

Limit Switches - Prewired Type Metal Body



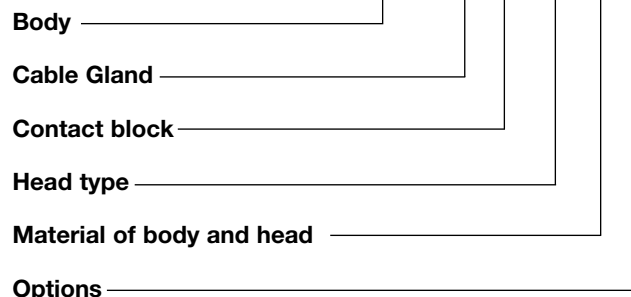
- Sealed with epoxy resin at the base of the box
- Degree of protection IP67
- Diecast zinc alloy body
- Positive Opening Operation ➔
- Minimum Actuation Force/Torque
- Minimum Force to achieve Positive Opening Operation
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- 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}

(according to IEC 60947-1 and EN 60947-1)

Conventional enclosed thermal current I_{th}

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

Short-circuit protection - gG type fuses

kV

A

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

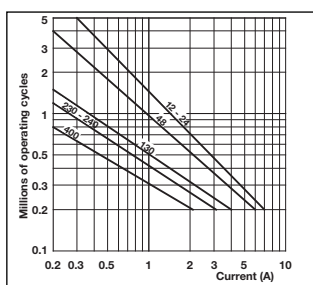
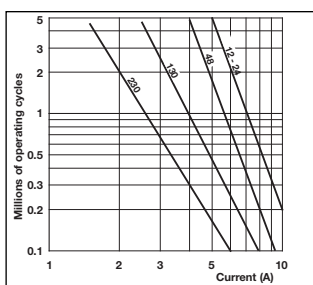


Diagram for slow action contact



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

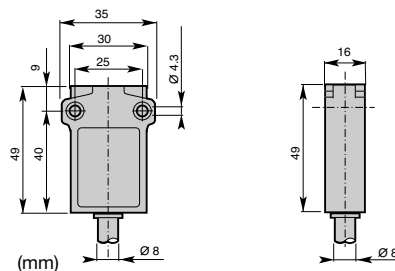
C = Pre-wired, 1m standard cable 4x0.75mm²

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	
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		S11		T11	
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Conformity / (NC) / (N)

Max. Actuation speed 0.5ms

Min. force or torque 15N / 30Nm

Weight 180g

Plain Plunger
Code

PS31M-•▲P0-M00

		S11		T11	
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Conformity / (NC) / (N)

Max. Actuation speed 0.1ms

Min. force or torque 10N / 30Nm

Weight 185g

Roller Plunger
Code Metal roller
Nylon roller

PS31M-•▲PR-M00
PS31M-•▲PY-M00

		S11		T11	
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Conformity / (NC) / (N)

Max. Actuation speed 0.1ms

Min. force or torque 10N / 30Nm

Weight 185g

Cross roller plunger
Code Metal roller
Nylon roller

PS31M-•▲P9-M00
PS31M-•▲P8-M00

		S11		T11	
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Conformity / (NC) / (N)

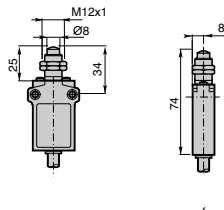
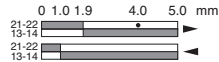
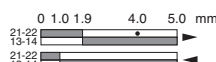
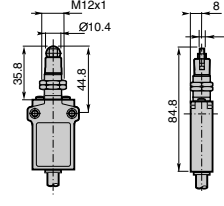
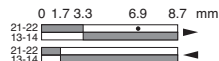
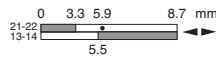
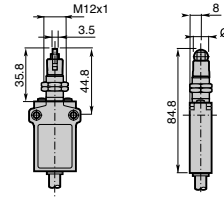
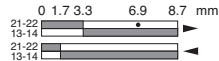
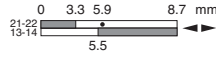
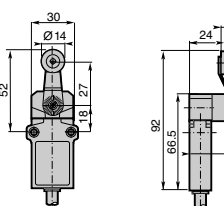
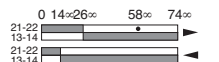
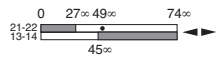
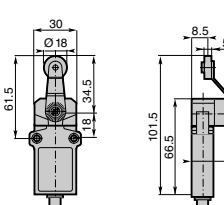
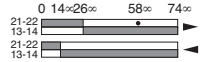
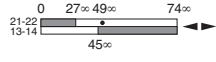
Max. Actuation speed 0.5ms

Min. force or torque 15N / 30Nm

Weight 185g

Plain plunger with dust protection cup
Code

PS31M-•▲PH-M00

		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 nylon roller	PS31M-  PR-M0L PS31M-  PY-M0L
		S11 	T11 
Conformity /  (NC) /  Max. Actuation speed 0.1ms Min. force or torque 10N / 30Nm Weight 200g		Cross roller plunger with fixing nuts Code metal roller nylon roller	PS31M-  P9-M0L 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 metal roller ball bearing	PS31M-  RT-M00 PS31M-  RS-M00 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

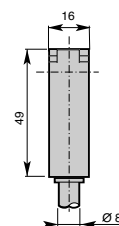
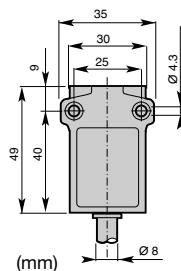
(Different lengths available on request)

▲ Contact block (Zb type)

S11 (1NO+1NC)
Snap Action



T11 (1NO+1NC)
Non overlapping
Slow action



		S11	T11
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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
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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
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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
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Conformity / (NC) /

Max. Actuation speed 1.5ms

Min. force or torque 0.08N / 0.28Nm

Weight 255g

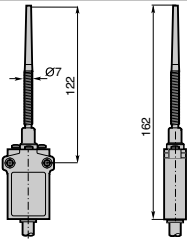
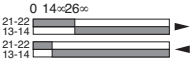
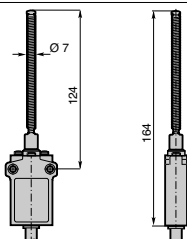
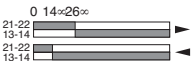
Adjustable Ø6 rod lever

Code Nylon rod

fiberglass rod

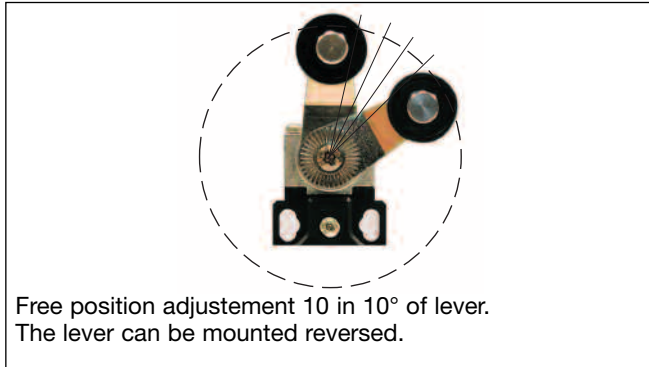
PS31M-•▲LN-M00

PS31M-•▲LG-M00

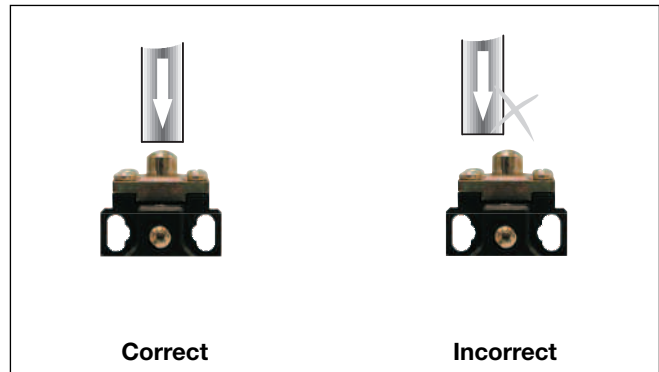
		S11 	
Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.10N / - Weight 250g		Multidirectional nylon actuator with stainless steel spring Code PS31M-LP-M00	
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Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque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

Adjustement and utilization precautions

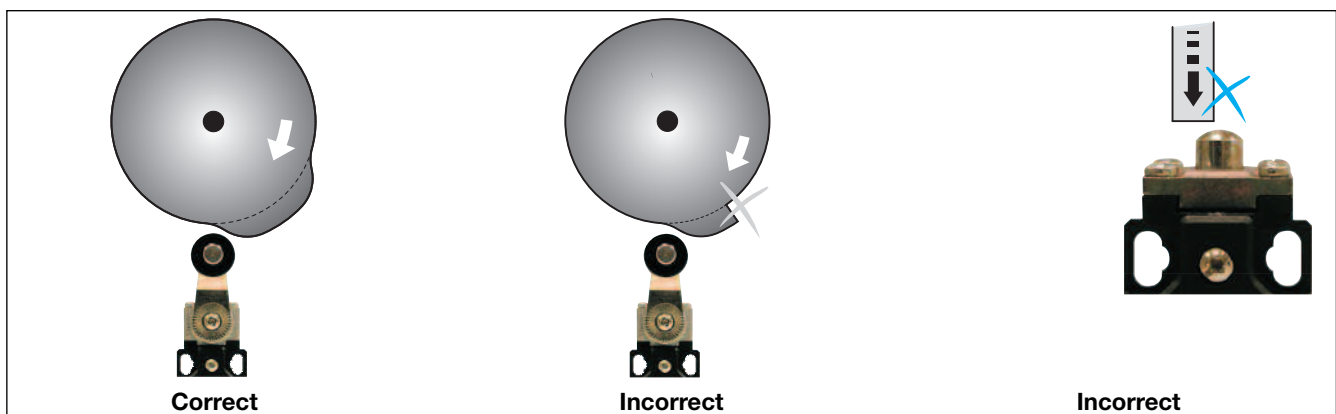
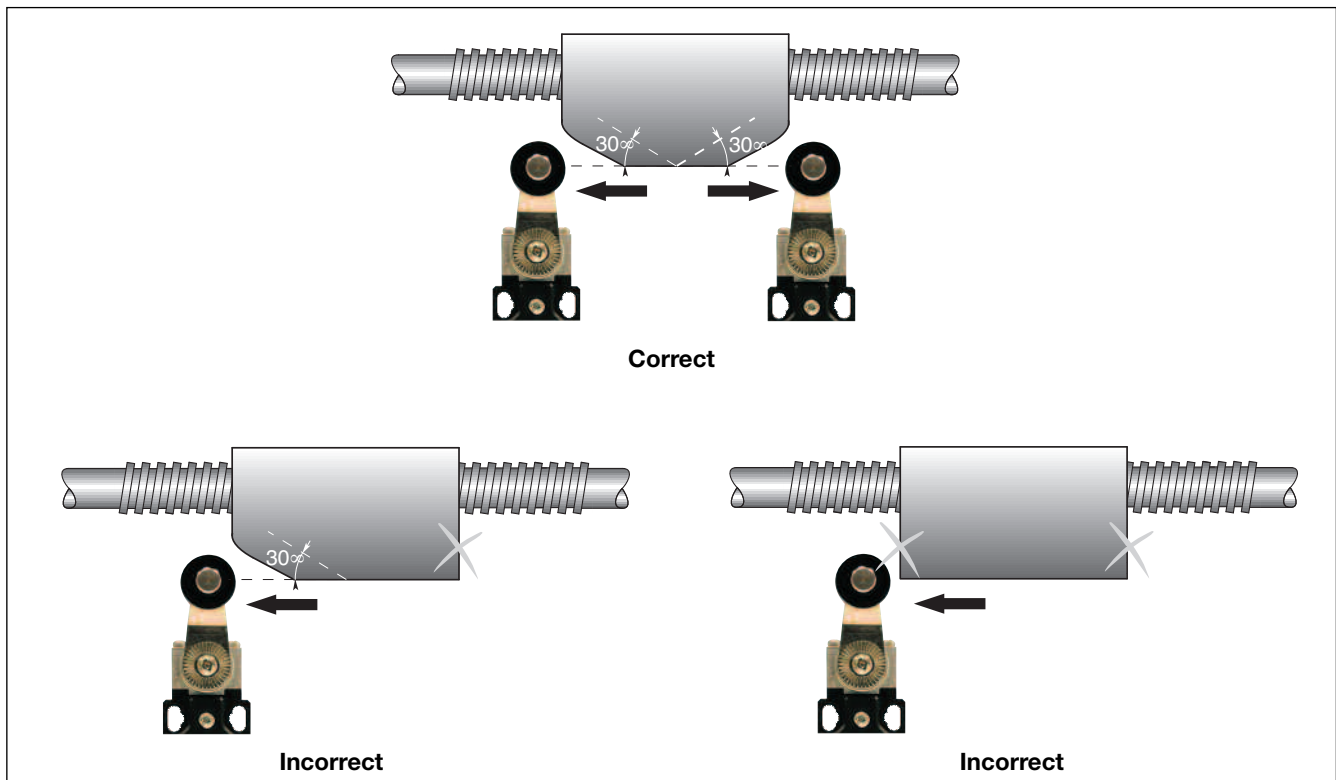
Position ajustement of lever



Plain plunger



Roller plunger or Roller lever



Mouser Electronics

Authorized Distributor

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PS31M-US11BE-M00	PS31M-US11LW-T00	PS31M-UT11RT-T00	PS31M-UT11RO-M00	PS31M-UT11PR-T0L
PS31M-UT11W1-M00	PS31M-US11LP-M0L	PS31M-UT11RT-M00	PS31M-UT11W1-T00	PS31M-UT11PH-M00
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PS31M-UT11PR-M00	PS31M-US11RT-T00	PS31M-UT11RS-T00	PS31M-US11LG-M00	PS31M-US11BO-T00
PS31M-CS11R1-M00	PS31M-UT11LS-T00	PS31M-UT11LG-T00	PS31M-US11P9-T0L	PS31M-UT11LW-T00
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