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 developped in order to be used for following operations:
- Presence/Absence
- Positioning and travel limit
- Objects passing/counting

Ordering Key

PS21L-PS11RT-T00

Body

Cable Gland

Contact block

Head type

Material of body and head

Options

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 stell spring multidir actuator (cat Whisker)
LZ	Stainless stell 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

Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network.

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	°C	**-25 … +70**
- for storage	°C	**-30 … +80**
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) (1/2sinusoidal shock for 11 ms) no change in contact position	g	**50g***
Resistance to vibrations (acc.to IEC 68-2-6 and EN 60068-2-6)	g	**25g (**10…500Hz) no change in position of contacts greater than 100µs
Protection against electrical shocks (acc.to IEC 536)		**Class II**
Degree of protection (according to IEC 529 and EN 60529)		**IP65**
Consistency (measured over 1 milion operations)		**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				**500V** (degree of pollution 3)
-according to UL 508, CSA C22-2 n°14				**A 600, Q 600**
Rated impulse withstand voltage U_{imp} (according to IEC 60947-1 and EN 60947-1)			kV	**6**
Conventional enclosed thermal current I_{the} (according to IEC 60947-5-1 and EN 60947-5-1) (θ≤40°C)			A	**10**
Short-circuit protection - gG type fuses			A	**10**
Rated operational current				
I_e / AC-15	- acc.to IEC 60947-5-1	24Vac (50/60 Hz)	A	**10**
		130Vac (50/60 Hz)	A	**5.5**
		230Vac (50/60 Hz)	A	**3.1**
		240Vac (50/60 Hz)	A	**3**
		400Vac (50/60 Hz)	A	**1.8**
	- acc.to UL 508, CSA C22 n°14			**A 600**
I_e / DC-13	- acc.to IEC 60947-5-1	24Vdc	A	**2.8**
		110Vdc	A	**0.6**
		250Vdc	A	**0,27**
	- acc.to UL 508, CSA C22 n°14			**Q 600**
Electrical durability (according to IEC 60497-5-1 annex C)				Utilization categories AC-15 and DC-13 (see curves and value below)
- max. switching frequency Cycles/h				**3600**
- load factor				**0,5**
Connecting data of contact blocks				
Connecting terminals				**M3,5 (+,-) pozidriv 2 screw with cable clamp**
Connecting capacity 1 or 2 x mm2 / AWG				**0,5mm2 / AWG 20 to 2,5mm2 / AWG 14**
Terminal marking				**According to EN 50013**
Positivity				Contacts with positive opening operation as per IEC 60947-5-1 chapter 3

Diagram for snap action contact:

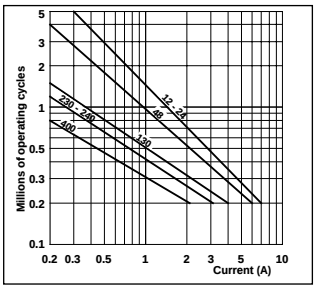
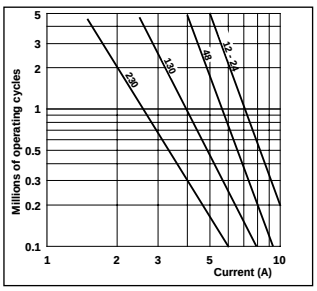


Diagram for slow action contact:



Electrical durability for DC-13 utilization category

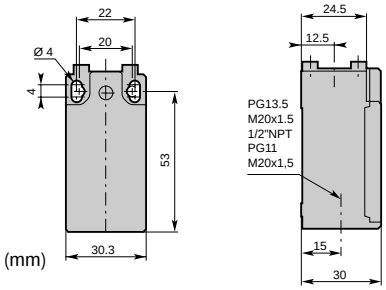
Power breaking for a durability of 5 million operating cycles		
	Snap action	Slow action
Voltage 24V	9,5W	12W
Voltage 48V	6,8W	9W
Voltage 110V	3,6W	6W

Limit Switches - Limit Type (PS21)
Plastic Body IP65

CARLO GAVAZZI

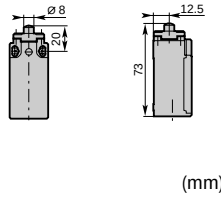
● Cable Gland

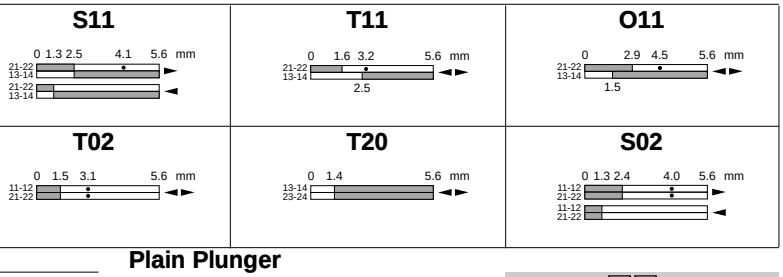
P = one cable inlet PG13.5 cable gland
M = one cable inlet M20x1.5 cable gland
N = one cable inlet 1/2” NPT cable gland
B = one cable inlet PG11 cable gland
A = one cable inlet M16x1.5 cable gland



▲ 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

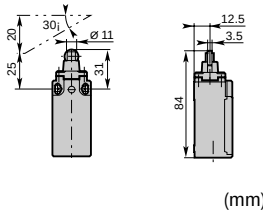


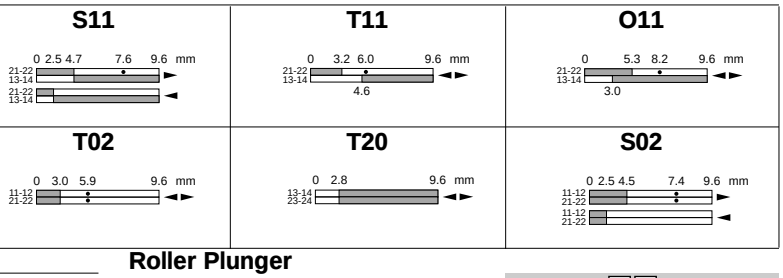


Conformity / ➔ (NC)	EN 50047 / ➔
Max. Actuation speed	0.5ms
Min. force or torque	15N / 30Nm
Weight	70g

Plain Plunger

Code	Nylon plunger	**PS21L-●▲PN-T00**
	Metal plunger	**PS21L-●▲P0-T00**

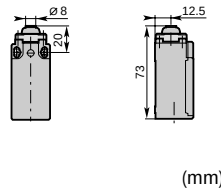


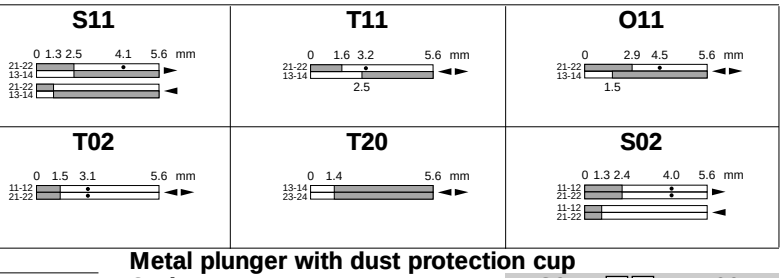


Conformity / ➔ (NC)	EN 50047 / ➔
Max. Actuation speed	0.3ms
Min. force or torque	12N / 30Nm
Weight	75g

Roller Plunger

Code	Metal roller	**PS21L-●▲PR-T00**
	Nylon roller	**PS21L-●▲P1-T00**

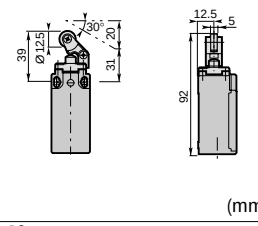


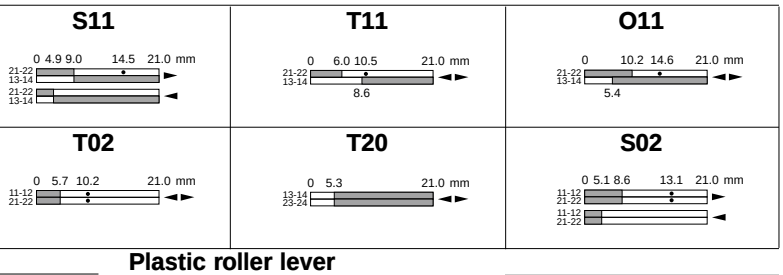


Conformity / ➔ (NC)	EN 50047 / ➔
Max. Actuation speed	0.5ms
Min. force or torque	15N / 30Nm
Weight	70g

Metal plunger with dust protection cup

Code	**PS21L-●▲PH-T00**





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

Plastic roller lever

Code	on plastic plunger	**PS21L-●▲RL-T00**
	on metal plunger	**PS21L-●▲RH-T00**

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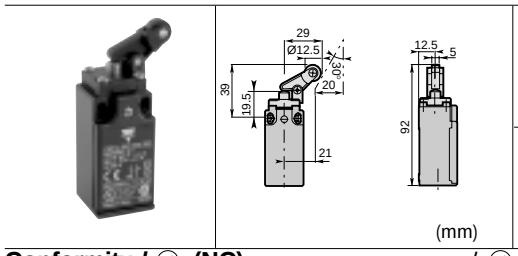
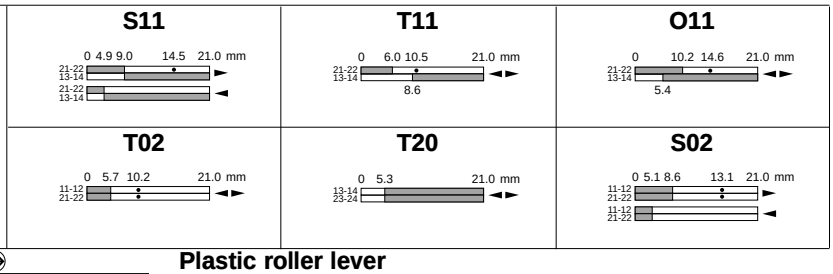
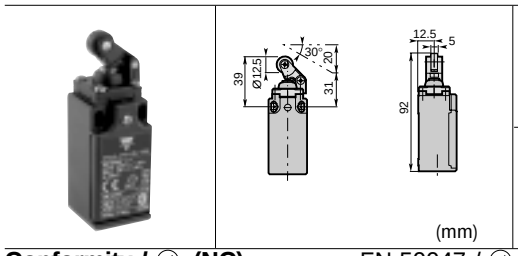
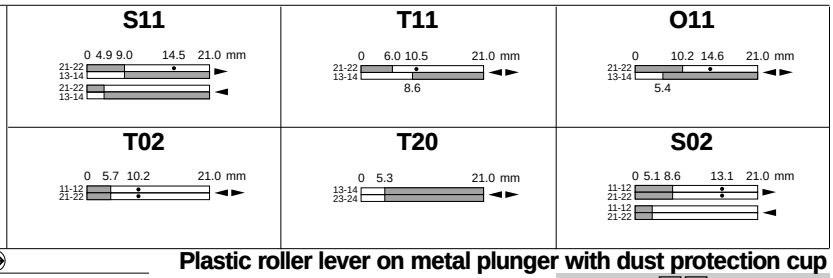


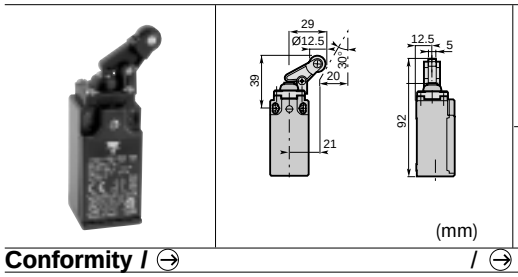


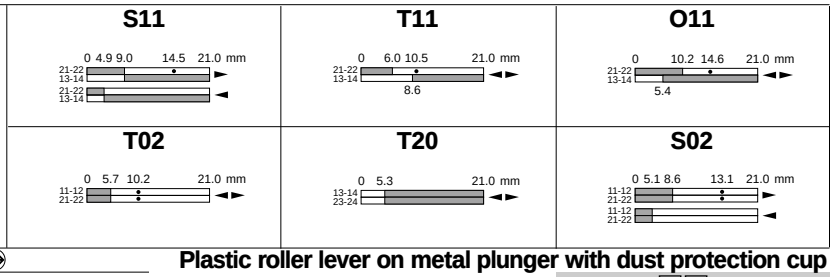
Conformity / ⊖ (NC)	/ ⊖	**Plastic roller lever**	
Max. Actuation speed	1.0ms	**Code** on metal plunger	**PS21L-●▲RV-T00**
Min. force or torque	7N / 24Nm	on plastic plunger	**PS21L-●▲RR-T00**
Weight	80g		



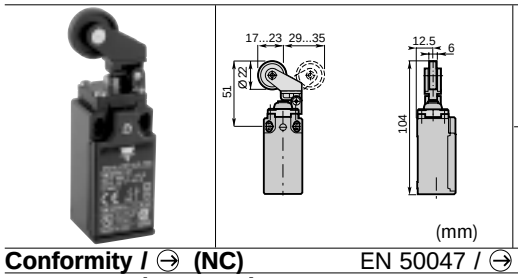


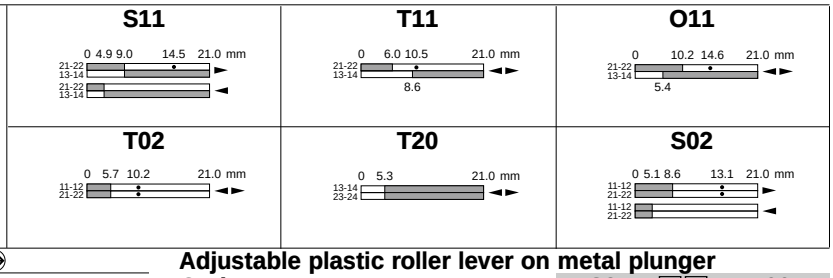
Conformity / ⊖ (NC)	EN 50047 / ⊖	**Plastic roller lever on metal plunger with dust protection cup**	
Max. Actuation speed	1.0ms	**Code**	**PS21L-●▲RJ-T00**
Min. force or torque	7N / 24Nm		
Weight	75g		



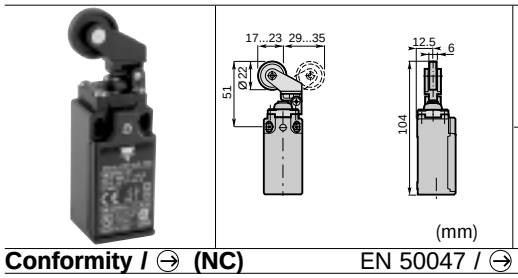


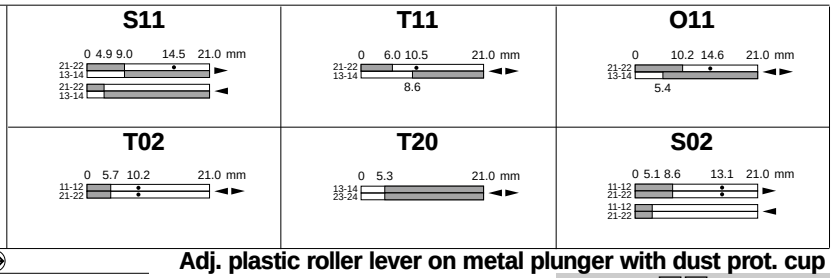
Conformity / ⊖	/ ⊖	**Plastic roller lever on metal plunger with dust protection cup**	
Max. Actuation speed	1.0ms	**Code**	**PS21L-●▲RW-T00**
Min. force or torque	7N / 24Nm		
Weight	80g		





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





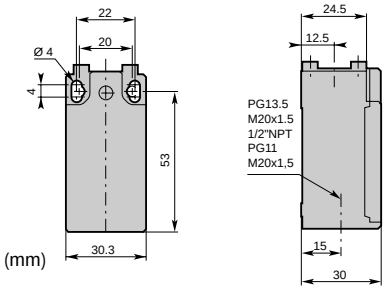
Conformity / ⊖ (NC)	EN 50047 / ⊖	**Adj. plastic roller lever on metal plunger with dust prot. cup**	
Max. Actuation speed	1.0ms	**Code**	**PS21L-●▲LO-T00**
Min. force or torque	7N / 24Nm		
Weight	80g		

Limit Switches - Limit Type (PS21)
Plastic Body IP65

CARLO GAVAZZI

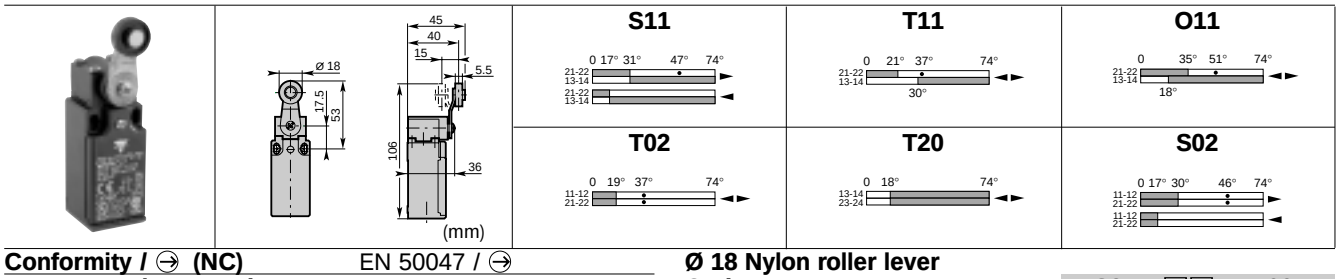
● Cable Gland

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



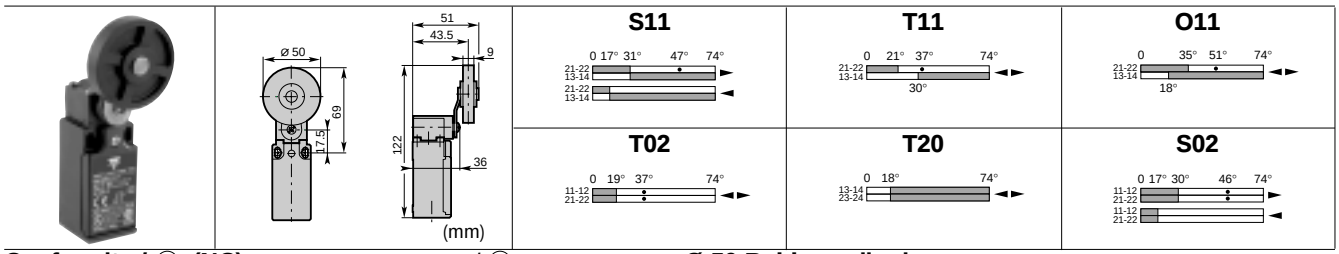
▲ Contact block (Zb type)

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



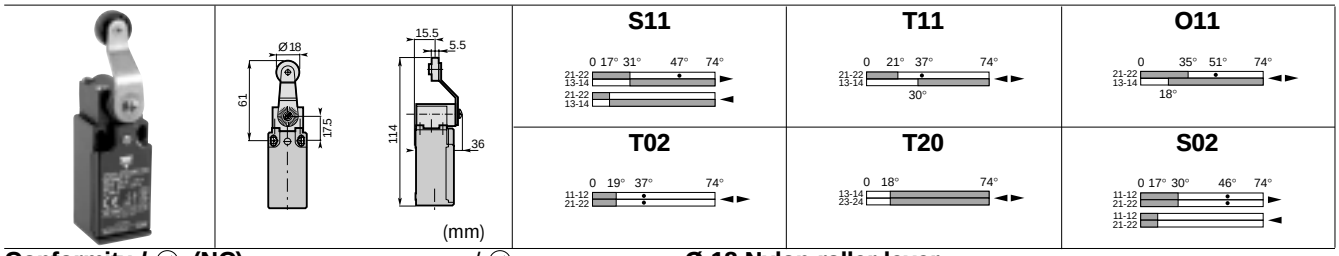
Conformity / ⊖ (NC)	EN 50047 / ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.10N / 0.32Nm
Weight	95g

Ø 18 Nylon roller lever
Code **PS21L-●▲RT-T00**



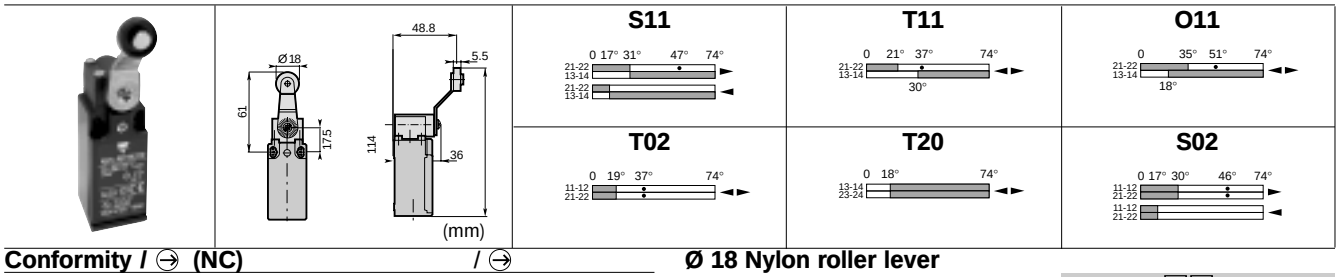
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.10N / 0.32Nm
Weight	115g

Ø 50 Rubber roller lever
Code **PS21L-●▲W0-T00**



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

Ø 18 Nylon roller lever
Code **PS21L-●▲BE-T00**

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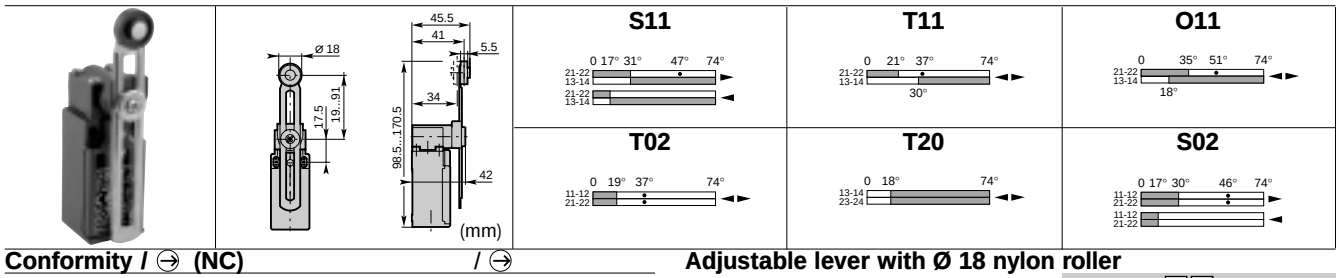
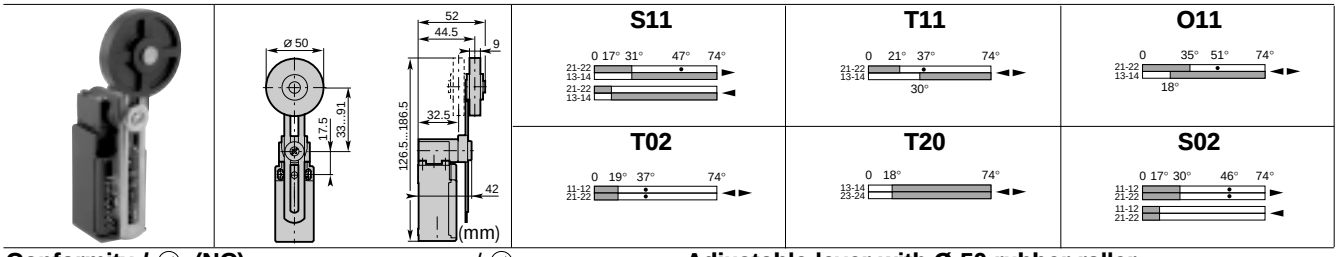
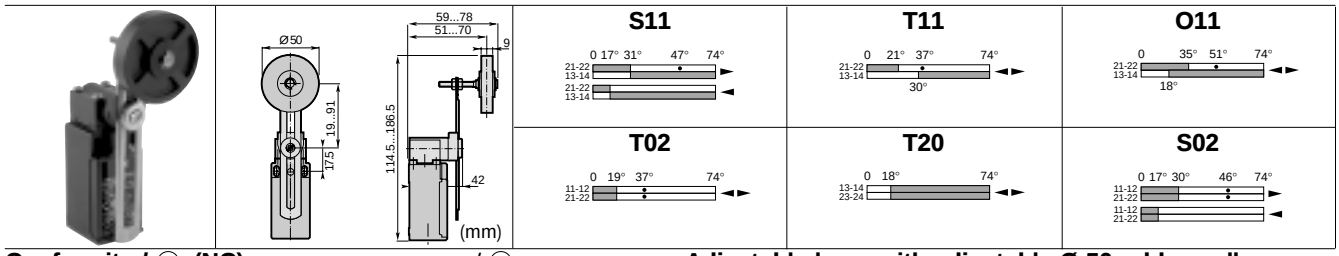


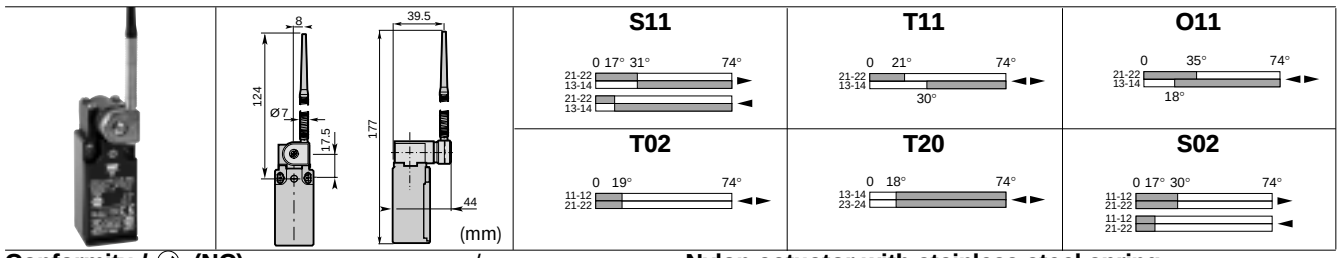
Conformity / ➔ (NC)	/ ➔	**Adjustable lever with Ø 18 nylon roller**
Max. Actuation speed	1.5ms	**Code**
Min. force or torque	0.10N / 0.32Nm	**PS21L-●▲R1-T00**
Weight	105g	



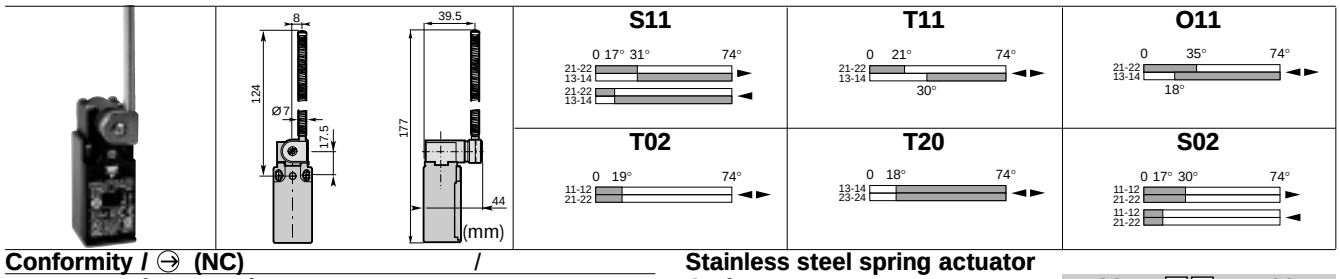
Conformity / ➔ (NC)	/ ➔	**Adjustable lever with Ø 50 rubber roller**
Max. Actuation speed	1.5ms	**Code**
Min. force or torque	0.10N / 0.32Nm	**PS21L-●▲W1-T00**
Weight	125g	



Conformity / ➔ (NC)	/ ➔	**Adjustable lever with adjustable Ø 50 rubber roller**
Max. Actuation speed	1.5ms	**Code**
Min. force or torque	0.10N / 0.32Nm	**PS21L-●▲W2-T00**
Weight	130g	



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



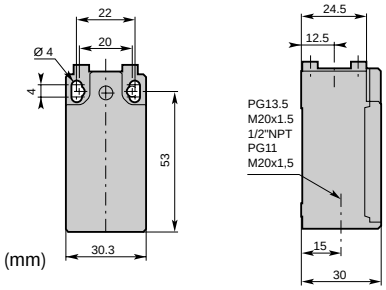
Conformity / ➔ (NC)	/	**Stainless steel spring actuator**
Max. Actuation speed	1.5ms	**Code**
Min. force or torque	0.10N / -	**PS21L-●▲LZ-T00**
Weight	105g	

Limit Switches - Limit Type (PS21)
Plastic Body IP65

CARLO GAVAZZI

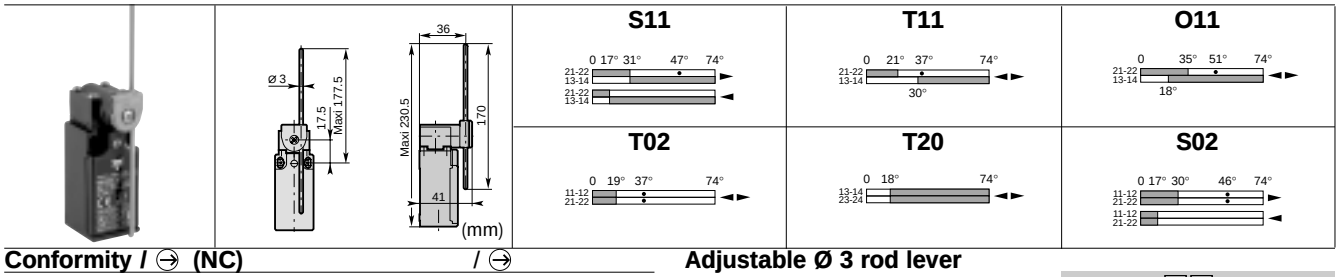
● Cable Gland

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

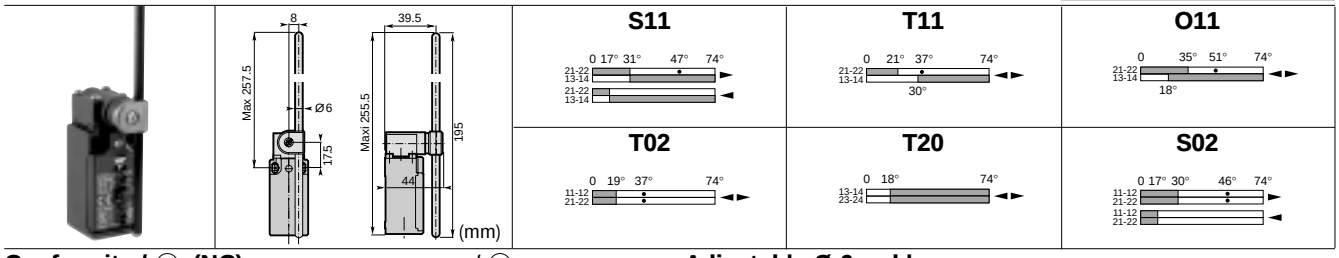


▲ Contact block (Zb type)

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

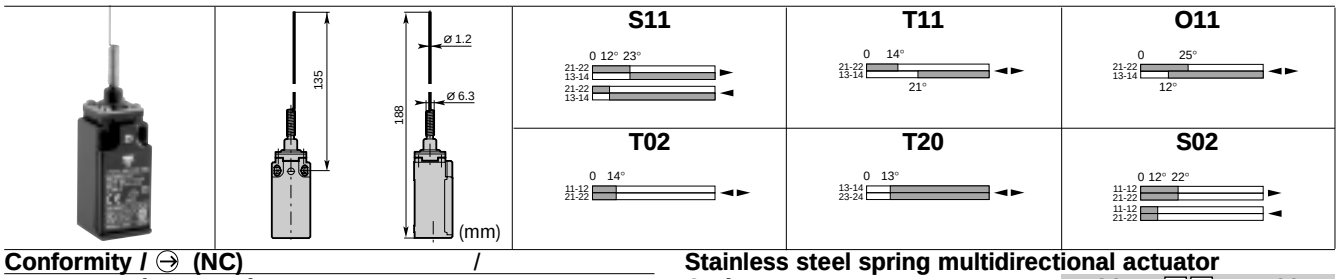


Conformity / ➔ (NC)	/ ➔	**Adjustable Ø 3 rod lever**
Max. Actuation speed	1.5ms	**Code** stainless steel rod — **PS21L-●▲LA-T00**
Min. force or torque	0.10N / 0.32	fiberglass rod — **PS21L-●▲LF-T00**
Weight	105g	



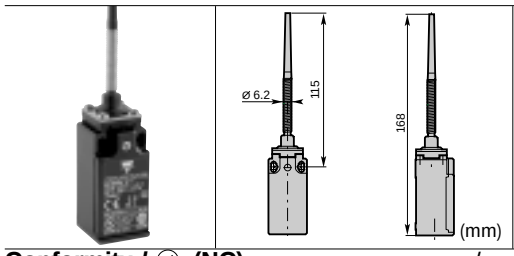
Conformity / ➔ (NC)	/ ➔	**Adjustable Ø 6 rod lever**
Max. Actuation speed	1.5ms	**Code** nylon rod — **PS21L-●▲LN-T00**
Min. force or torque	0.10N / 0.32Nm	fiberglass rod — **PS21L-●▲LG-T00**
Weight	115g	

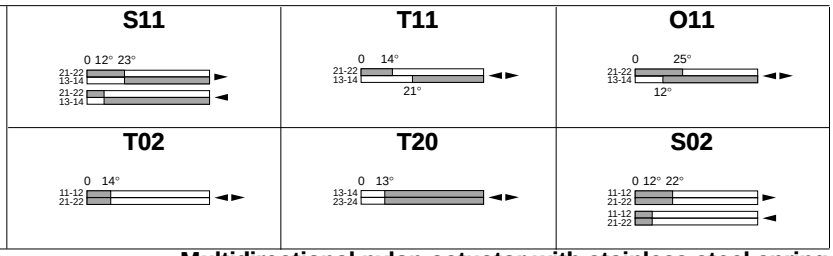
Conformity / ➔ (NC)	/ ➔	**Adjustable square steel rod lever**
Max. Actuation speed	1.5ms	**Code** — **PS21L-●▲L3-T00**
Min. force or torque	0.10N / 0.32Nm	
Weight	105g	



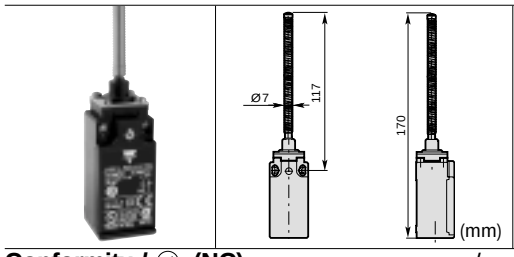
Conformity / ➔ (NC)	/	**Stainless steel spring multidirectional actuator**
Max. Actuation speed	1.0ms	**Code** — **PS21L-●▲LW-T00**
Min. force or torque	0.12N / -	
Weight	80g	

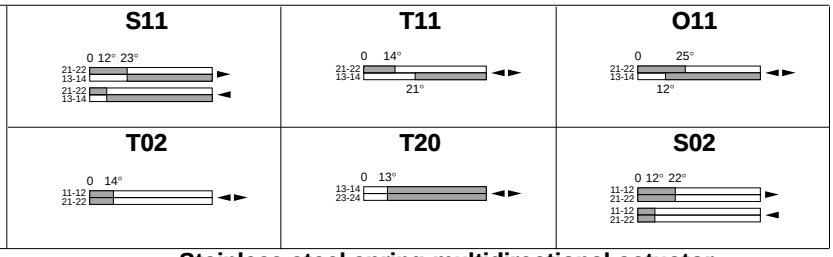
Specifications are subject to change without notice. Pictures are just an example. For special features and/or customization, please ask to our sales network.



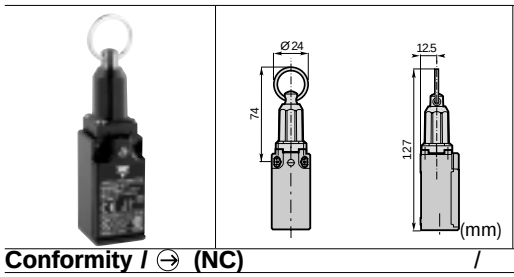


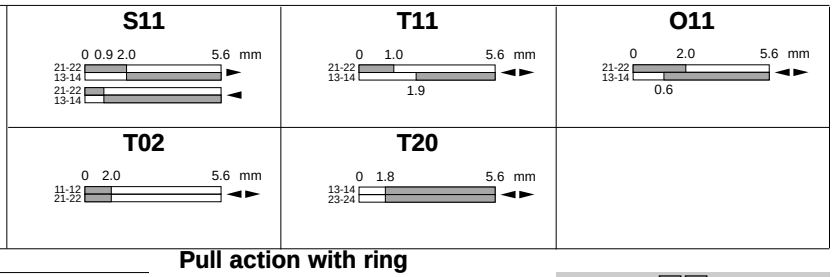
Conformity / ⊖ (NC)	/	**Multidirectional nylon actuator with stainless steel spring**
Max. Actuation speed	1.0ms	**Code** **PS21L-●▲LP-T00**
Min. force or torque	0.12N / -	
Weight	85g	





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





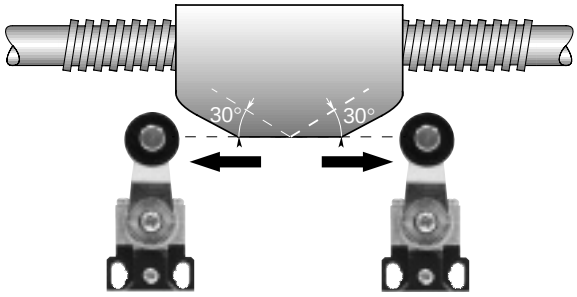
Conformity / ⊖ (NC)	/	**Pull action with ring**
Max. Actuation speed	0.5ms	**Code** **PS21L-●▲N6-T00**
Min. force or torque	30N / -	
Weight	115g	

Utilization precautions

Plain plunger

Correct **Incorrect**

Roller plunger or Roller lever



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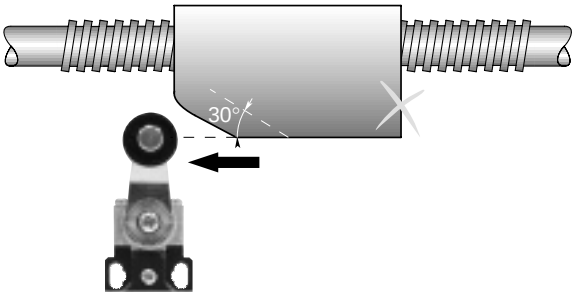
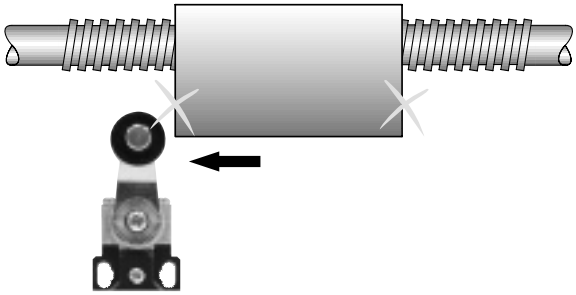


Incorrect



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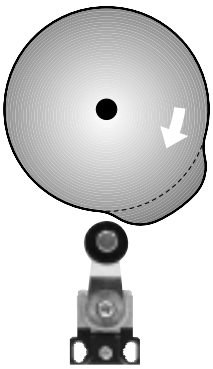
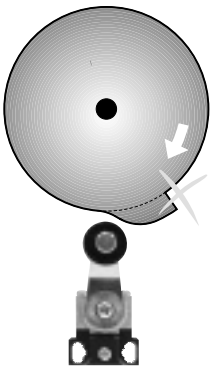


Correct



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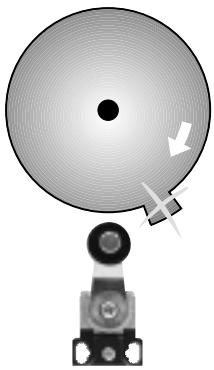

Incorrect

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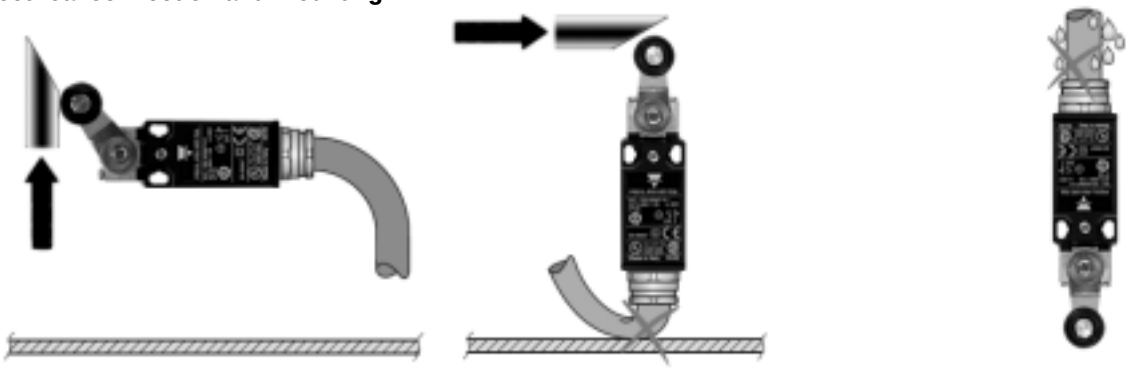
Utilization precautions

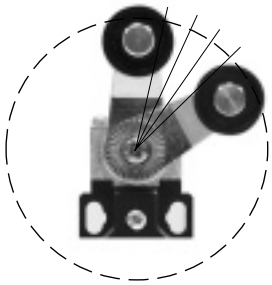
Electrical connection and mounting

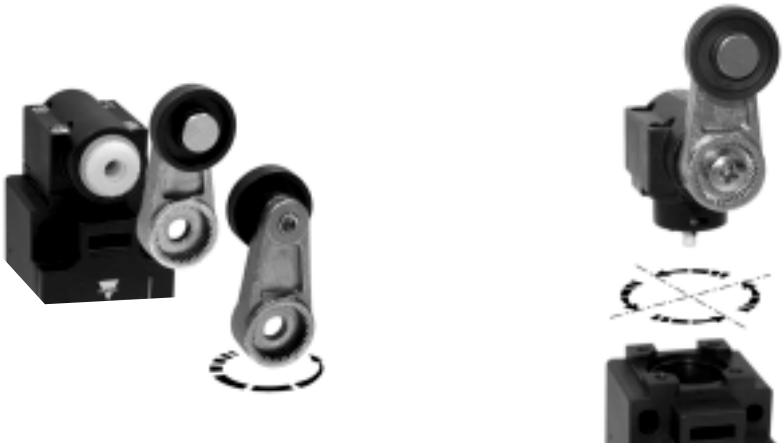


Correct | Incorrect | Incorrect

Adjustement

Position adjustement of lever



Free position adjustement 10 in 10° of lever

Position adjustement of lever and head