

# Microswitch - SERIES MP90



Series MP90



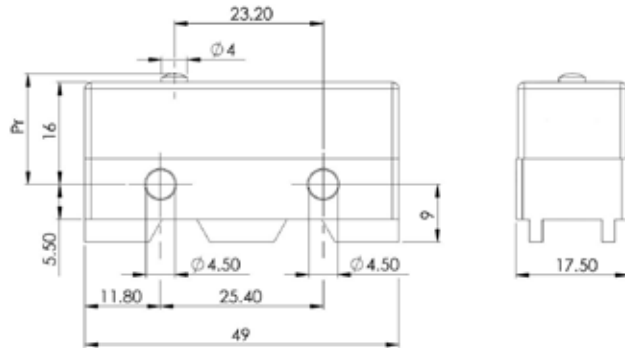
## MP90

Sealed basic snap action microswitch. A precision microswitch for high breaking capacity, the MP90 series offers IP67 protection using a wide range of interchangeable actuators.

The housing is IP67 sealed using an ultrasonic welding process. High operating temperature and long life makes this switch a perfect solution for industrial applications



# Description



## MP90

### Approval

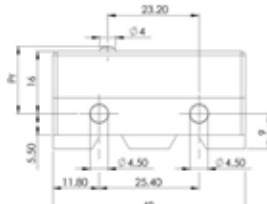
EN 61058-1	250VAC/15A	50'000 cycles
EN 61058-1	400VAC/10A	50'000 cycles
UL 61058-1	250VAC/15A	50'000 cycles
UL 61058-1	400VAC/10A	50'000 cycles
Resistive load		

<b>Housing</b>	Plastic reinforced with glass fiber (PBT)
<b>Pin Button</b>	PC
<b>Membrane</b>	Fluorosilicone - other optional materials available
<b>Switching Circuit</b>	Change over - snap action with blade spring in copper/beryllium
<b>Contact</b>	Silver - optional gold
<b>Connection</b>	Screw
<b>Actuator</b>	Stainless steel
<b>Degree of Protection</b>	Housing IP67 Connection IP00
<b>Class of Protection</b>	II
<b>Micro-switching</b>	$\mu$
<b>Distance between Contacts</b>	0.50 mm
<b>Dimensions</b>	DIN 41 635, form ES 49 x 25 x 17.5 mm
<b>Actuation Force</b>	Between 0.2 to 6.0 N, depending on the lever
<b>Differential Travel</b>	0.05 mm - Optional 0.02 mm
<b>Temperature Range</b>	EN 61058-1 -40°C to +130°C UL 61058-1 -40°C to +125°C
<b>Mechanical Life</b>	50 x 10 <sup>6</sup> cycles

# Actuator

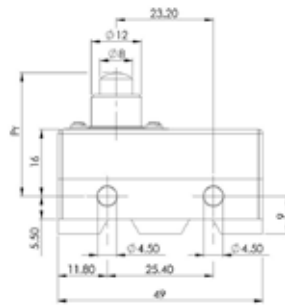
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Type 0: Basic switch - Pin Button



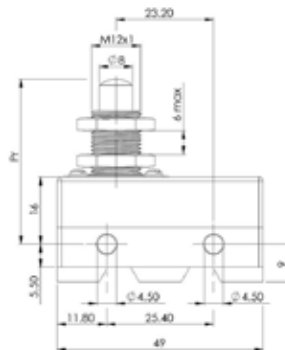
Actuating Force $F_a$ max. (N)	6.0
Release Force $F_r$ min. (N)	3.0
Free Position $P_r$ (mm)	$17.4 \pm 0.5$
Operating Position $P_a$ (mm)	$16.7 \pm 0.3$
Over-Travel $s_r$ min. (mm)	0.25
Differential Travel $s_d$ max. (mm)	0.06

Type 1S29: Telescopic



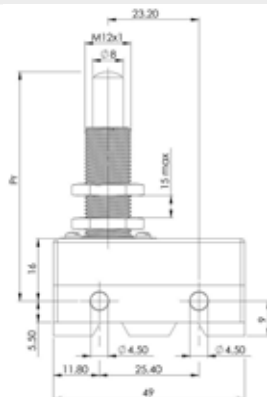
Actuating Force $F_a$ max. (N)	6.0
Release Force $F_r$ min. (N)	3.0
Free Position $P_r$ (mm)	$29.3 \pm 0.6$
Operating Position $P_a$ (mm)	$28.5 \pm 0.3$
Over-Travel $s_r$ min. (mm)	2.0
Differential Travel $s_d$ max. (mm)	0.08

Type 1A: Telescopic with Short Thread



Actuating Force $F_a$ max. (N)	6.0
Release Force $F_r$ min. (N)	3.0
Free Position $P_r$ (mm)	$39.1 \pm 0.6$
Operating Position $P_a$ (mm)	$38.4 \pm 0.3$
Over-Travel $s_r$ min. (mm)	5.0
Differential Travel $s_d$ max. (mm)	0.08

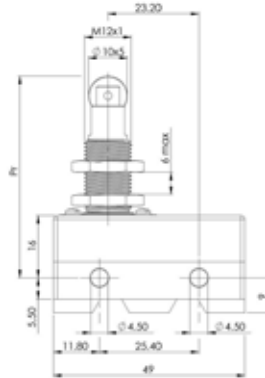
Type 1A58: Telescopic with Thread



Actuating Force $F_a$ max. (N)	6.0
Release Force $F_r$ min. (N)	2.5
Free Position $P_r$ (mm)	$58.0 \pm 1.0$
Operating Position $P_a$ (mm)	$57.3 \pm 0.3$
Over-Travel $s_r$ min. (mm)	10.0
Differential Travel $s_d$ max. (mm)	0.10

# Actuator

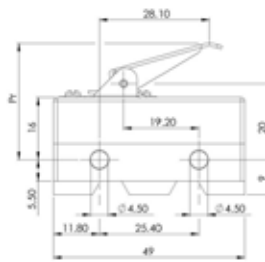
Type **1BL**: Telescopic with Roller



<b>Actuating Force Fa max. (N)</b>	6.0
<b>Release Force Fr min. (N)</b>	3.0
<b>Free Position Pr (mm)</b>	51.3 ± 0.6
<b>Operating Position Pa (mm)</b>	50.6 ± 0.3
<b>Over-Travel sr min. (mm)</b>	5.0
<b>Differential Travel sd max. (mm)</b>	0.08

Optional: stainless steel roller, transvers roller

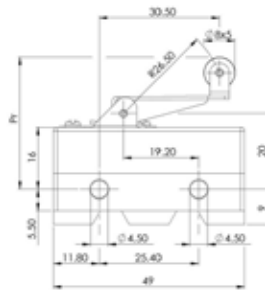
Type **3A**: Simple Lever - Indirect Action -



<b>Actuating Force Fa max. (N)</b>	4.5
<b>Release Force Fr min. (N)</b>	1.2
<b>Free Position Pr (mm)</b>	30.3 ± 1.5
<b>Operating Position Pa (mm)</b>	28.5 ± 1.5
<b>Over-Travel sr min. (mm)</b>	3.5
<b>Differential Travel sd max. (mm)</b>	0.50

Optional: lever mounted on opposite side

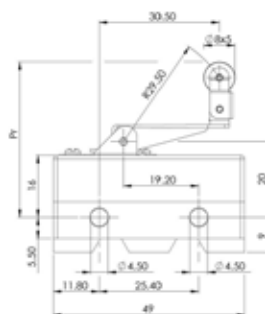
Type **5AL**: Simple Lever with Roller - Indirect Action -



<b>Actuating Force Fa max. (N)</b>	4.5
<b>Release Force Fr min. (N)</b>	1.2
<b>Free Position Pr (mm)</b>	34.4 ± 1.5
<b>Operating Position Pa (mm)</b>	31.9 ± 1.5
<b>Over-Travel sr min. (mm)</b>	3.5
<b>Differential Travel sd max. (mm)</b>	0.60

Optional: lever mounted on opposite side, stainless steel roller, transvers roller

Type **6AL**: Simple Lever with Bending Roller - Indirect Action -



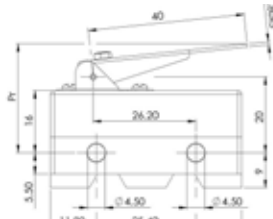
<b>Actuating Force Fa max. (N)</b>	4.5
<b>Release Force Fr min. (N)</b>	1.2
<b>Free Position Pr (mm)</b>	40.5 ± 1.5
<b>Operating Position Pa (mm)</b>	37.9 ± 1.5
<b>Over-Travel sr min. (mm)</b>	3.5
<b>Differential Travel sd max. (mm)</b>	0.60

Optional: lever mounted on opposite side, stainless steel roller, transvers roller

# Actuator

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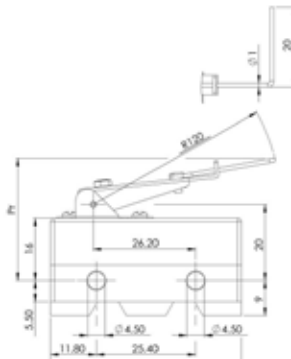
Type **7A40** : Simple Adjustable Lever - **Direct Action** -



Actuating Force $F_a$ max. (N)	0.6
Release Force $F_r$ min. (N)	0.2
Free Position $P_r$ (mm)	-
Operating Position $P_a$ (mm)	Ajustable
Over-Travel $s_r$ min. (mm)	-
Differential Travel $s_d$ max. (mm)	0.80

Optional: lever mounted on opposite side

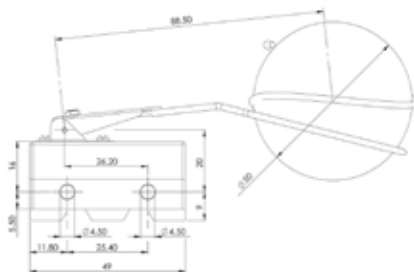
Type **7AC** : Simple Adjustable Lever with Wire – **Direct Action** -



Actuating Force $F_a$ max. (N)	0.2
Release Force $F_r$ min. (N)	0.05
Free Position $P_r$ (mm)	-
Operating Position $P_a$ (mm)	Ajustable
Over-Travel $s_r$ min. (mm)	-
Differential Travel $s_d$ max. (mm)	4.00

Optional: lever mounted on opposite side

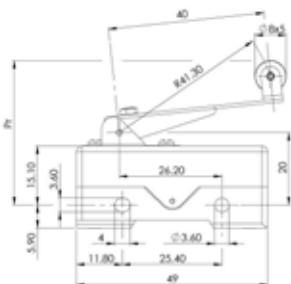
Type **7AF/63.5/50** : Simple Lever with Floater - **Direct Action** -



Actuating Force $F_a$ max. (N)	-
Release Force $F_r$ min. (N)	-
Free Position $P_r$ (mm)	-
Operating Position $P_a$ (mm)	Ajustable
Over-Travel $s_r$ min. (mm)	-
Differential Travel $s_d$ max. (mm)	2.00

Optional: lever mounted on opposite side

Type **8AL40** : Simple Adjustable Lever with Roller - **Direct Action** -



Actuating Force $F_a$ max. (N)	0.6
Release Force $F_r$ min. (N)	0.2
Free Position $P_r$ (mm)	-
Operating Position $P_a$ (mm)	Ajustable
Over-Travel $s_r$ min. (mm)	-
Differential Travel $s_d$ max. (mm)	0.80

Optional: lever mounted opposite side, stainless steel roller, transvers roller



# Electrical Circuit

	Actuator Code	Circuit		Actuator Code	Circuit
<b>Direct Action</b>	0		<b>Indirect Action</b>	3A	
	1S29			5AL	
	1A			6AL	
	1A58				
	1BL				
	7A40				
	7AC				
	7AF/63.5/50				
	8AL40				

Series MP90

## Ordering Information

	MP9	0	-	5AL
<b>Contact</b>				
0:	Silver Contact			
1:	Gold Contact			
<b>Actuator</b>				
0:	Basic switch - Pin Button			
1S29:	Telescopic			
1A:	Telescopic with Short Thread			
1A58:	Telescopic with Thread			
1BL:	Telescopic with Roller			
3A:	Simple Lever - Indirect Action			
5AL:	Simple Lever with Roller - Indirect Action			
6AL:	Simple Lever with Bending Roller - Indirect Action			
7A40:	Simple Adjustable Lever - Direct Action			
7AC:	Simple Adjustable Lever with Wire – Direct Action			
7AF/63.5/50:	Simple Lever with Floater - Direct Action			
8AL40:	Simple Adjustable Lever with Roller - Direct Action			