

Technical Data

Standards

Certifications – Approvals

Air temperature near the device

- during operation

- for storage

Climatic withstand

Mounting positions

Shock withstand (according to IEC 68-2-27 and 60068-2-27) g
(1/2sinusoidal shock for 11 ms) no change in contact position

Resistance to vibrations (acc.to IEC 68-2-6 and EN 60068-2-6)g

Protection against electrical shocks (acc.to IEC 536)

Degree of protection (according to IEC 529 and EN 60529)

Consistency (measured over 1 million operations)

Plastic Body

Metal body

IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1,
UL508 and CSA C22-2 n°14
UL – CSA

-25 ... +70

-25 ... +70

-30 ... +80

-30 ... +80

According to IEC 68-2-3 and salty mist according to IEC 68-2-11

All positions are authorized

50g

25g (10...500Hz) no change in position of contacts greater than 100 us

Class II

Class I

IP65

IP66

0.1 mm (upon closing point)

0.1 mm (upon closing point)

Electrical Data

Rated insulation voltage U_i

-according to IEC 60947-1 and EN 60947-1 V

500 (degree of pollution 3)

Rated impulse withstand voltage U_{imp}

(according to IEC 60947-1 and EN 60947-1) kV

6

Conventional enclosed thermal current I_{the}

Short-circuit protection - gG type fuses A

10

Short-circuit protection - gG type fuses A

10

Rated operational current

I_e / AC-15 - acc.to IEC 60947-5-1

24V - 50/60 Hz	A	10
130V - 50/60 Hz	A	5.5
230V - 50/60 Hz	A	3.1
240V - 50/60 Hz	A	3
400V - 50/60 Hz	A	1.8

10

5.5

3.1

3

1.8

I_e / DC-13 - acc.to IEC 60947-5-1

24 V - d.c.	A	2.8
110V-d.c.	A	0.6
250V - d.c	A	0,27

2.8

0.6

0,27

Electrical durability (according to IEC 60497-5-1 annex C)

- max. switching frequency Cycles/h

- load factor

Utilization categories AC-15 and DC-13 (see curves and value below)

3600

0,5

Connecting data of contact blocks

Connecting terminals

Connecting capacity 1 or 2 x mm² / AWG

Terminal marking

M3,5 (+,-) pozidriv 2 screw with cable clamp

0,5mm² / AWG 20 to 2,5mm² / AWG 14

According to EN 50013

Diagram for snap action contacts:

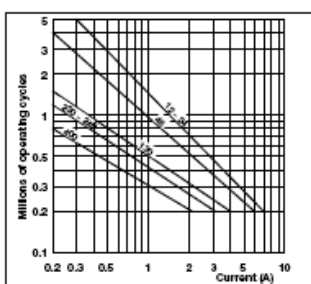
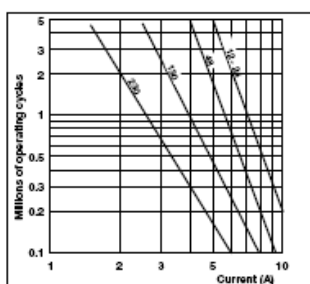


Diagram for non-overlapping slow action contacts:



Electrical durability for DC-3 utilization category

Snap action Slow action

Power breaking for a durability of
5 million operating cycles

Voltage 24V

9,5W

12W

Voltage 48V

6,8W

9W

Voltage 110V

3,6W

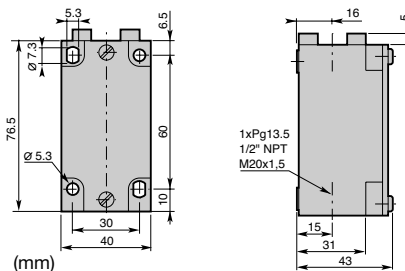
6W

Limit Switches - Limit Type (PS31) Metal Body IP66



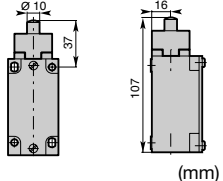
■ Cable Gland

- P** = one cable inlet PG13.5 cable gland
M = one cable inlet M20x1.5 cable gland
N = one cable inlet 1/2" NPT cable gland



▲ Contact block (Zb type)

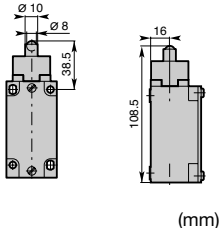
S11 (1NO+1NC) Snap action	T11 (1NO+1NC) Non overlapping Slow action	O11 (1NO+1NC) Overlapping Slow action	T02 (2NC) Slow Action	T20 (2NO) Slow action
S02 (2NC) Snap action	T12 (1NO+2NC) Non overlapping Slow action	T21 (2NO+1NC) Non overlapping Slow action	T03 (3NC) Simultaneous Slow action	T30 (3NO) Simultaneous Slow action

		S11 0 1.8 3.0 4.6 6.0 mm 21-22 13-14 13-14	T11 0 2.1 3.7 6.0 mm 21-22 13-14 3.0	O11 0 3.4 5.0 6.0 mm 21-22 13-14 2.0	T02 0 2.0 3.6 6.0 mm 11-12 21-22
		T20 0 1.9 6.0 mm 13-14 23-24	S02 0 1.8 2.9 4.5 6.0 mm 11-12 21-22 11-12 21-22	T12 0 2.0 3.5 6.0 mm 21-22 13-14 3.7	T21 0 2.1 3.6 6.0 mm 13-14 23-24 3.7
		T03 0 2.0 3.5 6.0 mm 11-12 21-22 31-32	T30 0 2.3 6.0 mm 13-14 23-24 33-34		

Conformity / (NC)	EN 50041 / (NC)
Max. Actuation speed	0.5ms
Min. force or torque	30N / 45Nm
Weight	240g

Stainless steel plain plunger
Code

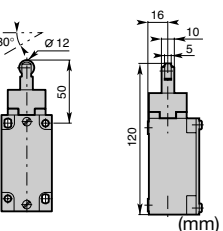
PS31L-■▲P0-M00

		S11 0 1.8 3.0 4.6 6.0 mm 21-22 13-14 13-14	T11 0 2.1 3.7 6.0 mm 21-22 13-14 3.0	O11 0 3.4 5.0 6.0 mm 21-22 13-14 2.0	T02 0 2.0 3.6 6.0 mm 11-12 21-22
		T20 0 1.9 6.0 mm 13-14 23-24	S02 0 1.8 2.9 4.5 6.0 mm 11-12 21-22 11-12 21-22	T12 0 2.0 3.5 6.0 mm 21-22 13-14 3.7	T21 0 2.1 3.6 6.0 mm 13-14 23-24 3.7
		T03 0 2.0 3.5 6.0 mm 11-12 21-22 31-32	T30 0 2.3 6.0 mm 13-14 23-24 33-34		

Conformity / (NC)	EN 50041 / (NC)
Max. Actuation speed	0.5ms
Min. force or torque	30N / 45Nm
Weight	240g

Stainless steel ball plunger
Code

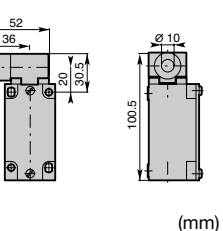
PS31L-■▲PB-M00

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		T20 0 3.5 10.5 mm 13-14 23-24	S02 0 3.1 5.1 8.0 10.5 mm 11-12 21-22 11-12 21-22	T12 0 3.8 6.3 10.5 mm 21-22 13-14 6.5	T21 0 3.9 6.4 10.5 mm 13-14 23-24 6.5
		T03 0 3.8 6.3 10.5 mm 11-12 21-22 31-32	T30 0 4.3 10.5 mm 13-14 23-24 33-34		

Conformity / (NC)	EN 50041 / (NC)
Max. Actuation speed	0.5ms
Min. force or torque	22N / 40Nm
Weight	245g

Stainless steel Ø22 roller plunger
Code

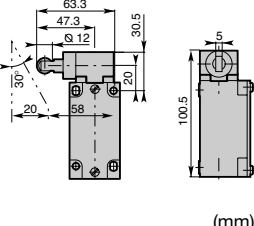
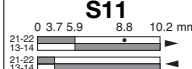
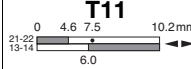
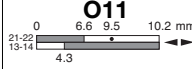
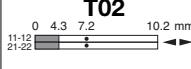
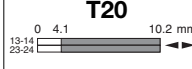
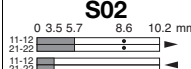
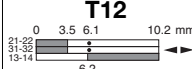
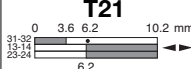
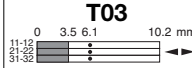
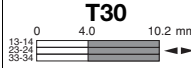
PS31L-■▲PR-M00

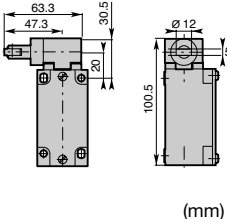
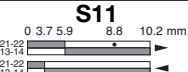
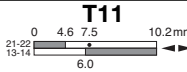
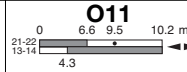
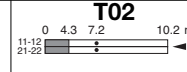
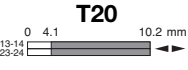
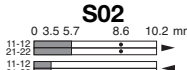
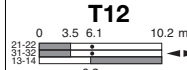
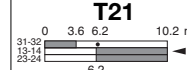
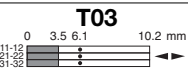
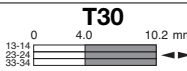
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		T20 0 2.1 6.0 mm 13-14 23-24	S02 0 2.0 3.1 4.7 6.0 mm 11-12 21-22 11-12 21-22	T12 0 1.4 2.9 6.0 mm 21-22 13-14 3.1	T21 0 1.5 3.0 6.0 mm 13-14 23-24 3.1
		T03 0 1.4 2.9 6.0 mm 11-12 21-22 31-32	T30 0 1.9 6.0 mm 13-14 23-24 33-34		

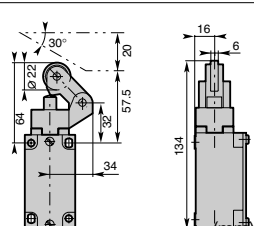
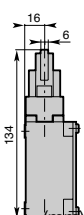
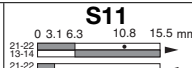
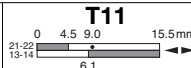
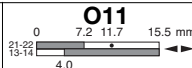
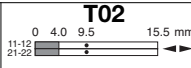
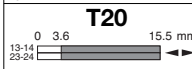
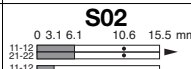
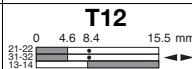
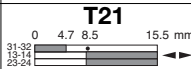
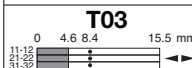
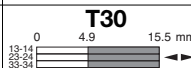
Conformity / (NC)	EN 50041 / (NC)
Max. Actuation speed	0.5ms
Min. force or torque	30N / 50Nm
Weight	260g

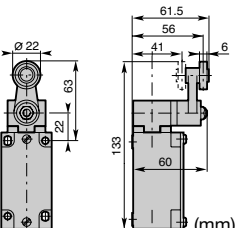
Stainless steel lateral plain plunger
Code

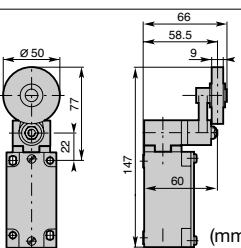
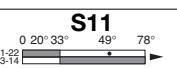
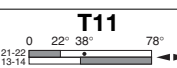
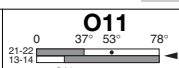
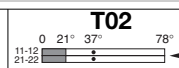
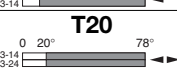
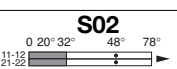
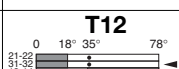
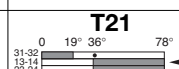
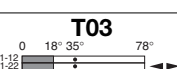
PS31L-■▲SP-M00

	 (mm)				
					
					
Conformity /  (NC)		EN 50041 / 			
Max. Actuation speed		0.5ms			
Min. force or torque		30N / 50Nm			
Weight		265g			
Stainless steel lateral plunger with Ø12 vertical roller					
Code PS31L-   SV-M00					

					
					
					
		(mm)			
Conformity /  (NC)		EN 50041 / 			
Max. Actuation speed		0.5ms			
Min. force or torque		30N / 50Nm			
Weight		265g			
Stainless steel lateral plunger with Ø12 horizontal roller					
Code PS31L-   SH-M00					

			S11 		T11 		O11 		T02 											
			T20 		S02 		T12 		T21 											
			T03 		T30 															
			(mm)																	
Conformity / 			/ 			One way lever			PS31L -   RH-M00 PS31L -   RK-M00 PS31L -   RB-M00			Code Ø22 nylon roller			Ø22 stainless steel roller			Ø22 steel ball bearing		
Max. Actuation speed			1.5ms																	
Min. force or torque			12N / 40Nm																	
Weight			280g																	

		S11 0 20° 33° 49° 78° 21-22 13-14 21-22 13-14		T11 0 22° 38° 78° 21-22 13-14 33°		O11 0 37° 53° 78° 21-22 13-14 21°		T02 0 21° 37° 78° 11-12 21-22	
		T20 0 20° 78° 13-14 23-24		S02 0 20° 32° 48° 78° 11-12 21-22 11-12 21-22		T12 0 18° 35° 78° 21-22 13-14 37°		T21 0 19° 36° 78° 31-32 23-24 37°	
		T03 0 18° 35° 78° 11-12 21-22 31-32		T30 0 23° 78° 13-14 23-24 33-34					
		(mm)							
Conformity /  (NC)		EN 50041 / 		Ø22 Roller lever					
Max. Actuation speed		1.5ms		Code nylon roller					
Min. force or torque		0.15N / 0.30Nm		stainless steel roller					
Weight		300g		steel ball bearing					
				PS31L-RT-M00					
				PS31L-RS-M00					
				PS31L-RO-M00					

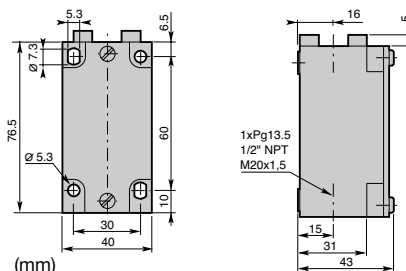
		S11 		T11 		O11 		T02 	
		T20 		S02 		T12 		T21 	
		T03 		T30 					
Conformity /  (NC) / 									
Max. Actuation speed		1.5ms							
Min. force or torque		0.15N / 0.30Nm							
Weight		315g							
Ø50 Rubber roller lever Code PS31L-   W0-M00									

Limit Switches - Limit Type (PS31) Metal Body IP66

CARLO GAVAZZI

■ Cable Gland

P = one cable inlet PG13.5 cable gland
M = one cable inlet M20x1.5 cable gland
N = one cable inlet 1/2" NPT cable gland



▲ Contact block (Zb type)

S11 (1NO+1NC) Snap action	T11 (1NO+1NC) Non overlapping Slow action	O11 (1NO+1NC) Overlapping Slow action	T02 (2NC) Slow Action	T20 (2NO) Slow action
S02 (2NC) Snap action	T12 (1NO+2NC) Non overlapping Slow action	T21 (2NO+1NC) Non overlapping Slow action	T03 (3NC) Simultaneous Slow action	T30 (3NO) Simultaneous Slow action

		S11 0 20° 33° 49° 78° 21-22 13-14 13-14 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 21-22 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC)

Max. Actuation speed 1.5ms
Min. force or torque 0.15N / 0.30Nm
Weight 320g

Adjustable Ø22 roller lever

Code nylon lever
stainless steel roller
steel ball bearing

PS31L-●▲R1-M00
PS31L-●▲R2-M00
PS31L-●▲R3-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 13-14 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 21-22 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC)

Max. Actuation speed 1.5ms
Min. force or torque 0.15N / 0.30Nm
Weight 325g

Adjustable Ø50 rubber roller lever

Code

PS31L-●▲W1-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 13-14 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 21-22 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC)

Max. Actuation speed 1.5ms
Min. force or torque 0.15N / -
Weight 305g

Nylon actuator with stainless steel spring

Code

PS31L-●▲LB-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 13-14 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 21-22 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

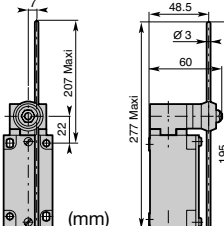
Conformity / (NC)

Max. Actuation speed 1.5ms
Min. force or torque 0.15N / -
Weight 310g

Stainless steel spring actuator

Code

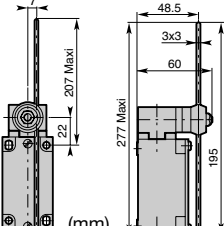
PS31L-●▲LZ-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 21-22 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 11-12 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC) EN50041 / (NC)
Max. Actuation speed 1.5ms
Min. force or torque 0.15N / 0.30
Weight 305g

Adjustable rod lever
Code stainless steel rod Ø3
fiberglass rod Ø3

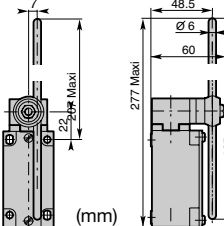
PS31L-LA-M00
PS31L-LF-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 21-22 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 11-12 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC) EN50041 / (NC)
Max. Actuation speed 1.5ms
Min. force or torque 0.15N / 0.30
Weight 305g

Adjustable rod lever
Code square steel rod 3x3

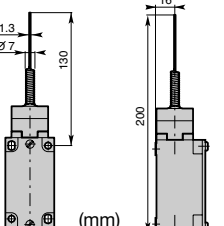
PS31L-L3-M00

		S11 0 20° 33° 49° 78° 21-22 13-14 21-22 13-14	T11 0 22° 38° 78° 21-22 13-14 33°	O11 0 37° 53° 78° 21-22 13-14 21°	T02 0 21° 37° 78° 11-12 21-22
		T20 0 20° 78° 13-14 23-24	S02 0 20° 32° 48° 78° 11-12 21-22 11-12 21-22	T12 0 18° 35° 78° 21-22 13-14 37°	T21 0 19° 36° 78° 31-32 13-14 23-24 37°
		T03 0 18° 35° 78° 11-12 21-22 31-32	T30 0 23° 78° 13-14 23-24 33-34		

Conformity / (NC) EN50041 / (NC)
Max. Actuation speed 1.5ms
Min. force or torque 0.15N / 0.30Nm
Weight 300g

Adjustable rod lever
Code nylon rod
fiberglass rod

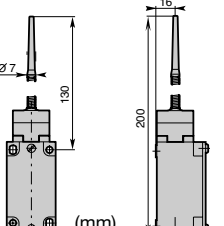
PS31L-LN-M00
PS31L-LG-M00

		S11 0 9° 21° 21-22 13-14 21-22 13-14	T11 0 12° 21-22 13-14 19°	O11 0 23° 21-22 13-14 11°	T02 0 11° 11-12 21-22
		T20 0 10° 13-14 23-24	S02 0 9° 20° 11-12 21-22 11-12 21-22	T12 0 12° 21-22 13-14 27°	T21 0 13° 31-32 13-14 23-24 27°
		T03 0 12° 11-12 21-22 31-32	T30 0 16° 13-14 23-24 33-34		

Conformity / (NC) /
Max. Actuation speed 1.0ms
Min. force or torque 0.18N / -
Weight 230g

Stainless steel spring multidirectional actuator
Code

PS31L-LW-M00

		S11 0 9° 21° 21-22 13-14 21-22 13-14	T11 0 12° 21-22 13-14 19°	O11 0 23° 21-22 13-14 11°	T02 0 11° 11-12 21-22
		T20 0 10° 13-14 23-24	S02 0 9° 20° 11-12 21-22 11-12 21-22	T12 0 12° 21-22 13-14 27°	T21 0 13° 31-32 13-14 23-24 27°
		T03 0 12° 11-12 21-22 31-32	T30 0 16° 13-14 23-24 33-34		

Conformity / (NC) /
Max. Actuation speed 1.0ms
Min. force or torque 0.18N / -
Weight 230g

Multidirectional nylon actuator with stainless steel spring
Code

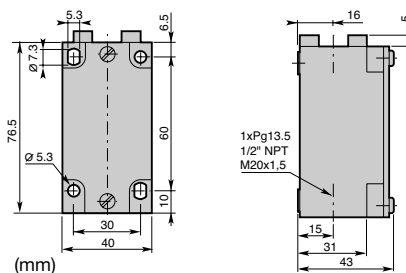
PS31L-LP-M00

Limit Switches - Limit Type (PS31) Metal Body IP66



■ Cable Gland

- P** = one cable inlet PG13.5 cable gland
M = one cable inlet M20x1.5 cable gland
N = one cable inlet 1/2" NPT cable gland



▲ Contact block (Zb type)

S11 (1NO+1NC) Snap action		T11 (1NO+1NC) Non overlapping Slow action		O11 (1NO+1NC) Overlapping Slow action		T02 (2NC) Slow Action		T20 (2NO) Slow action	
S02 (2NC) Snap action		T12 (1NO+2NC) Non overlapping Slow action		T21 (2NO+1NC) Non overlapping Slow action		T03 (3NC) Simultaneous Slow action		T30 (3NO) Simultaneous Slow action	

		S11 0 9° 21° 21-22 13-14 21-22 13-14	T11 0 12° 21-22 13-14 19°	O11 0 23° 21-22 13-14 11°	T02 0 11° 11-12 21-22
		T20 0 10° 13-14 23-24 13-14	S02 0 9° 20° 11-12 21-22 21-22 13-14	T12 0 12° 21-22 13-14 27°	T21 0 13° 31-32 13-14 23-24 27°
		T03 0 12° 11-12 23-24 31-32	T30 0 16° 13-14 23-24 33-34		

Conformity / (NC)

Max. Actuation speed	1.0ms
Min. force or torque	0.18N / -
Weight	235g

Stainless steel spring multidirectional actuator

Code

PS31L- ■ ▲ LS-M00

		S11 0 3.2 4.4 5.0 mm 21-22 13-14 21-22 13-14	T11 0 2.5 5.0 mm 21-22 13-14 3.2	O11 0 3.4 5.0 mm 21-22 13-14 2.1	T02 0 3.4 5.0 mm 11-12 21-22
		T20 0 3.6 5.0 mm 13-14 23-24 13-14		T12 0 1.6 5.0 mm 21-22 13-14 2.9	T21 0 1.5 5.0 mm 31-32 13-14 23-24 3.0
		T03 0 3.3 5.0 mm 11-12 23-24 31-32	T30 0 2.7 5.0 mm 13-14 23-24 33-34		

Conformity / (NC)

Max. Actuation speed	0.5ms
Min. force or torque	25N / -
Weight	245g

Pull action with ring

Code

PS31L- ■ ▲ N6-M00