

Limit Switches - Limit Type Plastic Body IP65

CARLO GAVAZZI



- Double Insulation □
- Degree of protection IP65
- Reinforced UL-V0 thermoplastic fiber-glass body
- Positive Opening Operation →
- 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)

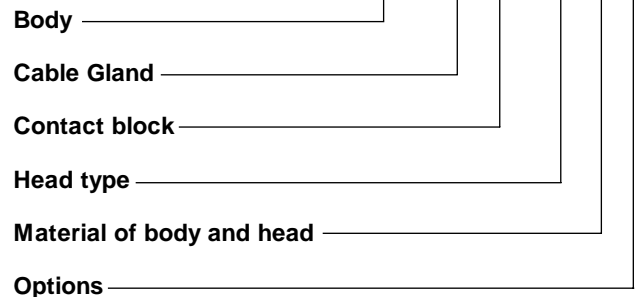
Product Description

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

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

Ordering Key

PS21L-PS11RT-T00



Description of the key codes

Body

PS21L | PS 30mm (fix 20/22mm) 1 cable inlet for General Purpose

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

T | Thermoplastic Body and Thermoplastic head

Options

00 | no option

Head type

BE	nylon roller ext bent LEVER
BR	nylon roller int bent LEVER
L3	adj square (3x3) steel rod LEVER
LA	adj Ø3 rod LEVER stainless steel rod
LB	nylon actuator with stainless steel spring
LF	adj fiberglass rod LEVER Ø3
LG	adj fiberglass rod LEVER Ø6
LN	adj nylon rod LEVER
LO	steel PLUNGER with nylon roller+gasket
LP	multidir nylon actuator with stainless steel spring
LR	steel PLUNGER with nylon roller
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
P1	nylon roller PLUNGER
PH	metal PLUNGER +gasket
PN	nylon plain PLUNGER
PR	metal roller PLUNGER
R1	adj LEVER with nylon roller
RH	plastic roller LEVER on metal PLUNGER (left)
RJ	plastic roller LEVER on metal PLUNGER +gasket (left)
RL	plastic roller LEVER on plastic PLUNGER (left)
RR	plastic roller LEVER on plastic PLUNGER (right)
RT	nylon roller LEVER
RV	plastic roller LEVER on metal PLUNGER (right)
RW	plastic roller LEVER on metal PLUNGER +gasket (right)
W0	Ø50 rubber roller LEVER
W1	adj LEVER with Ø50 rubber roller
W2	adj LEVER with adj Ø50 rubber roller

Technical Data

Standards

Certifications – Approvals

Air temperature near the device

- during operation °C
 - for storage °C

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)

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

-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 100µs

Class II

IP65

0.1 mm (upon closing point)

* except for PS21/PS42 with head type W0, W1: 25g.

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

Rated impulse withstand voltage U_{imp} kV

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

Conventional enclosed thermal current I_{the} A

(according to IEC 60947-5-1 and EN 60947-5-1) ($\theta \leq 40^\circ\text{C}$)

Short-circuit protection - gG type fuses A

Rated operational current

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

24Vac (50/60 Hz)	A
130Vac (50/60 Hz)	A
230Vac (50/60 Hz)	A
240Vac (50/60 Hz)	A
400Vac (50/60 Hz)	A

- acc.to UL 508, CSA C22 n°14

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

24Vdc	A
110Vdc	A
250Vdc	A

- acc.to UL 508, CSA C22 n°14

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

- max. switching frequency Cycles/h

- load factor

Connecting data of contact blocks

Connecting terminals

Connecting capacity 1 or 2 x mm² / AWG

Terminal marking

Positivity

500V (degree of pollution 3)

A 600, Q 600

6

10

10

10

5.5

3.1

3

1.8

A 600

2.8

0.6

0,27

Q 600

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

3600

0,5

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

0,5mm² / AWG 20 to 2,5mm² / AWG 14

According to EN 50013

Contacts with positive opening operation as per

IEC 60947-5-1 chapter 3

Diagram for snap action contact:

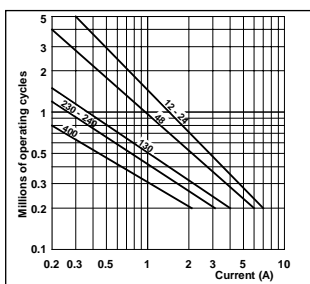
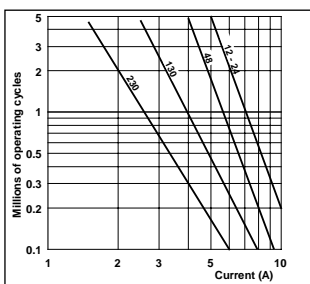


Diagram for slow action contact:



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

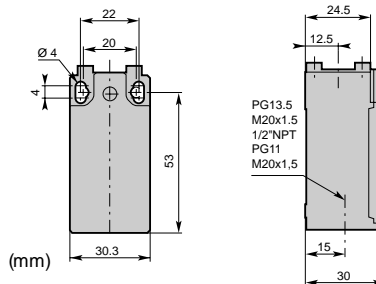
Limit Switches - Limit Type (PS21) Plastic Body IP65



• 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		T11		O11	
		T02		T20		S02	

Conformity / (NC) EN 50047 / (C)
Max. Actuation speed 0.5ms
Min. force or torque 15N / 30Nm
Weight 70g

Plain Plunger
Code Nylon plunger
 Metal plunger

PS21L- (C) (A) PN-T00
PS21L- (C) (A) P0-T00

		S11		T11		O11	
		T02		T20		S02	

Conformity / (NC) EN 50047 / (C)
Max. Actuation speed 0.3ms
Min. force or torque 12N / 30Nm
Weight 75g

Roller Plunger
Code Metal roller
 Nylon roller

PS21L- (C) (A) PR-T00
PS21L- (C) (A) P1-T00

		S11		T11		O11	
		T02		T20		S02	

Conformity / (NC) EN 50047 / (C)
Max. Actuation speed 0.5ms
Min. force or torque 15N / 30Nm
Weight 70g

Metal plunger with dust protection cup
Code

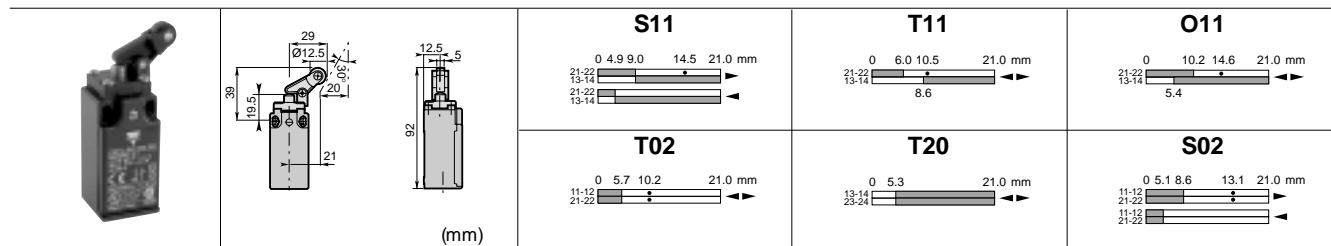
PS21L- (C) (A) PH-T00

		S11		T11		O11	
		T02		T20		S02	

Conformity / (NC) EN 50047 / (C)
Max. Actuation speed 1.0ms
Min. force or torque 7N / 24Nm
Weight 75g

Plastic roller lever
Code on plastic plunger
 on metal plunger

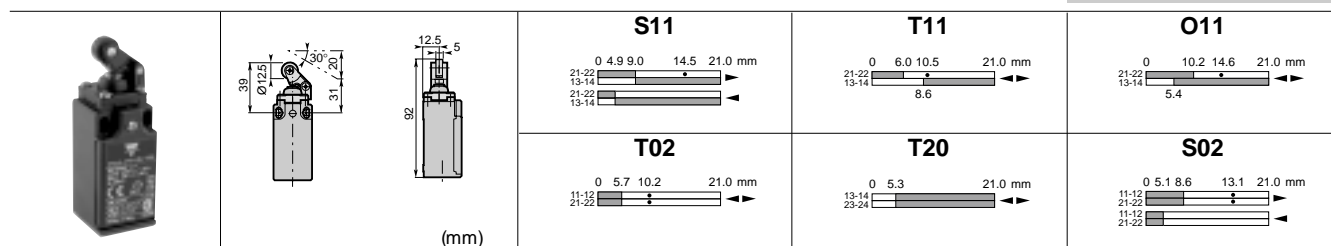
PS21L- (C) (A) RL-T00
PS21L- (C) (A) RH-T00



Conformity / (NC) /
 Max. Actuation speed 1.0ms
 Min. force or torque 7N / 24Nm
 Weight 80g

Plastic roller lever
 Code on metal plunger
 on plastic plunger

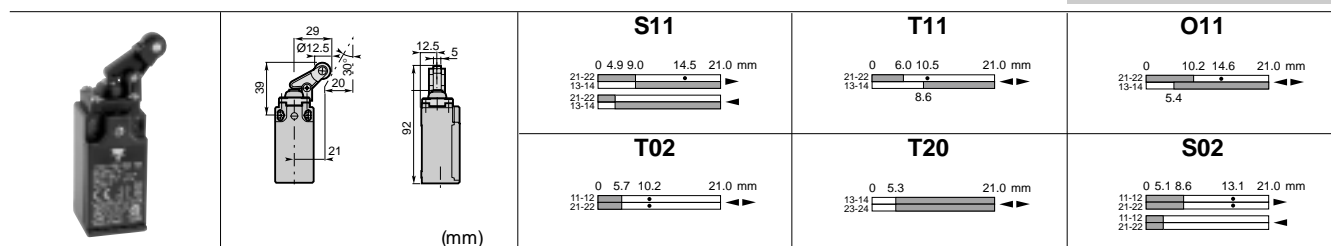
PS21L- RV-T00
 PS21L- RR-T00



Conformity / (NC) EN 50047 /
 Max. Actuation speed 1.0ms
 Min. force or torque 7N / 24Nm
 Weight 75g

Plastic roller lever on metal plunger with dust protection cup
 Code

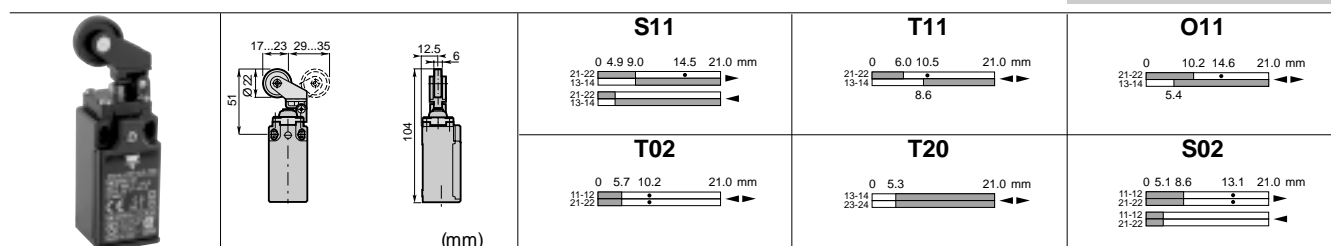
PS21L- RJ-T00



Conformity / /
 Max. Actuation speed 1.0ms
 Min. force or torque 7N / 24Nm
 Weight 80g

Plastic roller lever on metal plunger with dust protection cup
 Code

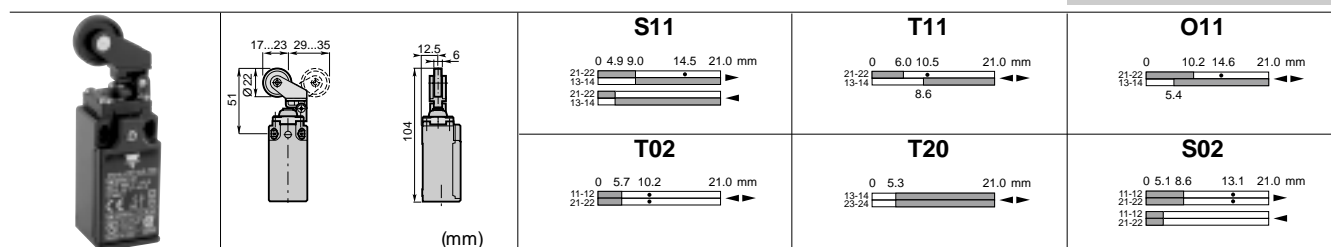
PS21L- RW-T00



Conformity / (NC) EN 50047 /
 Max. Actuation speed 1.0ms
 Min. force or torque 7N / 24Nm
 Weight 80g

Adjustable plastic roller lever on metal plunger
 Code

PS21L- LR-T00



Conformity / (NC) EN 50047 /
 Max. Actuation speed 1.0ms
 Min. force or torque 7N / 24Nm
 Weight 80g

Adj. plastic roller lever on metal plunger with dust prot. cup
 Code

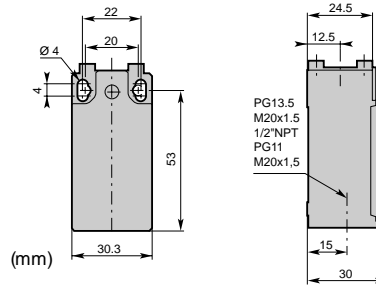
PS21L- LO-T00

Limit Switches - Limit Type (PS21) Plastic Body IP65

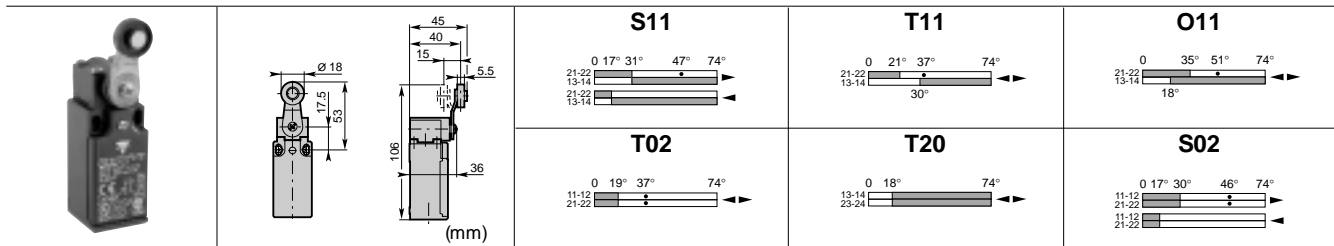
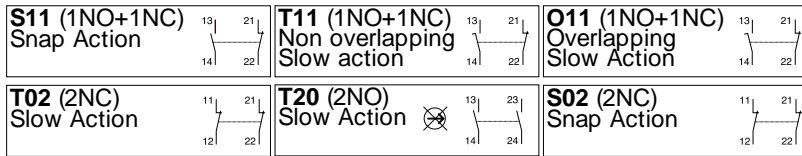


• Cable Gland

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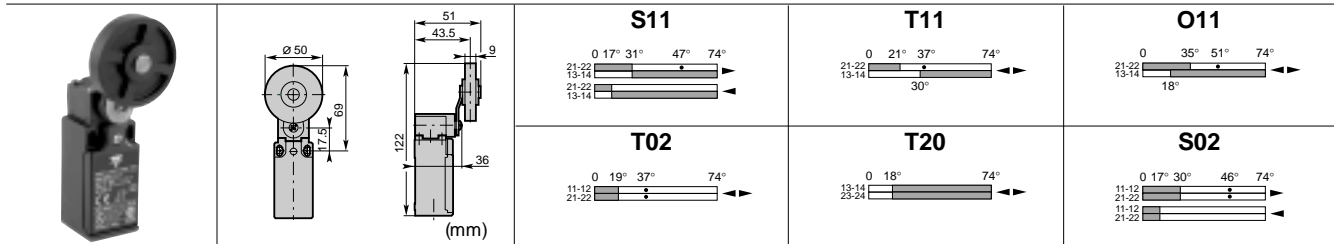
▲ Contact block (Zb type)



Conformity / (NC) EN 50047 / (NC)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 95g

Ø 18 Nylon roller lever
Code

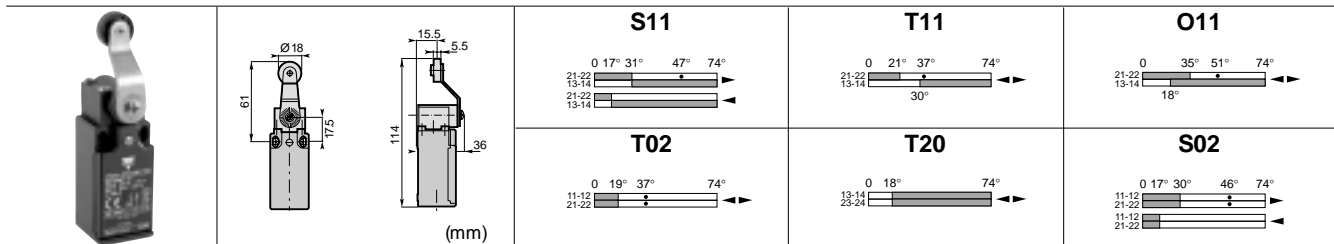
PS21L-●▲RT-T00



Conformity / (NC) / (NC)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 115g

Ø 50 Rubber roller lever
Code

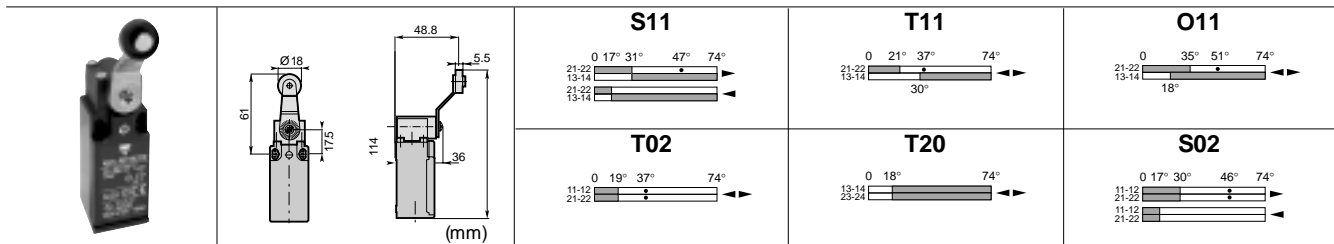
PS21L-●▲W0-T00



Conformity / (NC) / (NC)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 95g

Ø 18 Nylon roller lever
Code

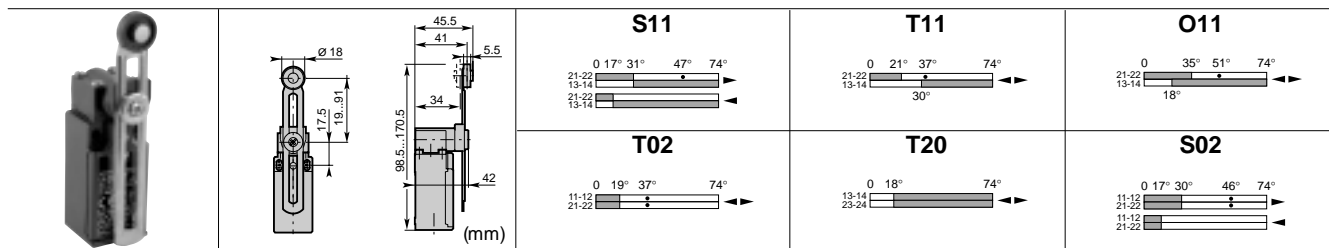
PS21L-●▲BR-T00



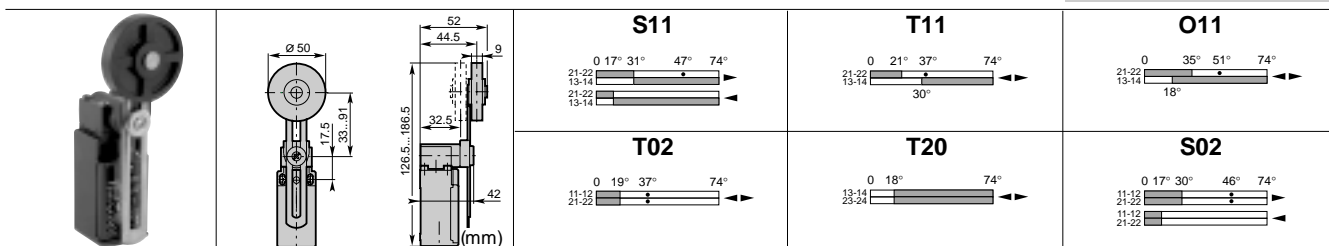
Conformity / (NC) / (NC)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 95g

Ø 18 Nylon roller lever
Code

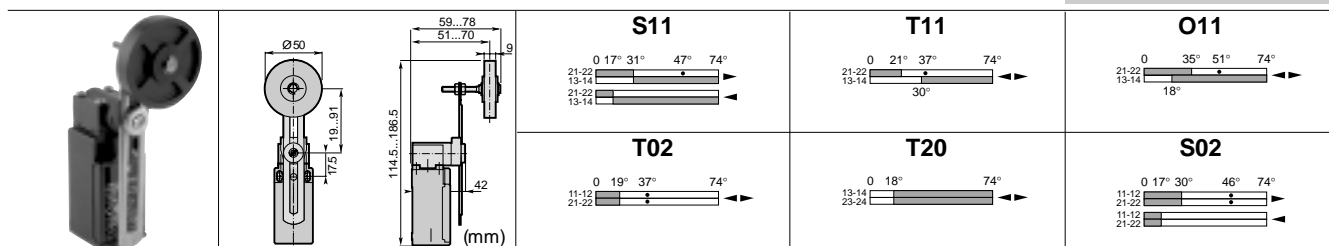
PS21L-●▲BE-T00



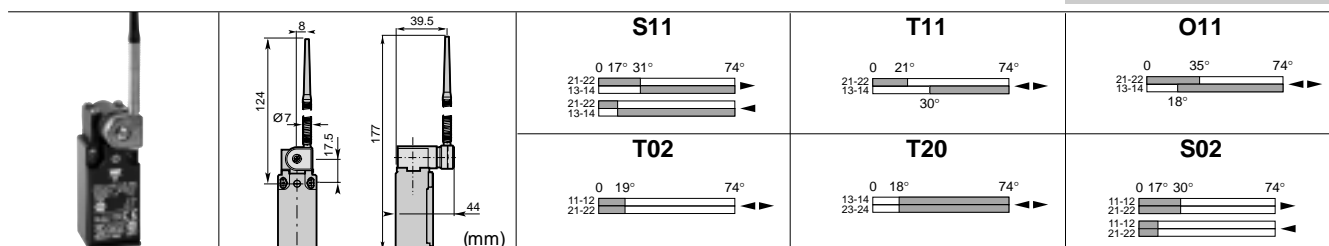
Conformity / \Rightarrow (NC) / \ominus / \ominus Adjustable lever with \varnothing 18 nylon roller
 Max. Actuation speed 1.5ms Code PS21L- R1-T00
 Min. force or torque 0.10N / 0.32Nm
 Weight 105g



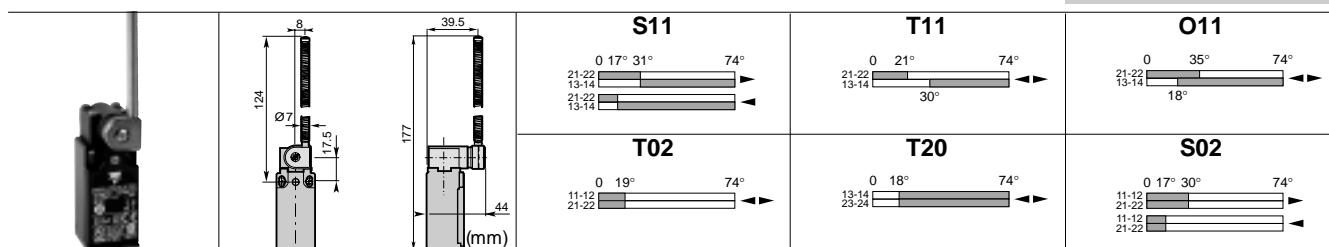
Conformity / \Rightarrow (NC) / \ominus / \ominus Adjustable lever with \varnothing 50 rubber roller
 Max. Actuation speed 1.5ms Code PS21L- W1-T00
 Min. force or torque 0.10N / 0.32Nm
 Weight 125g



Conformity / \Rightarrow (NC) / \ominus / \ominus Adjustable lever with adjustable \varnothing 50 rubber roller
 Max. Actuation speed 1.5ms Code PS21L- W2-T00
 Min. force or torque 0.10N / 0.32Nm
 Weight 130g



Conformity / \Rightarrow (NC) / \ominus / \ominus Nylon actuator with stainless steel spring
 Max. Actuation speed 1.5ms Code PS21L- LB-T00
 Min. force or torque 0.10N / -
 Weight 105g



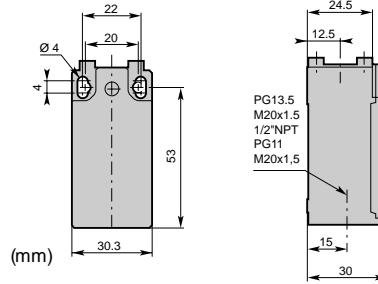
Conformity / \Rightarrow (NC) / \ominus / \ominus Stainless steel spring actuator
 Max. Actuation speed 1.5ms Code PS21L- LZ-T00
 Min. force or torque 0.10N / -
 Weight 105g

Limit Switches - Limit Type (PS21) Plastic Body IP65

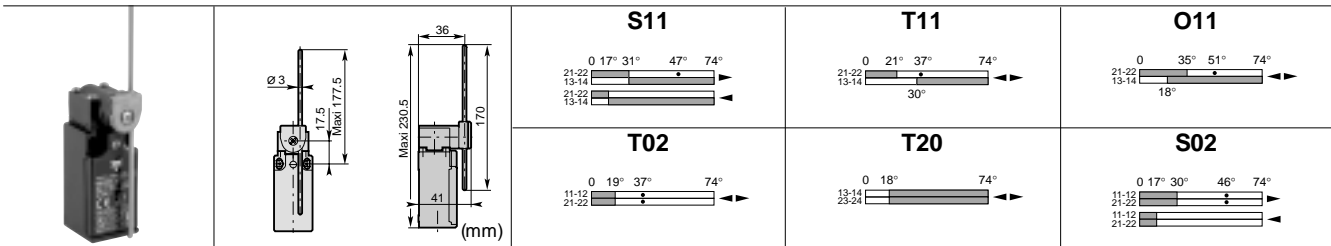
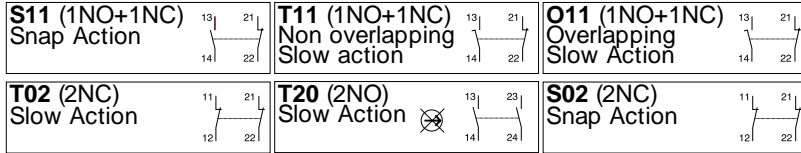


• Cable Gland

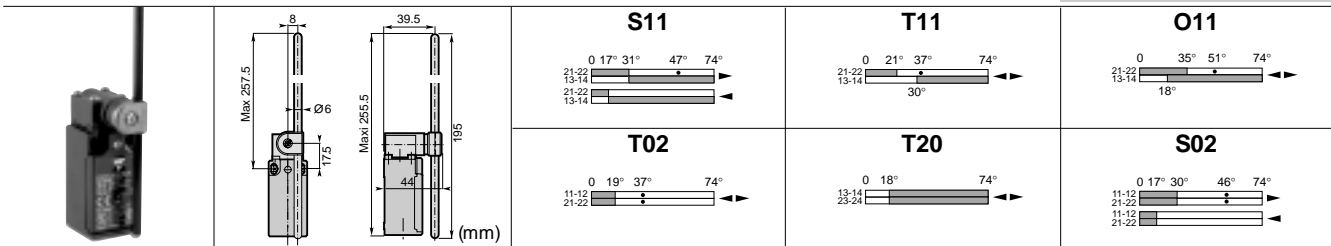
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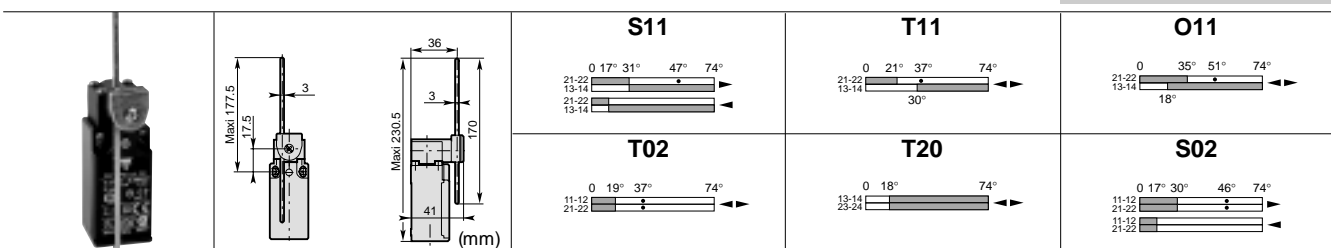
▲ Contact block (Zb type)



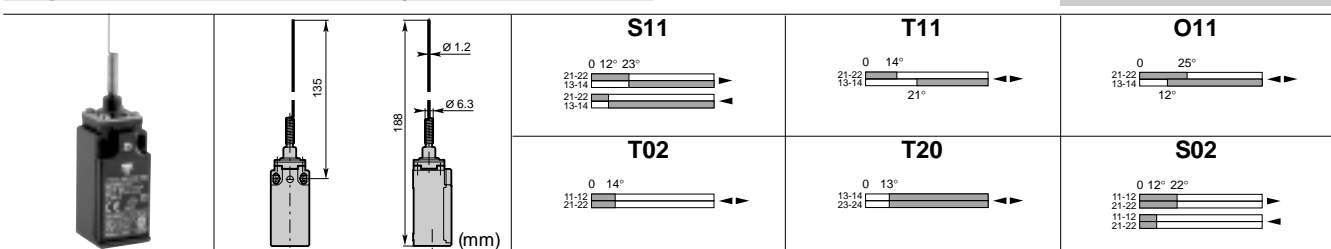
Conformity / (NC) Max. Actuation speed 1.5ms Min. force or torque 0.10N / 0.32 Weight 105g	Adjustable Ø 3 rod lever Code stainless steel rod fiberglass rod	PS21L-03 LA-T00 PS21L-03 LF-T00
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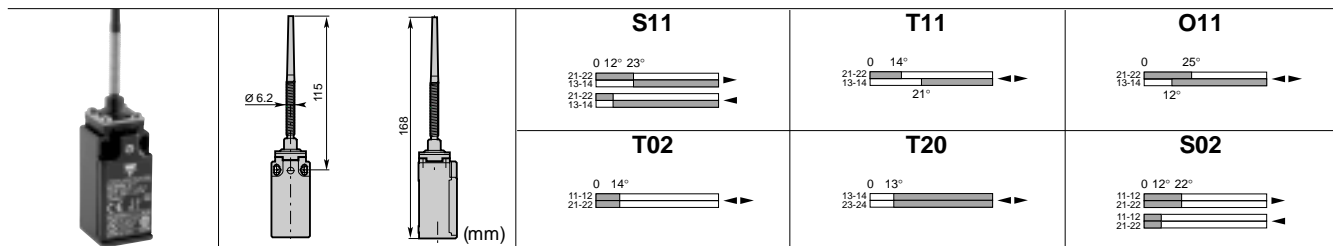
Conformity / (NC) Max. Actuation speed 1.5ms Min. force or torque 0.10N / 0.32Nm Weight 115g	Adjustable Ø 6 rod lever Code nylon rod fiberglass rod	PS21L-06 LN-T00 PS21L-06 LG-T00
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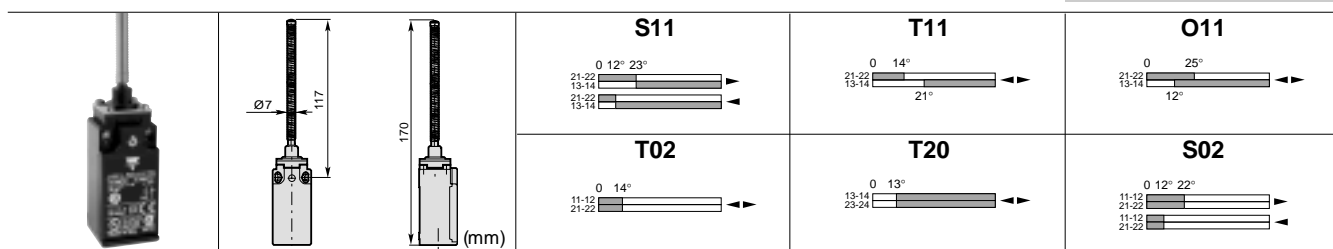
Conformity / (NC) Max. Actuation speed 1.5ms Min. force or torque 0.10N / 0.32Nm Weight 105g	Adjustable square steel rod lever Code	PS21L-03 L3-T00
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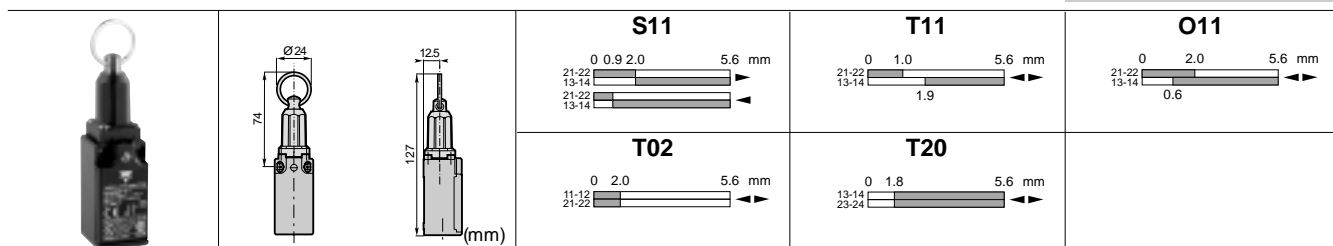
Conformity / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.12N / - Weight 80g	Stainless steel spring multidirectional actuator Code	PS21L-03 LW-T00
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Conformity / (NC) / **Multidirectional nylon actuator with stainless steel spring**
Code PS21L- LP-T00
Max. Actuation speed 1.0ms
Min. force or torque 0.12N / -
Weight 85g



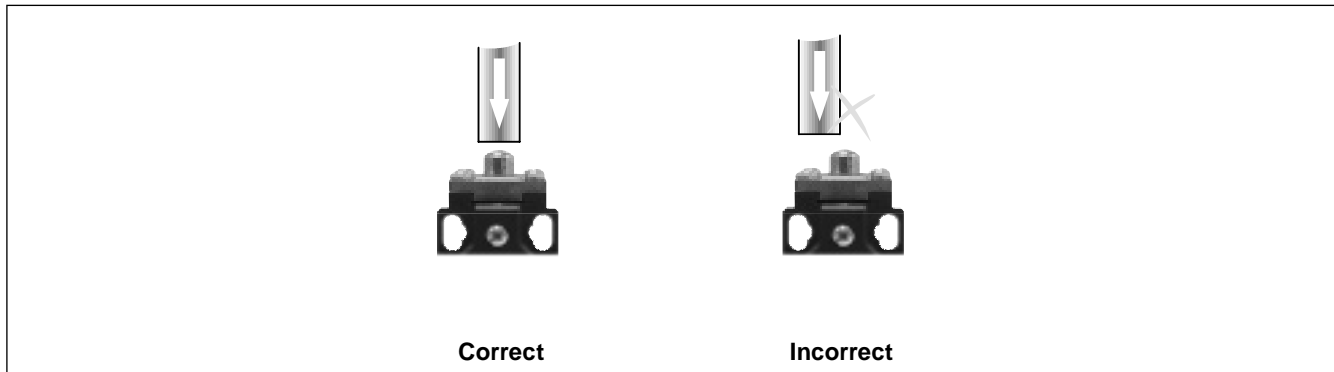
Conformity / (NC) / **Stainless steel spring multidirectional actuator**
Code PS21L- LS-T00
Max. Actuation speed 1.0ms
Min. force or torque 0.12N / -
Weight 90g



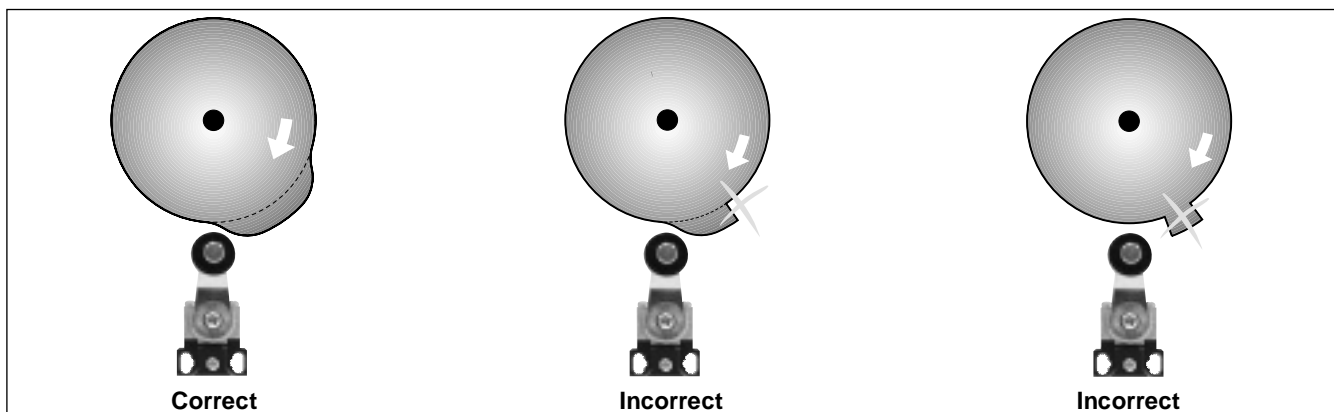
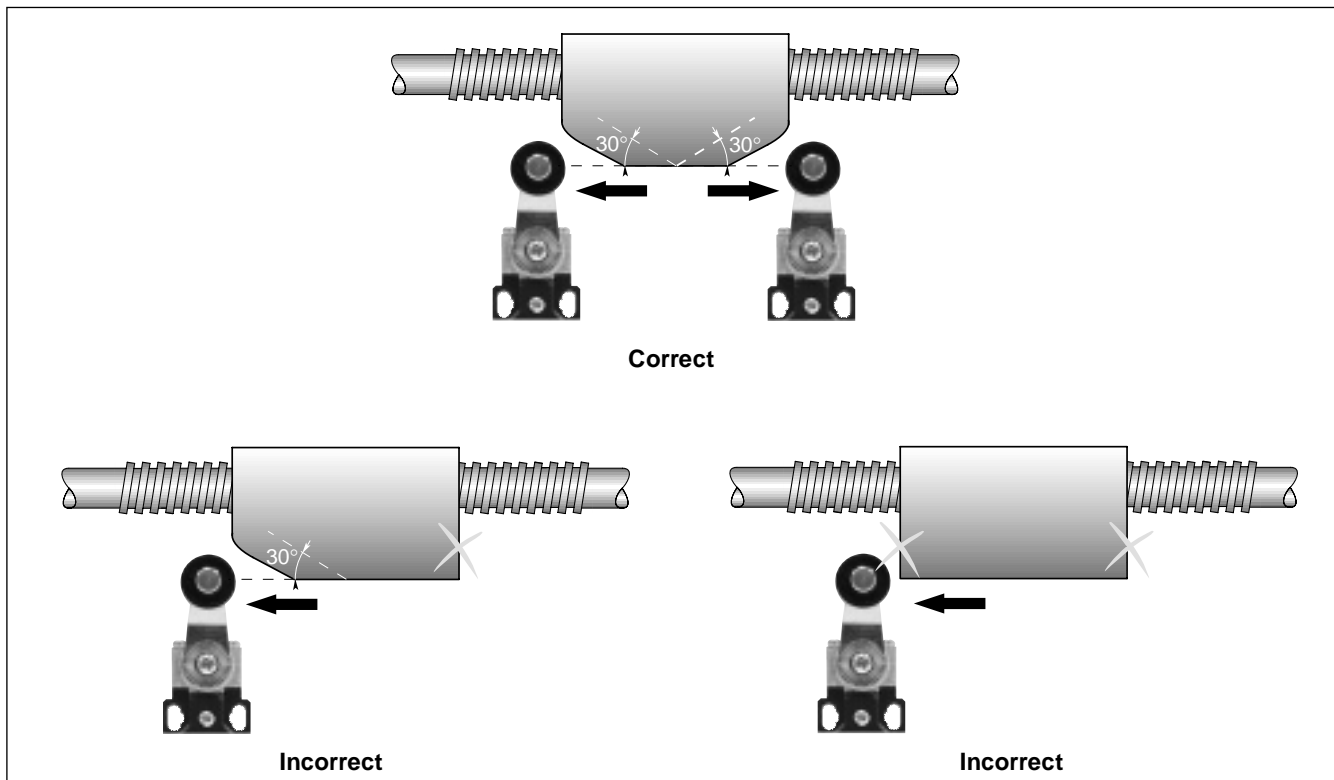
Conformity / (NC) / **Pull action with ring**
Code PS21L- N6-T00
Max. Actuation speed 0.5ms
Min. force or torque 30N / -
Weight 115g

Utilization precautions

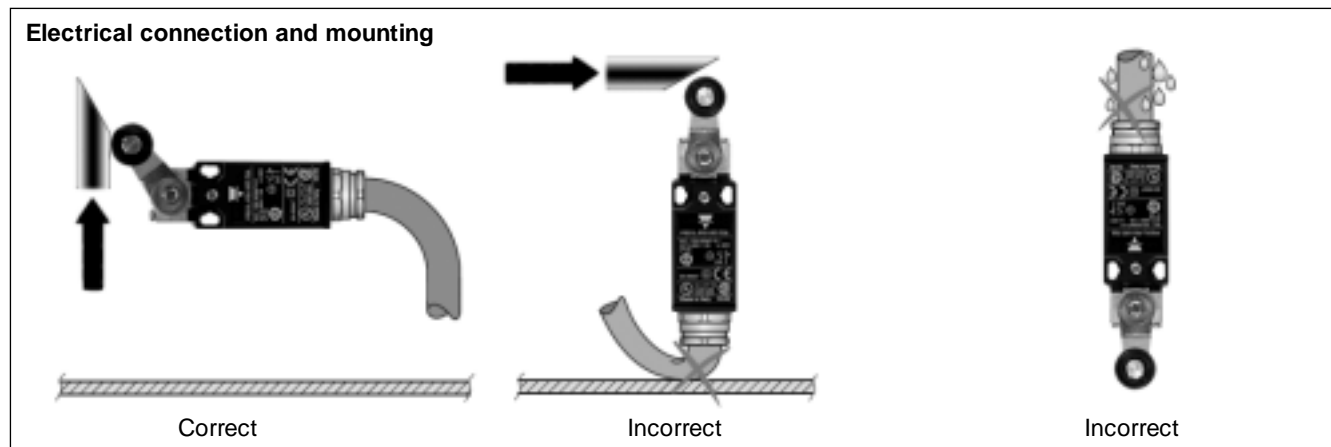
Plain plunger



Roller plunger or Roller lever



Utilization precautions



Adjustement

