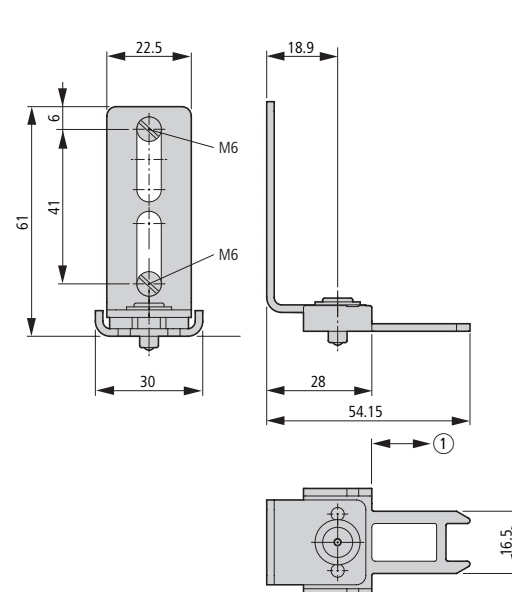
LS-XG-ZBZ



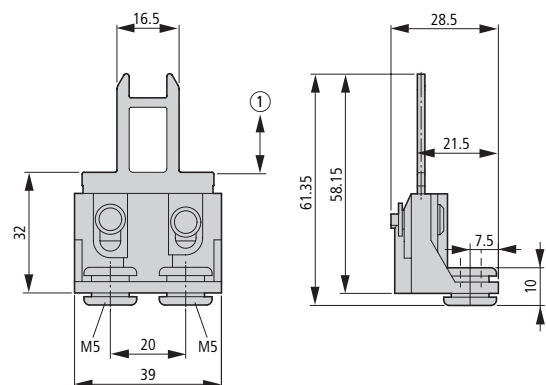
LS-XW-ZBZ



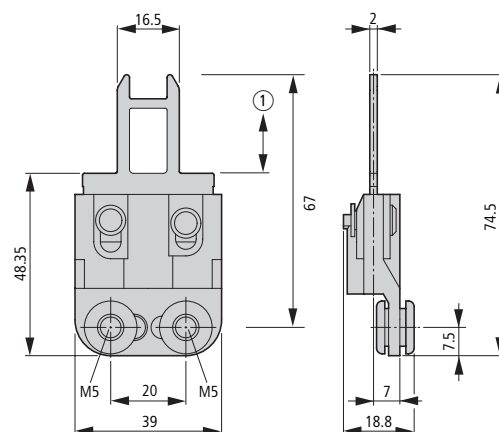
LS-XF-ZBZ



LS-XNW-ZBZ



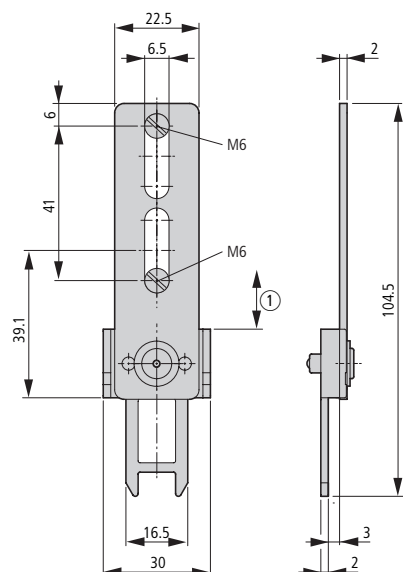
LS-XNG-ZBZ



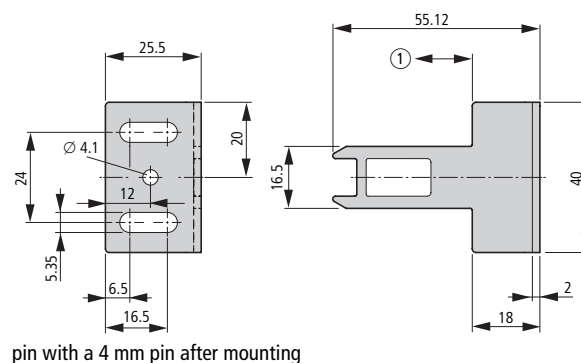
Fixing only allowed with M5 fixing screw and washer according to DIN EN ISO 7093

Fixing only allowed with M5 fixing screw and washer according to DIN EN ISO 7093

LS-XFG-ZBZ



LS-XWA-ZBZ

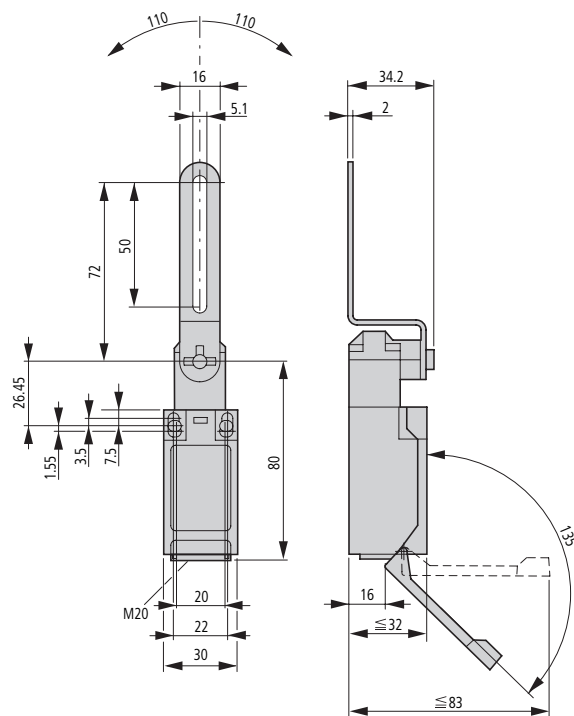


pin with a 4 mm pin after mounting

① Distance to device head = 0.1 ... 3.0 mm

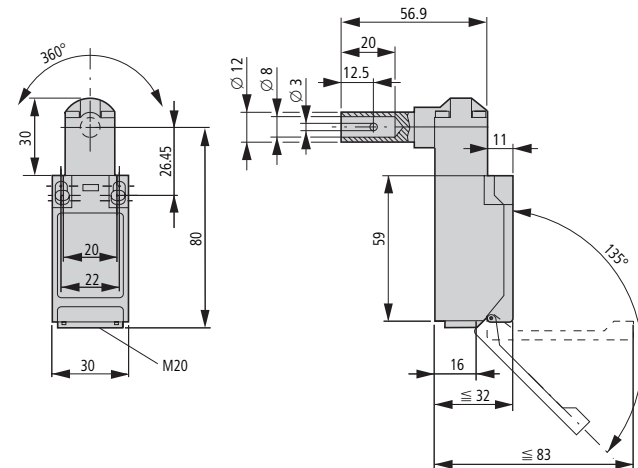
Safety door flap switch

LSR-.../TKG



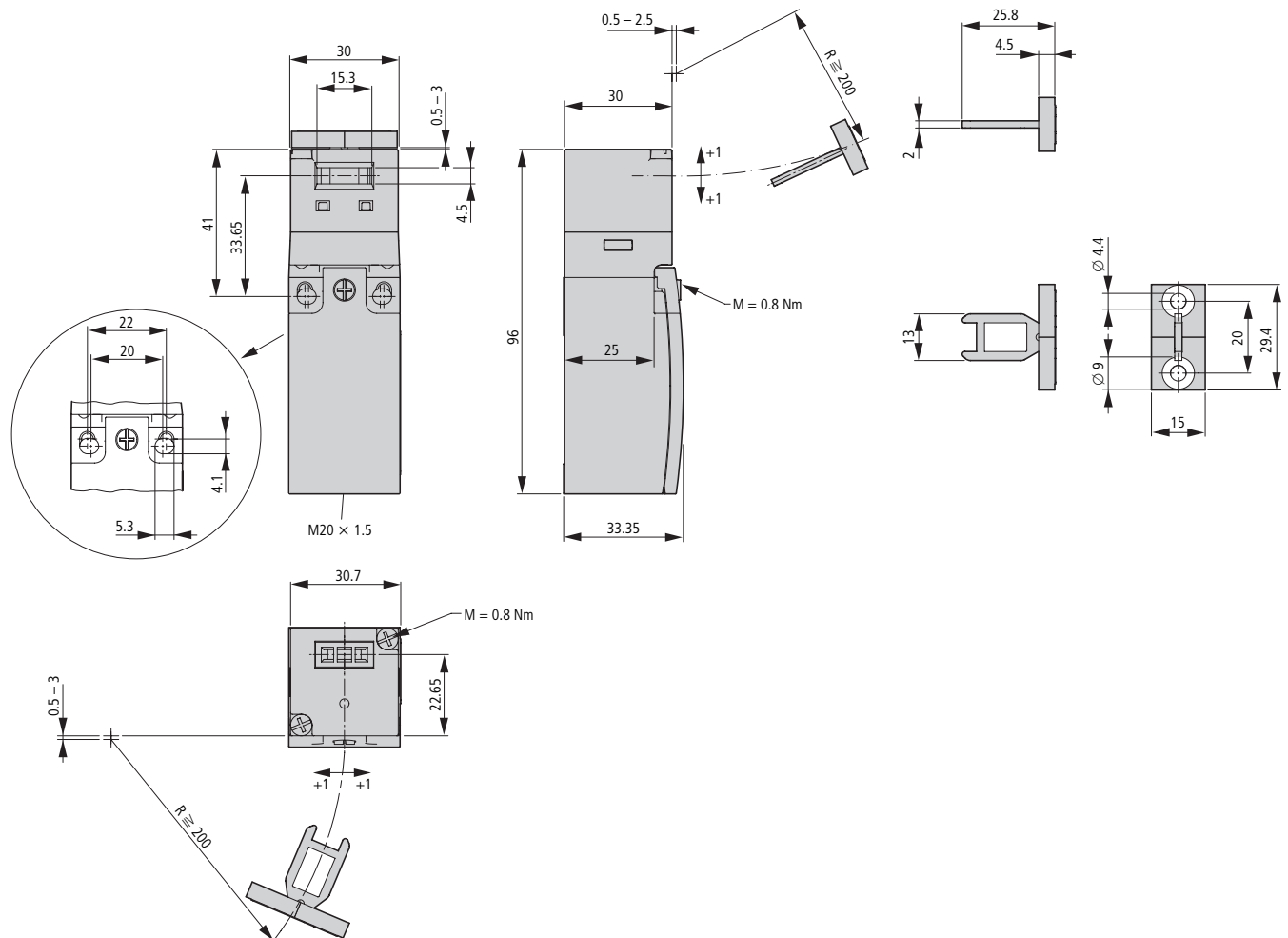
Safety hinge switch

LSR-.../TS



Safety position switches

LS...-ZB

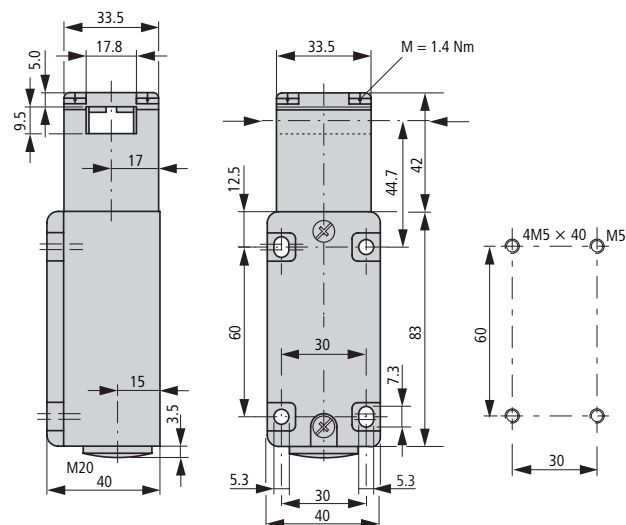


Switch must not be used as a mechanical stop.

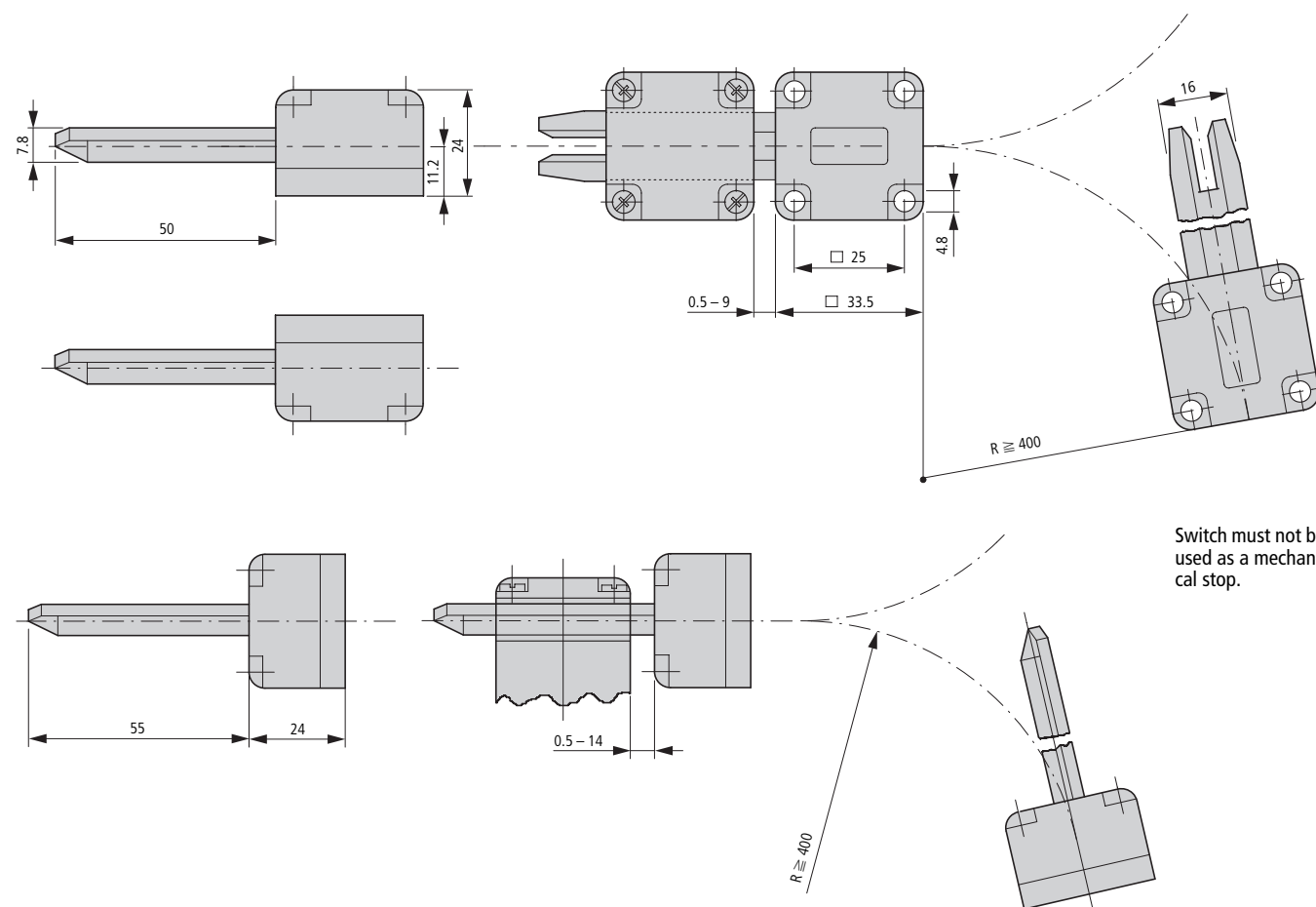


Safety position switches

LS4...ZB

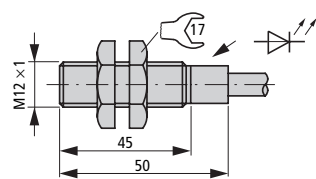
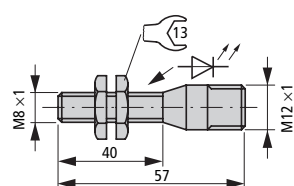


Actuator

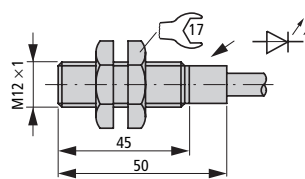
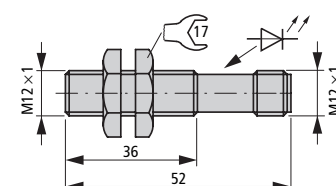
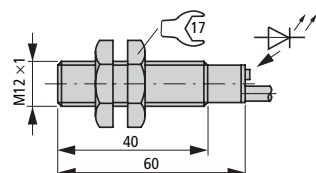
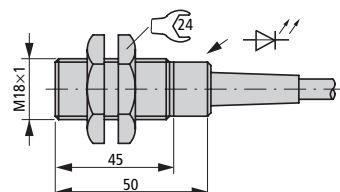
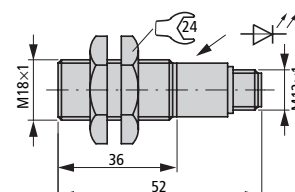


DC voltage version (PNP) Metal housing

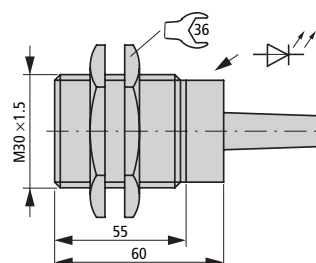
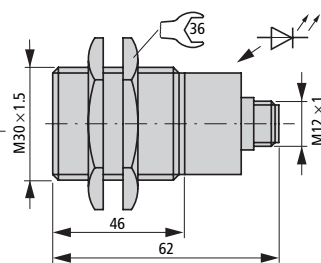
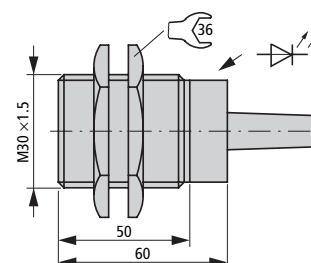
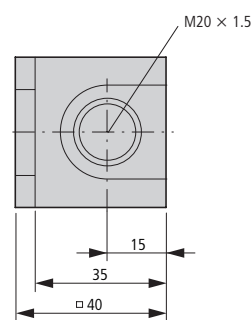
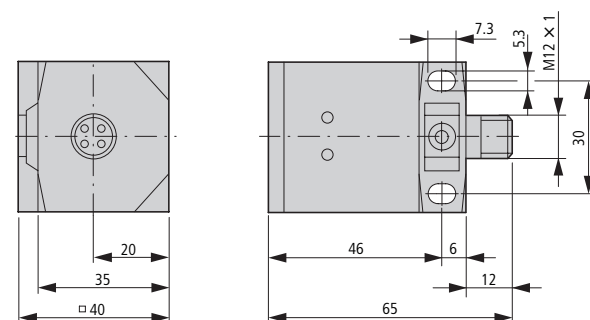
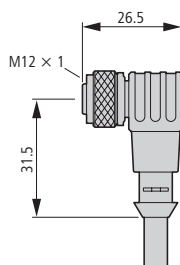
LSI-R8S-F1-LD


LSI-R8S-F1-PD
LSI-R8S-NF3-PD


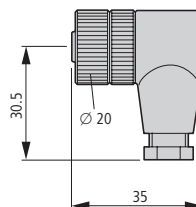
LSI-R12M-F2-LD


LSI-R12M-F2-PD
LSI-R12M-NF4-PD

LSI-R12P-F2-LD
LSI-R12P-NF4-LD
LSI-R12P-F2-LA

LSI-R18P-NF8-LD
LSI-R18P-F5-LD
LSI-R18P-F5-LA
LSI-R18M-F5-LD

LSI-R18M-NF8-PD
LSI-R18M-F5-PD


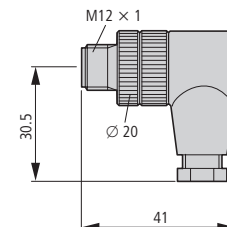
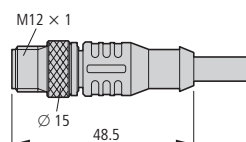
LSI-R30M-F10-LD


LSI-R30M-NF15-PD
LSI-R30M-F10-PD

LSI-R30P-F10-LD
LSI-R30P-F10-LA
LSI-R30P-NF15-LD

LSI-Q40P-F20-CD
LSI-Q40P-F20-CA
LSI-Q40P-NF40-CD
LSI-Q40P-NF35-CA

LSI-Q40P-NF35-PD
LSI-Q40P-F20-PD

LSI-X3M-CA2-D4Y
LSI-X3M-CAPS1-D4Y
LSI-X3M-CA5-D4Y
LSI-X4M-CAPS1-D4Y
LSI-X4M-CA2-A4N


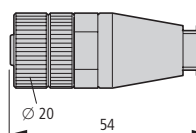
LSI-X4P-CAF-A4N



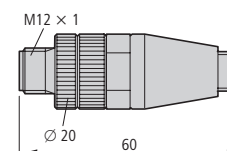
LSI-X4M-PAF-A4N


LSI-X3M-CSPS5-A4N
LSI-X3M-CSPS2-A4N
LSI-X3M-CSPS1-A4N
LSI-X3M-CSPS1,5-A4N
LSI-X4M-CSPS1-A4N
LSI-X4M-CSPS5-A4N
LSI-X4M-CSPS2-A4N
LSI-X4M-CS2-A4N


LSI-X4P-CSF-A4N



LSI-X4M-PSF-A4N

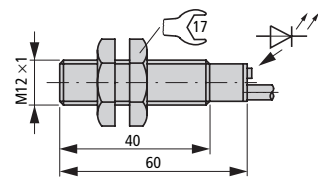


xCommand LSC, LSO

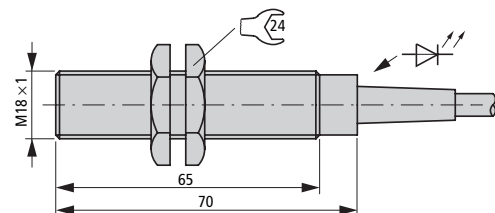
Moeller HPL0211-2007/2008

<http://catalog.moeller.net>
LSC capacitive proximity switches

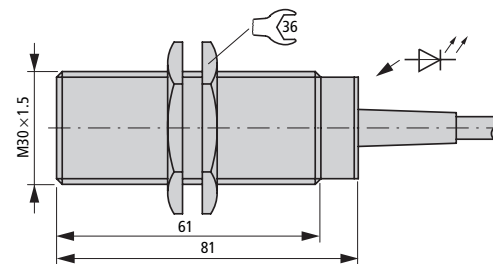
LSC-R12M-F3-LD



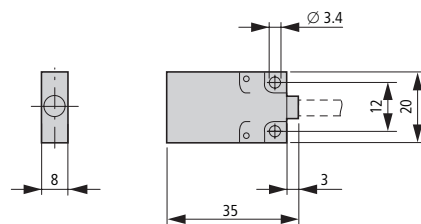
LSC-R18M-F5-LD



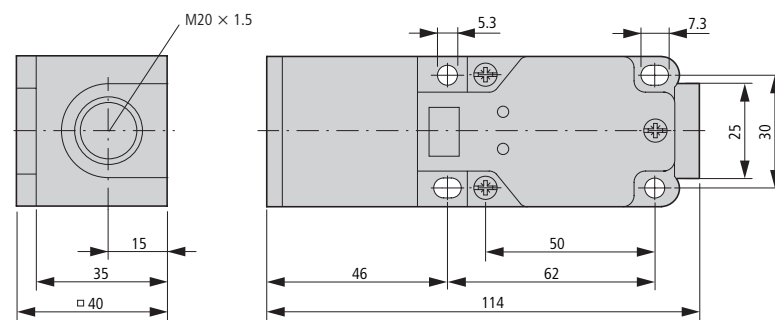
LSC-R30M-F10-LD



LSC-Q20M-F5-LD



LSC-Q40P-F20-CD

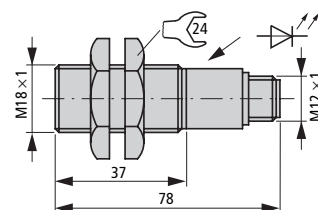

Optical proximity switches

LSO-R18P-S300-PD

LSO-R18P-B2000-PD

LSO-R18S-S300-PD

LSO-R18S-B2000-PD

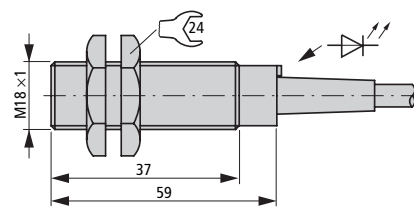


LSO-R18S-B2000-LD

LSO-R18P-S300-LD

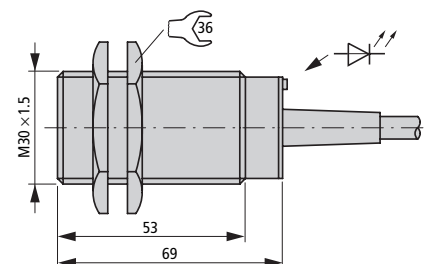
LSO-R18P-B2000-LD

LSO-R18S-S300-LD



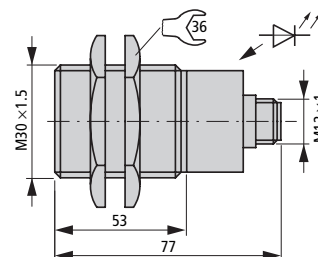
LSO-R30P-B6000-LD

LSO-R30P-S400-LD

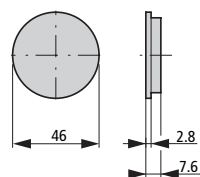


LSO-R30P-B6000-PD

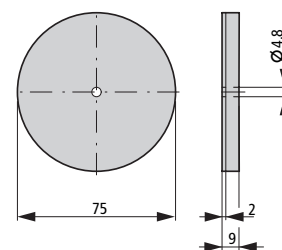
LSO-R30P-S400-PD


Reflectors for optical proximity switches

LSO-XR40

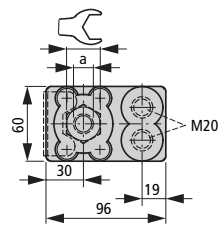


LSO-XR75



Pressure switches

MCS..., MCS N...



Part no.	Cable entry	a	
MSC...	2 × M20	R 1/4"	27
MSCN...	2 × M20	R 1/2"	36

MCSN...V

With relief valve

