

Limit Switches - Limit Type (PS21L) 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)

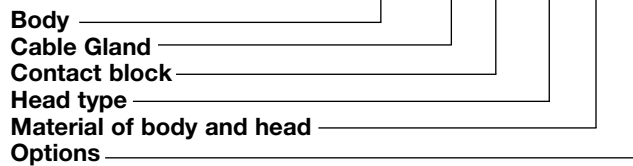
Product Description

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

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

Ordering Key

PS21L-PS11RT-M00



Description of the key codes

Cable gland

M	M20
P	PG13.5
B	PG11
A	M16
N	1/2 NPT

Contact block

O11	1NO+1NC overlap slow(+)
S02	2NC snap(+)
S11	1NO+1NC snap(+)
T02	2NC slow(+)
T11	1NO+1NC slow(+)
T20	2NO 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

BE	Nylon roller external bent LEVER
BM	Metal roller bent LEVER
BR	Nylon roller internal bent LEVER
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
LZ	Stainless steel spring actuator
P0	Metal plain PLUNGER
PR	Metal roller PLUNGER
R1	Adj. LEVER with nylon roller
RM	Metal roller LEVER
RT	Nylon roller LEVER
W0	\varnothing 50 (1.97") rubber roller LEVER
W1	Adj. LEVER with \varnothing 50 (1.97") rubber roller
W2	Adj. LEVER with adj. \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 (except for PS21L with head type W0, W1: 25g)
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	400V (degree of pollution 3) A 300 Q 300
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 300
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 300
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:

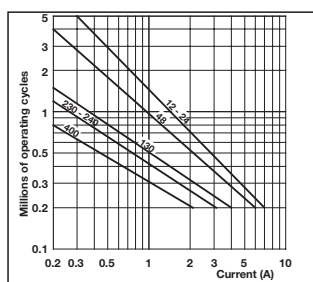
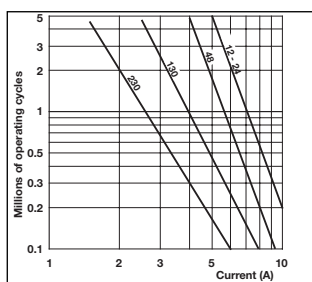


Diagram for slow action contact:



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

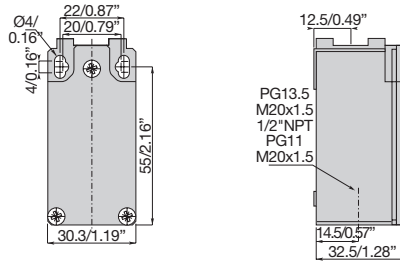
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CARLO GAVAZZI

● 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
- B = one cable inlet PG11 cable gland
- A = one cable inlet M16x1.5 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	

		S11 0 0.051 0.098 0.161 0.220 0 1.3 2.5 4.1 5.6mm	T11 0 0.062 0.125 0.220 0 1.6 3.2 5.6mm	O11 0 0.144 0.177 0.220 0 2.9 4.5 5.6mm

Conformity / (NC)	EN 50047 / (NC)	Plain Metal Plunger	PS21L- ● ▲ P0-M00
Max. Actuation speed	0.5m/s / 1.64ft/s	Code	
Min. force or torque	15N / 30Nm		
Weight	180.0g / 6.349oz		

		S11 0 0.098 0.195 0.299 0.377 0 2.5 4.7 7.6 9.6mm	T11 0 0.125 0.236 0.377 0 3.2 6.0 9.6mm	O11 0 0.208 0.322 0.377 0 5.3 8.2 9.6mm

Conformity / (NC)	EN 50047 / (NC)	Roller Metal Plunger	PS21L- ● ▲ PR-M00
Max. Actuation speed	0.3m/s / 0.98ft/s	Code	
Min. force or torque	12N / 30Nm		
Weight	190.0g / 6.702oz		

		S11 0 17° 31° 47° 74°	T11 0 21° 37° 74° 30°	O11 0 35° 51° 74° 18°

Conformity / (NC)	EN 50047 / (NC)	Ø18 (0.71") Roller lever	PS21L- ● ▲ RM-M00
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Metal roller	
Min. force or torque	0.10N / 0.32Nm	Nylon roller	PS21L- ● ▲ RT-M00
Weight	235.0g / 8.289oz		

		S11 0 17° 31° 47° 74°	T11 0 21° 37° 74° 30°	O11 0 35° 51° 74° 18°

Conformity / (NC)	/ (NC)	Ø50 (1.97") Rubber roller lever	PS21L- ● ▲ W0-M00
Max. Actuation speed	1.5m/s / 4.92ft/s	Code	
Min. force or torque	0.10N / 0.32Nm		
Weight	255.0g / 8.995oz		

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/	Ø18 (0.71") Roller internal bent lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Metal roller PS21L-●▲BM-M00
Min. force or torque	0.10N / 0.32Nm	Plastic roller PS21L-●▲BR-M00
Weight	250.0g / 8.818oz	

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/	Ø18 (0.71") Roller external bent lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Plastic roller PS21L-●▲BE-M00
Min. force or torque	0.10N / 0.32Nm	
Weight	250.0g / 8.818oz	

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/	Adjustable lever with Ø18 (0.71") nylon roller
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS21L-●▲R1-M00
Min. force or torque	0.10N / 0.32Nm	
Weight	245.0g / 8.642oz	

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/	Adjustable lever with Ø50 (1.97") rubber roller
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS21L-●▲W1-M00
Min. force or torque	0.10N / 0.32Nm	
Weight	265.0g / 9.348oz	

			S11	T11	O11
			T02	T20	S02

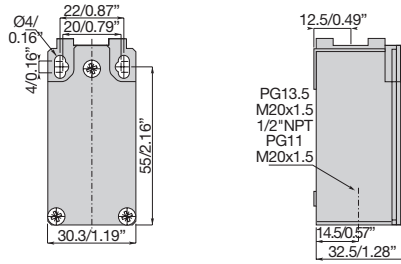
Conformity / (NC)	/	Adjustable lever with adjustable Ø50 (1.97") rubber roller
Max. Actuation speed	1.5m/s / 4.92ft/s	Code PS21L-●▲W2-M00
Min. force or torque	0.10N / 0.32Nm	
Weight	265.0g / 9.348oz	

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● Cable Gland

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▲ 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	

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/ (NC)	Stainless steel spring
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Nylon actuator
Min. force or torque	0.10N / -	Stainless steel spring actuator
Weight	245.0g / 8.642oz	PS21L-●▲LB-M00 PS21L-●▲LZ-M00

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/ (NC)	Adjustable rod lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Stainless steel rod Ø3 (0.12")
Min. force or torque	0.10N / 0.32Nm	Fiberglass rod Ø3 (0.12")
Weight	245.0g / 8.642oz	Square steel rod □3 (□0.12")
		PS21L-●▲LA-M00 PS21L-●▲LF-M00 PS21L-●▲L3-M00

			S11	T11	O11
			T02	T20	S02

Conformity / (NC)	/ (NC)	Adjustable Ø6 (0.24") rod lever
Max. Actuation speed	1.5m/s / 4.92ft/s	Code Nylon rod
Min. force or torque	0.10N / 0.32Nm	Fiberglass rod
Weight	255.0g / 8.995oz	PS21L-●▲LN-M00 PS21L-●▲LG-M00

Utilization precautions

Plain plunger

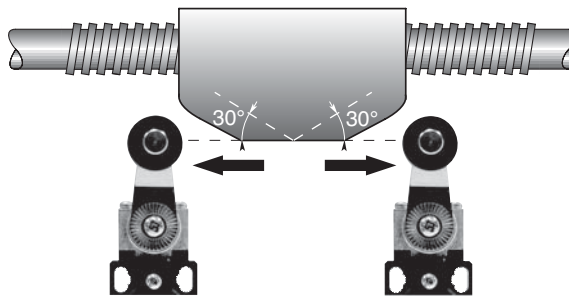


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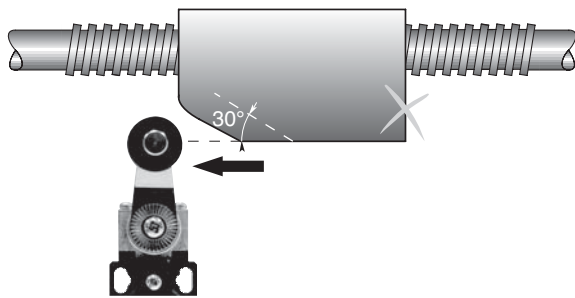


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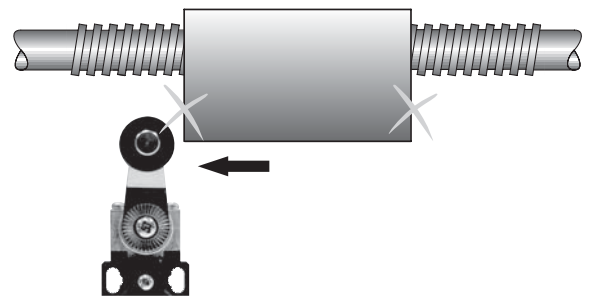
Roller plunger or Roller lever



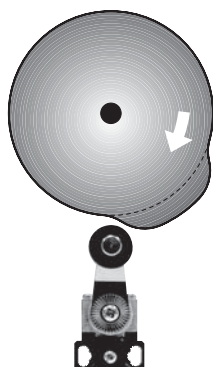
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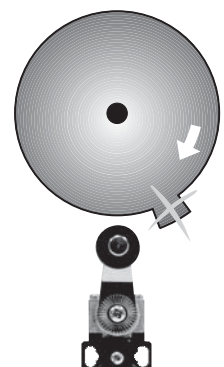
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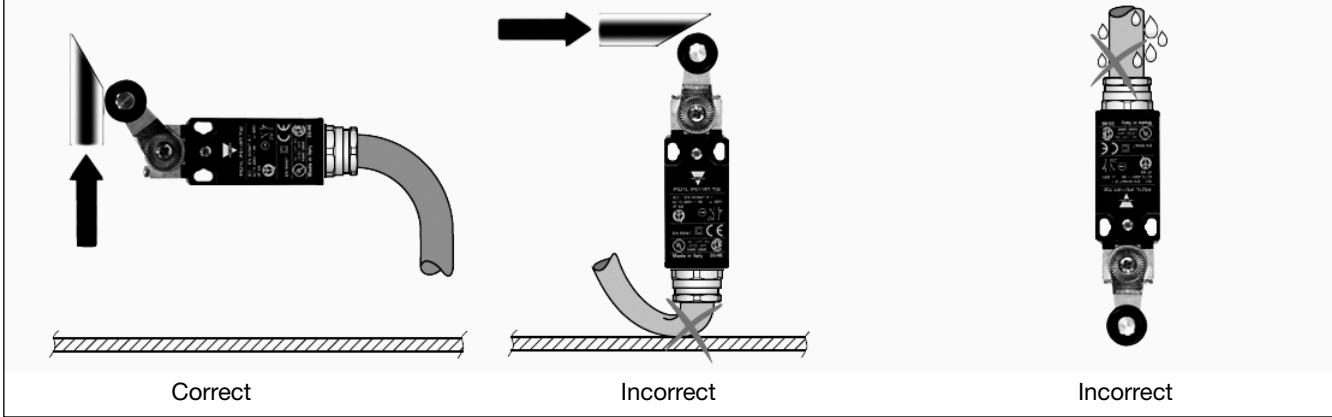
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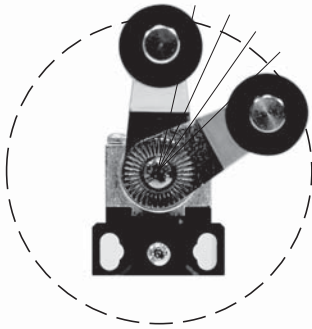
Utilization precautions

Electrical connection and mounting



Adjustment

Position adjustment of lever



Free position adjustment 10 in 10° of lever

Position adjustment of lever and head

