

Limit Switches - Prewired Type Metal Body



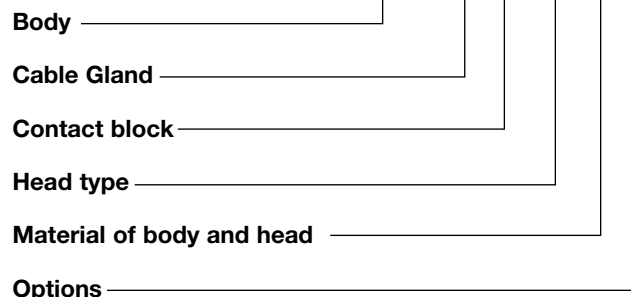
- Sealed with epoxy resin at the base of the box
- Degree of protection IP67
- Diecast zinc alloy body
- Positive Opening Operation ➔
- Minimum Actuation Force/Torque
- Minimum Force to achieve Positive Opening Operation
- Precise operating points (consistency)
- Immune to electromagnetic disturbances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

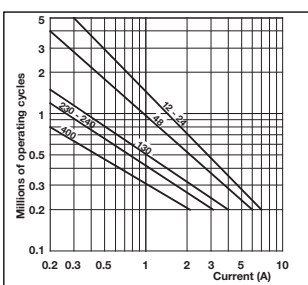
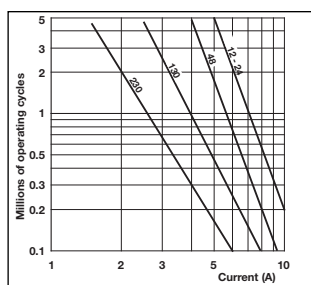


Diagram for slow action contact



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



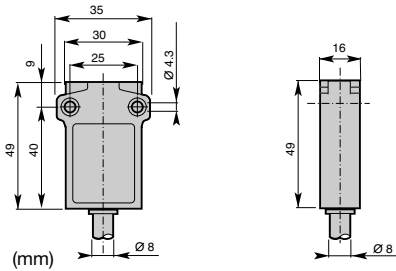
Cable Characteristics

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

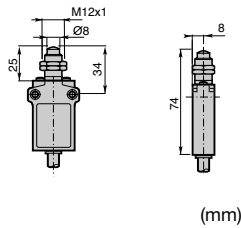
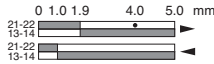
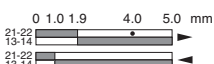
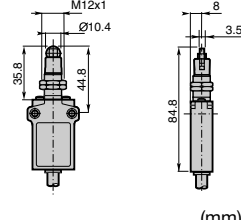
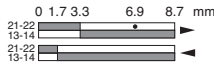
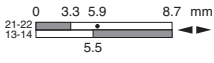
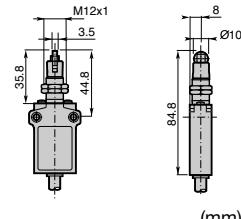
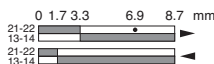
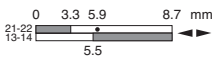
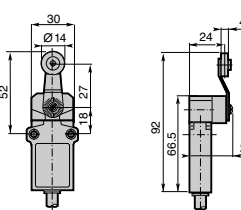
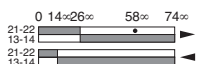
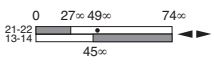
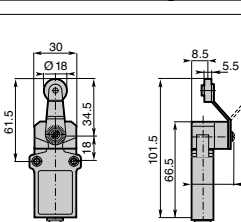
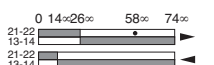
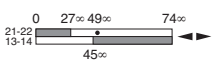
(Different lenghts available on request)

Contact block (Zb type)

S11 (1NO+1NC) Snap Action		T11 (1NO+1NC) Non overlapping Slow action	
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		S11 	T11
Conformity / (NC) / (C)		Plain Plunger Code	
Max. Actuation speed 0.5ms		PS31M-P0-M00	
Min. force or torque 15N / 30Nm			
Weight 180g			
		S11 	T11
Conformity / (NC) / (C)		Roller Plunger Code	
Max. Actuation speed 0.1ms		PS31M-PR-M00	
Min. force or torque 10N / 30Nm		PS31M-PY-M00	
Weight 185g			
		S11 	T11
Conformity / (NC) / (C)		Cross roller plunger Code	
Max. Actuation speed 0.1ms		PS31M-P9-M00	
Min. force or torque 10N / 30Nm		PS31M-P8-M00	
Weight 185g			
		S11 	T11
Conformity / (NC) / (C)		Plain plunger with dust protection cup Code	
Max. Actuation speed 0.5ms		PS31M-PH-M00	
Min. force or torque 15N / 30Nm			
Weight 185g			

			
Conformity /  (NC) / 		Pain plunger with fixing nuts	PS31M-P0-M0L
Max. Actuation speed 0.5ms		Code	
Min. force or torque 15N / 30Nm			
Weight 195g			
			
Conformity /  (NC) / 		Roller plunger with fixing nuts	PS31M-PR-M0L PS31M-PY-M0L
Max. Actuation speed 0.1ms		Code metal roller nylon roller	
Min. force or torque 10N / 30Nm			
Weight 200g			
			
Conformity /  (NC) / 		Cross roller plunger with fixing nuts	PS31M-P9-M0L PS31M-P8-M0L
Max. Actuation speed 0.1ms		Code metal roller nylon roller	
Min. force or torque 10N / 30Nm			
Weight 200g			
			
Conformity /  (NC) / 		Ø14 roller lever	PS31M-RT-M00 PS31M-RS-M00 PS31M-RO-M00
Max. Actuation speed 1.5ms		Code nylon roller metal roller ball bearing	
Min. force or torque 0.08N / 0.28Nm			
Weight 230g			
			
Conformity /  (NC) / 		Ø18 nylon roller lever	PS31M-BR-M00
Max. Actuation speed 1.5ms		Code	
Min. force or torque 0.08N / 0.28Nm			
Weight 235g			

Limit Switches - Miniature Type (PS31M) Metal Body IP67

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• Cable Characteristics

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

U = Pre-wired, 1m UL cable 4x0.75mm²

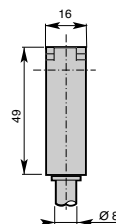
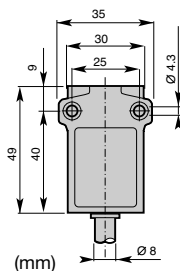
(Different lengths available on request)

▲ Contact block (Zb type)

S11 (1NO+1NC)
Snap Action



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



		S11	T11
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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

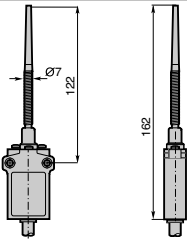
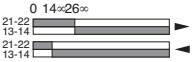
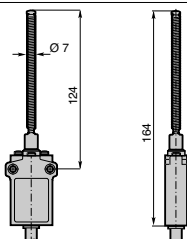
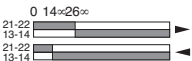
Adjustable Ø6 rod lever

Code Nylon rod

fiberglass rod

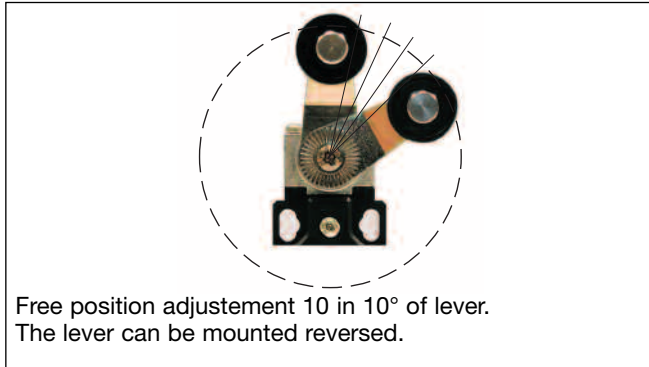
PS31M-•▲LN-M00

PS31M-•▲LG-M00

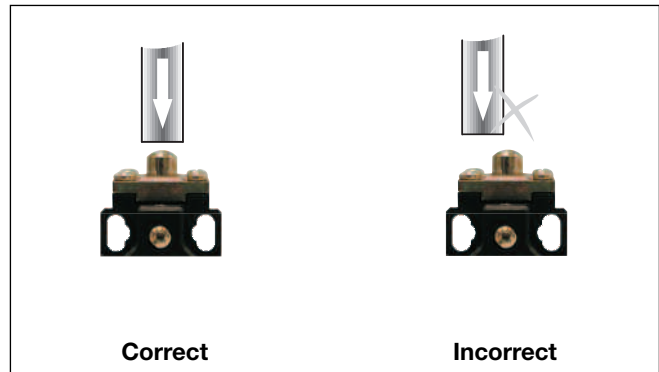
		S11 	
Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.10N / - Weight 250g		Multidirectional nylon actuator with stainless steel spring Code PS31M-LP-M00	
		S11 	
Conformity / (NC) / (NC) Max. Actuation speed 1.0ms Min. force or torque 0.10N / - Weight 250g		Multidirectional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

Adjustement and utilization precautions

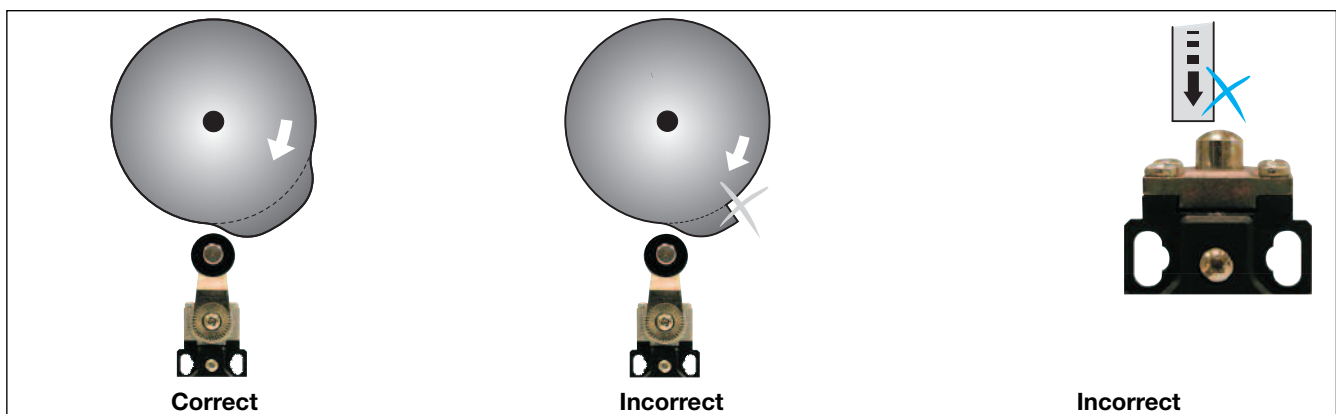
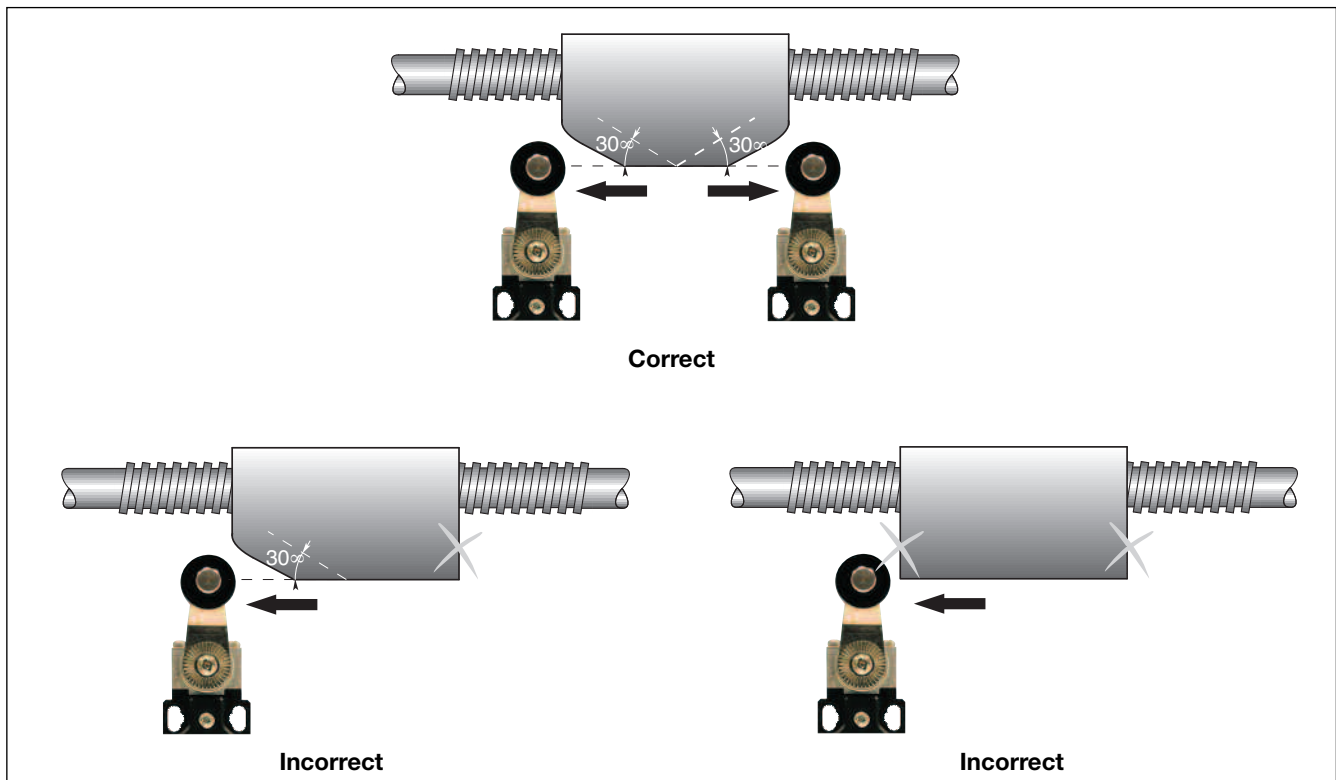
Position ajustement of lever



Plain plunger



Roller plunger or Roller lever



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<u>PS31M-US11BE-M00</u>	<u>PS31M-UT11RT-M00</u>	<u>PS31M-US11P9-M00</u>	<u>PS31M-US11BR-M00</u>	<u>PS31M-US11P9-M0L</u>
<u>PS31M-US11PH-M00</u>	<u>PS31M-UT11PR-M00</u>	<u>PS31M-CS11R1-M00</u>	<u>PS31M-US11P0-M00</u>	<u>PS31M-US11P0-M0L</u>
<u>PS31M-US11LS-M00</u>	<u>PS31M-US11PR-M00</u>	<u>PS31M-US11RT-M00</u>	<u>PS31M-US11PR-M0L</u>	<u>PS31M-UT11R1-M00</u>
<u>PS31M-US11R1-M00</u>	<u>PS31M-US11LB-M00</u>			