

Limit Switches - Limit Type (PS31L) Metal Body IP66



- High mechanical resistance
- Degree of protection IP66
- Zinc alloy (Zamack) or aluminium body
- Positive Opening Operation \ominus
- Minimum Actuation Force/Torque
- Minimum Force to achieve Positive Opening Operation
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- Zb type contact blocks
- Current Ith = 10A
- Rated insulation voltage Ui = 500V
- UL, CSA, CE
- Conform with IEC 947-5-1 (EN 60947-5-1)

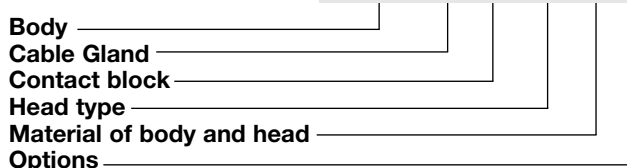
Product Description

They are developed in order to be used for following operations:

- Presence/Absence
- Positioning and travel limit
- Objects passing/counting

Ordering Key

PS43L-PS11RS-M00



Description of the key codes

Cable Gland

M	M20
P	PG13.5
N	1/2 NPT

Contact block

O11	1NO+1NC overlap slow(+)
S02	2NC snap(+)
S11	1NO+1NC snap(+)
T02	2NC slow(+)
T03	3NC slow(+)
T11	1NO+1NC slow(+)
T12	1NO+2NC slow(+)
T20	2NO slow
T21	2NO+1NC slow(+)
T30	3NO slow

Material of body and head

M	Metal body and Metal head
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Options

00	no option
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Head type

L3	Adj. square \square 3 (\square 0.12") steel rod LEVER
LA	Adj. \varnothing 3 (0.12") rod LEVER stainless steel rod
LB	Nylon actuator with stainless steel spring
LF	Adj. fiberglass rod LEVER \varnothing 3 (0.12")
LG	Adj. fiberglass rod LEVER \varnothing 6 (0.24")
LN	Adj. nylon rod LEVER
LP	Multidir. nylon actuator with stainless steel spring
LS	Stainless steel spring multidir actuator
LW	Stainless steel spring multidir actuator (cat Whisker)
LZ	Stainless steel spring actuator
N6	Pull wire for simple stop
P0	Metal plain PLUNGER
PB	Steel ball PLUNGER
PR	Metal roller PLUNGER
R1	Adj. LEVER with nylon roller
R2	Adj. LEVER with stainless steel roller
R3	Adj. LEVER with steel ball bearing
RB	One way LEVER steel ball bearing
RH	Plastic roller LEVER on metal PLUNGER (left)
RK	One way LEVER stainless steel roller
RO	Roller LEVER steel ball bearing
RS	Metal roller LEVER
RT	Nylon roller LEVER
SH	Stainless steel lateral PLUNGER with horizontal roller
SP	Stainless steel lateral plain PLUNGER
SV	Stainless steel lateral PLUNGER with vertical roller
W0	\varnothing 50 (1.97") rubber roller LEVER
W1	Adj. LEVER with \varnothing 50 (1.97") rubber roller

Technical Data

Standards	IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1, UL508 and CSA C22-2 n°14
Certifications – Approvals	UL – CSA
Air temperature near the device - during operation - for storage	-25°C...+70°C/-13°F...+158°F -30°C...+80°C/-22°F...+176°F
Climatic withstand	According to IEC 68-2-3 and salty mist according to IEC 68-2-11
Mounting positions	All positions are authorized
Shock withstand (according to IEC 68-2-27 and 60068-2-27) (1/2 sinusoidal shock for 11ms) no change in contact position	50g/1.76oz
Resistance to vibrations (according to IEC 68-2-6 and EN 60068-2-6)	25g/0.88oz (10...500Hz) no change in position of contacts greater than 100µs
Protection against electrical shocks (according to IEC 536)	Class I
Degree of protection (according to IEC 529 and EN 60529)	IP66
Consistency (measured over 1 milion operations)	0.1mm/0.004" (upon closing point)

Electrical Data

Rated insulation voltage U_i -according to IEC 60947-1 and EN 60947-1 -according to UL 508, CSA C22-2 n°14	500V (degree of pollution 3) A 600 Q 600
Rated impulse withstand voltage U_{imp} (according to IEC 60947-1 and EN 60947-1)	6kV
Conventional enclosed thermal current I_{the} (according to IEC 60947-1 and EN 60947-5-1) ($\theta \leq 40^\circ\text{C}/104^\circ\text{F}$)	10A
Short-circuit protection - gG type fuses	10A
Rated operational current	
I_e / AC-15 - acc.to IEC 60947-5-1	
24VAC (50/60Hz)	10.0A
130VAC (50/60Hz)	5.5A
230VAC (50/60Hz)	3.1A
240VAC (50/60Hz)	3.0A
400VAC (50/60Hz)	1.8A
- acc.to UL 508, CSA C22 n°14	A 600
I_e / DC-13 - acc.to IEC 60947-5-1	
24VDC	2.8A
110VDC	0.6A
250VDC	0.27A
- acc.to UL 508, CSA C22 n°14	Q 600
Electrical durability (according to IEC 60947-5-1 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 mm ² / AWG Terminal marking	M3.5 (+,-) pozidriv 2 screw with cable clamp 0.5mm ² / AWG 20 to 2.5mm ² / AWG 14 According to EN 50013
Positivity	Contacts with positive opening operation as per IEC 60947-5-1 chapter 3

Diagram for snap action contact:

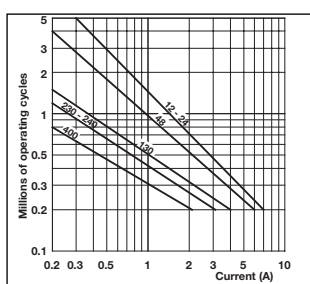
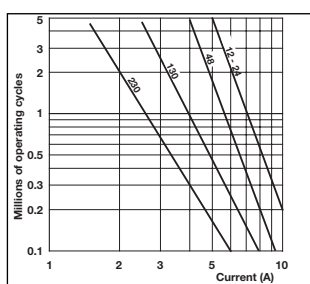


Diagram for slow action contact:



Electrical durability for DC-13 utilization category

Power breaking for a durability of 5 million operating cycles		
	Snap action	Slow action
Voltage 24V	9.5W	12W
Voltage 48V	6.8W	9W
Voltage 110V	3.6W	6W

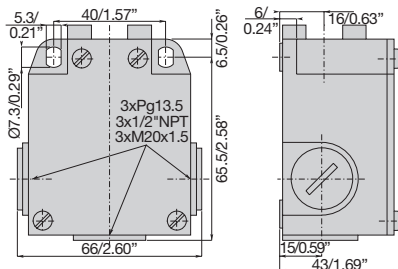
Limit Switches - Limit Type (PS43L) Metal Body IP66



● 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 0.07/0.118 0.181 0.236inches 0 1.8 3.0 4.6 6.0mm	T11 0 0.082 0.145 0.236inches 0 2.1 3.7 6.0mm	O11 0 0.133 0.196 0.236inches 0 3.4 5.0 6.0mm	T02 0 0.078 0.141 0.236inches 0 2.0 3.6 6.0mm
		T20 0 0.074 0.236inches 0 1.9 6.0mm	S02 0 0.070 0.114 0.177 0.236inches 0 1.8 2.9 4.5 6.0mm	T12 0 0.078 0.137 0.236inches 0 2.0 3.5 6.0mm	T21 0 0.082 0.141 0.236inches 0 2.1 3.6 6.0mm
		T03 0 0.078 0.137 0.236inches 0 2.0 3.5 6.0mm	T30 0 0.090 0.236inches 0 2.3 6.0mm		

Conformity / (NC)	/ (C)	Stainless steel plain plunger
Max. Actuation speed	0.5m/s / 1.64ft/s	Code
Min. force or torque	30N / 45Nm	PS43L- ● ▲ P0-M00
Weight	265.0g / 9.348oz	

		S11 0 0.070 0.118 0.181 0.236inches 0 1.8 3.0 4.6 6.0mm	T11 0 0.082 0.145 0.236inches 0 2.1 3.7 6.0mm	O11 0 0.133 0.196 0.236inches 0 3.4 5.0 6.0mm	T02 0 0.078 0.141 0.236inches 0 2.0 3.6 6.0mm
		T20 0 0.074 0.236inches 0 1.9 6.0mm	S02 0 0.070 0.114 0.177 0.236inches 0 1.8 2.9 4.5 6.0mm	T12 0 0.078 0.137 0.236inches 0 2.0 3.5 6.0mm	T21 0 0.082 0.141 0.236inches 0 2.1 3.6 6.0mm
		T03 0 0.078 0.137 0.236inches 0 2.0 3.5 6.0mm	T30 0 0.090 0.236inches 0 2.3 6.0mm		

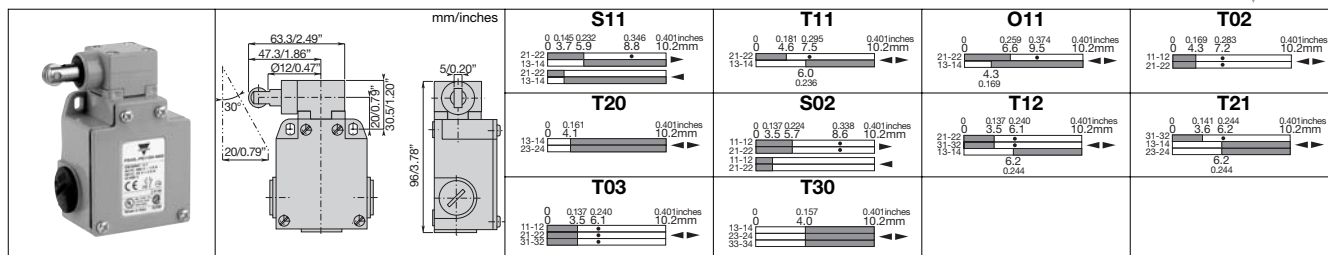
Conformity / (NC)	/ (C)	Stainless steel ball plunger
Max. Actuation speed	0.5m/s / 1.64ft/s	Code
Min. force or torque	30N / 45Nm	PS43L- ● ▲ PB-M00
Weight	265.0g / 9.348oz	

		S11 0 0.122 0.208 0.322 0.413inches 0 3.1 5.3 8.2 10.5mm	T11 0 0.157 0.271 0.413inches 0 4.0 6.9 10.5mm	O11 0 0.236 0.350 0.413inches 0 6.0 8.9 10.5mm	T02 0 0.145 0.259 0.413inches 0 3.7 6.6 10.5mm
		T20 0 0.137 0.413inches 0 3.5 10.5mm	S02 0 0.122 0.208 0.314 0.413inches 0 3.1 5.1 8.0 10.5mm	T12 0 0.149 0.248 0.413inches 0 3.8 6.3 10.5mm	T21 0 0.153 0.251 0.413inches 0 3.9 6.4 10.5mm
		T03 0 0.149 0.248 0.413inches 0 3.8 6.3 10.5mm	T30 0 0.169 0.413inches 0 4.3 10.5mm		

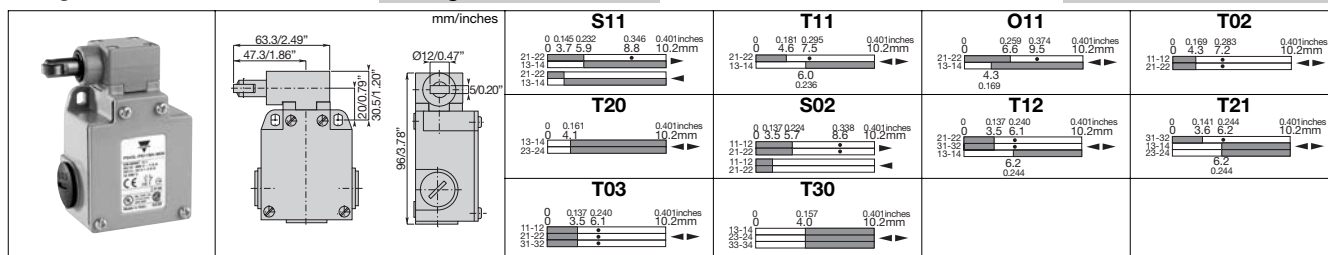
Conformity / (NC)	/ (C)	Stainless steel Ø12 (0.47") roller plunger
Max. Actuation speed	0.5m/s / 1.64ft/s	Code
Min. force or torque	22N / 40Nm	PS43L- ● ▲ PB-M00
Weight	270.0g / 9.524oz	

		S11 0 0.078 0.125 0.188 0.236inches 0 2.0 3.2 4.8 6.0mm	T11 0 0.090 0.153 0.236inches 0 2.3 3.9 6.0mm	O11 0 0.141 0.204 0.236inches 0 3.6 5.2 6.0mm	T02 0 0.086 0.149 0.236inches 0 2.2 3.8 6.0mm
		T20 0 0.082 0.236inches 0 2.1 6.0mm	S02 0 0.078 0.122 0.195 0.236inches 0 2.0 3.1 4.7 6.0mm	T12 0 0.055 0.114 0.236inches 0 1.4 2.9 6.0mm	T21 0 0.059 0.118 0.236inches 0 1.5 3.0 6.0mm
		T03 0 0.055 0.114 0.236inches 0 1.4 2.9 6.0mm	T30 0 0.078 0.236inches 0 1.9 6.0mm		

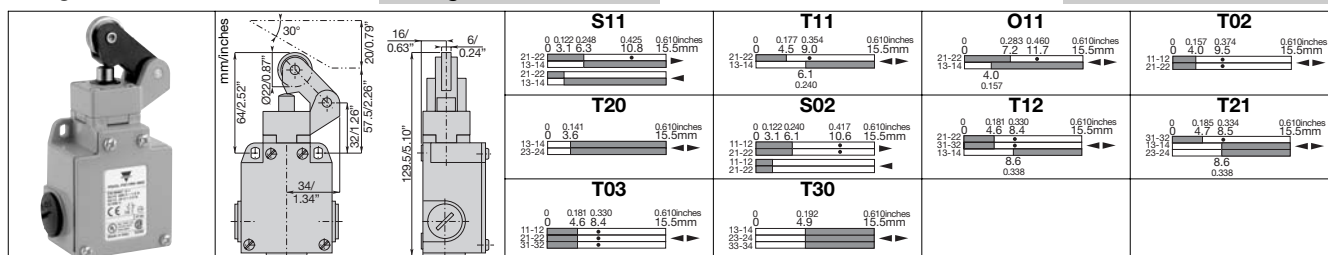
Conformity / (NC)	/ (C)	Stainless steel lateral plain plunger
Max. Actuation speed	0.5m/s / 1.64ft/s	Code
Min. force or torque	30N / 50Nm	PS43L- ● ▲ SP-M00
Weight	285.0g / 10.053oz	



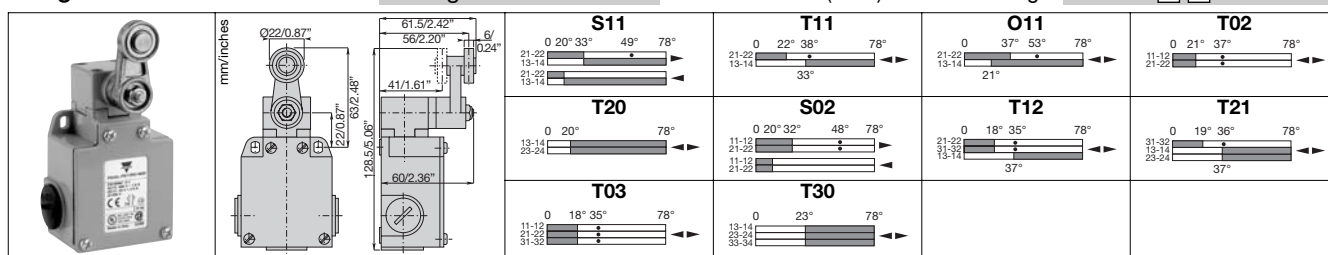
Conformity / (NC)	/	Stainless steel lateral plunger with Ø12 (0.47") vertical roller
Max. Actuation speed	0.5m/s / 1.64ft/s	Code PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> SV-M00
Min. force or torque	30N / 50Nm	
Weight	290.0g / 10.229oz	



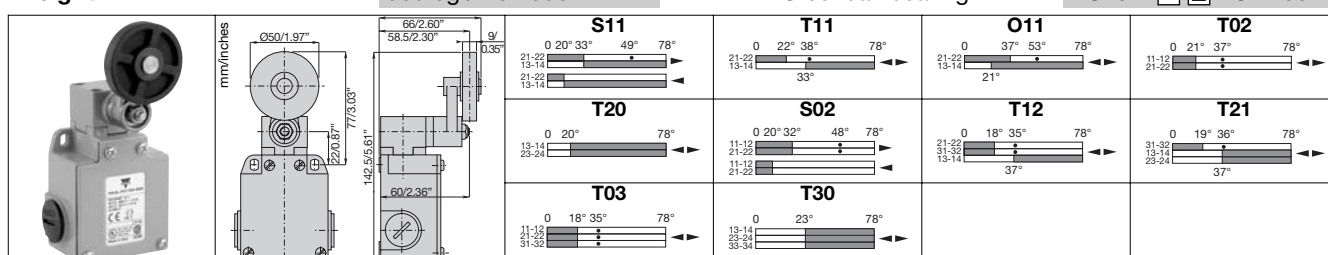
Conformity / (NC)	/	Stainless steel lateral plunger with Ø12 (0.47") horizontal roller
Max. Actuation speed	0.5m/s / 1.64ft/s	Code PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> SH-M00
Min. force or torque	30N / 50Nm	
Weight	290.0g / 10.229oz	



Conformity / (NC)	/	One way lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Ø22 (0.87") nylon roller PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RH-M00
Min. force or torque	12N / 40Nm	Ø22 (0.87") stainless steel roller PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RK-M00
Weight	305.0g / 10.759oz	Ø22 (0.87") steel ball bearing PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RB-M00



Conformity / (NC)	/	Ø22 (0.87") Roller lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Nylon roller PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RT-M00
Min. force or torque	0.15N / 0.30Nm	Stainless steel roller PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RS-M00
Weight	305.0g / 10.759oz	Steel ball bearing PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> RO-M00



Conformity / (NC)	/	Ø50 (1.97") Rubber roller lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS43L- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> W0-M00
Min. force or torque	0.15N / 0.30Nm	
Weight	315.0g / 11.111oz	

Limit Switches - Limit Type (PS43L) Metal Body IP66


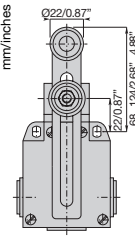
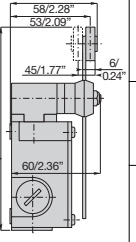
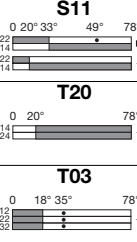
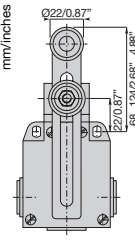
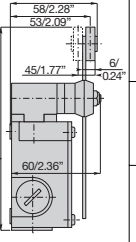
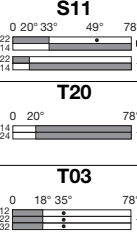
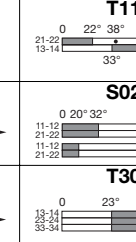
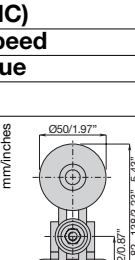
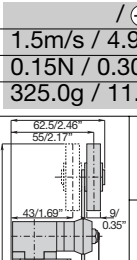
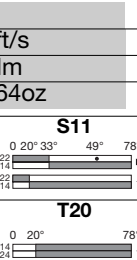
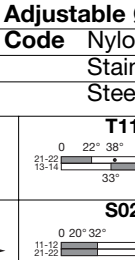
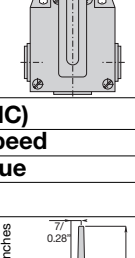
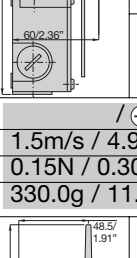
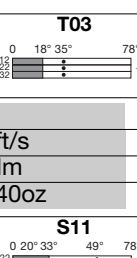
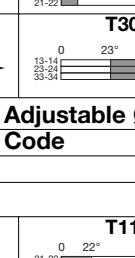


● Cable Gland


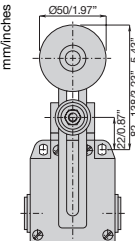
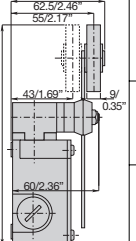
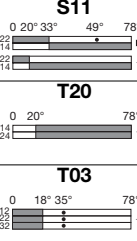
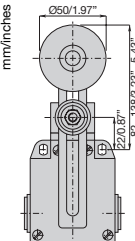
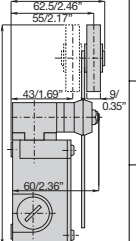
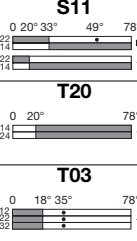
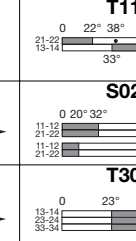
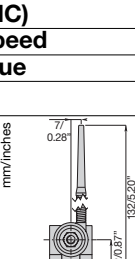
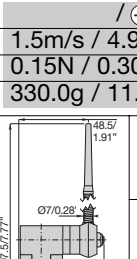
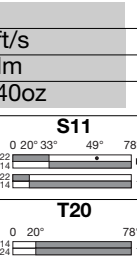
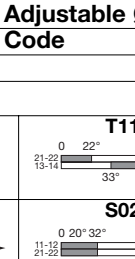
- P = one cable inlet PG13.5 cable gland
- M = one cable inlet M20x1.5 cable gland
- N = one cable inlet 1/2" NPT cable gland

▲ Contact block (Zb type)


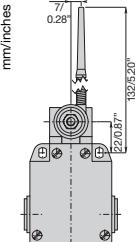
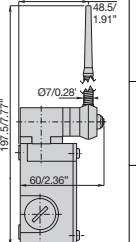
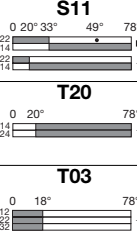
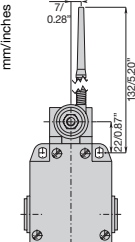
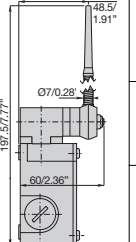
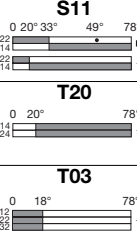
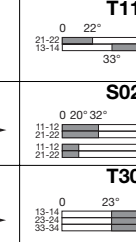
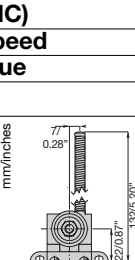
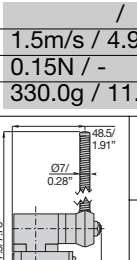
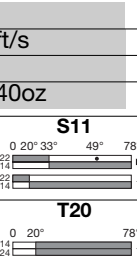
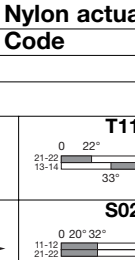
S11 (1NO+1NC) Snap action	T11 (1NO+1NC) Non overlapping Slow action	O11 (1NO+1NC) Overlapping Slow action	T02 (2NC) Slow Action	T20 (2NO) Slow action
S02 (2NC) Snap action	T12 (1NO+2NC) Non overlapping Slow action	T21 (2NO+1NC) Non overlapping Slow action	T03 (3NC) Simultaneous Slow action	T30 (3NO)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


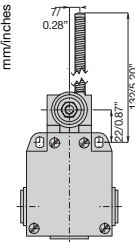
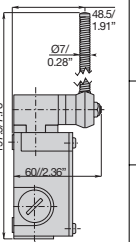
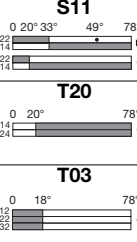
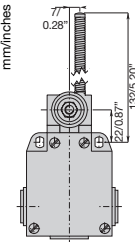
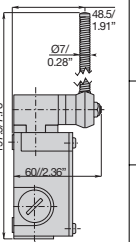
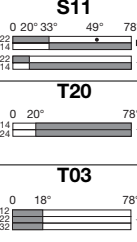
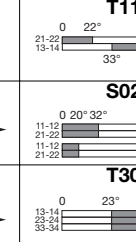
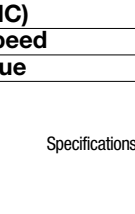
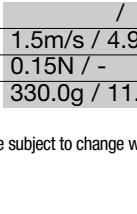
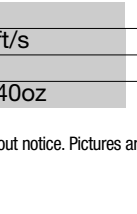
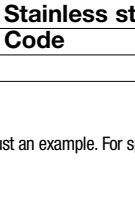
Conformity / (NC)	/	Adjustable Ø22 (0.87") roller lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Nylon lever PS43L- ● ▲ R1-M00
Min. force or torque	0.15N / 0.30Nm	Stainless steel roller PS43L- ● ▲ R2-M00
Weight	325.0g / 11.464oz	Steel ball bearing PS43L- ● ▲ R3-M00

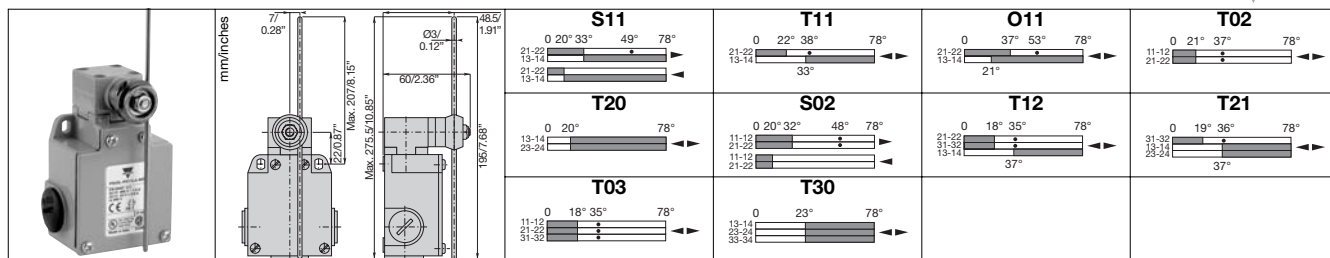
Conformity / (NC)	/	Adjustable Ø50 (1.97") rubber roller lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS43L- ● ▲ W1-M00
Min. force or torque	0.15N / 0.30Nm	
Weight	330.0g / 11.640oz	

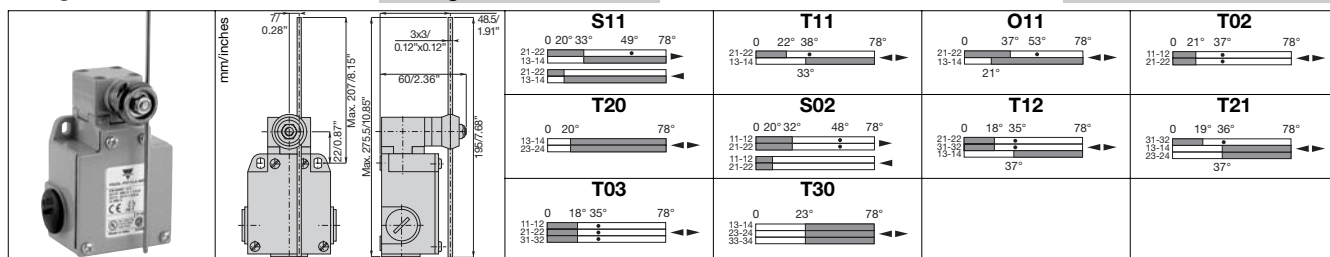
Conformity / (NC)	/	Nylon actuator with stainless steel spring
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS43L- ● ▲ LB-M00
Min. force or torque	0.15N / -	
Weight	330.0g / 11.640oz	

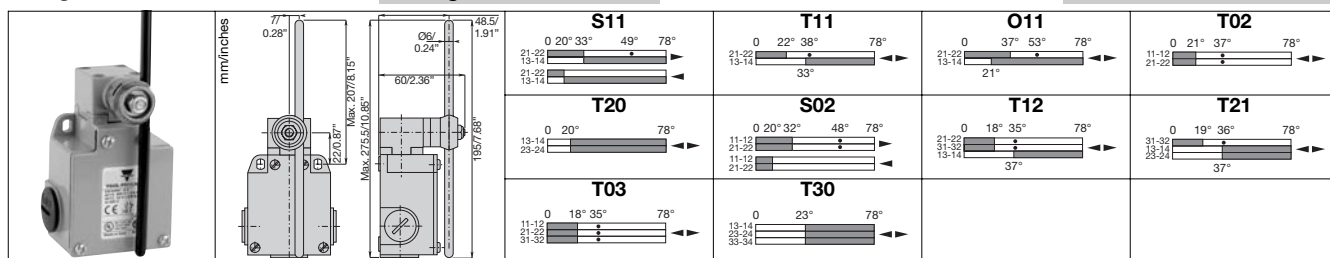
Conformity / (NC)	/	Stainless steel spring actuator
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS43L- ● ▲ LZ-M00
Min. force or torque	0.15N / -	
Weight	330.0g / 11.640oz	



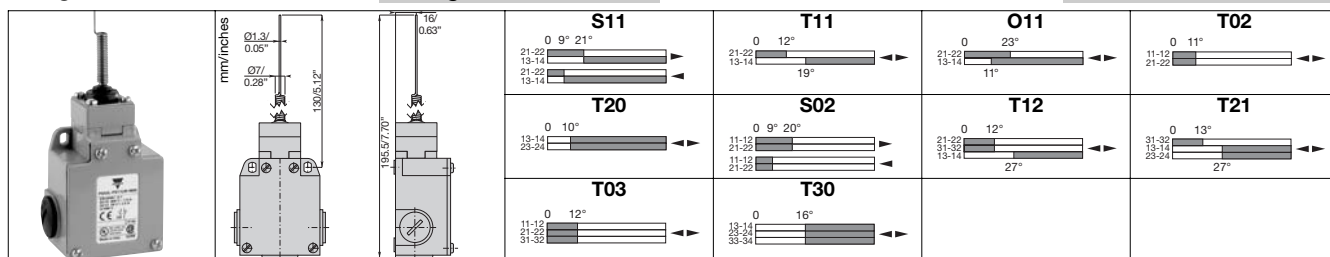
Conformity / (NC)	/	Adjustable rod lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code stainless steel rod Ø3 PS43L-●▲LA-M00
Min. force or torque	0.15N / 0.30Nm	fiberglass rod Ø3 PS43L-●▲LF-M00
Weight	330.0g / 11.640oz	



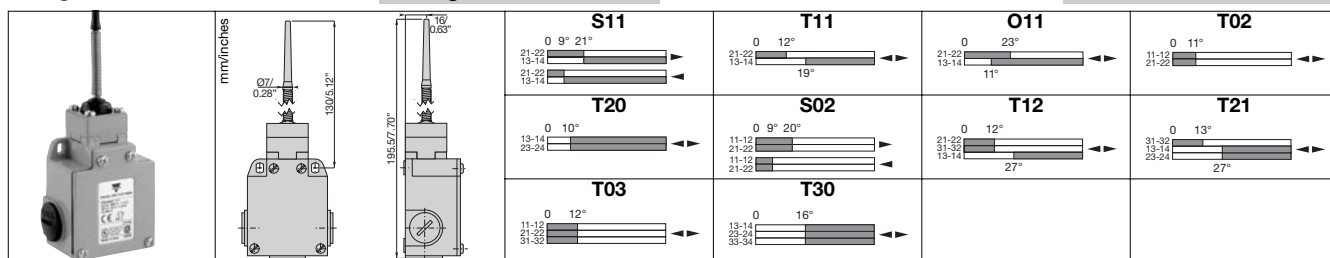
Conformity / (NC)	/	Adjustable rod lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code square steel rod □3 (0.12") PS43L-●▲L3-M00
Min. force or torque	0.15N / 0.30Nm	
Weight	330.0g / 11.640oz	



Conformity / (NC)	/	Adjustable Ø6 (0.24") rod lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Nylon rod PS43L-●▲LN-M00
Min. force or torque	0.15N / 0.30Nm	Fiberglass rod PS43L-●▲LG-M00
Weight	330.0g / 11.640oz	



Conformity / (NC)	/	Stainless steel spring multidirectional actuator
Max. Actuation speed	1.0m/s / 3.28ft/s	Code PS43L-●▲LW-M00
Min. force or torque	0.18N / -	
Weight	265.0g / 9.347oz	



Conformity / (NC)	/	Multidirectional nylon actuator with stainless steel spring
Max. Actuation speed	1.0m/s / 3.28ft/s	Code PS43L-●▲LP-M00
Min. force or torque	0.18N / -	
Weight	265.0g / 9.347oz	

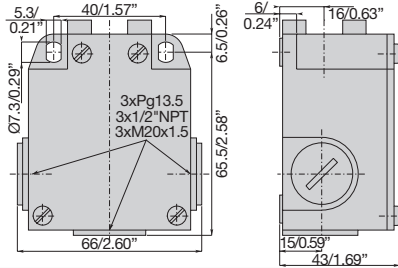
Limit Switches - Limit Type (PS43L) Metal Body IP66



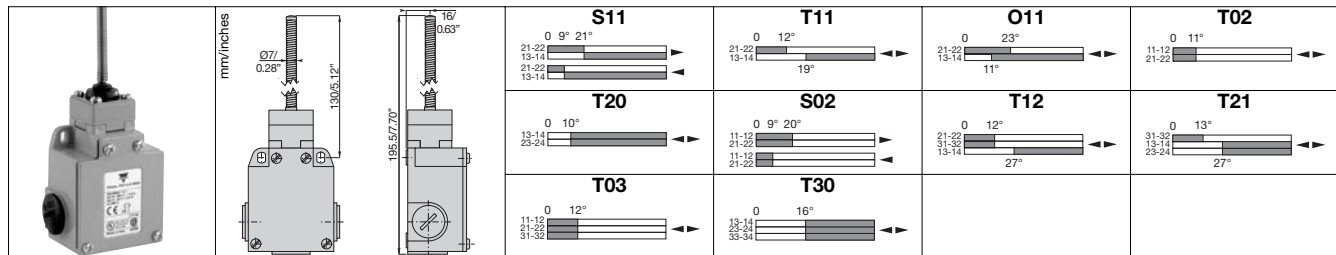
● Cable Gland

- 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

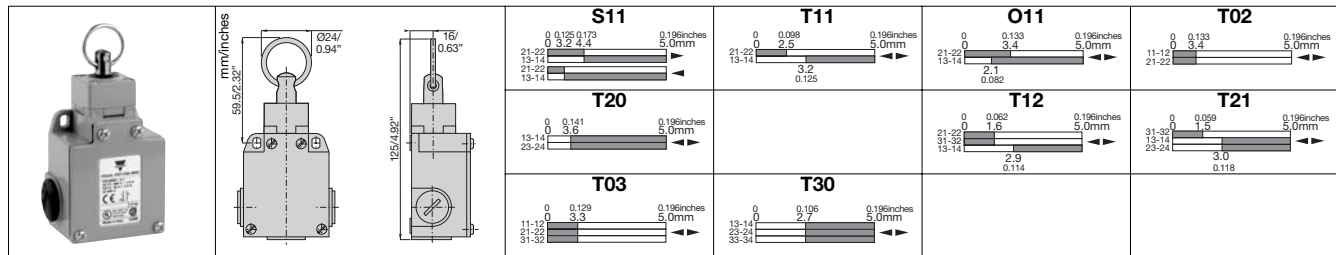
▲ Contact block (Zb type)



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



Conformity / (NC)	/ (NC)	Stainless steel spring multidirectional actuator
Max. Actuation speed	1.0m/s / 3.28ft/s	Code
Min. force or torque	0.18N / -	PS43L- ● ▲ LS-M00
Weight	270.0g / 9.524oz	



Conformity / (NC)	/ (NC)	Pull action with ring
Max. Actuation speed	0.5m/s / 1.64ft/s	Code
Min. force or torque	25N / -	PS43L- ● ▲ N6-M00
Weight	270.0g / 9.524oz	

Accessories for Pull Wire Limit Switches

OCC 8 Stay bolt	MOR 05 Rope Clamp	RED 05 Rope Eye	FUN 05 Rope 5mm x 100m 0.20" x 328.08ft

Utilization precautions

Plain plunger

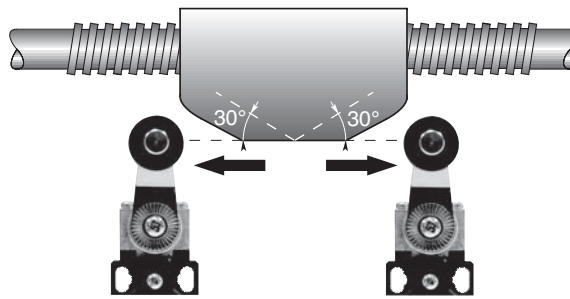


Correct

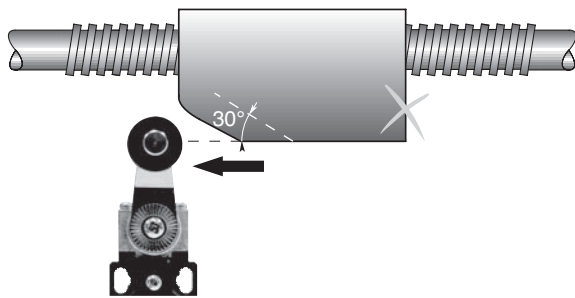


Incorrect

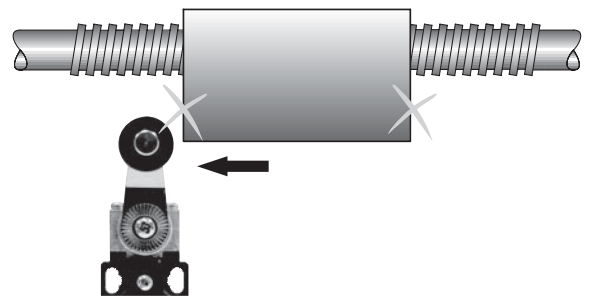
Roller plunger or Roller lever



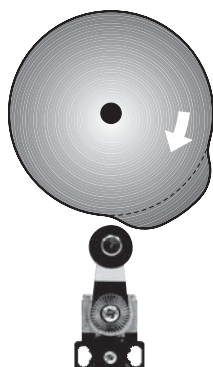
Correct



Incorrect



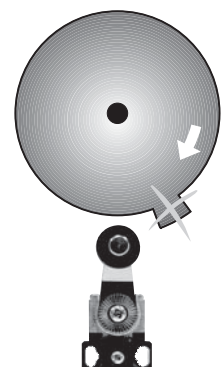
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Correct



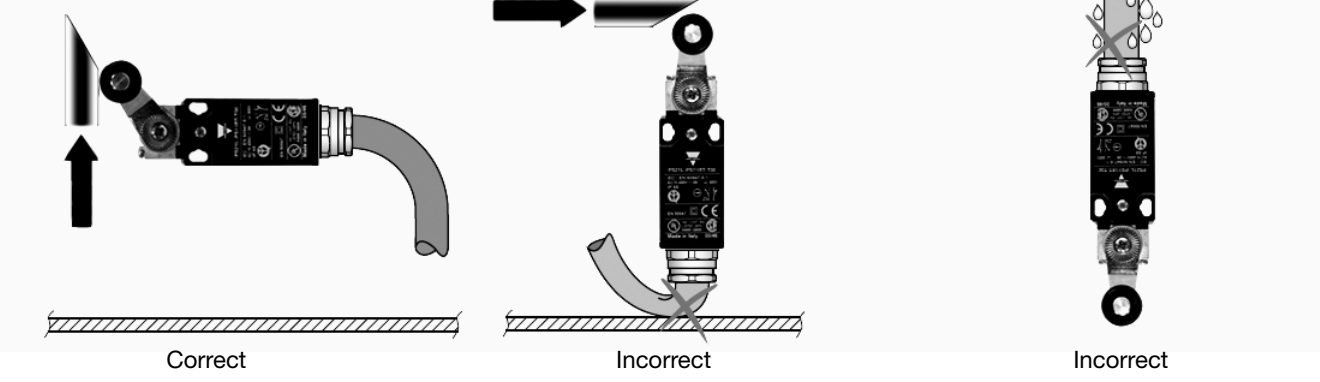
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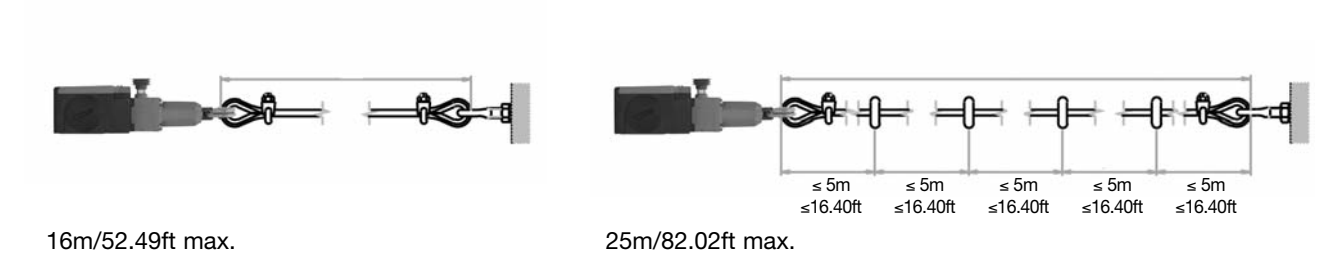
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Utilization precautions

Electrical connection and mounting

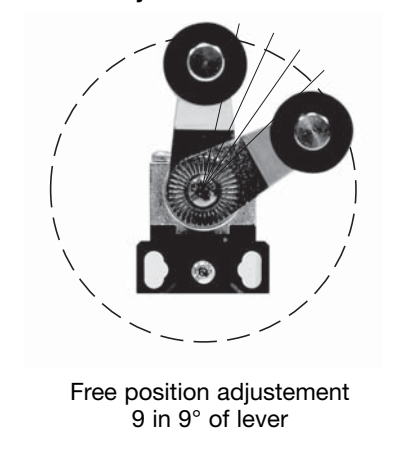


Maximum length application of pullwire head



Adjustment

Position adjustment of lever



Position adjustment of lever and head



Different operating of head

