

Limit Switches - Limit Type Metal Body IP66

CARLO GAVAZZI



- High mechanical resistance
- Degree of protection IP66
- Zinc alloy (Zamack) 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)

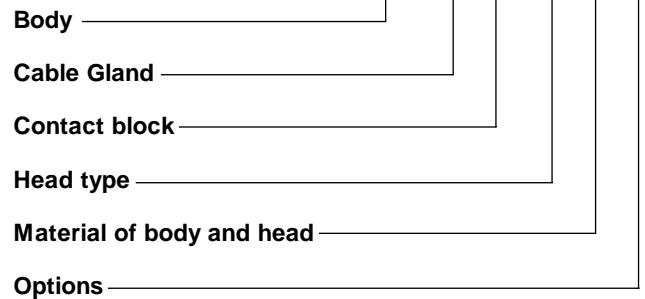
Product Description

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

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

Ordering Key

PS21L-PS11RT-M00



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

H	Thermoplastic Body and Metal head
M	Metal Body and Metal head

Options

00	no option
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Head type

BE	nylon roller ext bent LEVER
BR	nylon roller int bent LEVER
BM	metal roller bent LEVER
BO	ball roller 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
LZ	Stainless stell spring actuator
P0	metal plain PLUNGER
PR	metal roller PLUNGER
R1	adj LEVER with nylon roller
RM	metal roller LEVER
RO	roller LEVER steel ball bearing
RT	nylon roller LEVER
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 I

IP66

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 A

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 A

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

400V (PS21, PS42), 500V (PS31, PS43) (degree of pollution 3)

A 300 Q 300 (PS21, PS42), A 600 Q 600 (PS31, PS43)

6

10

10

10

5.5

3.1

3

1.8

A 300 (PS21, PS42), A 600 (PS31, PS43)

2.8

0.6

0,27

Q 300 (PS21, PS42), Q 600 (PS31, PS43)

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:

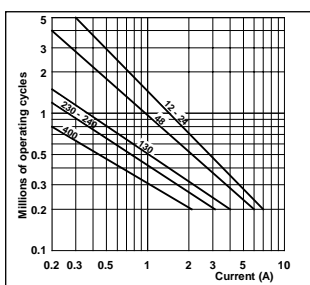
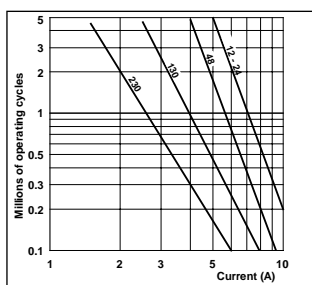


Diagram for slow action contact:



Electrical durability for DC-13 utilization category

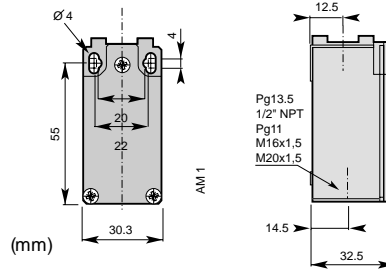
Power breaking for a durability of 5 million operating cycles		
	Snap action	Slow action
Voltage 24V	9,5W	12W
Voltage 48V	6,8W	9W
Voltage 110V	3,6W	6W

Limit Switches - Limit Type (PS21) Metal Body IP66

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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 / (C)
 Max. Actuation speed 0.5ms
 Min. force or torque 15N / 30Nm
 Weight 180g

Plain Metal Plunger
Code

PS21L-□▲P0-M00

			S11	T11	O11
			T02	T20	S02

Conformity / (NC) EN 50047 / (C)
 Max. Actuation speed 0.3ms
 Min. force or torque 12N / 30Nm
 Weight 190g

Roller Metal Plunger
Code

PS21L-□▲PR-M00

			S11	T11	O11
			T02	T20	S02

Conformity / (NC) EN 50047 / (C)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 235g

Ø 18 Nylon roller lever
Code metal roller
nylon roller

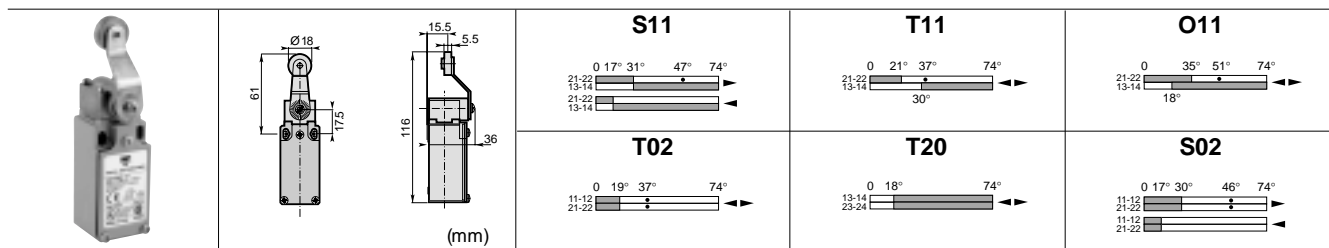
PS21L-□▲RM-M00
PS21L-□▲RT-M00

			S11	T11	O11
			T02	T20	S02

Conformity / (NC) EN 50047 / (C)
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 255g

Ø 50 Rubber roller lever
Code

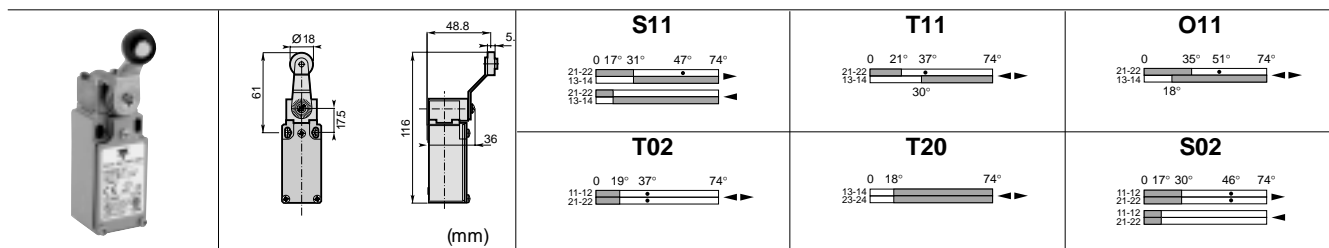
PS21L-□▲W0-M00



Conformity / \Rightarrow (NC) / \Leftarrow
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 250g

\varnothing 18 Roller lever
 Code metal roller
 nylon roller

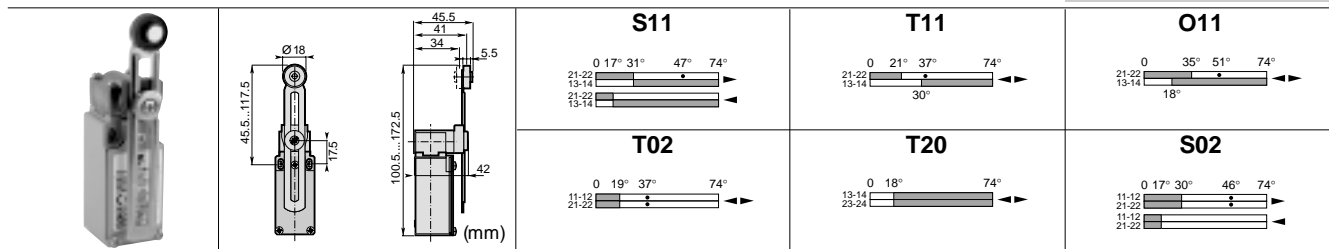
PS21L- \square \blacktriangle BM-M00
 PS21L- \square \blacktriangle BR-M00



Conformity / \Rightarrow (NC) / \Leftarrow
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 250g

\varnothing 18 Roller lever
 Code nylon roller

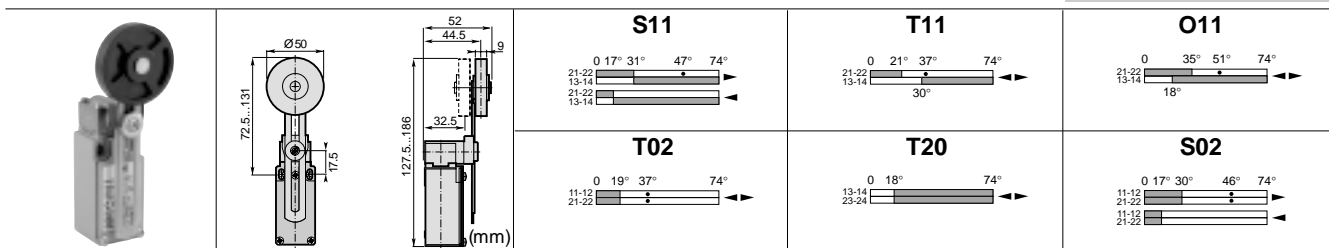
PS21L- \square \blacktriangle BE-M00



Conformity / \Rightarrow (NC) / \Leftarrow
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 245g

Adjustable lever with \varnothing 18 nylon roller
 Code

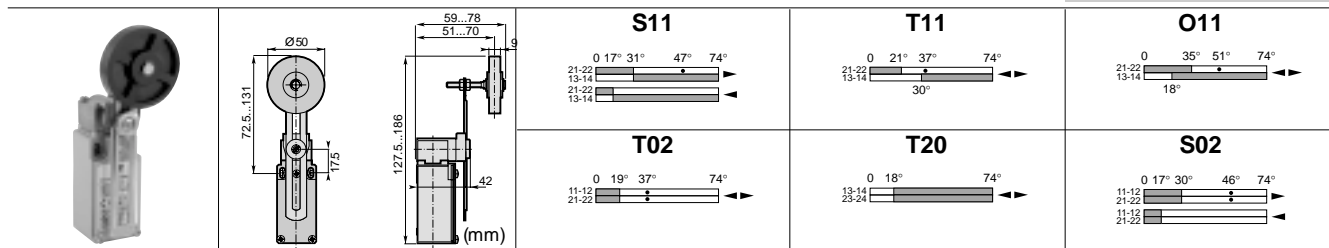
PS21L- \square \blacktriangle R1-M00



Conformity / \Rightarrow (NC) / \Leftarrow
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 265g

Adjustable lever with \varnothing 50 rubber roller
 Code

PS21L- \square \blacktriangle W1-M00



Conformity / \Rightarrow (NC) / \Leftarrow
 Max. Actuation speed 1.5ms
 Min. force or torque 0.10N / 0.32Nm
 Weight 265g

Adjustable lever with adjustable \varnothing 50 rubber roller
 Code

PS21L- \square \blacktriangle W2-M00

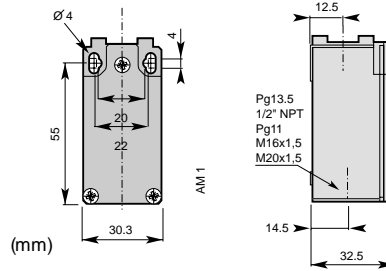
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▲ Contact block (Zb type)



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T02 (2NC) Slow Action		T20 (2NO) Slow Action		S02 (2NC) Snap Action	

		S11	T11	O11
		T02	T20	S02

Conformity / \rightarrow (NC) /

Max. Actuation speed	1.5ms
Min. force or torque	0.10N / -
Weight	245g

Stainless steel spring

Code nylon actuator
stainless steel spring actuator

PS21L- LB-M00
PS21L- LZ-M00

		S11	T11	O11
		T02	T20	S02

Conformity / \rightarrow (NC) / \rightarrow

Max. Actuation speed	1.5ms
Min. force or torque	0.10N / 0.32
Weight	245g

Adjustable rod lever

Code stainless steel rod \varnothing 3
fiberglass rod \varnothing 3
square steel rod 3x3

PS21L- LA-M00
PS21L- LF-M00
PS21L- L3-M00

		S11	T11	O11
		T02	T20	S02

Conformity / \rightarrow (NC) / \rightarrow

Max. Actuation speed	1.5ms
Min. force or torque	0.10N / 0.32Nm
Weight	255g

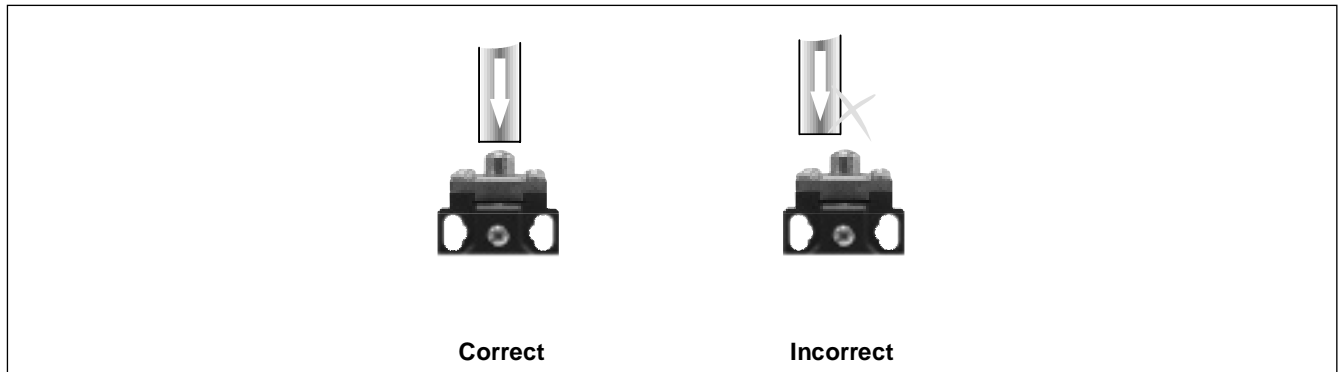
Adjustable \varnothing 6 rod lever

Code nylon rod
fiberglass rod

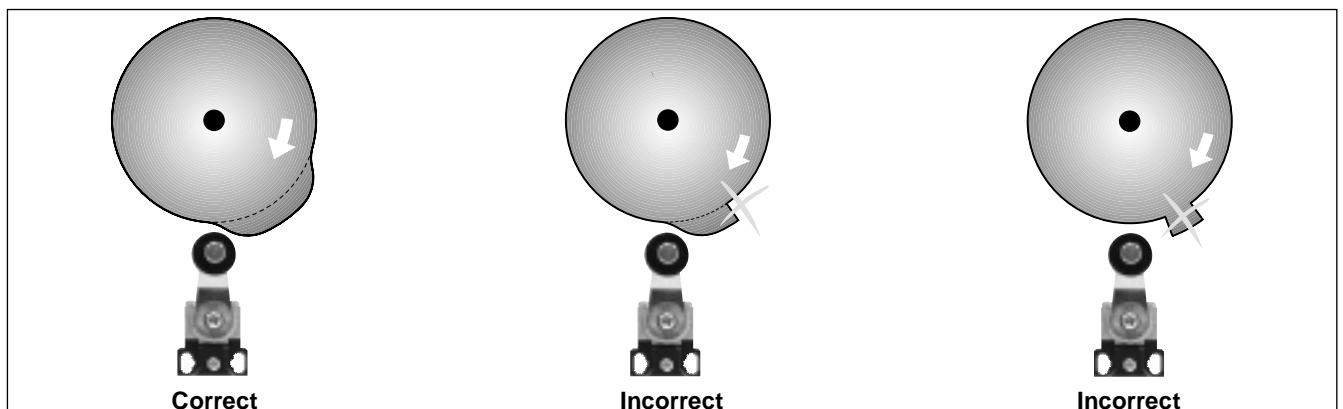
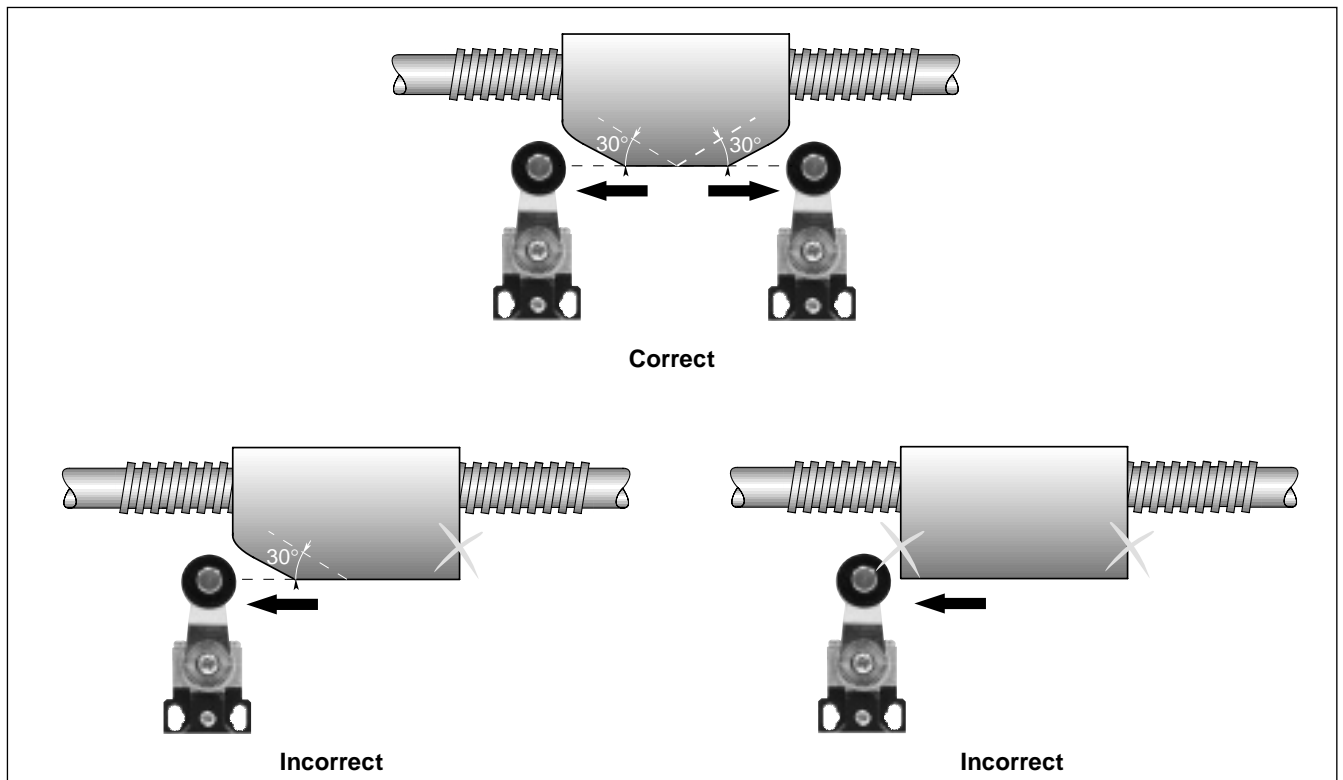
PS21L- LN-M00
PS21L- LG-M00

Utilization precautions

Plain plunger

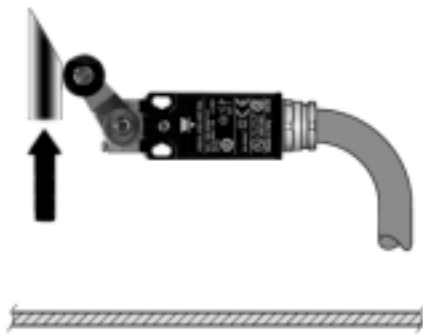


Roller plunger or Roller lever

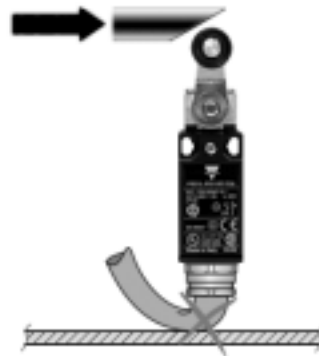


Utilization precautions

Electrical connection and mounting



Correct



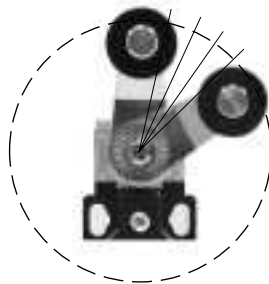
Incorrect



Incorrect

Adjustement

Position adjustment of lever



Free position adjustment 10 in 10° of lever

Position adjustment of lever and head

