

LX Position Switches

- Technopolymer housing, two conduit entries
- Protection degree IP67 according to EN 60529
- 17 contact blocks available
- 43 actuators available
- M12 assembled connector versions
- Silver contacts gold plated versions
- Other versions available (see LM, LR, LZ datasheets)



Approvals



General data

Ambient temperature:	-25°C ... +80°C
Max. actuation frequency:	3600 operating cycles ¹ /hour
Mechanical endurance:	20 million operating cycles ¹
Mounting position:	any
Safety parameters:	
B _{10d} :	40,000,00 for NC contacts
Mechanical interlock, not coded:	type 1 according to EN ISO 14119

(1) One operation cycle means two movements, one to close and one to open contacts, as defined in EN 60947-5-1.

Cable cross section (flexible copper strands)

Contact blocks C20, C21, C22, C33, C34:

min.	1 x 0.34 mm ²	(1 x AWG 22)
max.	2 x 1.5 mm ²	(2 x AWG 16)

Contact block C5, C6, C7, C9, C10, C11, C12, C13, C14, C15, C16, C18:

min.	1 x 0.5 mm ²	(1 x AWG 20)
max.	2 x 2.5 mm ²	(2 x AWG 14)

Contact block C2:

min.	1 x 0.5 mm ²	(1 x AWG 20)
max.	2 x 1.5 mm ²	(2 x AWG 16)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50047, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA 22.2 No. 14 .

Approvals:

IEC 60947-5-1, UL 508, CSA 22.2 No.14, GB14048.5-2001.

In conformity with the requirements of:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1.

Installation for safety applications:

Use only switches marked with the symbol ⊕ aside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: C11-C12, C21-C22 or C31-C32) as stated in **standard EN 60947-5-1, encl. K, par. 2**. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams. Operate the switch **at least with the positive opening force**, indicated between brackets below each article, aside the minimum force value.

Electrical data

Utilization category

without connector	Thermal current (I _{th}):	10 A	Alternating current: AC15 (50 ÷ 60 Hz)		
	Rated insulation voltage (U _i):	500 Vac 600 Vdc	U _e (V)	250	400
		400 Vac 500 Vdc (contact blocks 2, 11, 12, 20, 21, 22, 33, 34)	I _e (A)	6	4
	Rated impulse withstand voltage (U _{imp}):	6 kV			1
with connector M12, 4 poles		4 kV (contact blocks 20, 21, 22, 33, 34)	Direct current: DC13		
	Conditional short circuit current:	1000 A according to EN 60947-5-1	U _e (V)	24	125
	Protection against short circuits:	type aM fuse 10 A 500 V	I _e (A)	6	1.1
	Pollution degree:	3			0.4
with connector M12, 8 poles	Thermal current (I _{th}):	4 A	Alternating current: AC15 (50 ÷ 60 Hz)		
	Rated insulation voltage (U _i):	250 Vac 300 Vdc	U _e (V)	24	120
	Protection against short circuits:	fuse 4 A 500 V type gG	I _e (A)	4	4
	Pollution degree:	3	Direct current: DC13		
with connector M12, 8 poles			U _e (V)	24	125
	Thermal current (I _{th}):	2 A	I _e (A)	4	1.1
	Rated insulation voltage (U _i):	30 Vac 36 Vdc			0.4
	Protection against short circuits:	fuse 2 A 500 V type gG	Direct current: DC13		
with connector M12, 8 poles			U _e (V)	24	
	Thermal current (I _{th}):	2 A	I _e (A)	2	
	Rated insulation voltage (U _i):	30 Vac 36 Vdc	Direct current: DC13		
	Protection against short circuits:	fuse 2 A 500 V type gG	U _e (V)	24	
with connector M12, 8 poles			I _e (A)	2	
	Thermal current (I _{th}):	2 A	Alternating current: AC15 (50 ÷ 60 Hz)		
	Rated insulation voltage (U _i):	30 Vac 36 Vdc	U _e (V)	24	
	Protection against short circuits:	fuse 2 A 500 V type gG	I _e (A)	2	

Specifications

Rated insulation voltage (U_i): 500 Vac
400 Vac (for contact blocks C2, C11, C12, C20, C21, C22, C33, C34)

Conventional free air thermal current (I_{th}): 10 A

Protection against short circuits: type aM fuse 10 A 500 V

Rated impulse withstand voltage (U_{imp}): 6 kV
4 kV (for contact blocks C20, C21, C22, C33, C34)

Protection degree of the housing: IP67

MV terminals (screw terminals)

Pollution degree 3

Utilization category: AC15

Operating voltage (U_e): 400 Vac (50 Hz)

Operating current (I_e): 3 A

Forms of the contact element: Za, Zb, Za+Za, Y+Y, X+X, Y+Y+X, Y+Y+Y, Y+X+X

Positive opening of contacts on contact blocks C5, C6, C7, C9, C11, C13, C14, C16, C18, C20, C21, C22, C33, C34

In conformity with standards: EN 60947-1, EN 60947-5-1 + A1:2009, fundamental requirements of the Low Voltage Directive 2006/95/EC.

Please contact our technical service for the list of approved products.

UL Approval

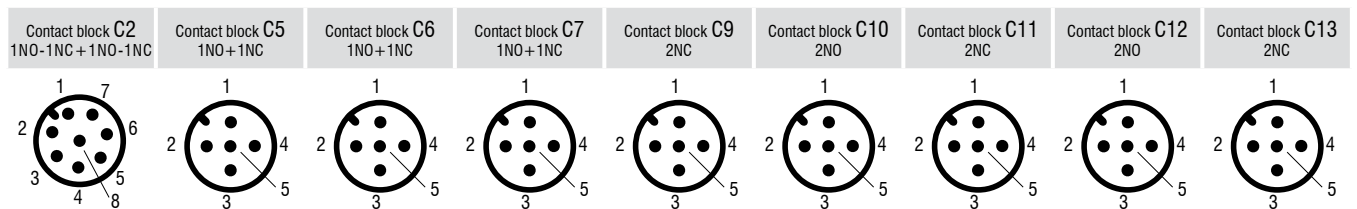
Utilization categories Q300 (69 VA, 125 ... 250 Vdc)
A600 (720 VA, 120 ... 600 Vac)

Data of housing type 1, 4X "indoor use only", 12, 13
For all contact blocks except C2 and C3 use 60 or 75°C copper (Cu) conductor, rigid or flexible, wire size AWG 12/14. Terminal tightening torque of 7.1 lb in (0.8 Nm).
For contact blocks C2 and C3 use 60 or 75 °C copper (Cu) conductor, rigid or flexible, wire size AWG 14. Terminal tightening torque of 12 lb in (1.4 Nm).

In conformity with standard: UL 508, CSA 22.2 No.14

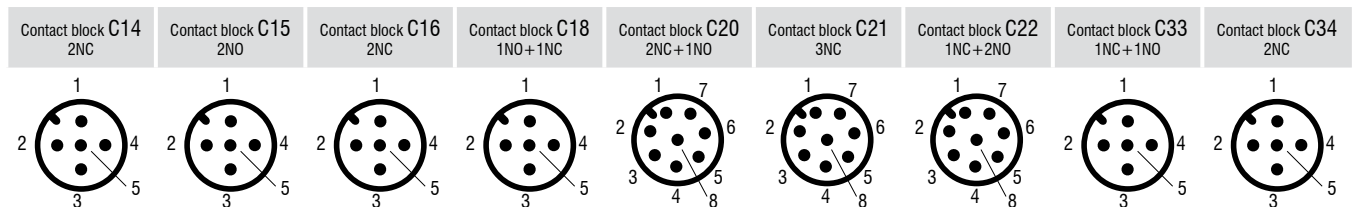
Please contact our technical service for the list of approved products.

Connection diagram for M12 connectors



M12 connector, 8 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles

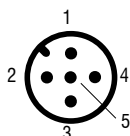
Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.
NO	3-4	NC	1-2	NC	1-2	NC	1-2	NC	1-2	NO	1-2	NC	1-2	NC (1°)	1-2
NC	5-6	NO	3-4	NO	3-4	NO	3-4	NC	3-4	NO	3-4	NC	3-4	NC (2°)	3-4
NC	7-8	ground	5	ground	5	ground	5	ground	5	ground	5	ground	5	ground	5
NO	1-2														



M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 5 poles M12 connector, 8 poles M12 connector, 8 poles M12 connector, 8 poles M12 connector, 5 poles M12 connector, 5 poles

Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.	Contacts	Pin no.
NC (1°)	1-2	NO (1°)	1-2	NC, lever at the right 1-2	1-2	NC	1-2	NC	3-4	NC	3-4	NC	3-4	NC	1-2
NC (2°)	3-4	NO (2°)	3-4	NC, lever to the left 3-4	3-4	NO	3-4	NC	5-6	NC	5-6	NO	5-6	NO	3-4
ground	5	ground	5	ground	5	ground	5	NO	7-8	NC	7-8	NO	7-8	ground	5
								ground	1	ground	1	ground	1		

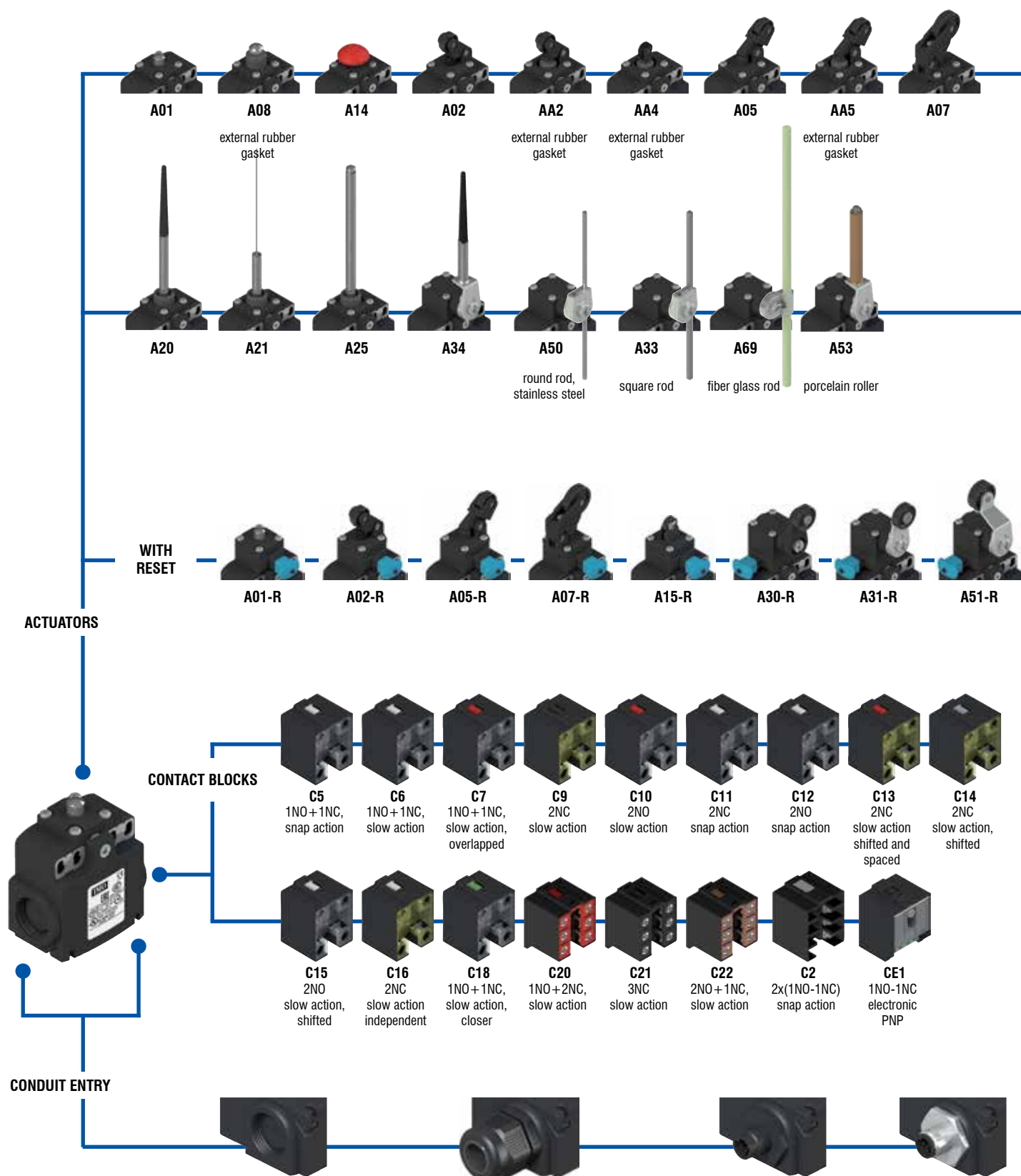
Contact block CE1
PNP



M12 connector, 5 poles

Contacts	Pin no.
+	1
-	3
NC	2
NO	4
ground	5

Selection diagram



product options
accessory sold separately

Threaded conduit entry	
20	M20x1.5 (standard)
16	M16x1.5
	PG 13.5
11	PG 11

With cable gland	
X123	for cables from Ø 6 to Ø 12 mm from the right
X223	for cables from Ø 6 to Ø 12 mm from the left
X127	for cables from Ø 3 to Ø 7 mm from the right
X227	for cables from Ø 3 to Ø 7 mm from the left

With M12 plastic connector	
X71	4 poles, right
X72	4 poles, left
X46	8 poles, right
X47	8 poles, left

With M12 metal connector	
X41	8 poles, right
X42	8 poles, left
X61	4 poles, right
X62	4 poles, left



AA7
external rubber gasket

A15
roller
Ø 11 mm

A15-R28
roller
Ø 12 mm,
stainless steel

A16
roller
Ø 20 mm

A12

A13
roller
Ø 12 mm,
stainless steel

A76
rope switch for signalling



A30

A31

A51

A52

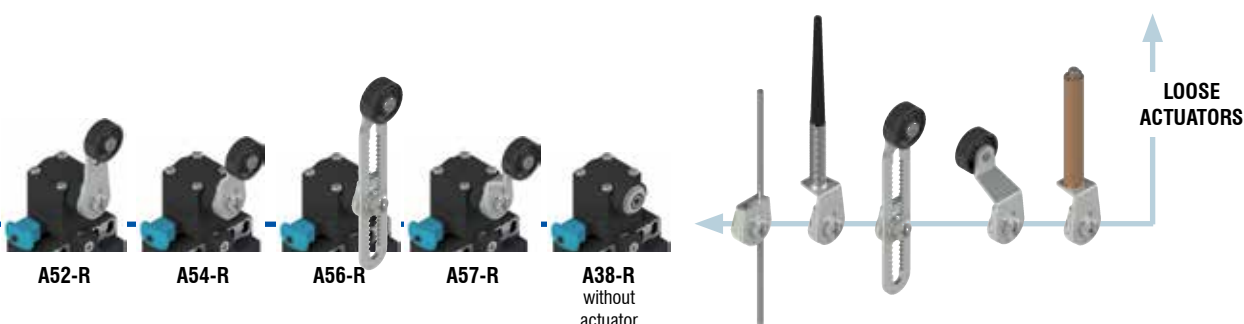
A54

A55
adjustable lever

A56
adjustable safety lever

A57

A38
without actuator



Options & Ordering Codes

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

Housing		Contact Blocks		Actuators		Suffix		Preinstalled Cable Gland or Connectors		Threaded Conduit Entry		Contact Type		External Metallic Parts		Reset Hooking	
polymer, 2 conduit entries		1NO+1NC, snap action		short plunger		no suffix (standard)		no cable gland or connector (standard)		PG 13.5 (standard)		silver (standard)		zinc plated steel (standard)		without reset (standard)	
polymer, 2 conduit entries		1NO+1NC, slow action		roller lever		with stainless steel roller: - Ø 12mm for actuators AA4, A15 - Ø 14mm for actuators A2, A02, A5, A05 - Ø 20mm for actuators A30, A31, A51, A52, A54, A55, A56, A57		X121		PG 11		G		SS		R	
polymer, 2 conduit entries		1NO+1NC, slow action, overlapped		offset roller lever		with Ø 35mm polymer roller		X71		M16 x 1.5		(contact block 2 excluded)		stainless steel		RI	
polymer, 2 conduit entries		Other contact blocks available upon request		Other actuators available upon request		with Ø 50mm rubber roller		4 poles M12 assembled plastic connector		M20 x 1.5							
polymer, 2 conduit entries				Other actuators available upon request		with Ø 50mm overhanging rubber roller											

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
-  = electronic PNP

Contact blocks

		With stainless steel roller on request	With external rubber gasket With stainless steel roller on request	With external rubber gasket With Ø 12 mm stainless steel roller on request
C5	R	LXC5A01-20 → 1NO+1NC	LXC5A02-20 → 1NO+1NC	LXC5AA2-20 → 1NO+1NC
C6	L	LXC6A01-20 → 1NO+1NC	LXC6A02-20 → 1NO+1NC	LXC6AA2-20 → 1NO+1NC
C7	LO	LXC7A01-20 → 1NO+1NC	LXC7A02-20 → 1NO+1NC	LXC7AA2-20 → 1NO+1NC
C9	L	LXC9A01-20 → 2NC	LXC9A02-20 → 2NC	LXC9AA2-20 → 2NC
C10	L	LXC10A01-20 2NO	LXC10A02-20 2NO	LXC10AA2-20 2NO
C11	R	LXC11A01-20 → 2NC	LXC11A02-20 → 2NC	LXC11AA2-20 → 2NC
C12	R	LXC12A01-20 2NO	LXC12A02-20 2NO	LXC12AA2-20 2NO
C13	LV	LXC13A01-20 → 2NC	LXC13A02-20 → 2NC	LXC13AA2-20 → 2NC
C14	LS	LXC14A01-20 → 2NC	LXC14A02-20 → 2NC	LXC14AA2-20 → 2NC
C15	LS	LXC15A01-20 2NO	LXC15A02-20 2NO	LXC15AA2-20 2NO
C18	LA	LXC18A01-20 → 1NO+1NC	LXC18A02-20 → 1NO+1NC	LXC18AA2-20 → 1NO+1NC
C20	L	LXC20A01-20 → 1NO+2NC	LXC20A02-20 → 1NO+2NC	LXC20AA2-20 → 1NO+2NC
C21	L	LXC21A01-20 → 3NC	LXC21A02-20 → 3NC	LXC21AA2-20 → 3NC
C22	L	LXC22A01-20 → 2NO+1NC	LXC22A02-20 → 2NO+1NC	LXC22AA2-20 → 2NO+1NC
C2	R	LXC2A01-20 2x(1NO-1NC)	LXC2A02-20 2x(1NO-1NC)	LXC2AA2-20 2x(1NO-1NC)
CE1		LXCE1A01-20 1NO-1NC	LXCE1A02-20 1NO-1NC	LXCE1AA2-20 1NO-1NC
Max. speed		Type 4	Type 3	Type 5
Min. force		8 N (25 N →)	6 N (25 N →)	4.3 N (25 N →)
Travel diagrams		Group 1	Group 2	Group 1

		With stainless steel roller on request	With external rubber gasket With stainless steel roller on request	With external rubber gasket
C5	R	LXC5A05-20 → 1NO+1NC	LXC5AA5-20 → 1NO+1NC	LXC5AA7-20 → 1NO+1NC
C6	L	LXC6A05-20 → 1NO+1NC	LXC6AA5-20 → 1NO+1NC	LXC6AA7-20 → 1NO+1NC
C7	LO	LXC7A05-20 → 1NO+1NC	LXC7AA5-20 → 1NO+1NC	LXC7AA7-20 → 1NO+1NC
C9	L	LXC9A05-20 → 2NC	LXC9AA5-20 → 2NC	LXC9AA7-20 → 2NC
C10	L	LXC10A05-20 2NO	LXC10AA5-20 2NO	LXC10AA7-20 2NO
C11	R	LXC11A05-20 → 2NC	LXC11AA5-20 → 2NC	LXC11AA7-20 → 2NC
C12	R	LXC12A05-20 2NO	LXC12AA5-20 2NO	LXC12AA7-20 2NO
C13	LV	LXC13A05-20 → 2NC	LXC13AA5-20 → 2NC	LXC13AA7-20 → 2NC
C14	LS	LXC14A05-20 → 2NC	LXC14AA5-20 → 2NC	LXC14AA7-20 → 2NC
C15	LS	LXC15A05-20 2NO	LXC15AA5-20 2NO	LXC15AA7-20 2NO
C18	LA	LXC18A05-20 → 1NO+1NC	LXC18AA5-20 → 1NO+1NC	LXC18AA7-20 → 1NO+1NC
C20	L	LXC20A05-20 → 1NO+2NC	LXC20AA5-20 → 1NO+2NC	LXC20AA7-20 → 1NO+2NC
C21	L	LXC21A05-20 → 3NC	LXC21AA5-20 → 3NC	LXC21AA7-20 → 3NC
C22	L	LXC22A05-20 → 2NO+1NC	LXC22AA5-20 → 2NO+1NC	LXC22AA7-20 → 2NO+1NC
C2	R	LXC2A05-20 2x(1NO-1NC)	LXC2AA5-20 2x(1NO-1NC)	LXC2AA7-20 2x(1NO-1NC)
CE1		LXCE1A05-20 1NO-1NC	LXCE1AA5-20 1NO-1NC	LXCE1AA7-20 1NO-1NC
Max. speed		Type 3	Type 3	Type 3
Min. force		6 N (25 N →)	4.3 N (25 N →)	3 N (25 N →)
Travel diagrams		Group 2	Group 2	Group 3

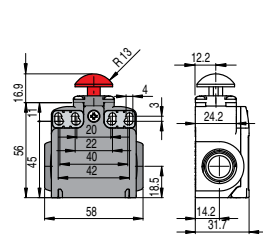
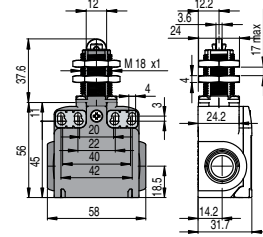
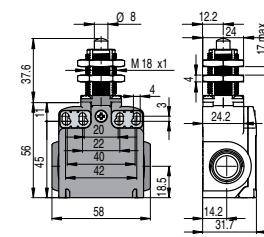
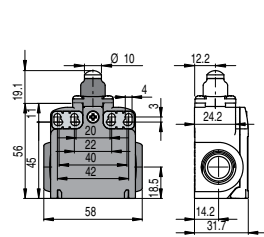
All measures in the drawings are in mm

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
-  = electronic PNP

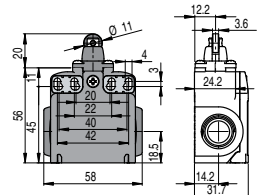
Contact blocks

With external rubber gasket

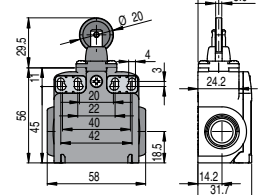
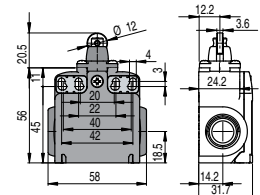


C5	R	LXC6A08-20	➔ 1NO+1NC	LXC6A12-20	➔ 1NO+1NC	LXC6A13-20	➔ 1NO+1NC	LXC6A14-20	➔ 1NO+1NC
C6	L								
C7	LO								
C9	L	LXC9A08-20	➔ 2NC	LXC9A12-20	➔ 2NC	LXC9A13-20	➔ 2NC	LXC9A14-20	➔ 2NC
C10	L								
C11	R	LXC11A08-20	➔ 2NC	LXC11A12-20	➔ 2NC	LXC11A13-20	➔ 2NC	LXC11A14-20	➔ 2NC
C12	R								
C13	LV	LXC13A08-20	➔ 2NC	LXC13A12-20	➔ 2NC	LXC13A13-20	➔ 2NC	LXC13A14-20	➔ 2NC
C14	LS								
C15	LS	LXC15A08-20	2NO	LXC15A12-20	2NO	LXC15A13-20	2NO	LXC15A14-20	2NO
C18	LA								
C20	L	LXC20A08-20	➔ 1NO+2NC	LXC20A12-20	➔ 1NO+2NC	LXC20A13-20	➔ 1NO+2NC	LXC20A14-20	➔ 1NO+2NC
C21	L								
C22	L	LXC22A08-20	➔ 2NO+1NC	LXC22A12-20	➔ 2NO+1NC	LXC22A13-20	➔ 2NO+1NC	LXC22A14-20	➔ 2NO+1NC
C2	R								
CE1		LXCE1A08-20	1NO-1NC	LXCE1A12-20	1NO-1NC	LXCE1A13-20	1NO-1NC	LXCE1A14-20	1NO-1NC
Max. speed		Type 4		Type 4		Type 2		Type 4	
Min. force		8 N (25 N ➔)		8 N (25 N ➔)		8 N (25 N ➔)		8 N (25 N ➔)	
Travel diagrams		Group 1		Group 1		Group 1		Group 1	

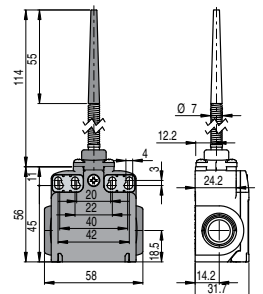
Roller, Ø 11 mm, technopolymer



Roller, Ø 12 mm, stainless steel



With external rubber gasket



Contact blocks

C5	R	LXC6A15-20	➔ 1NO+1NC	LXC6A15-20R28	➔ 1NO+1NC	LXC6A16-20	➔ 1NO+1NC		
C6	L								
C7	LO								
C9	L	LXC9A15-20	➔ 2NC	LXC9A15-20R28	➔ 2NC	LXC9A16-20	➔ 2NC		
C10	L								
C11	R	LXC11A15-20	➔ 2NC	LXC11A15-20R28	➔ 2NC	LXC11A16-20	➔ 2NC		
C12	R								
C13	LV	LXC13A15-20	➔ 2NC	LXC13A15-20R28	➔ 2NC	LXC13A16-20	➔ 2NC		
C14	LS								
C15	LS	LXC15A15-20	2NO	LXC15A15-20R28	2NO	LXC15A16-20	2NO		
C18	LA								
C20	L	LXC20A15-20	➔ 1NO+2NC	LXC20A15-20R28	➔ 1NO+2NC	LXC20A16-20	➔ 1NO+2NC	LXC20A20-20	1NO+2NC
C21	L								
C22	L	LXC22A15-20	➔ 2NO+1NC	LXC22A15-20R28	➔ 2NO+1NC	LXC22A16-20	➔ 2NO+1NC	LXC22A20-20	2NO+1NC
C2	R								
CE1		LXCE1A15-20	1NO-1NC	LXCE1A15-20R28	1NO-1NC	LXCE1A16-20	1NO-1NC	LXCE1A20-20	1NO-1NC
Max. speed		Type 2		Type 2		Type 2		1 m/s	
Min. force		8 N (25 N ➔)		8 N (25 N ➔)		8 N (25 N ➔)		0.07 Nm	
Travel diagrams		Group 1		Group 1		Group 1		Group 4	

All measures in the drawings are in mm

Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
- Λ** = electronic PNP

Contact blocks

	With external rubber gasket	With external rubber gasket	With Ø 20 mm stainless steel roller on request	
C5	R LXC5A21-20 1NO+1NC	LXC5A25-20 1NO+1NC	LXC5A30-20 1NO+1NC	LXC5A31-20 1NO+1NC
C6	L		LXC6A30-20 1NO+1NC	LXC6A31-20 1NO+1NC
C7	LO		LXC7A30-20 1NO+1NC	LXC7A31-20 1NO+1NC
C9	L		LXC9A30-20 2NC	LXC9A31-20 2NC
C10	L LXC10A21-20 2NO	LXC10A25-20 2NO	LXC10A30-20 2NO	LXC10A31-20 2NO
C11	R		LXC11A30-20 2NC	LXC11A31-20 2NC
C12	R LXC12A21-20 2NO	LXC12A25-20 2NO	LXC12A30-20 2NO	LXC12A31-20 2NO
C13	LV		LXC13A30-20 2NC	LXC13A31-20 2NC
C14	LS		LXC14A30-20 2NC	LXC14A31-20 2NC
C15	LS		LXC15A30-20 2NO	LXC15A31-20 2NO
C16	LI		LXC16A30-20 2NC	LXC16A31-20 2NC
C18	LA LXC18A21-20 1NO+1NC	LXC18A25-20 1NO+1NC	LXC18A30-20 1NO+1NC	LXC18A31-20 1NO+1NC
C20	L LXC20A21-20 1NO+2NC	LXC20A25-20 1NO+2NC	LXC20A30-20 1NO+2NC	LXC20A31-20 1NO+2NC
C21	L LXC21A21-20 3NC	LXC21A25-20 3NC	LXC21A30-20 3NC	LXC21A31-20 3NC
C22	L LXC22A21-20 2NO+1NC	LXC22A25-20 2NO+1NC	LXC22A30-20 2NO+1NC	LXC22A31-20 2NO+1NC
C2	R LXC2A21-20 2x(1NO-1NC)	LXC2A25-20 2x(1NO-1NC)	LXC2A30-20 2x(1NO-1NC)	LXC2A31-20 2x(1NO-1NC)
CE1	Λ LXCE1A21-20 1NO-1NC	LXCE1A25-20 1NO-1NC	LXCE1A30-20 1NO-1NC	LXCE1A31-20 1NO-1NC
Max. speed	1 m/s	1 m/s	Type 1 0.06 Nm (0.25 Nm)	Type 1 0.06 Nm (0.25 Nm)
Min. force	0.07 Nm	0.12 Nm		
Travel diagrams	Group 4	Group 4	Group 5	Group 5

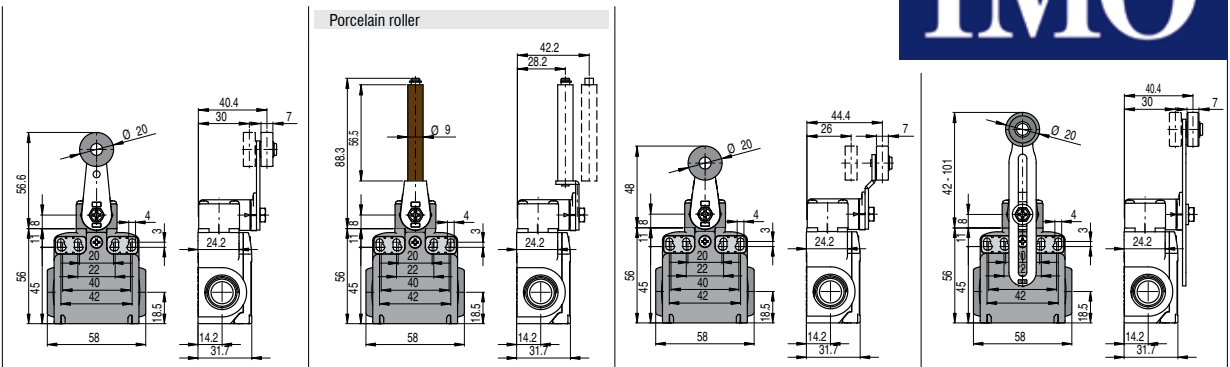
	Square rod, 3x3 mm		Round rod, Ø 3 mm, stainless steel	
C5	R LXC5A33-20 1NO+1NC	LXC5A34-20 1NO+1NC	LXC5A50-20 1NO+1NC	LXC5A51-20 1NO+1NC
C6	L LXC6A33-20 1NO+1NC	LXC6A34-20 1NO+1NC	LXC6A50-20 1NO+1NC	LXC6A51-20 1NO+1NC
C7	LO LXC7A33-20 1NO+1NC	LXC7A34-20 1NO+1NC	LXC7A50-20 1NO+1NC	LXC7A51-20 1NO+1NC
C9	L LXC9A33-20 2NC	LXC9A34-20 2NC	LXC9A50-20 2NC	LXC9A51-20 2NC
C10	L LXC10A33-20 2NO	LXC10A34-20 2NO	LXC10A50-20 2NO	LXC10A51-20 2NO
C11	R LXC11A33-20 2NC	LXC11A34-20 2NC	LXC11A50-20 2NC	LXC11A51-20 2NC
C12	R LXC12A33-20 2NO	LXC12A34-20 2NO	LXC12A50-20 2NO	LXC12A51-20 2NO
C13	LV LXC13A33-20 2NC	LXC13A34-20 2NC	LXC13A50-20 2NC	LXC13A51-20 2NC
C14	LS LXC14A33-20 2NC	LXC14A34-20 2NC	LXC14A50-20 2NC	LXC14A51-20 2NC
C15	LS LXC15A33-20 2NO	LXC15A34-20 2NO	LXC15A50-20 2NO	LXC15A51-20 2NO
C16	LI LXC16A33-20 2NC	LXC16A34-20 2NC	LXC16A50-20 2NC	LXC16A51-20 2NC
C18	LA LXC18A33-20 1NO+1NC	LXC18A34-20 1NO+1NC	LXC18A50-20 1NO+1NC	LXC18A51-20 1NO+1NC
C20	L LXC20A33-20 1NO+2NC	LXC20A34-20 1NO+2NC	LXC20A50-20 1NO+2NC	LXC20A51-20 1NO+2NC
C21	L LXC21A33-20 3NC	LXC21A34-20 3NC	LXC21A50-20 3NC	LXC21A51-20 3NC
C22	L LXC22A33-20 2NO+1NC	LXC22A34-20 2NO+1NC	LXC22A50-20 2NO+1NC	LXC22A51-20 2NO+1NC
C2	R LXC2A33-20 2x(1NO-1NC)	LXC2A34-20 2x(1NO-1NC)	LXC2A50-20 2x(1NO-1NC)	LXC2A51-20 2x(1NO-1NC)
CE1	Λ LXCE1A33-20 1NO-1NC	LXCE1A34-20 1NO-1NC	LXCE1A50-20 1NO-1NC	LXCE1A51-20 1NO-1NC
Max. speed	1.5 m/s	1.5 m/s	1.5 m/s	Type 1 0.06 Nm (0.25 Nm)
Min. force	0.06 Nm	0.06 Nm	0.06 Nm	
Travel diagrams	Group 5	Group 5	Group 5	Group 5

All measures in the drawings are in mm

Contact type:

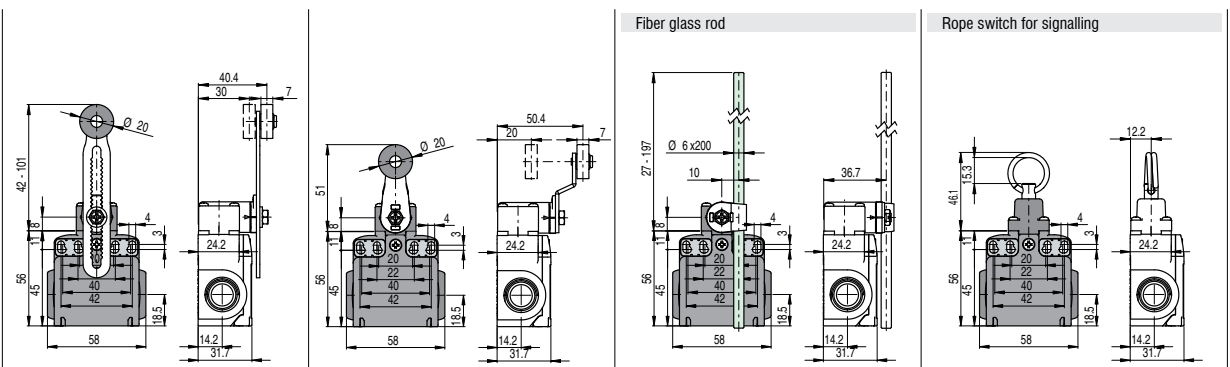
- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
-  = electronic PNP

Contact blocks



C5					
C6		LXC6A52-20	1NO+1NC	LXC6A53-E020V9	1NO+1NC
C7				LXC6A54-20	1NO+1NC
C9		LXC9A52-20	2NC	LXC9A53-E020V9	2NC
C10				LXC9A54-20	2NC
C11		LXC11A52-20	2NC		LXC11A55-20
C12					LXC11A55-20
C13		LXC13A52-20	2NC	LXC13A53-E020V9	2NC
C14				LXC13A54-20	2NC
C15		LXC15A52-20	2NO	LXC15A53-E020V9	2NO
C16				LXC15A54-20	2NO
C18		LXC18A52-20	1NO+1NC	LXC18A53-E020V9	1NO+1NC
C20				LXC18A54-20	1NO+1NC
C21		LXC21A52-20	3NC	LXC21A53-E020V9	3NC
C22				LXC21A54-20	3NC
C2		LXC2A52-20	2x(1NO-1NC)	LXC2A53-E020	2x(1NO-1NC)
CE1				LXC2A54-20	2x(1NO-1NC)
Max. speed		Type 1		Type 1	
Min. force		0.06 Nm (0.25 Nm)		0.06 Nm (0.25 Nm)	
Travel diagrams		Group 5		Group 5	

Contact blocks



C5	R				
C6	L	LXC6A56-20	➔ 1NO+1NC	LXC6A57-20	➔ 1NO+1NC
C7	LO			LXC6A69-20	1NO+1NC
C9	L	LXC9A56-20	➔ 2NC	LXC9A57-20	➔ 2NC
C10	L			LXC9A69-20	2NC
C11	R	LXC11A56-20	➔ 2NC	LXC11A57-20	➔ 2NC
C12	R			LXC11A69-20	2NC
C13	LV	LXC13A56-20	➔ 2NC	LXC13A57-20	➔ 2NC
C14	LS			LXC13A69-20	2NC
C15	LS	LXC15A56-20	2NO	LXC15A57-20	2NO
C16	LI			LXC15A69-20	2NO
C18	LA	LXC18A56-20	➔ 1NO+1NC	LXC18A57-20	➔ 1NC+1NO
C20	L			LXC18A69-20	1NC+1NO
C21	L	LXC21A56-20	➔ 3NC	LXC21A57-20	➔ 3NC
C22	L			LXC21A69-20	3NC
C2	R	LXC2A56-20	2x(1NO-1NC)	LXC2A57-20	2x(1NO-1NC)
CE1				LXC2A69-20	2x(1NO-1NC)
Max. speed		Type 1		Type 1	
Min. force		0.06 Nm (0.25 Nm ➔)		0.06 Nm	
Travel diagrams		Group 5		Group 5	

(1) Positive opening only with actuator set to max.

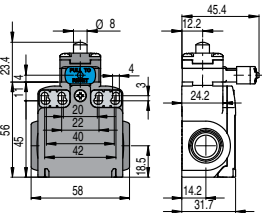
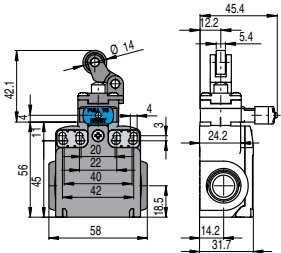
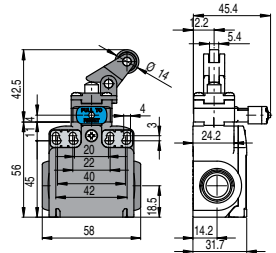
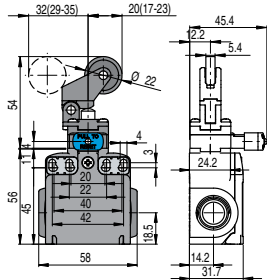
All measures in the drawings are in mm

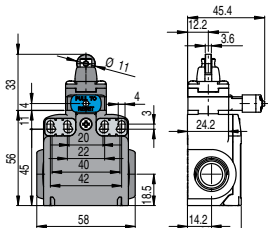
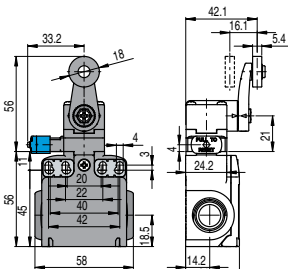
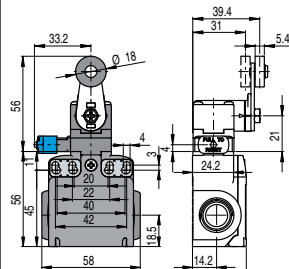
Position switches LX series with reset



IMO Precision Controls has developed a range of position switches that incorporate a Reset device. This is denoted by the addition of the suffix R to the part numbers. The Reset device is a block inserted between the switch body and the head, and it can be rotated and positioned in four locations independent to the head. Some of the features of the Reset device are as follows:

- Easy integration in to almost all standard heads
- No need to use snap action contact blocks as the tripping movement is defined by the Reset device
- Rotation for ease of installation
- Two driving forces are available - standard and increased for use in applications where vibration is present
- Mechanical endurance - up to 1 million operating cycles.

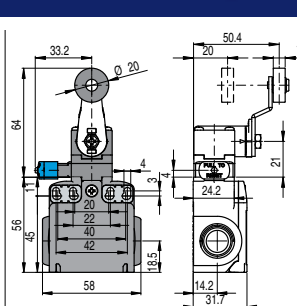
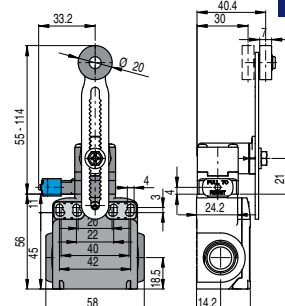
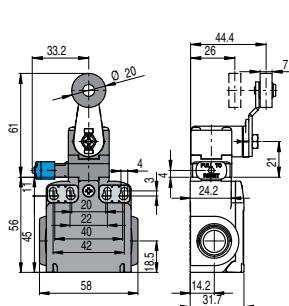
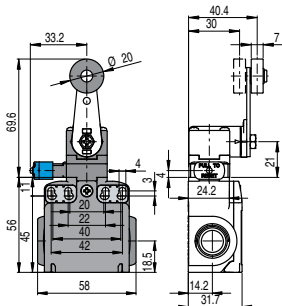
Contact type:		With stainless steel roller on request		With stainless steel roller on request					
R = snap action L = slow action									
Contact blocks									
C6	L	LXC6A01-R20	➔ 1NO+1NC	LXC6A02-R20	➔ 1NO+1NC	LXC6A05-R20	➔ 1NO+1NC	LXC6A07-R20	➔ 1NO+1NC
C9	L	LXC9A01-R20	➔ 2NC	LXC9A02-R20	➔ 2NC	LXC9A05-R20	➔ 2NC	LXC9A07-R20	➔ 2NC
C10	L	LXC10A01-R20	2NO	LXC10A02-R20	2NO	LXC10A05-R20	2NO	LXC10A07-R20	2NO
C20	L	LXC20A01-R20	➔ 1NO+2NC	LXC20A02-R20	➔ 1NO+2NC	LXC20A05-R20	➔ 1NO+2NC	LXC20A07-R20	➔ 1NO+2NC
C21	L	LXC21A01-R20	➔ 3NC	LXC21A02-R20	➔ 3NC	LXC21A05-R20	➔ 3NC	LXC21A07-R20	➔ 3NC
C22	L	LXC22A01-R20	➔ 2NO+1NC	LXC22A02-R20	➔ 2NO+1NC	LXC22A05-R20	➔ 2NO+1NC	LXC22A07-R20	➔ 2NO+1NC
C2	R	LXC2A01-R20	2NO+2NC	LXC2A02-R20	2NO+2NC	LXC2A05-R20	2NO+2NC	LXC2A07-R20	2NO+2NC
Max. speed	Type 4			Type 3		Type 3		Type 3	
Min. force	4.5 N (25 N ➔)			4 N (25 N ➔)		4 N (25 N ➔)		2.5 N (25 N ➔)	
Travel diagrams	Group 1			Group 2		Group 2		pGroup 3	

With Ø 12 mm stainless steel roller on request		With Ø 20 mm stainless steel roller on request							
									
C6		LXC6A15-R20	 1NO+1NC	LXC6A30-R20	 1NO+1NC	LXC6A31-R20	 1NO+1NC	LXC6A51-R20	 1NO+1NC
C9		LXC9A15-R20	 2NC	LXC9A30-R20	 2NC	LXC9A31-R20	 2NC	LXC9A51-R20	 2NC
C10		LXC10A15-R20	2NO	LXC10A30-R20	2NO	LXC10A31-R20	2NO	LXC10A51-R20	2NO
C20		LXC20A15-R20	 1NO+2NC	LXC20A30-R20	 1NO+2NC	LXC20A31-R20	 1NO+2NC	LXC20A51-R20	 1NO+2NC
C21		LXC21A15-R20	 3NC	LXC21A30-R20	 3NC	LXC21A31-R20	 3NC	LXC21A51-R20	 3NC
C22		LXC22A15-R20	 2NO+1NC	LXC22A30-R20	 2NO+1NC	LXC22A31-R20	 2NO+1NC	LXC22A51-R20	 2NO+1NC
C2		LXC2A15-R20	2NO+2NC	LXC2A30-R20	2NO+2NC	LXC2A31-R20	2NO+2NC	LXC2A51-R20	2NO+2NC
Max. speed	Type 2			Type 1		Type 1		Type 1	
Min. force	4.5 N (25 N )			0.07 Nm (0.25 Nm )		0.07 Nm (0.25 Nm )		0.07 Nm (0.25 Nm )	
Travel diagrams	Group 1			Group 4		Group 4		Group 4	

All measures in the drawings are in mm

Contact type:

R = snap action
L = slow action

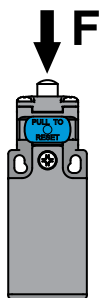


Contact blocks

C6	L	LXC6A52-R20	➔ 1NO+1NC	LXC6A54-R20	➔ 1NO+1NC	LXC6A56-R20	➔ 1NO+1NC	LXC6A57-R20	➔ 1NO+1NC
C9	L	LXC9A52-R20	➔ 2NC	LXC9A54-R20	➔ 2NC	LXC9A56-R20	➔ 2NC	LXC9A57-R20	➔ 2NC
C10	L	LXC10A52-R20	2NO	LXC10A54-R20	2NO	LXC10A56-R20	2NO	LXC10A57-R20	2NO
C20	L	LXC20A52-R20	➔ 1NO+2NC	LXC20A54-R20	➔ 1NO+2NC	LXC20A56-R20	➔ 1NO+2NC	LXC20A57-R20	➔ 1NO+2NC
C21	L	LXC21A52-R20	➔ 3NC	LXC21A54-R20	➔ 3NC	LXC21A56-R20	➔ 3NC	LXC21A57-R20	➔ 3NC
C22	L	LXC22A52-R20	➔ 2NO+1NC	LXC22A54-R20	➔ 2NO+1NC	LXC22A56-R20	➔ 2NO+1NC	LXC22A57-R20	➔ 2NO+1NC
C2	R	LXC2A52-R20	2NO+2NC	LXC2A54-R20	2NO+2NC	LXC2A56-R20	2NO+2NC	LXC2A57-R20	2NO+2NC
Max. speed	Type 1			Type 1		Type 1		Type 1	
Min. force	0.07 Nm (0.25 Nm ➔)			0.07 Nm (0.25 Nm ➔)		0.07 Nm (0.25 Nm ➔)		0.07 Nm (0.25 Nm ➔)	
Travel diagrams	Group 4			Group 4		Group 4		Group 4	

All measures in the drawings are in mm

Increased actuating force



The switch can be delivered with increased actuating force (option RI). Ideal for applications with vibrations.

Actuators	Min. force
01, 14, 15, 16	7 N
02, 05	6 N
07	3.5 N
30 ... 57	0.08 Nm

Position switches with revolving lever without actuator

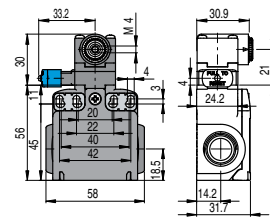
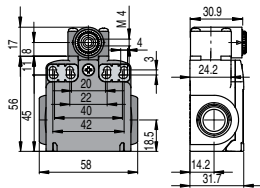
Contact type:

- R** = snap action
- L** = slow action
- LO** = slow action overlapped
- LS** = slow action shifted
- LV** = slow action shifted and spaced
- LI** = slow action independent
- LA** = slow action closer
- △** = electronic PNP

Contact blocks

C5	R	LXC5A38-20	➔ 1NO+1NC	
C6	L	LXC6A38-20	➔ 1NO+1NC	LXC6A38-R20 ➔ 1NO+1NC
C7	LO	LXC7A38-20	➔ 1NO+1NC	
C9	L	LXC9A38-20	➔ 2NC	LXC9A38-R20 ➔ 2NC
C10	L	LXC10A38-20	2NO	LXC10A38-R20 2NO
C11	R	LXC11A38-20	➔ 2NC	
C12	R	LXC12A38-20	2NO	
C13	LV	LXC13A38-20	➔ 2NC	
C14	LS	LXC14A38-20	➔ 2NC	
C15	LS	LXC15A38-20	2NO	
C16	LI	LXC16A38-20	➔ 2NC	
C18	LA	LXC18A38-20	➔ 1NO+1NC	
C20	L	LXC20A38-20	➔ 1NO+2NC	LXC20A38-R20 ➔ 1NO+2NC
C21	L	LXC21A38-20	➔ 3NC	LXC21A38-R20 ➔ 3NC
C22	L	LXC22A38-20	➔ 2NO+1NC	LXC22A38-R20 ➔ 2NO+1NC
C2	R	LXC2A38-20	2x(1NO-1NC)	LXC2A38-R20 2NO+2NC
CE1	△	LXCE1A38-20	1NO-1NC	
Min. force		0.06 Nm (0.25 Nm ➔)		0.07 Nm (0.25 Nm ➔)
Travel diagrams		Group 5		Group 4

With manual reset knob



All measures in the drawings are in mm

IMPORTANT

For safety applications: join only switches and actuators marked with symbol ➔ aside the product code.

For more information about safety applications see details on page 235.

All measures in the drawings are in mm

Loose actuators

All measures in the drawings are in mm

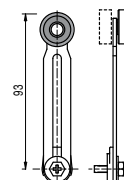
IMPORTANT: These loose actuators can be used with items of series LR, LM, LX, LZ and LK only.

Technopolymer roller Ø 18 mm	Technopolymer roller Ø 18 mm	Adjustable square rod, 3x3x125 mm	Flexible rod with pointed end	Adjustable round rod Ø 3x125 mm	Technopolymer roller Ø 20 mm	
AC-CAE30 ➔	AC-CAE31 ➔	AC-CAE33	AC-CAE34	AC-CAE50	AC-CAE51 ➔	
Technopolymer roller Ø 20 mm	Porcelain roller	Technopolymer roller Ø 20 mm	Adjustable actuator with technopolymer roller	Adjustable safety actuator with technopolymer roller	Technopolymer roller Ø 20 mm	Adjustable fiber glass rod
AC-CAE52 ➔	AC-CAE53 ➔ ⁽²⁾	CA-CAE54 ➔	AC-CAE55 ➔ ⁽¹⁾	AC-CAE56 ➔	AC-CAE57 ➔	AC-CAE69

- ⁽¹⁾ Actuator AC-CAE55 can only be used in safety applications if adjusted to its max. length, as shown in figure beside. If you need an adjustable lever for safety applications, use the adjustable safety lever AC-CAE56.

- ⁽²⁾ The position switch obtained by assembling switch LM • A38-20 (e.g. LMC5A38-20, LMC6A38-20...) with actuator AC-CAE53 will not present the same travel diagrams and actuating forces as switch LM • A53-JOST (e.g. LMC5A53-JOST, LMC6A53-JOST...).

- ⁽⁴⁾ The actuator cannot be rotated to the inside because it will mechanically interfere with the switch head.



All measures in the drawings are in mm

Stainless steel rollers, Ø 20 mm

Technopolymer rollers, Ø 35 mm

Rubber rollers, Ø 40 mm

Rubber rollers, Ø 50 mm

Protruding rubber rollers, Ø 50 mm

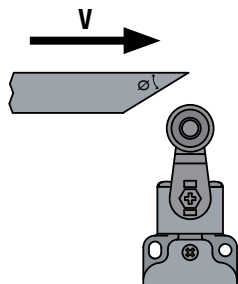
Technical drawings of two types of roller assemblies:

- AC-CAE55-R27** (Left): Shows a roller with a diameter of 58.5 and a width of 10. The roller is mounted on a shaft with a diameter of 11.4 to 26.4. The roller is secured with a nut and washer. The roller is labeled with 'M 4' and '10'.
- AC-CAE56-R27** (Right): Shows a roller with a diameter of 58.8 and a width of 10. The roller is mounted on a shaft with a diameter of 20 to 35. The roller is secured with a nut and washer. The roller is labeled with 'M 4' and '10'.

Maximum and minimum actuation speed

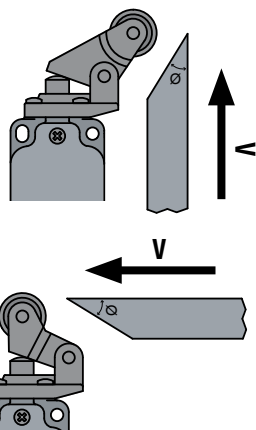
Lever with roller - Type 1

Ø	Vmax (m/s)	Vmin (mm/s) [L]	Vmin (mm/s) [R]
15°	2.5	9	0.07
30°	1.5	8	
45°	1	7	
60°	0.75	7	



Lever with roller - Type 3

Ø	Vmax (m/s)	Vmin (mm/s) [L]	Vmin (mm/s) [R]
15°	1	5	0.05
30°	0.5	2.5	0.025
45°	0.3	1.5	0.015



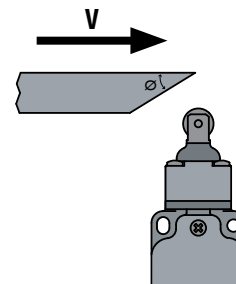
Contacts Type:

[R] = snap action

[L] = slow action

Plunger with roller - Type 2

Ø	Vmax (m/s)	Vmin (mm/s) [L]	Vmin (mm/s) [R]
15°	1	4	0.04
30°	0.5	2	0.02
45°	0.3	1	0.01

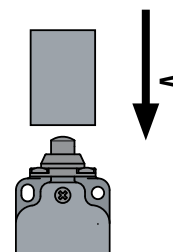


Plunger with roller - Type 5

Ø	Vmax (m/s)	Vmin (mm/s) [L]	Vmin (mm/s) [R]
15°	0.3	4	0.04
30°	0.2	2	0.02

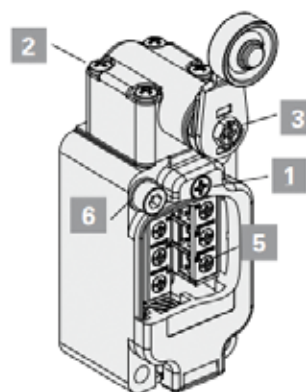
Plunger with roller - Type 4

Vmax (m/s)	Vmin (mm/s) [L]	Vmin (mm/s) [R]
0.5	1	0.01

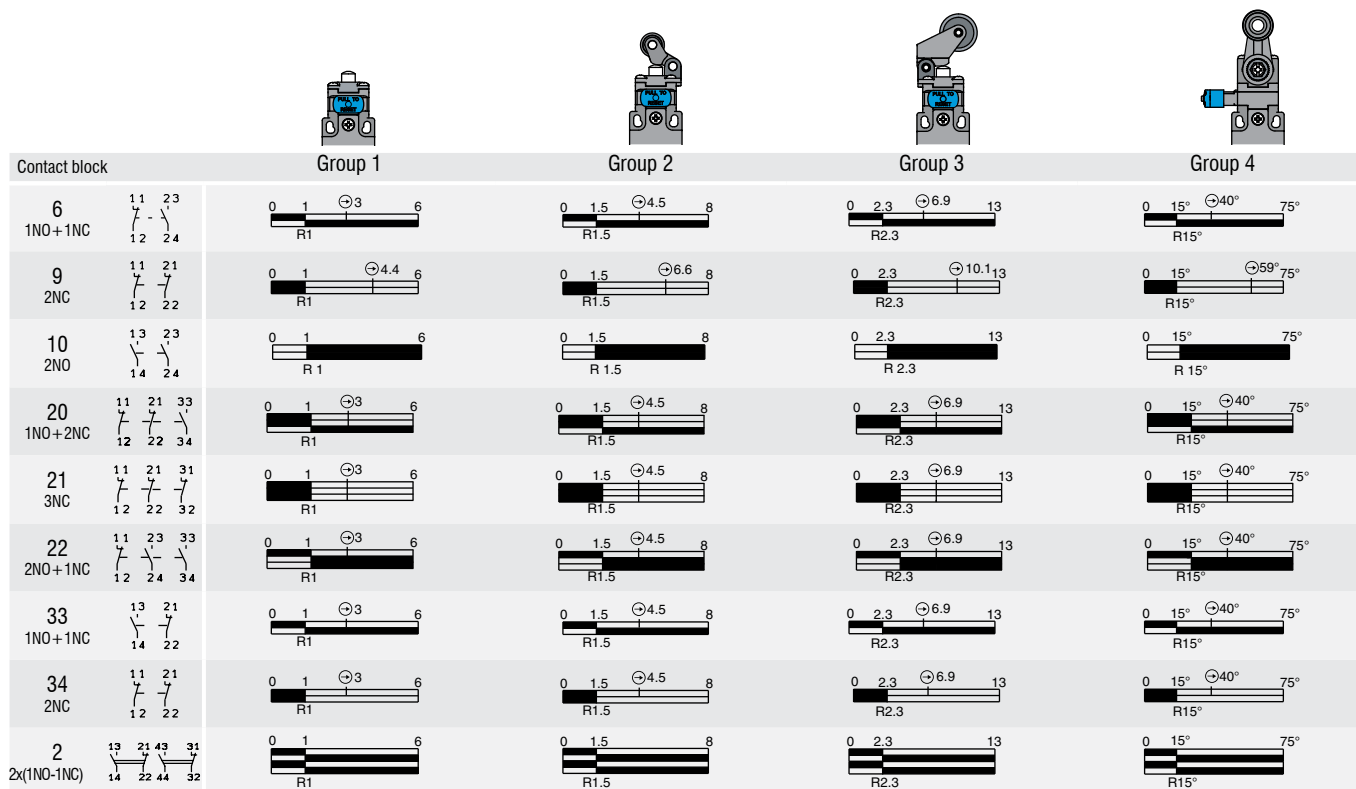


Driving Torques For LR and LX series only

1	Cover screws	0.8...1.2Nm
2	Head screws	0.8...1.2Nm
3	Lever screws	0.8...1.2Nm
4	Protection plugs	1.2...1.6Nm (conduit entry M20/PG13.5) (conduit entry M16/PG11)
5	Contact block screws	1.0...1.4Nm 0.6...0.8Nm
6	M5 screws of the housing fastening with washer	2.0...3.0Nm



Travel Diagrams



Legend

Closed contact |
 Opened contact |
 Positive opening travel |
 Pushing the switch /
 Releasing the switch

Contact block		Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7 inverted contacts
2 2x(1NO-1NC)								
3 1NO-1NC								
5 1NO+1NC								
6 1NO+1NC					/			
7 1NO+1NC					/			
9 2NC					/			
10 2NO								
11 2NC					/		/	
12 2NO								
13 2NC					/			
14 2NC					/			
15 2NO					/			
16 2NC		/	/	/	/		/	/
18 1NO+1NC								
20 1NO+2NC								
21 3NC								
22 2NO+1NC								
28 1NO+2NC					/			
29 3NC					/			
30 3NC					/			
33 1NO+1NC								
34 2NC								
37 1NO+1NC					/			
66 1NC								
67 1NO								

Legend

■ Closed contact | □ Opened contact | ⊕ Positive opening travel | ▶ Pushing the switch / ◀ Releasing the switch