

# Limit Switches - Limit Type Metal Body IP66



- High mechanical resistance
- Degree of protection IP66
- Aluminium 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
- Conform with IEC 947-5-1 (EN 60947-5-1)

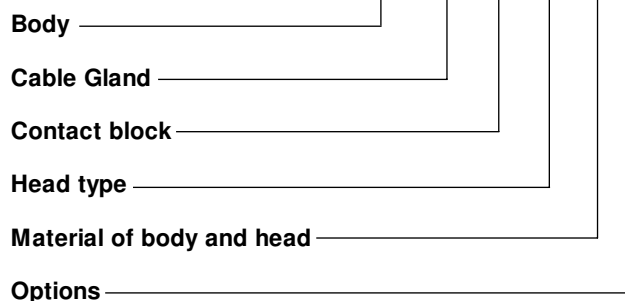
## Product Description

They are developed in order to be used for following operations:

- Presence/Absence
- Positioning and travel limit
- Objects passing/counting

## Ordering Key

**PS43L-PS11RT-M00**



## Description of the key codes

### Body

PS43L | PS 60mm (fix 40/42mm) 3 cable inlet for General Purpose

### Cable Gland

M | M20  
P | PG13.5  
N | 1/2 NPT

### Contact block

O11 | 1NO+1NC overlap slow(+)  
S02 | 2NC snap(+)  
S11 | 1NO+1NC snap(+)  
T02 | 2NC slow(+)  
T03 | 3NC slow(+)  
T11 | 1NO+1NC slow(+)  
T12 | 1NO+2NC slow(+)  
T20 | 2NO slow  
T21 | 2NO+1NC slow(+)  
T30 | 3NO slow

### Material of body and head

M | Metal Body and Metal head

### Options

00 | no option

### Head type

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  
N6 | pull wire for simple stop  
P0 | metal plain PLUNGER  
PB | steel ball PLUNGER  
PR | metal roller PLUNGER  
R1 | adj LEVER with nylon roller  
R2 | adj LEVER with stainless steel roller  
R3 | adj LEVER with steel ball bearing  
RB | one way LEVER steel ball bearing  
RH | plastic roller LEVER on metal PLUNGER (left)  
RK | one way LEVER stainless steel roller  
RO | roller LEVER steel ball bearing  
RS | metal roller LEVER  
RT | nylon roller LEVER  
SH | stainless steel lateral PLUNGER with horizontal roller  
SP | stainless steel lateral plain PLUNGER  
SV | stainless steel lateral PLUNGER with vertical roller  
W0 | Ø50 rubber roller LEVER  
W1 | adj LEVER with Ø50 rubber roller

## Technical Data

### Standards

#### Certifications – Approvals

**Air temperature** near the device

- during operation °C
- for storage °C

#### Climatic withstand

#### Mounting positions

**Shock withstand** (according to IEC 68-2-27 and 60068-2-27) g  
(1/2sinusoidal shock for 11 ms) no change in contact position

**Resistance to vibrations** (acc.to IEC 68-2-6 and EN 60068-2-6) g

**Protection against electrical shocks** (acc.to IEC 536)

**Degree of protection** (according to IEC 529 and EN 60529)

**Consistency** (measured over 1 million operations)

IEC 60947-1, IEC 60947-5-1, EN 60947-1, EN 60947-5-1,  
UL508 and CSA C22-2 n°14  
UL – CSA

-25 ... +70

-30 ... +80

According to IEC 68-2-3 and salty mist according to IEC 68-2-11

All positions are authorized

50g\*

25g (10...500Hz) no change in position of contacts greater than 100µs

Class I

IP66

0.1 mm (upon closing point)

\* except for PS21/PS42 with head type W0, W1: 25g.

## Electrical Data

### Rated insulation voltage $U_i$

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

-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  $I_{the}$**  A

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

**Short-circuit protection - gG type fuses** A

### Rated operational current

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

24Vac (50/60 Hz) A

130Vac (50/60 Hz) A

230Vac (50/60 Hz) A

240Vac (50/60 Hz) A

400Vac (50/60 Hz) A

- acc.to UL 508, CSA C22 n°14

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

24Vdc A

110Vdc A

250Vdc A

- acc.to UL 508, CSA C22 n°14

### Electrical durability

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

- max. switching frequency Cycles/h

- load factor

### Connecting data of contact blocks

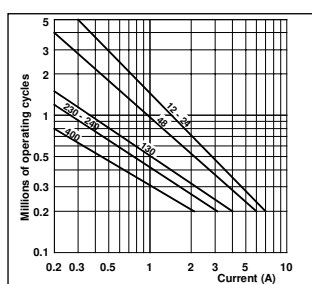
Connecting terminals

Connecting capacity 1 or 2 x mm<sup>2</sup> / AWG

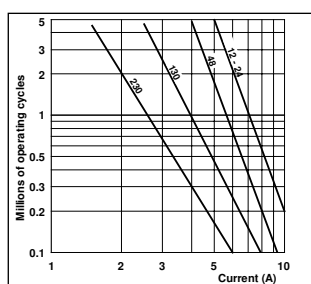
Terminal marking

### Positivity

### 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

400V (PS21, PS42), 500V (PS31, PS43) (degree of pollution 3)

A 300 Q 300 (PS21, PS42), A 600 Q 600 (PS31, PS43)

6

10

10

10

5.5

3.1

3

1.8

A 300 (PS21, PS42), A 600 (PS31, PS43)

2.8

0.6

0,27

Q 300 (PS21, PS42), Q 600 (PS31, PS43)

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

3600

0,5

M3,5 (+,-) pozidriv 2 screw with cable clamp

0,5mm<sup>2</sup> / AWG 20 to 2,5mm<sup>2</sup> / AWG 14

According to EN 50013

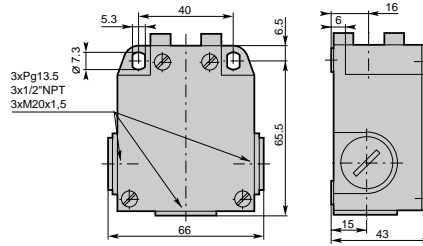
Contacts with positive opening operation as per IEC 60947-5-1 chapter 3

# Limit Switches - Limit Type (PS43) Metal Body IP66

CARLO GAVAZZI

## ▣ Cable Gland

- P** = Three cable inlet PG13.5 cable gland
- M** = Three cable inlet M20x1.5 cable gland
- N** = Three cable inlet 1/2" NPT cable gland



## ▴ Contact block (Zb type)

(mm)

<b>S11</b> (1NO+1NC) Snap action		<b>T11</b> (1NO+1NC) Non overlapping Slow action		<b>O11</b> (1NO+1NC) Overlapping Slow action		<b>T02</b> (2NC) Slow Action		<b>T20</b> (2NO) Slow action	
<b>S02</b> (2NC) Snap action		<b>T12</b> (1NO+2NC) Non overlapping Slow action		<b>T21</b> (2NO+1NC) Non overlapping Slow action		<b>T03</b> (3NC) Simultaneous Slow action		<b>T30</b> (3NO) Simultaneous Slow action	

			<b>S11</b> 0 1.8 3.0 4.6 6.0 mm	<b>T11</b> 0 2.1 3.7 6.0 mm	<b>O11</b> 0 3.4 5.0 6.0 mm	<b>T02</b> 0 2.0 3.6 6.0 mm
			<b>T20</b> 0 1.9 6.0 mm	<b>S02</b> 0 1.8 2.9 4.5 6.0 mm	<b>T12</b> 0 2.0 3.5 6.0 mm	<b>T21</b> 0 2.1 3.6 6.0 mm
			<b>T03</b> 0 2.0 3.5 6.0 mm	<b>T30</b> 0 2.3 6.0 mm		

Conformity / (NC)

Max. Actuation speed 0.5ms  
Min. force or torque 30N / 45Nm  
Weight 265g

Stainless steel plain plunger  
Code

PS43L-▴▾P0-M00

			<b>S11</b> 0 1.8 3.0 4.6 6.0 mm	<b>T11</b> 0 2.1 3.7 6.0 mm	<b>O11</b> 0 3.4 5.0 6.0 mm	<b>T02</b> 0 2.0 3.6 6.0 mm
			<b>T20</b> 0 1.9 6.0 mm	<b>S02</b> 0 1.8 2.9 4.5 6.0 mm	<b>T12</b> 0 2.0 3.5 6.0 mm	<b>T21</b> 0 2.1 3.6 6.0 mm
			<b>T03</b> 0 2.0 3.5 6.0 mm	<b>T30</b> 0 2.3 6.0 mm		

Conformity / (NC)

Max. Actuation speed 0.5ms  
Min. force or torque 30N / 45Nm  
Weight 265g

Stainless steel ball plunger  
Code

PS43L-▴▾PB-M00

			<b>S11</b> 0 3.1 5.3 8.2 10.5 mm	<b>T11</b> 0 4.0 6.9 10.5 mm	<b>O11</b> 0 6.0 8.9 10.5 mm	<b>T02</b> 0 3.7 6.6 10.5 mm
			<b>T20</b> 0 3.5 10.5 mm	<b>S02</b> 0 3.1 5.1 8.0 10.5 mm	<b>T12</b> 0 3.8 6.3 10.5 mm	<b>T21</b> 0 3.9 6.4 10.5 mm
			<b>T03</b> 0 3.8 6.3 10.5 mm	<b>T30</b> 0 4.3 10.5 mm		

Conformity / (NC)

Max. Actuation speed 0.5ms  
Min. force or torque 22N / 40Nm  
Weight 270g

Stainless steel Ø12 roller plunger  
Code

PS43L-▴▾PR-M00

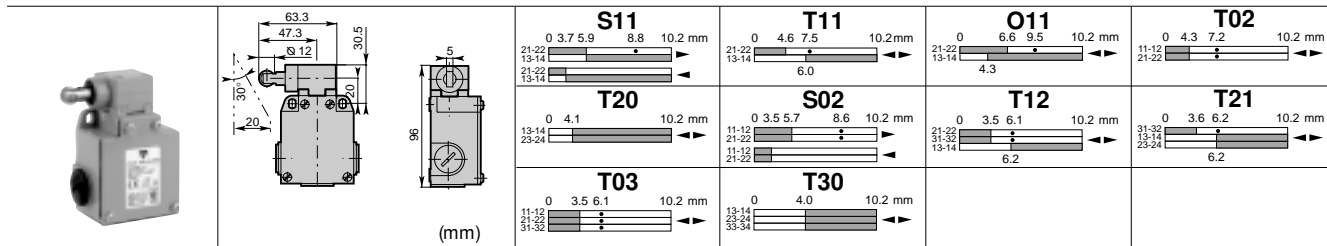
			<b>S11</b> 0 2.0 3.2 4.8 6.0 mm	<b>T11</b> 0 2.3 3.9 6.0 mm	<b>O11</b> 0 3.6 5.2 6.0 mm	<b>T02</b> 0 2.2 3.8 6.0 mm
			<b>T20</b> 0 2.1 6.0 mm	<b>S02</b> 0 2.0 3.1 4.7 6.0 mm	<b>T12</b> 0 1.4 2.9 6.0 mm	<b>T21</b> 0 1.5 3.0 6.0 mm
			<b>T03</b> 0 1.4 2.9 6.0 mm	<b>T30</b> 0 1.9 6.0 mm		

Conformity / (NC)

Max. Actuation speed 0.5ms  
Min. force or torque 30N / 50Nm  
Weight 285g

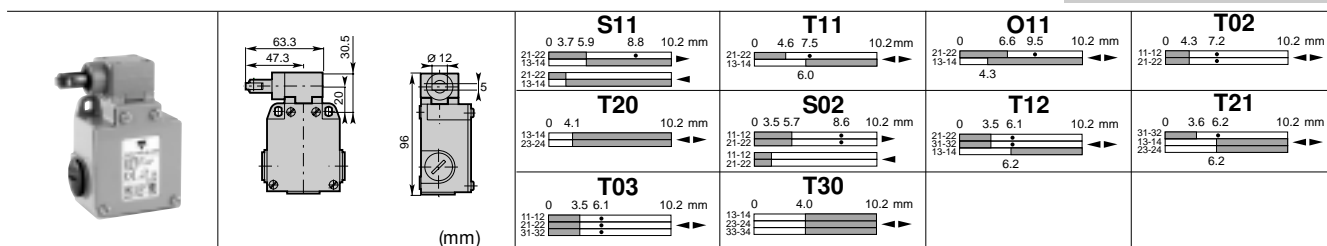
Stainless steel lateral plain plunger  
Code

PS43L-▴▾SP-M00



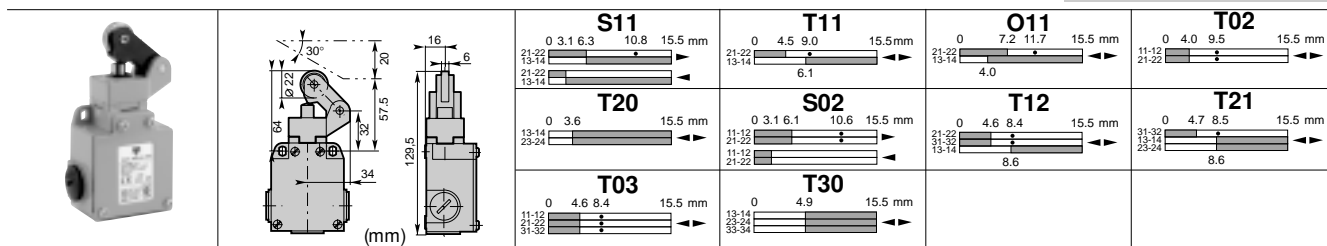
Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 0.5ms  
 Min. force or torque 30N / 50Nm  
 Weight 290g

Stainless steel lateral plunger with  $\varnothing 12$  vertical roller  
 Code PS43L-  $\bullet$   $\blacktriangle$  SV-M00



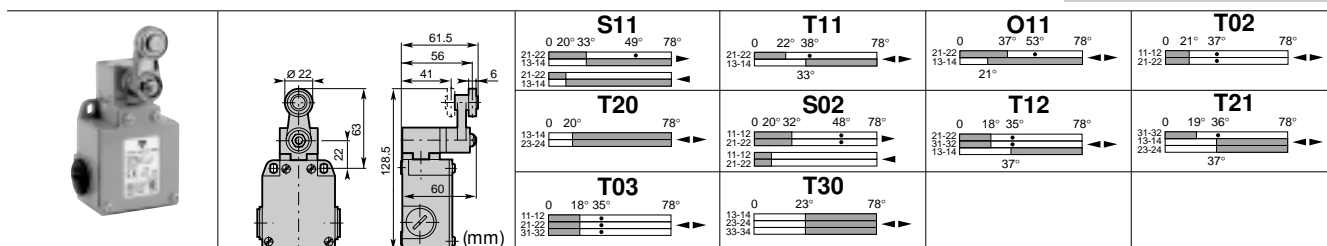
Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 0.5ms  
 Min. force or torque 30N / 50Nm  
 Weight 290g

Stainless steel lateral plunger with  $\varnothing 12$  horizontal roller  
 Code PS43L-  $\bullet$   $\blacktriangle$  SH-M00



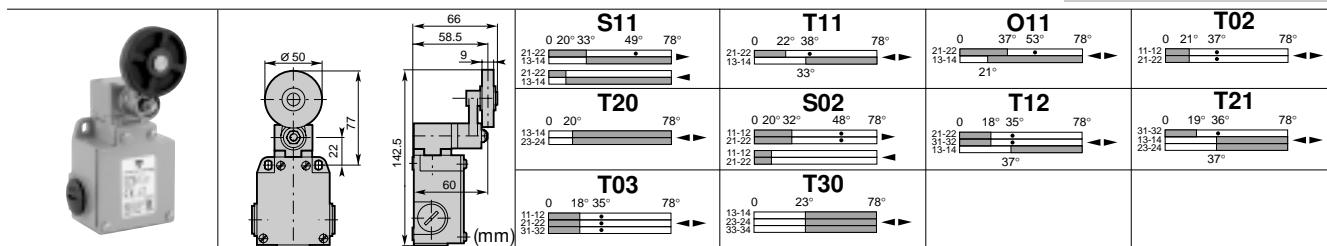
Conformity /  $\rightarrow$  /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 12N / 40Nm  
 Weight 305g

One way lever  
 Code  $\varnothing 22$  nylon roller  
 $\varnothing 22$  stainless steel roller  
 $\varnothing 22$  steel ball bearing  
 PS43L-  $\bullet$   $\blacktriangle$  RH-M00  
 PS43L-  $\bullet$   $\blacktriangle$  RK-M00  
 PS43L-  $\bullet$   $\blacktriangle$  RB-M00



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 0.15N / 0.30Nm  
 Weight 305g

$\varnothing 22$  Roller lever  
 Code nylon roller  
 stainless steel roller  
 steel ball bearing  
 PS43L-  $\bullet$   $\blacktriangle$  RT-M00  
 PS43L-  $\bullet$   $\blacktriangle$  RS-M00  
 PS43L-  $\bullet$   $\blacktriangle$  RO-M00



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 0.15N / 0.30Nm  
 Weight 315g

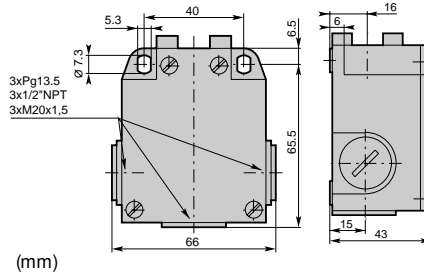
$\varnothing 50$  Rubber roller lever  
 Code PS43L-  $\bullet$   $\blacktriangle$  W0-M00

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CARLO GAVAZZI

## ■ Cable Gland

- P** = Three cable inlet PG13.5 cable gland
- M** = Three cable inlet M20x1.5 cable gland
- N** = Three cable inlet 1/2" NPT cable gland



## ▲ Contact block (Zb type)

<b>S11</b> (1NO+1NC) Snap action	<b>T11</b> (1NO+1NC) Non overlapping Slow action	<b>O11</b> (1NO+1NC) Overlapping Slow action	<b>T02</b> (2NC) Slow Action	<b>T20</b> (2NO) Slow action
<b>S02</b> (2NC) Snap action	<b>T12</b> (1NO+2NC) Non overlapping Slow action	<b>T21</b> (2NO+1NC) Non overlapping Slow action	<b>T03</b> (3NC) Simultaneous Slow action	<b>T30</b> (3NO) Simultaneous Slow action

<b>S11</b>	<b>T11</b>	<b>O11</b>	<b>T02</b>	<b>T20</b>	<b>T21</b>
<b>T03</b>	<b>T30</b>				

**Conformity** /  $\rightarrow$  (NC) /  $\rightarrow$

**Max. Actuation speed** 1.5ms

**Min. force or torque** 0.15N / 0.30Nm

**Weight** 325g

**Adjustable  $\varnothing 22$  roller lever**

**Code** nylon lever  
stainless steel roller  
steel ball bearing

**PS43L-▲R1-M00**

**PS43L-▲R2-M00**

**PS43L-▲R3-M00**

<b>S11</b>	<b>T11</b>	<b>O11</b>	<b>T02</b>	<b>T20</b>	<b>T21</b>
<b>T03</b>	<b>T30</b>				

**Conformity** /  $\rightarrow$  (NC) /  $\rightarrow$

**Max. Actuation speed** 1.5ms

**Min. force or torque** 0.15N / 0.30Nm

**Weight** 330g

**Adjustable  $\varnothing 50$  rubber roller lever**

**Code**

**PS43L-▲W1-M00**

<b>S11</b>	<b>T11</b>	<b>O11</b>	<b>T02</b>	<b>T20</b>	<b>T21</b>
<b>T03</b>	<b>T30</b>				

**Conformity** /  $\rightarrow$  (NC) /

**Max. Actuation speed** 1.5ms

**Min. force or torque** 0.15N / -

**Weight** 330g

**Nylon actuator with stainless steel spring**

**Code**

**PS43L-▲LB-M00**

<b>S11</b>	<b>T11</b>	<b>O11</b>	<b>T02</b>	<b>T20</b>	<b>T21</b>
<b>T03</b>	<b>T30</b>				

**Conformity** /  $\rightarrow$  (NC) /

**Max. Actuation speed** 1.5ms

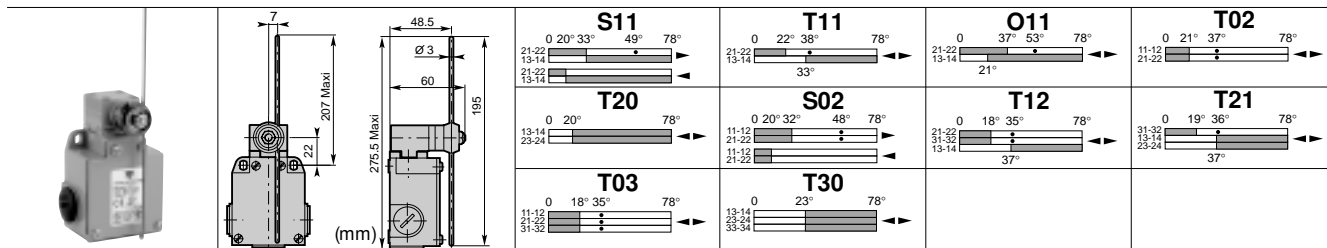
**Min. force or torque** 0.15N / -

**Weight** 330g

**Stainless steel spring actuator**

**Code**

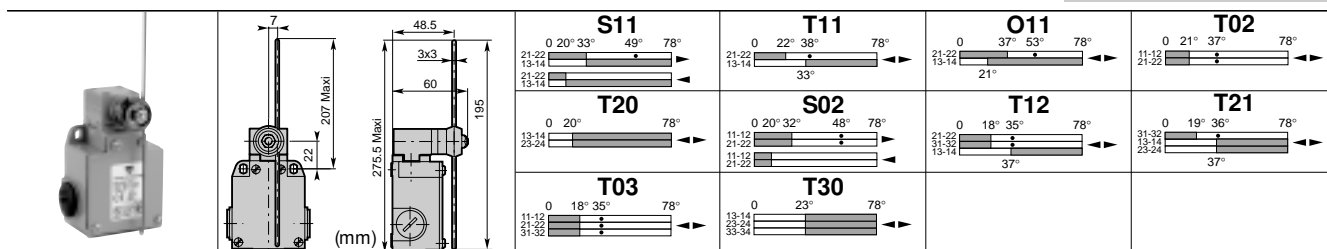
**PS43L-▲LZ-M00**



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 0.15N / 0.30  
 Weight 330g

Adjustable rod lever  
 Code stainless steel rod  $\varnothing 3$   
 fiberglass rod  $\varnothing 3$

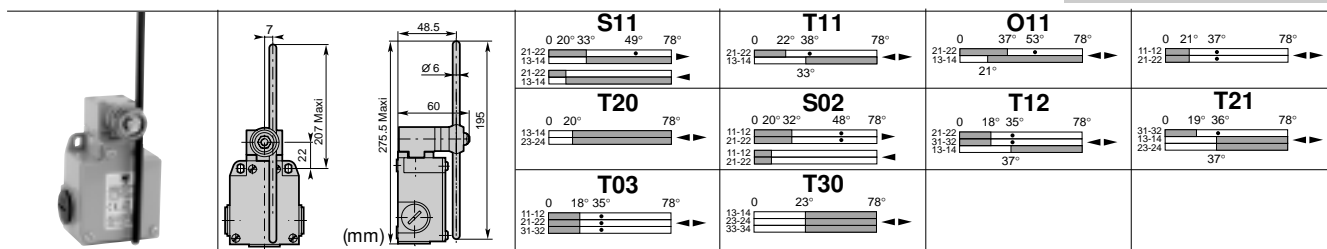
PS43L-   LA-M00  
 PS43L-   LF-M00



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 0.15N / 0.30  
 Weight 330g

Adjustable rod lever  
 Code square steel rod 3x3

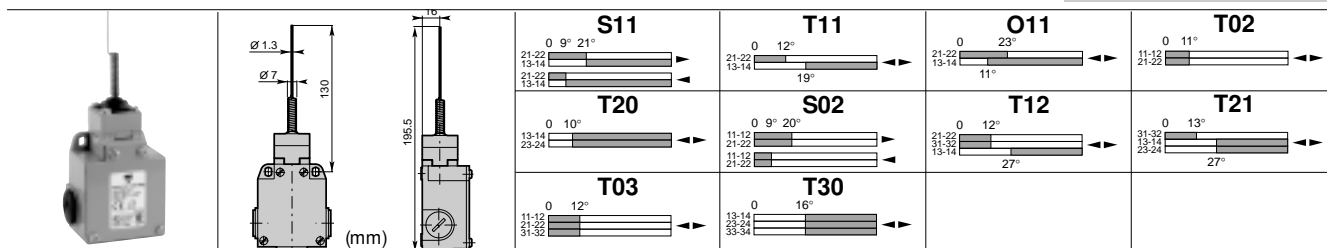
PS43L-   L3-M00



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.5ms  
 Min. force or torque 0.15N / 0.30Nm  
 Weight 330g

Adjustable  $\varnothing 6$  rod lever  
 Code nylon rod  
 fiberglass rod

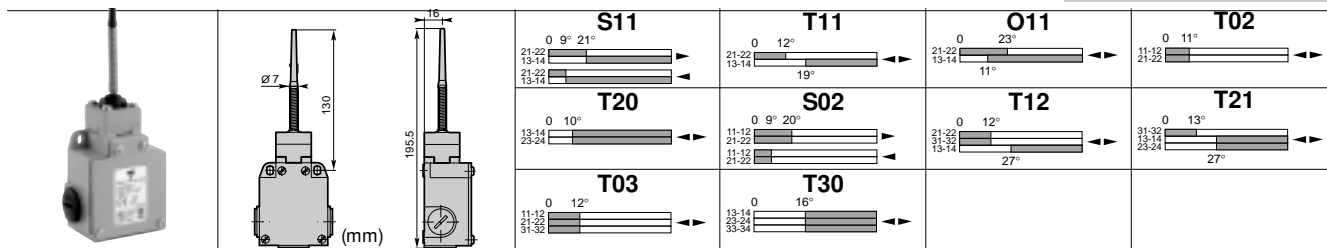
PS43L-   LN-M00  
 PS43L-   LG-M00



Conformity /  $\rightarrow$  /  $\rightarrow$   
 Max. Actuation speed 1.0ms  
 Min. force or torque 0.18N / -  
 Weight 265g

Stainless steel spring multidirectional actuator  
 Code

PS43L-   LW-M00



Conformity /  $\rightarrow$  (NC) /  $\rightarrow$   
 Max. Actuation speed 1.0ms  
 Min. force or torque 0.18N / -  
 Weight 265g

Multidirectional nylon actuator with stainless steel spring  
 Code

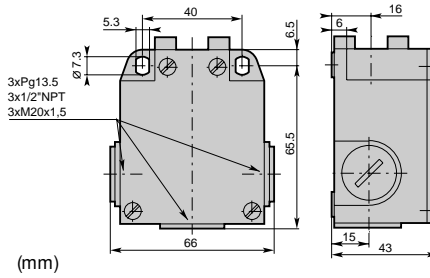
PS43L-   LP-M00

# Limit Switches - Limit Type (PS43) Metal Body IP66



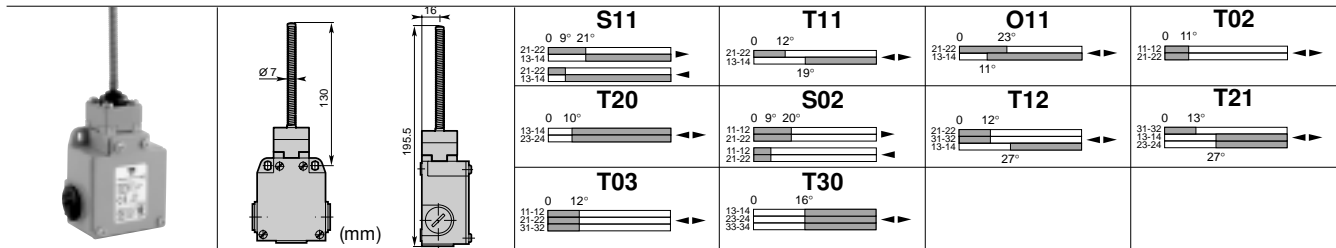
## ■ Cable Gland

- P** = Three cable inlet PG13.5 cable gland
- M** = Three cable inlet M20x1.5 cable gland
- N** = Three cable inlet 1/2" NPT cable gland



## ▲ Contact block (Zb type)

<b>S11</b> (1NO+1NC) Snap action		<b>T11</b> (1NO+1NC) Non overlapping Slow action		<b>O11</b> (1NO+1NC) Overlapping Slow action		<b>T02</b> (2NC) Slow Action		<b>T20</b> (2NO) Slow action	
<b>S02</b> (2NC) Snap action		<b>T12</b> (1NO+2NC) Non overlapping Slow action		<b>T21</b> (2NO+1NC) Non overlapping Slow action		<b>T03</b> (3NC) Simultaneous Slow action		<b>T30</b> (3NO) Simultaneous Slow action	

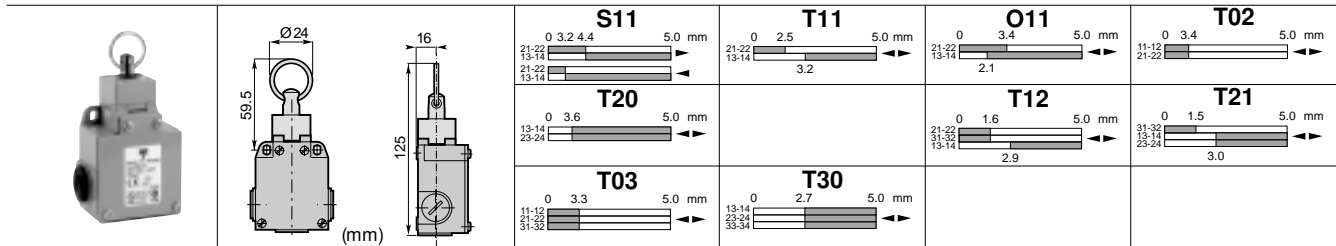


Conformity / (NC)

<b>Max. Actuation speed</b>	1.0ms
<b>Min. force or torque</b>	0.18N / -
<b>Weight</b>	270g

Stainless steel spring multidirectional actuator

Code PS43L- [ ] [ ] [ ] LS-M00



Conformity / (NC)

<b>Max. Actuation speed</b>	0.5ms
<b>Min. force or torque</b>	25N / -
<b>Weight</b>	270g

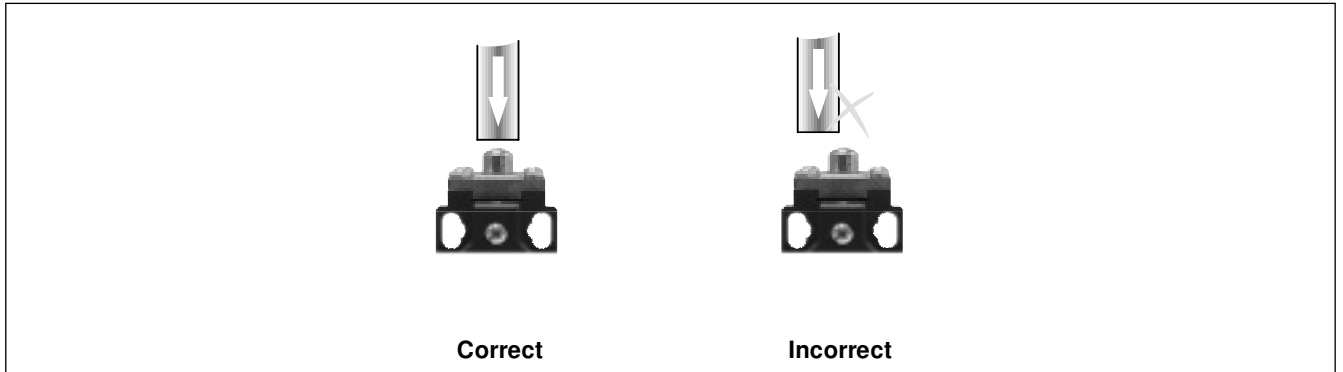
Pull action with ring

Code PS43L- [ ] [ ] [ ] N6-M00

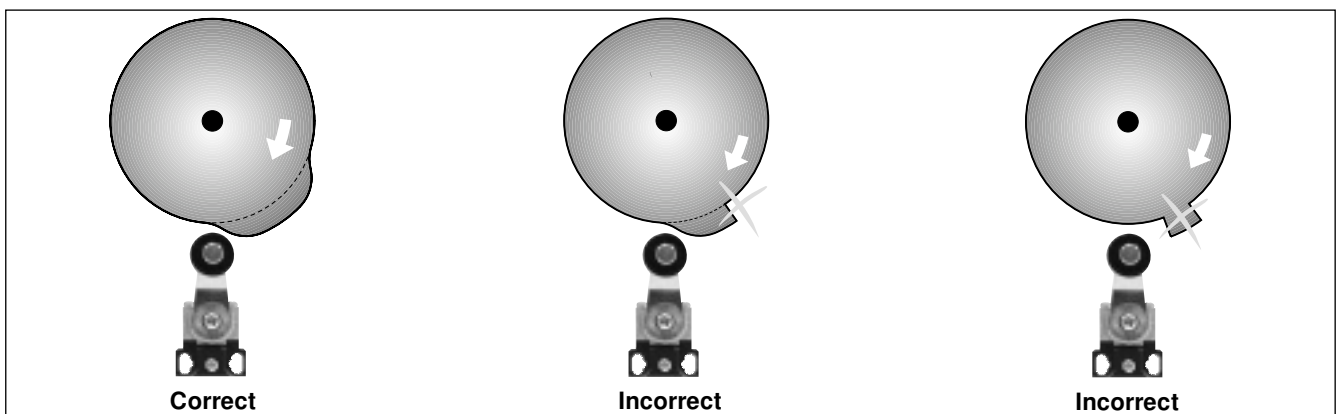
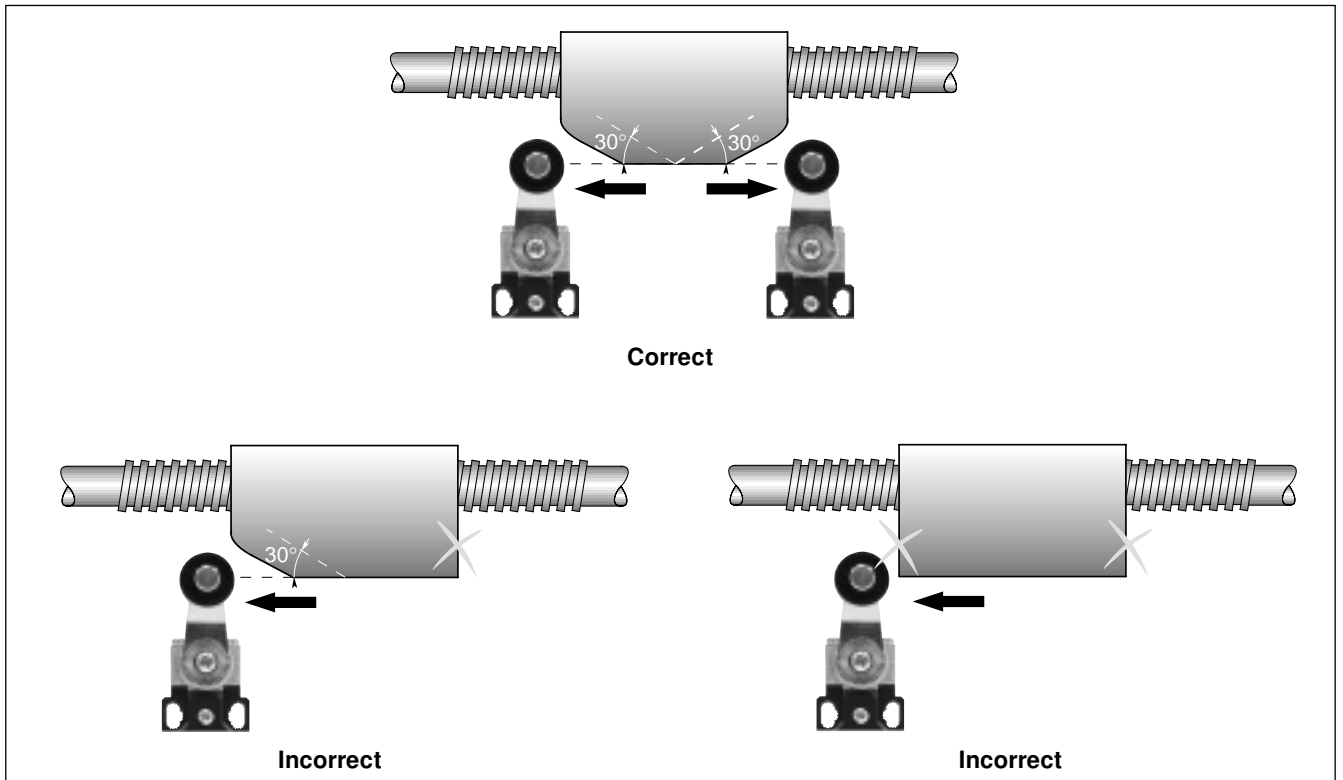


## Utilization precautions

### Plain plunger

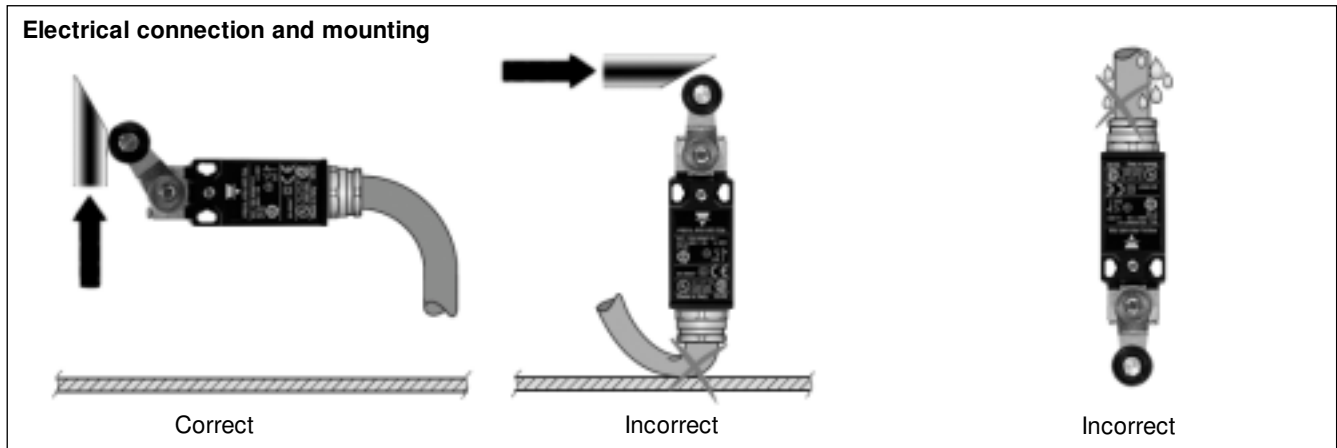


### Roller plunger or Roller lever





## Utilization precautions



## Adjustement

