

Limit Switches - Prewired Type Metal Body



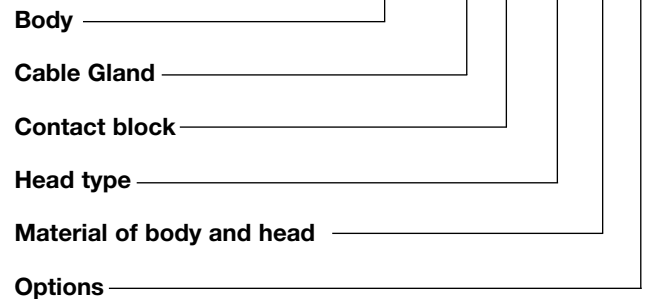
- Sealed with epoxy resin at the base of the box
- Degree of protection IP67
- Diecast zinc alloy body
- Positive Opening Operation (→)
- Minimum Actuation Force/Torque
- Minimum Force to achieve Positive Opening Operation
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- Zb type contact blocks
- Current I_{th} = 10A
- Rated insulation voltage U_i = 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

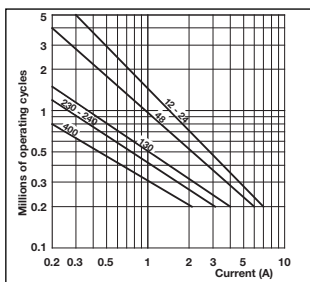
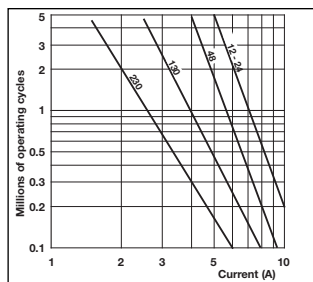


Diagram for slow action contact



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 |

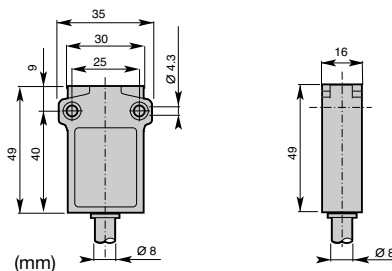
Limit Switches - Miniature Type (PS31M) Metal Body IP67



▣ Cable Characteristics

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

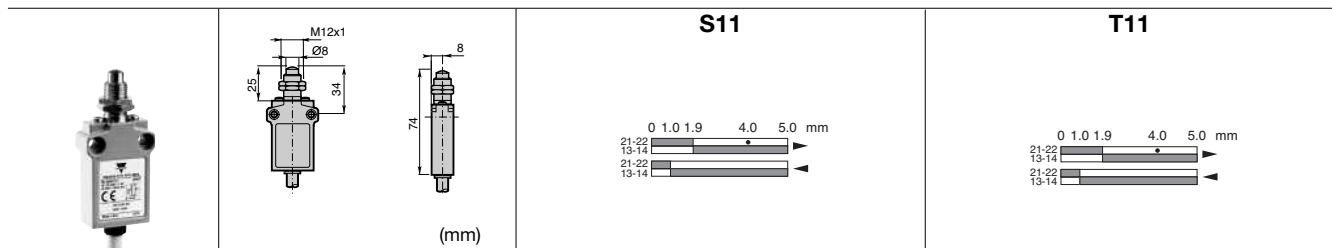
(Different lengths available on request)



▲ Contact block (Zb type)

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

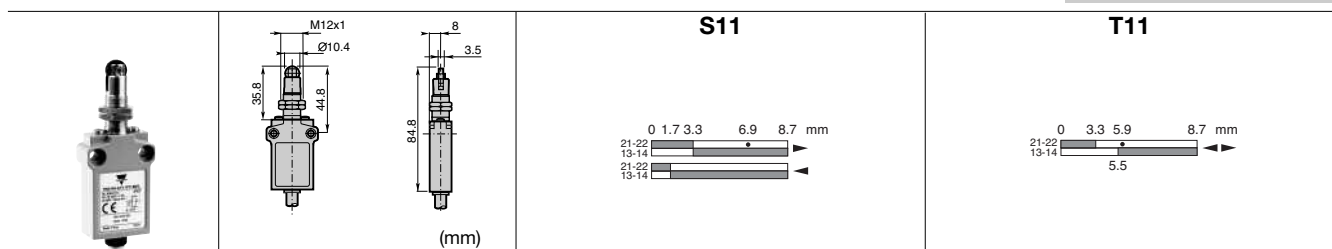
| | | | |
|---------------------------------|------------|---|--|
| | | S11 | T11 |
| Conformity / (NC) / (NC) | | Plain Plunger Code | PS31M-▣▲P0-M00 |
| Max. Actuation speed | 0.5ms | | |
| Min. force or torque | 15N / 30Nm | | |
| Weight | 180g | | |
| | | S11 | T11 |
| Conformity / (NC) / (NC) |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



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

S11
 Pain plunger with fixing nuts
 Code

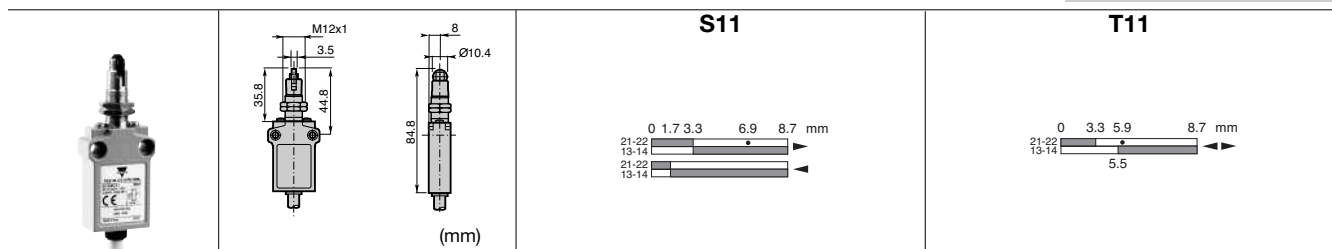
T11
 PS31M-▲P0-M0L



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

S11
 Roller plunger with fixing nuts
 Code metal roller
 nylon roller

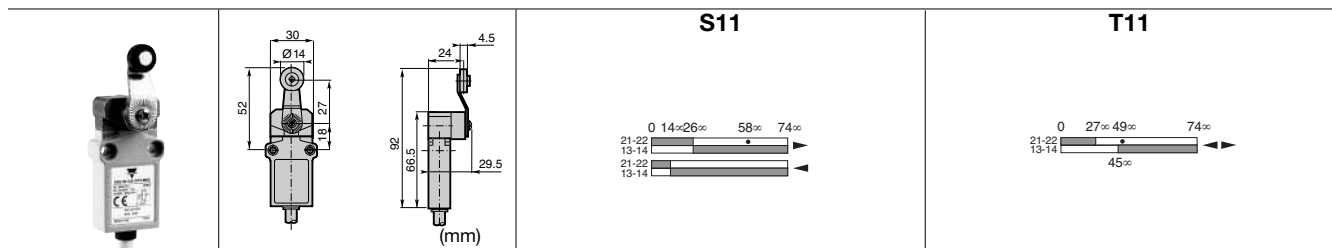
T11
 PS31M-▲PR-M0L
 PS31M-▲PY-M0L



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

S11
 Cross roller plunger with fixing nuts
 Code metal roller
 nylon roller

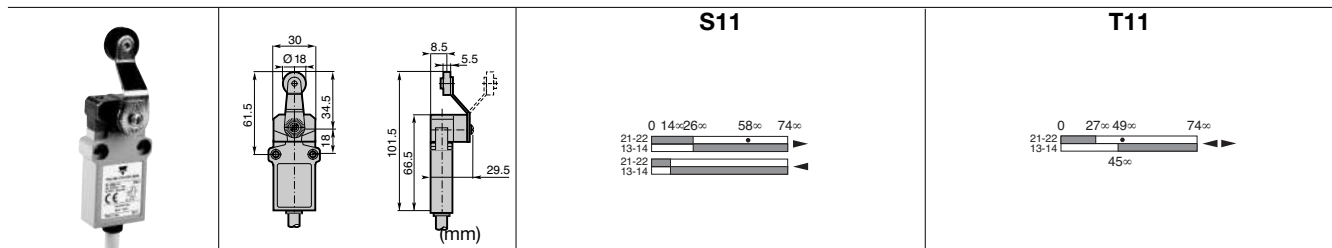
T11
 PS31M-▲P9-M0L
 PS31M-▲P8-M0L



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

S11
 Ø14 roller lever
 Code nylon roller
 metal roller
 ball bearing

T11
 PS31M-▲RT-M00
 PS31M-▲RS-M00
 PS31M-▲RO-M00



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

S11
 Ø18 nylon roller lever
 Code

T11
 PS31M-▲BR-M00

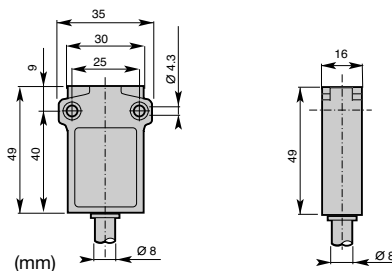
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▣ Cable Characteristics

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 |
|--|--|----------------|----------------|

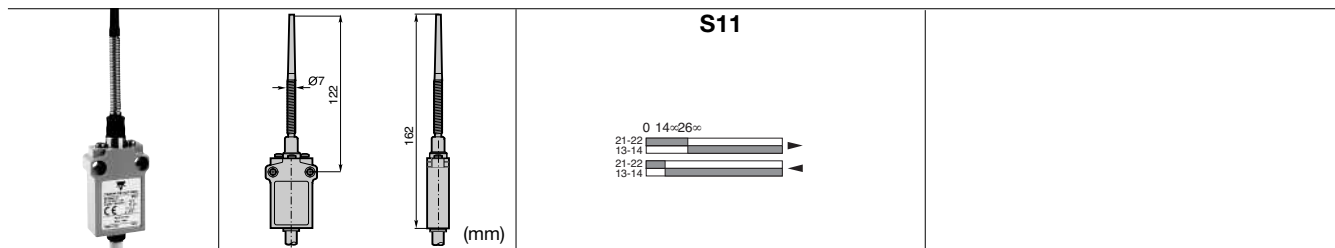
| | |
|-----------------------------|----------------|
| Conformity / (NC) / | |
| Max. Actuation speed | 1.5ms |
| Min. force or torque | 0.08N / 0.28Nm |
| Weight | 240g |



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 |
|--|--|----------------|----------------|

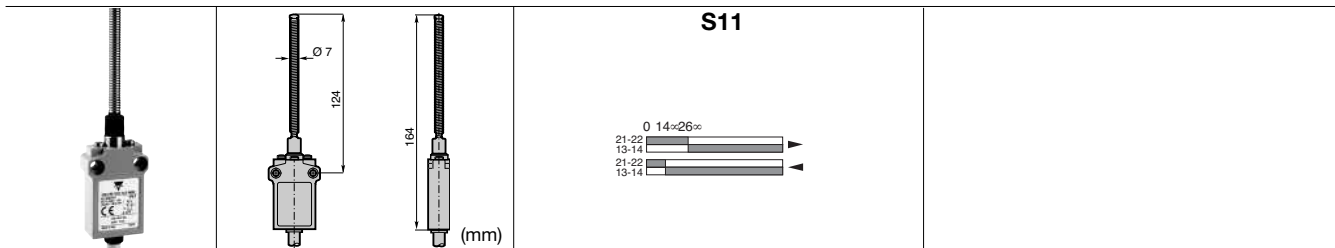
| | |
|-----------------------------|----------------|
| Conformity / (NC) / | |
| Max. Actuation speed | 1.5ms |
| Min. force or torque | 0.08N / 0.28Nm |
| Weight | 255g |



Adjustable Ø6 rod lever
Code Nylon rod
 fiberglass rod
PS31M-▣▲LN-M00
PS31M-▣▲LG-M00





| | |
|---|--|
| 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

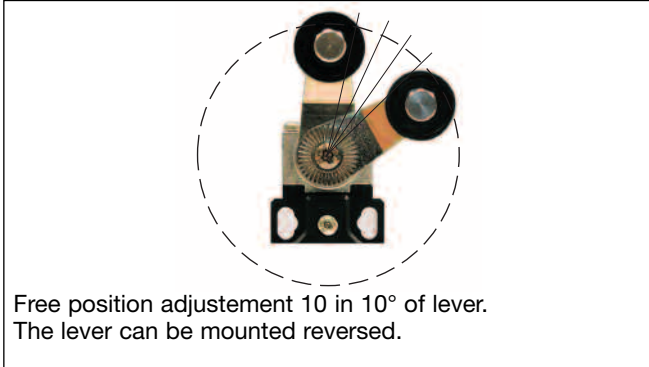


| | |
|---|--|
| Conformity /  (NC) | /  |
| Max. Actuation speed | 1.0ms |
| Min. force or torque | 0.10N / - |
| Weight | 250g |

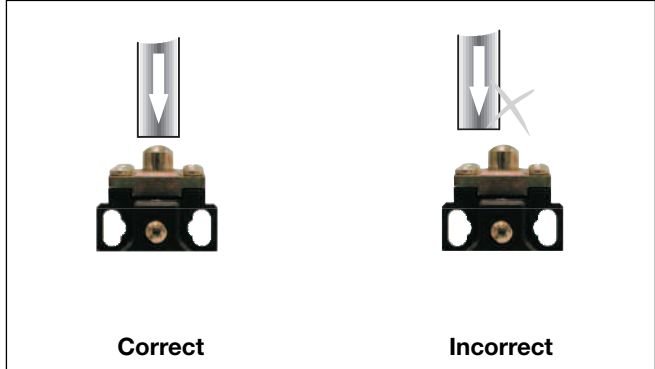
Multidirectional actuator with stainless steel spring
Code PS31M-LS-M00

Adjustement and utilization precautions

Position ajustement of lever



Plain plunger



Roller plunger or Roller lever

