

Limit Switches - Prewired Type Metal Body



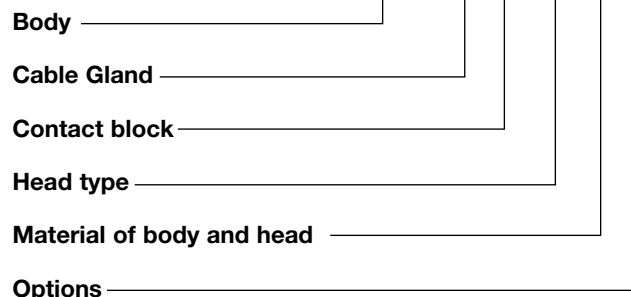
- Sealed with epoxy resin at the base of the box
- Degree of protection IP67
- Diecast zinc alloy body
- Positive Opening Operation ➔
- Minimum Actuation Force/Torque
- Minimum Force to achieve Positive Opening Operation
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- 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 developed with very compact size, to enable its mounting on machine's moving member during adverse environmental conditions and controlling their position.

Ordering Key

PS31M-CS11RT-M00



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 steel spring multidir actuator (cat Whisker)
LZ | Stainless steel 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 steel 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

Technical Data

Standards

Certifications – Approvals

Air temperature near the device

- during operation

- for storage

°C

°C

Devices conform with international IEC 947-5-1 and European EN 60947-5-1 standards

UL, CSA, CE, RoHS

-25 ... +70

-40 ... +70

Mounting positions

All positions are authorized

Protection against electrical shocks (acc.to IEC 536)

Degree of protection (according to IEC 529 and EN 60 529)

Degree of protection (according to UL50)

corrosion resistant")

Class I

IP67

Type 4 - 4X - 6 enclosure ("outdoor use - raintight - watertight

Electrical Data

Rated insulation voltage U_i

-according to IEC 947-1 and EN 60-947-1

-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_{th}

A

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

Short-circuit protection - gG type fuses

A

400V (degree of pollution 3)

B 300, R 300

4

5

6

Rated operational current

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

24Vac (50/60 Hz) A

120Vac (50/60 Hz) A

240Vac (50/60 Hz) A

5.0

3.0

1.5

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

24Vdc A

110Vdc A

250Vdc A

1.1

0.22

0.1

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

- max. switching frequency Cycles/h

- load factor

Mechanical durability

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

3600

0.5

10 millions of operations

Diagram for snap action contact

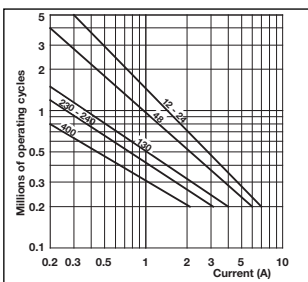
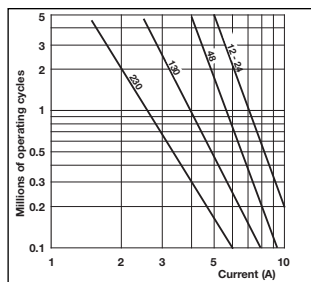


Diagram for slow action contact



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



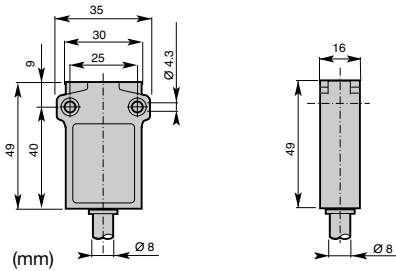
Cable Characteristics

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

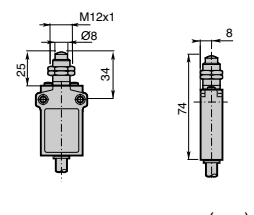
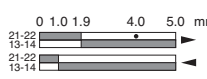
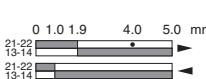
(Different lenghts available on request)

Contact block (Zb type)

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



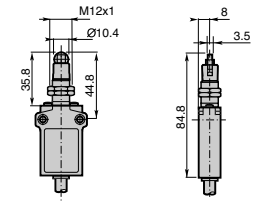
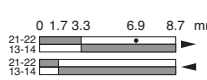
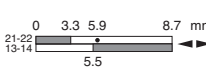
		S11 	T11
Conformity / (NC) /		Plain Plunger Code PS31M- P0-M00	
Max. Actuation speed 0.5ms			
Min. force or torque 15N / 30Nm			
Weight 180g			
		S11 	T11
Conformity / (NC) /		Roller Plunger Code Metal roller PS31M- PR-M00 Nylon roller PS31M- PY-M00	
Max. Actuation speed 0.1ms			
Min. force or torque 10N / 30Nm			
Weight 185g			
		S11 	T11
Conformity / (NC) /		Cross roller plunger Code Metal roller PS31M- P9-M00 Nylon roller PS31M- P8-M00	
Max. Actuation speed 0.1ms			
Min. force or torque 10N / 30Nm			
Weight 185g			
		S11 	T11
Conformity / (NC) /		Plain plunger with dust protection cup Code PS31M- PH-M00	
Max. Actuation speed 0.5ms			
Min. force or torque 15N / 30Nm			
Weight 185g			

		S11 	T11 
---	---	---	---

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

Pain plunger with fixing nuts
 Code

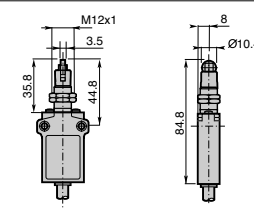
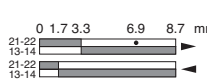
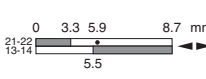
PS31M- $\square$ $\blacktriangle$ P0-M0L

		S11 	T11 
---	---	---	---

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

Roller plunger with fixing nuts
 Code metal roller
 Code nylon roller

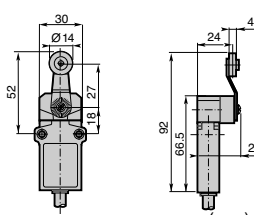
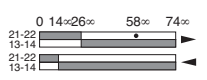
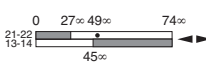
PS31M- $\square$ $\blacktriangle$ PR-M0L
 PS31M- $\square$ $\blacktriangle$ PY-M0L

		S11 	T11 
---	---	---	---

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

Cross roller plunger with fixing nuts
 Code metal roller
 Code nylon roller

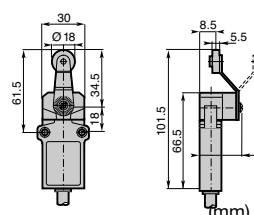
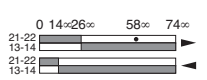
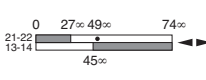
PS31M- $\square$ $\blacktriangle$ P9-M0L
 PS31M- $\square$ $\blacktriangle$ P8-M0L

		S11 	T11 
---	---	---	---

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

Ø14 roller lever
 Code nylon roller
 Code metal roller
 Code ball bearing

PS31M- $\square$ $\blacktriangle$ RT-M00
 PS31M- $\square$ $\blacktriangle$ RS-M00
 PS31M- $\square$ $\blacktriangle$ RO-M00

		S11 	T11 
---	---	---	---

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

Ø18 nylon roller lever
 Code

PS31M- $\square$ $\blacktriangle$ BR-M00

Limit Switches - Miniature Type (PS31M) Metal Body IP67

CARLO GAVAZZI

• Cable Characteristics

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

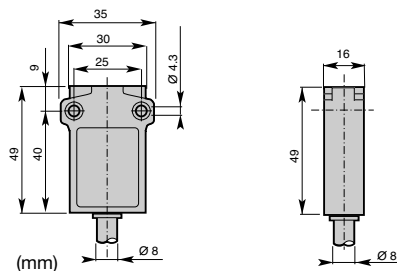
U = Pre-wired, 1m UL cable 4x0.75mm²

(Different lengths 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

fiberglass rod Ø3

square steel rod 3x3

PS31M-•▲LA-M00

PS31M-•▲LF-M00

PS31M-•▲L3-M00

		S11	T11
--	--	-------------------	-------------------

Conformity / (NC) /

Max. Actuation speed 1.5ms

Min. force or torque 0.08N / 0.28Nm

Weight 255g

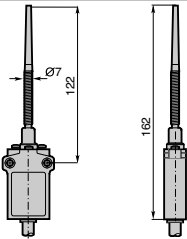
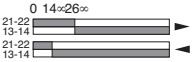
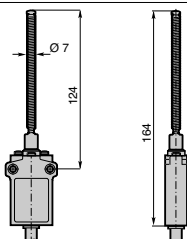
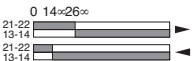
Adjustable Ø6 rod lever

Code Nylon rod

fiberglass rod

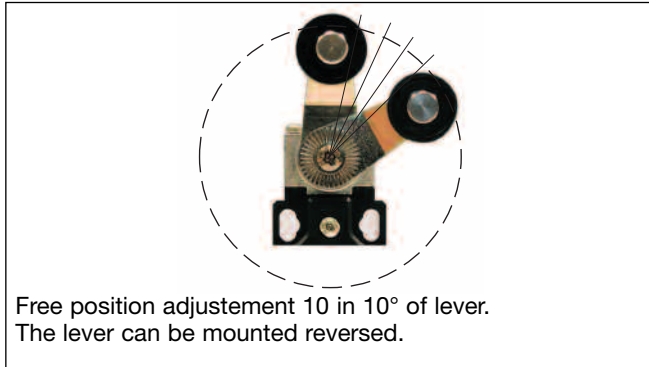
PS31M-•▲LN-M00

PS31M-•▲LG-M00

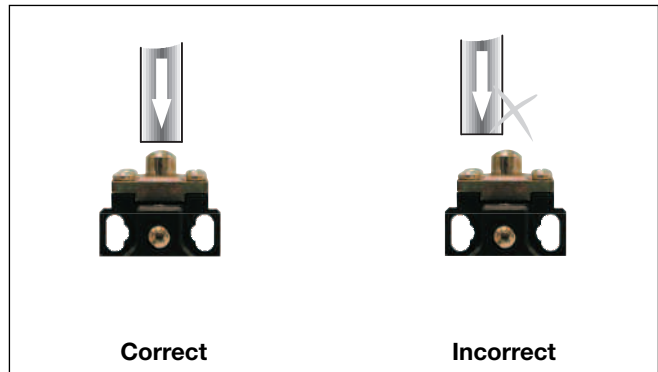
		S11 	
Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.10N / - Weight 250g		Multidirectional nylon actuator with stainless steel spring Code PS31M-LP-M00	
		S11 	
Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.10N / - Weight 250g		Multidirectional actuator with stainless steel spring Code PS31M-LS-M00	

Adjustement and utilization precautions

Position ajustement of lever



Plain plunger



Roller plunger or Roller lever

