

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)

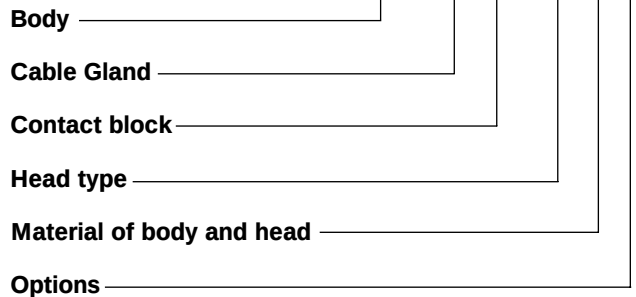
Product Description

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

(1/2 sinusoidal 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:

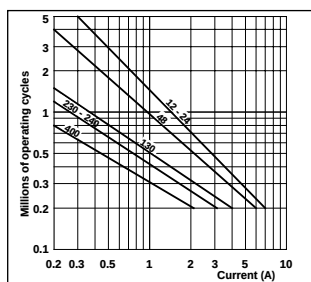
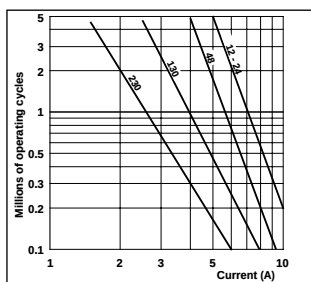


Diagram for slow action contact:



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

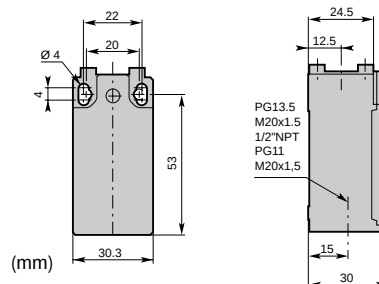
Limit Switches - Limit Type (PS21) Plastic Body IP65

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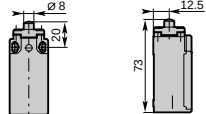
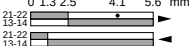
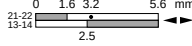
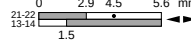
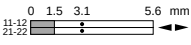
■ Cable Gland

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)



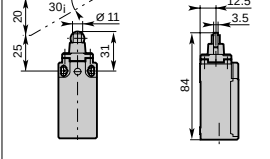
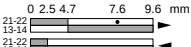
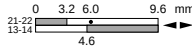
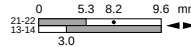
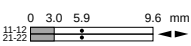
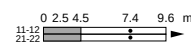
S11 (1NO+1NC) Snap Action		T11 (1NO+1NC) Non overlapping Slow action		O11 (1NO+1NC) Overlapping Slow Action	
T02 (2NC) Slow Action		T20 (2NO) Slow Action		S02 (2NC) Snap Action	

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Plain Plunger
Code Nylon plunger
 Metal plunger

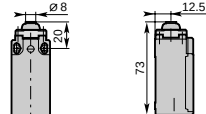
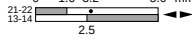
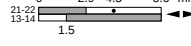
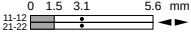
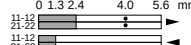
PS21L-01  **PN-T00**
PS21L-02  **P0-T00**

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Roller Plunger
Code Metal roller
 Nylon roller

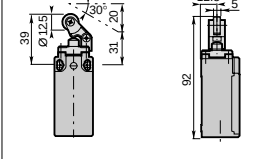
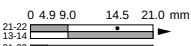
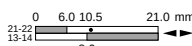
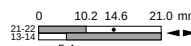
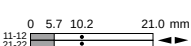
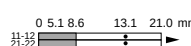
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PS21L-04  **P1-T00**

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Metal plunger with dust protection cup
Code

PS21L-05  **PH-T00**

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Plastic roller lever
Code on plastic plunger
 on metal plunger

PS21L-06  **RL-T00**
PS21L-07  **RH-T00**

Conformity /  (NC)		Plastic roller lever		
Max. Actuation speed	1.0ms	Code	on metal plunger	PS21L-   RV-T00
Min. force or torque	7N / 24Nm		on plastic plunger	PS21L-   RR-T00
Weight	80g			

Conformity /  (NC)	EN 50047 / 	Plastic roller lever on metal plunger with dust protection cup Code PS21L-   RJ-T00
Max. Actuation speed	1.0ms	
Min. force or torque	7N / 24Nm	
Weight	75g	

Conformity / 	/ 	Plastic roller lever on metal plunger with dust protection cup
Max. Actuation speed	1.0ms	Code
Min. force or torque	7N / 24Nm	PS21L-   RW-T00
Weight	80g	

Conformity / (NC)	EN 50047 /	Adjustable plastic roller lever on metal plunger Code PS21L- LR-T00
Max. Actuation speed	1.0ms	
Min. force or torque	7N / 24Nm	
Weight	80g	

Conformity / ☞ (NC)	EN 50047 / ☞	Adj. plastic roller lever on metal plunger with dust prot. cup Code PS21L-   LO-T00
Max. Actuation speed	1.0ms	
Min. force or torque	7N / 24Nm	
Weight	80g	

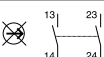
Limit Switches - Limit Type (PS21) Plastic Body IP65

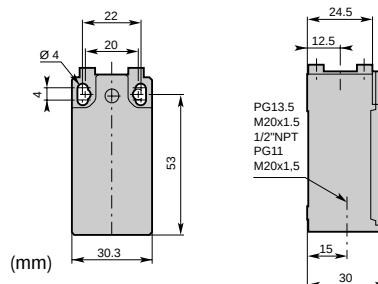
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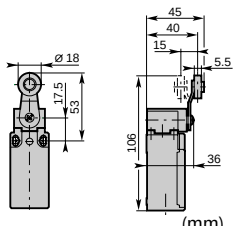
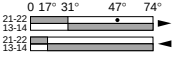
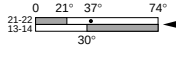
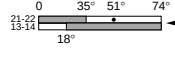
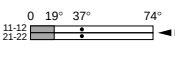
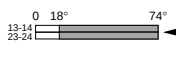
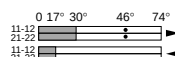
• Cable Gland

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	

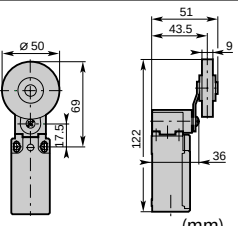
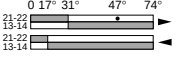
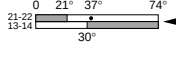
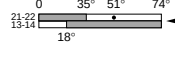
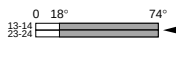
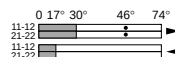


		S11 	T11 	O11 
		T02 	T20 	S02 

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

Ø 18 Nylon roller lever
Code

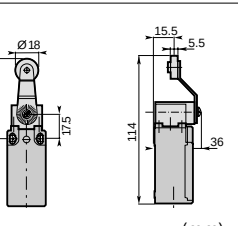
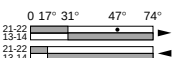
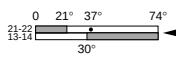
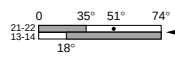
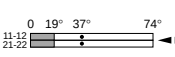
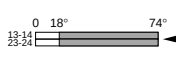
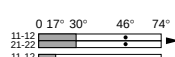
PS21L-•▲RT-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Ø 50 Rubber roller lever
Code

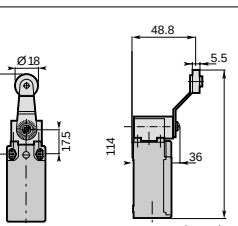
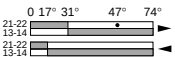
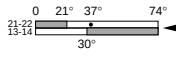
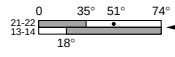
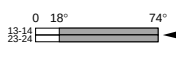
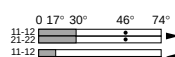
PS21L-•▲W0-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Ø 18 Nylon roller lever
Code

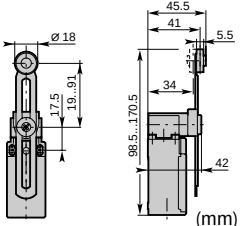
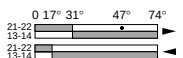
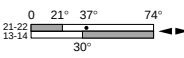
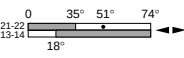
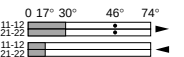
PS21L-•▲BR-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

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

Ø 18 Nylon roller lever
Code

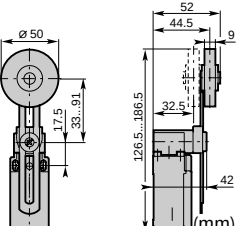
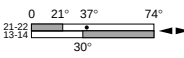
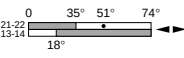
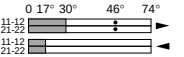
PS21L-•▲BE-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

Conformity /  (NC) / 
Max. Actuation speed 1.5ms
Min. force or torque 0.10N / 0.32Nm
Weight 105g

Adjustable lever with Ø 18 nylon roller
Code

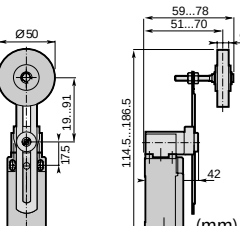
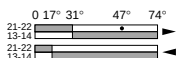
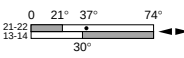
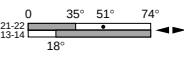
PS21L-  R1-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

Conformity /  (NC) / 
Max. Actuation speed 1.5ms
Min. force or torque 0.10N / 0.32Nm
Weight 125g

Adjustable lever with Ø 50 rubber roller
Code

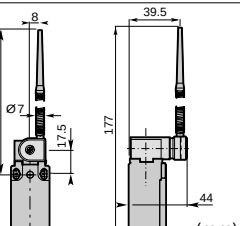
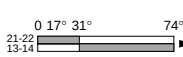
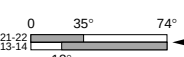
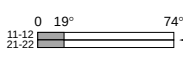
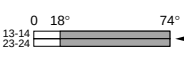
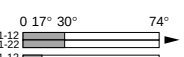
PS21L-  W1-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

Conformity /  (NC) / 
Max. Actuation speed 1.5ms
Min. force or torque 0.10N / 0.32Nm
Weight 130g

Adjustable lever with adjustable Ø 50 rubber roller
Code

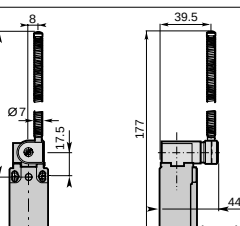
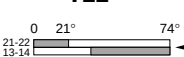
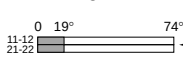
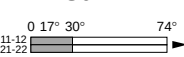
PS21L-  W2-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

Conformity /  (NC) / 
Max. Actuation speed 1.5ms
Min. force or torque 0.10N / -
Weight 105g

Nylon actuator with stainless steel spring
Code

PS21L-  LB-T00

		S11 	T11 	O11 
		T02 	T20 	S02 

Conformity /  (NC) / 
Max. Actuation speed 1.5ms
Min. force or torque 0.10N / -
Weight 105g

Stainless steel spring actuator
Code

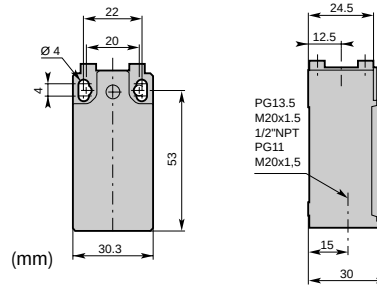
PS21L-  LZ-T00

Limit Switches - Limit Type (PS21) Plastic Body IP65

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 T02 	T11 T20 	O11 S02
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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-LA-T00
PS21L-LF-T00

		S11 T02 	T11 T20 	O11 S02
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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-LN-T00
PS21L-LG-T00

		S11 T02 	T11 T20 	O11 S02
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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-L3-T00

		S11 T02 	T11 T20 	O11 S02
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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-LW-T00

		S11 	T11 	O11
		T02 	T20 	S02

Conformity / (NC)	/	Multidirectional nylon actuator with stainless steel spring
Max. Actuation speed	1.0ms	Code
Min. force or torque	0.12N / -	PS21L-●▲LP-T00
Weight	85g	

		S11 	T11 	O11
		T02 	T20 	S02

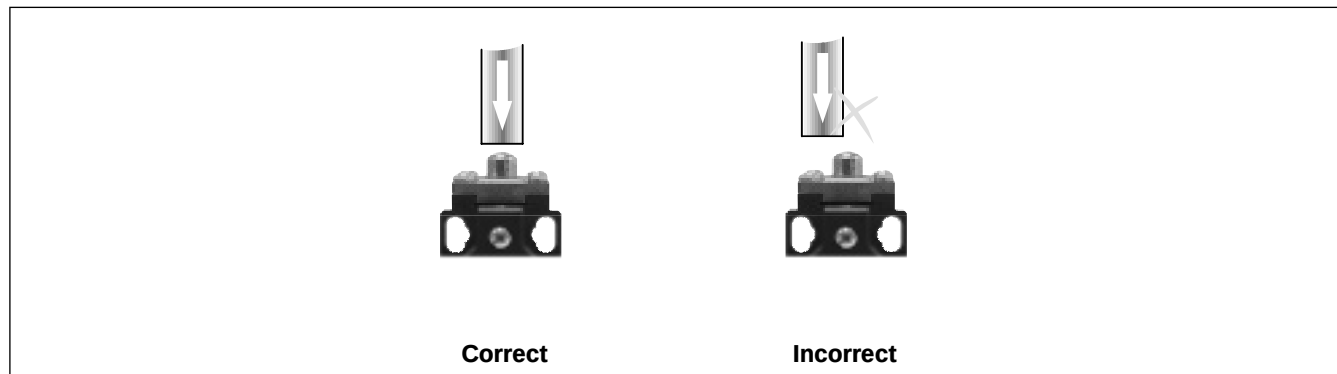
Conformity / (NC)	/	Stainless steel spring multidirectional actuator
Max. Actuation speed	1.0ms	Code
Min. force or torque	0.12N / -	PS21L-●▲LS-T00
Weight	90g	

		S11 	T11 	O11
		T02 	T20 	

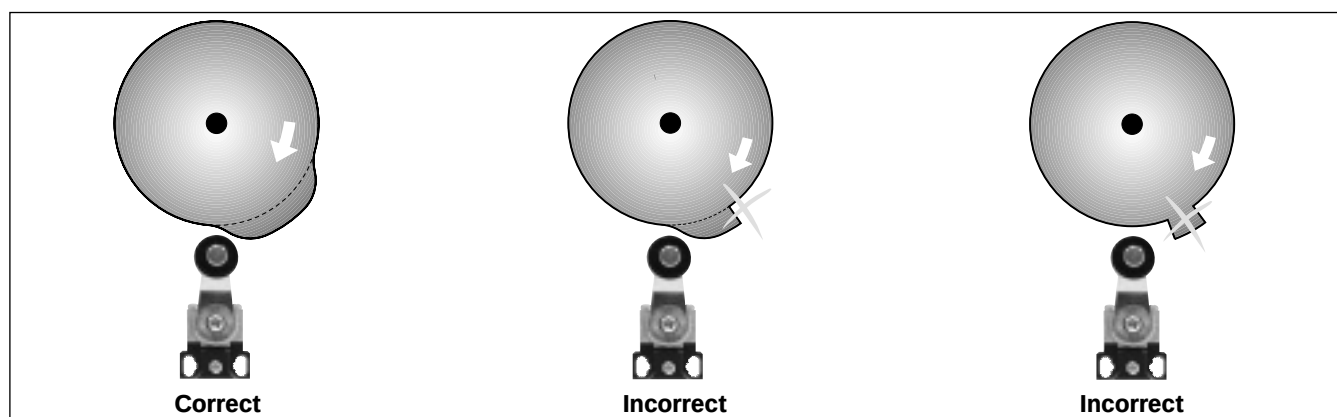
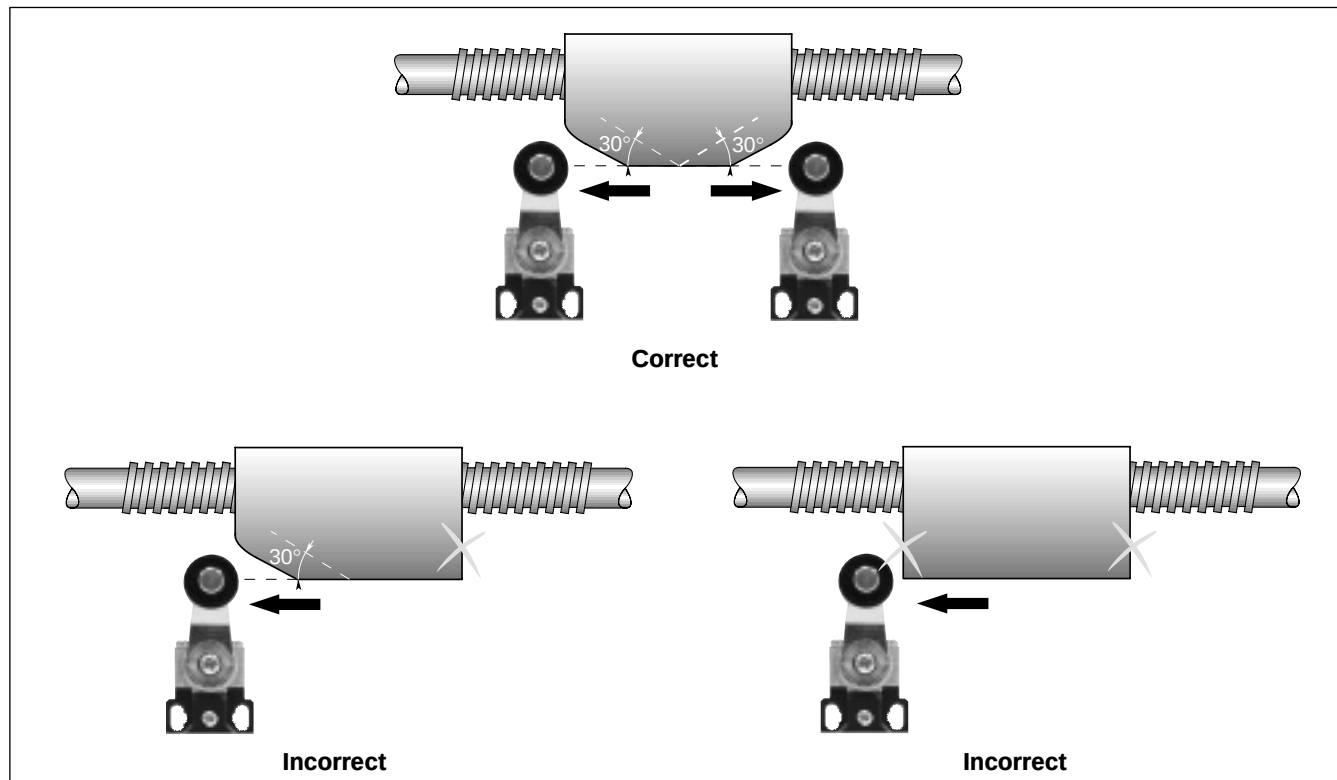
Conformity / (NC)	/	Pull action with ring
Max. Actuation speed	0.5ms	Code
Min. force or torque	30N / -	PS21L-●▲N6-T00
Weight	115g	

Utilization precautions

Plain plunger

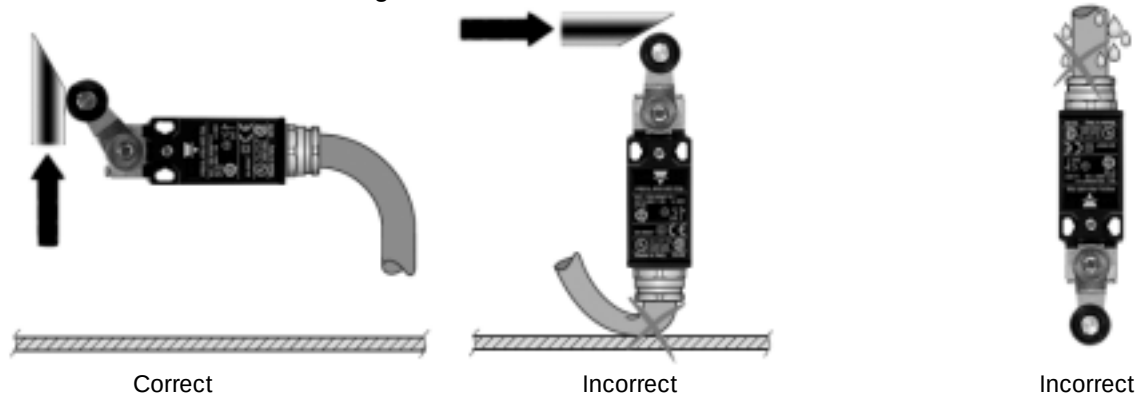


Roller plunger or Roller lever



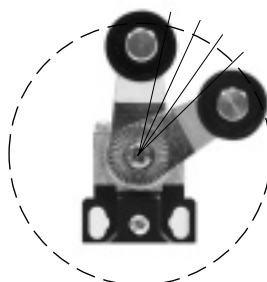
Utilization precautions

Electrical connection and mounting



Adjustement

Position adjustement of lever



Free position adjustement 10 in 10° of lever

Position adjustement of lever and head

