Limit Switches - Prewired Type
Metal Body



- Sealed with epoxy resin at the base of the box
- Degree of protection IP67
- Diecast zinc alloy 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, RoHS
- Conform with IEC 947-5-1 (EN 60947-5-1)

Product Description

They are developped with very compact size, to enable its mounting on machine's moving member during advers enviromental conditions and controlling their position.

Ordering Key

PS31M-CS11RT-M00

- **Body**
- **Cable Gland**
- **Contact block**
- **Head type**
- **Material of body and head**
- **Options**

Description of the key codes

Body

PS31M	PS 40mm (fix 20mm) 1m cable lateral side (prewired)

Cable Gland

C	Prewired - std cable
U	Prewired - UL cable

Contact block

S11	1NO+1NC snap(+)
T11	1NO+1NC slow(+)

Material of body and head

M	Metal Body and Metal head

Options

00	no option
0L	with fixing nuts (only with head type P0, PR, PY, P9, P8)

Head type

BE	nylon roller ext bent LEVER
BO	ball roller 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
LP	multidir nylon actuator with stainless steel spring
LS	stainless steel spring multidir actuator
LW	Stainless stell spring multidir actuator (cat Whisker)
LZ	Stainless stell spring actuator
P0	metal plain PLUNGER
P8	nylon cross roller PLUNGER with fixing nuts
P9	cross metal roller PLUNGER
PH	metal PLUNGER +gasket
PR	metal roller PLUNGER
PY	nylon roller PLUNGER
R1	adj LEVER with nylon roller
R2	adj LEVER with stainless stell roller
RM	metal roller LEVER
RO	roller LEVER steel ball bearing
RS	metal roller LEVER
RT	nylon roller LEVER
W1	adj LEVER with 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.

CARLO GAVAZZI

Technical Data

Standards		**Devices conform with international IEC 947-5-1 and European EN 60947-5-1 standards**
Certifications – Approvals		**UL, CSA, CE, RoHS**
Air temperature near the device		
- during operation	°C	**-25 ... +70**
- for storage	°C	**-40 ... +70**
Mounting positions		**All positions are authorized**
Protection against electrical shocks (acc.to IEC 536)		**Class I**
Degree of protection (according to IEC 529 and EN 60 529)		**IP67**
Degree of protection (according to UL50) corrosion resistant")		**Type 4 - 4X - 6** enclosure ("outdoor use - raintight - watertight

Electrical Data

Rated insulation voltage U_i			**400V** (degree of pollution 3)
-according to IEC 947-1 and EN 60-947-1			**B 300, R 300**
-according to UL 508, CSA C22-2 n°14			
Rated impulse withstand voltage Uimp (according to IEC 60947-1 and EN 60947-1)		kV	**4**
Conventional enclosed thermal current I_{th} (according to IEC 60947-1 and EN 60947-5-1) (θ≤40°C)		A	**5**
Short-circuit protection - gG type fuses		A	**6**
Rated operational current			
I_e / AC-15 - acc.to IEC 60947-5-1	24Vac (50/60 Hz)	A	**5.0**
	120Vac (50/60 Hz)	A	**3.0**
	240Vac (50/60 Hz)	A	**1.5**
I_e / DC-13 - acc.to IEC 60947-5-1	24Vdc	A	**1.1**
	110Vdc	A	**0.22**
	250Vdc	A	**0.1**
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**
Mechanical durability			**10 millions of operations**

Diagram for snap action contact:

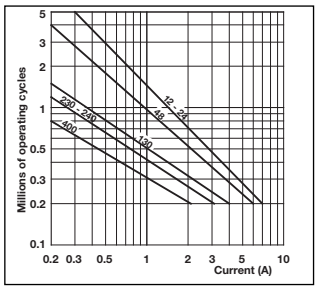
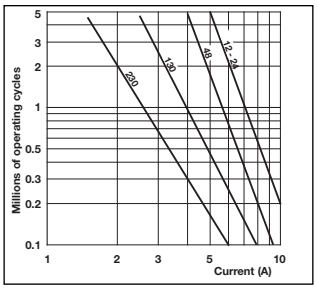


Diagram for slow action contact:



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

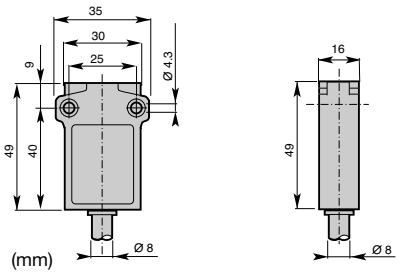
Limit Switches - Miniature Type (PS31M)
Metal Body IP67

CARLO GAVAZZI

⊙ Cable Characteristics

C = Pre-wired, 1m standard cable 4x0.75mm²
U = Pre-wired, 1m UL cable 4x0.75mm²

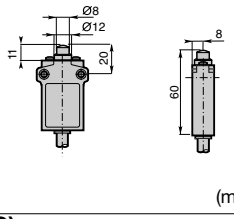
(Different lenghts available on request)



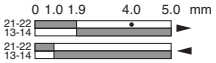
▲ Contact block (Zb type)

S11 (1NO+1NC) Snap Action 	**T11** (1NO+1NC) Non overlapping Slow action 

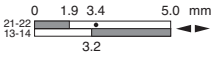




S11



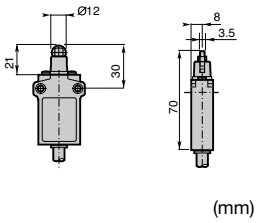
T11



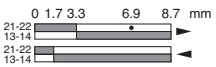
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.5ms
Min. force or torque	15N / 30Nm
Weight	180g

Plain Plunger
Code **PS31M-⊙▲P0-M00**

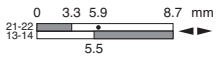




S11



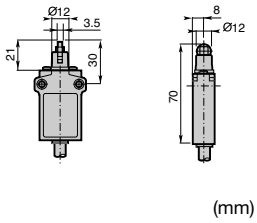
T11



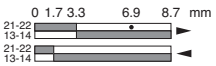
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.1ms
Min. force or torque	10N / 30Nm
Weight	185g

Roller Plunger
Code Metal roller **PS31M-⊙▲PR-M00**
Nylon roller **PS31M-⊙▲PY-M00**

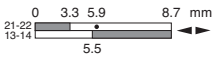




S11



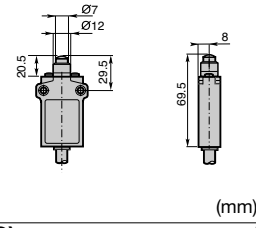
T11



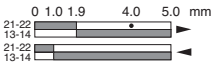
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.1ms
Min. force or torque	10N / 30Nm
Weight	185g

Cross roller plunger
Code Metal roller **PS31M-⊙▲P9-M00**
Nylon roller **PS31M-⊙▲P8-M00**

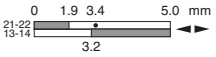




S11



T11

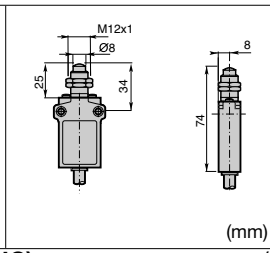


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.5ms
Min. force or torque	15N / 30Nm
Weight	185g

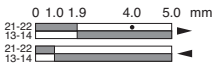
Plain plunger with dust protection cup
Code **PS31M-⊙▲PH-M00**

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

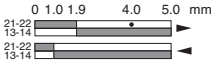




S11



T11

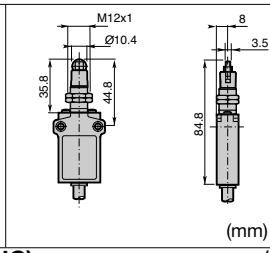


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.5ms
Min. force or torque	15N / 30Nm
Weight	195g

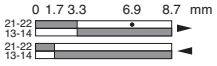
Pain plunger with fixing nuts

Code **PS31M-•▲P0-M0L**

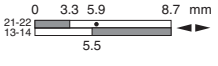




S11



T11

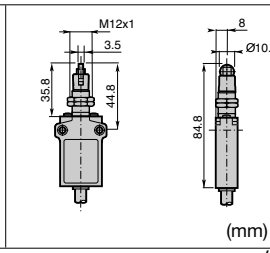


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	0.1ms
Min. force or torque	10N / 30Nm
Weight	200g

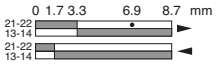
Roller plunger with fixing nuts

Code metal roller **PS31M-•▲PR-M0L**
nylon roller **PS31M-•▲PY-M0L**

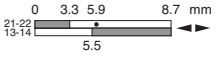




S11



T11

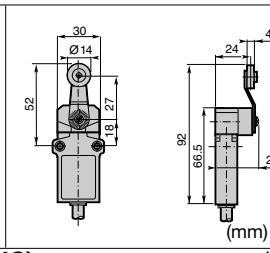


Conformity / ⊖	/ ⊖
Max. Actuation speed	0.1ms
Min. force or torque	10N / 30Nm
Weight	200g

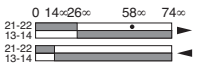
Cross roller plunger with fixing nuts

Code metal roller **PS31M-•▲P9-M0L**
nylon roller **PS31M-•▲P8-M0L**

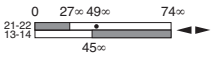




S11



T11

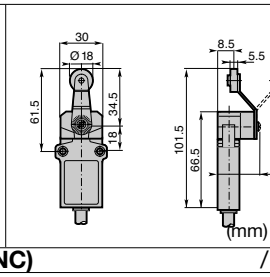


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / 0.28Nm
Weight	230g

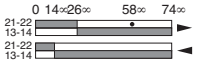
Ø14 roller lever

Code nylon roller **PS31M-•▲RT-M00**
metal roller **PS31M-•▲RS-M00**
ball bearing **PS31M-•▲RO-M00**

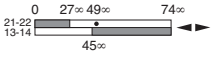




S11



T11



Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / 0.28Nm
Weight	235g

Ø18 nylon roller lever

Code **PS31M-•▲BR-M00**

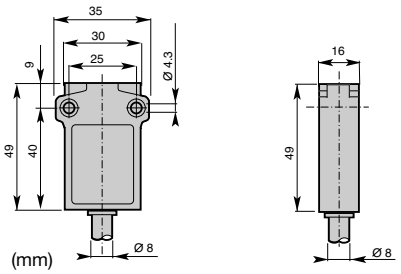
Limit Switches - Miniature Type (PS31M)
Metal Body IP67

CARLO GAVAZZI

⊙ Cable Characteristics

C = Pre-wired, 1m standard cable 4x0.75mm²
U = Pre-wired, 1m UL cable 4x0.75mm²

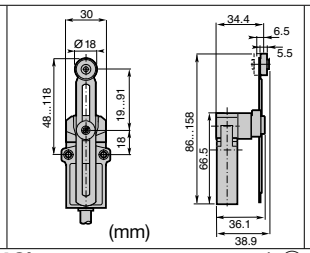
(Different lenghts available on request)



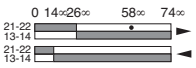
▲ Contact block (Zb type)

S11 (1NO+1NC) Snap Action 	**T11** (1NO+1NC) Non overlapping Slow action 

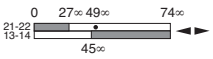




S11



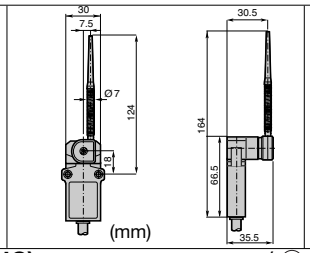
T11



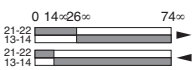
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / 0.28Nm
Weight	245g

Adjustable lever with Ø18 nylon roller
Code **PS31M-⊙▲R1-M00**

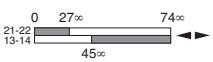




S11



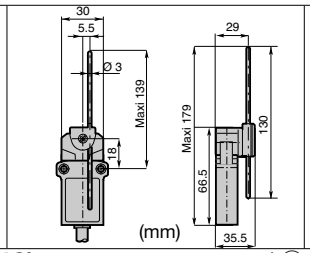
T11



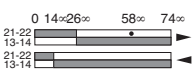
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / -
Weight	245g

Nylon actuator with stainless steel spring
Code **PS31M-⊙▲LB-M00**

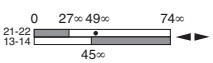




S11



T11

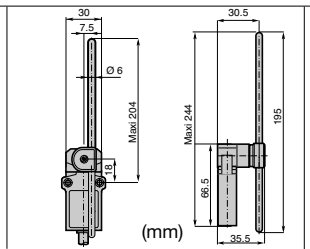


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / 0.28Nm
Weight	240g

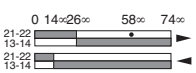
Adjustable rod lever

Code	stainless steel rod Ø3	**PS31M-⊙▲LA-M00**
	fiberglass rod Ø3	**PS31M-⊙▲LF-M00**
	square steel rod 3x3	**PS31M-⊙▲L3-M00**

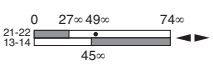




S11



T11



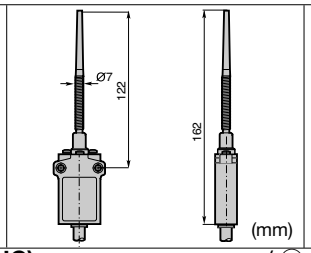
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.5ms
Min. force or torque	0.08N / 0.28Nm
Weight	255g

Adjustable Ø6 rod lever

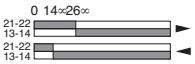
Code	Nylon rod	**PS31M-⊙▲LN-M00**
	fiberglass rod	**PS31M-⊙▲LG-M00**

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





S11

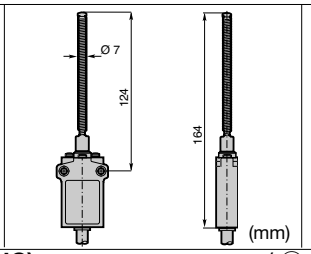


Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.0ms
Min. force or torque	0.10N / -
Weight	250g

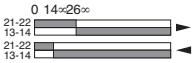
Multidirectional nylon actuator with stainless steel spring

Code **PS31M-[•][▲]LP-M00**





S11



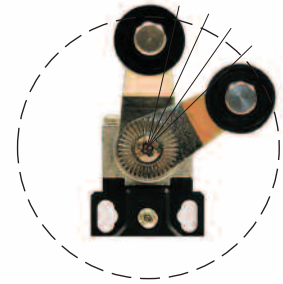
Conformity / ⊖ (NC)	/ ⊖
Max. Actuation speed	1.0ms
Min. force or torque	0.10N / -
Weight	250g

Multidirectional actuator with stainless steel spring

Code **PS31M-[•][▲]LS-M00**

Adjustement and utilization precautions

Position adjustement of lever



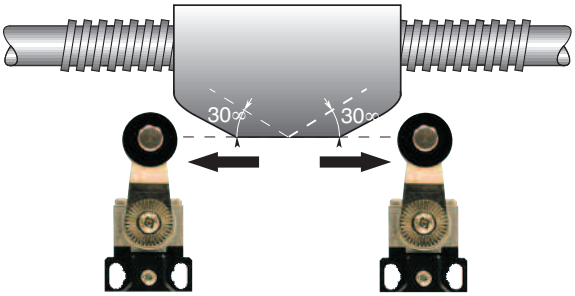
Free position adjustement 10 in 10° of lever.
The lever can be mounted reversed.

Plain plunger

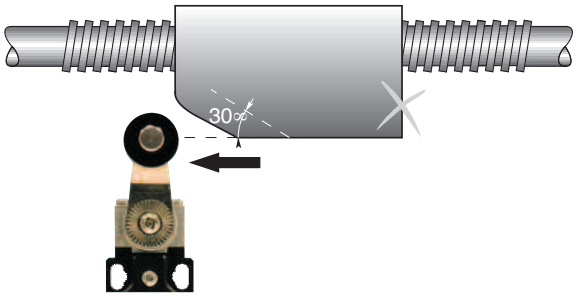


Correct Incorrect

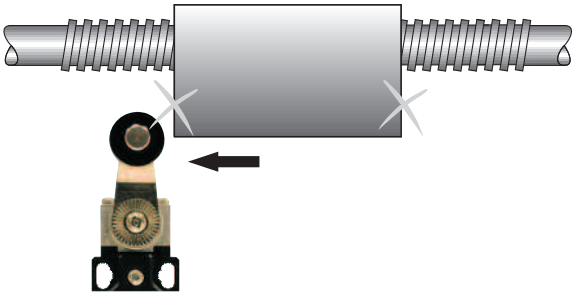
Roller plunger or Roller lever



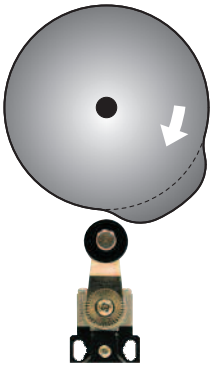
Correct



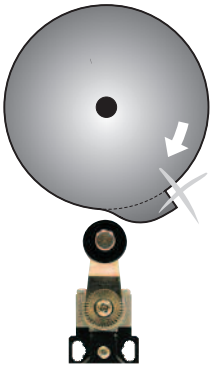
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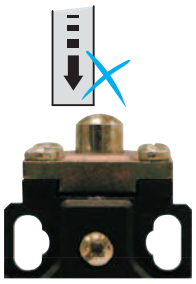
Incorrect



Correct



Incorrect



Incorrect

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