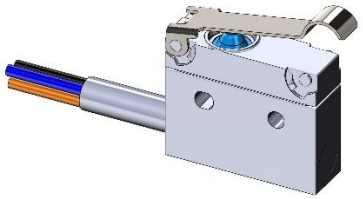
SUBMINIATURE MICROSWITCH (SPDT)
ROBUST – SEALED – HIGH PRECISION

MP 500 SERIES

- High precision snap-action spring mechanism
- Electrical Ratings (resistive load): 0,1A/24VDC, 5A/250VAC
- Reliable operation, even at extremely slow actuating speed
- Very low differential travel: down to 0,02 mm max (0,0008 in)
- Operating temperatures: -40°C to +125°C
- Degree of protection: IP67/IP69
- Choice of terminals and cable configurations
- Wide range of actuators on 2 fixing positions (A & B)

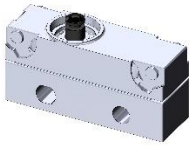


Main specifications	
Termination Options	
Solder terminals	
PCB terminals	
Cable materials: PVC/PUR/SI	up to 0.5 mm^2 (5A)
EN /UL Certifications	
Electrical Rating max (resistive load)	5RA 250 VAC
Electrical Rating max (resistive load) for gold plated terminals	0.1RA 24 VDC
Number of cycles certified	50 000
Mechanical characteristics	
Operating force max	2.5 N – optional 1.2 N
Release force min	0.5 N
Free position	9.2 ± 0.2 mm
Operating position	8.7 ± 0.2 mm
Differential travel max	0.05 mm – optional 0.02 mm
Overtravel min	0.5 mm
Operating temperature	-40 °C to 125 °C
Mechanical life	10 000 0000
B_{10d} (*24VDC – 10mA, 100 cycles/min*)	< 5 Mio
Contact gap	Min 0.25 mm
Additional specifications	
Conformity/ certification EN/UL 61058-1-1 UL file E314075	
Degree of protection	IP67 / IP69
Housing & button	PBT + 30% fiberglass UL94-V0
Dimensions	DIN 41 635, form B (20x16x6.5 mm) (0.7874 x 0.6299 x 0.2559 in)
Moving blade	Beryllium copper
Contacts	Silver alloy
Terminals material	brass
Pollution degree	3
Proof tracking index PTI	250V
Rated Impulse Withstand Voltage	2.5 kV
Glow-wire temp.	850°C
Micro-disconnection	µ
Electric shock class	II / U imp. 2500 V

Product adaptations

- Special actuators: special shapes and lengths
- Special cable exit, length and material
- Increased or reduced differential travel.
- Low actuating force
- Gold plated contacts
- Other adaptations on demand

Housing

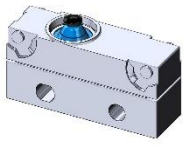
	IP67 /69	IP40
		
Operating force **Fa** max 2.5 (N) *standard*	**MP500**	**MP550**
Operating force **Fa** max 1.2 (N)	**MP520**	**MP570**

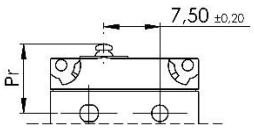
Actuator

L70	L80	L85
		

Specifications

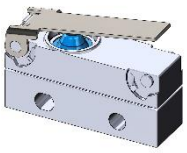
Type **L00** : Pin button

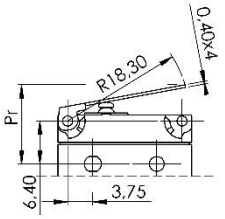




	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	2.5	1.2
Release Force Fr min (N)	0.5	0.2
Free Position Pr (mm)	9.2 ± 0.2	9.2 ± 0.2
Operating Position Pa (mm)	8.7 ± 0.2	8.7 ± 0.2
Over-travel sr min. (mm)	0.5	0.5
Differential movement sd max. (mm)	0.05	0.05

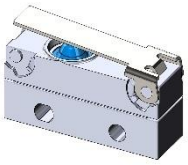
Type **A70** : Straight lever L70 - position A

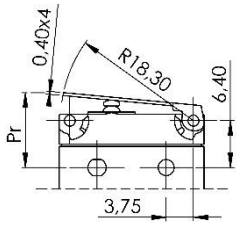




	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	1.0	0.6
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	12.0 ± 0.4	12.0 ± 0.4
Operating Position Pa (mm)	10.1 ± 0.4	10.1 ± 0.4
Over-travel sr min. (mm)	1.2	1.2
Differential movement sd max. (mm)	0.40	0.40

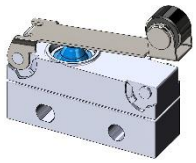
Type **B70** : Straight lever L70 - position B

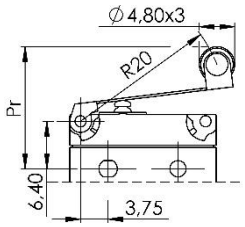




	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	2.0	1.0
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	10.4 ± 0.4	10.4 ± 0.4
Operating Position Pa (mm)	9.4 ± 0.4	9.4 ± 0.4
Over-travel sr min. (mm)	0.5	0.5
Differential movement sd max. (mm)	0.20	0.20

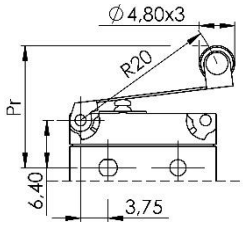
Type **A80** : Straight lever with plastic roller L80 - position A





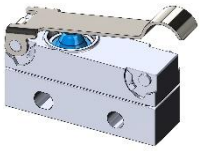
	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	1.0	0.6
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	16.6 ± 0.4	16.6 ± 0.4
Operating Position Pa (mm)	14.2 ± 0.4	14.2 ± 0.4
Over-travel sr min. (mm)	1.2	1.2
Differential movement sd max. (mm)	0.40	0.40

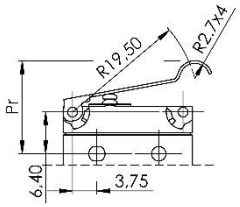
Type **B80** : Straight lever with plastic roller L80 - position B



	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	2.0	1.0
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	15.5 ± 0.4	15.5 ± 0.4
Operating Position Pa (mm)	14.2 ± 0.4	14.2 ± 0.4
Over-travel sr min. (mm)	0.6	0.6
Differential movement sd max. (mm)	0.20	0.20

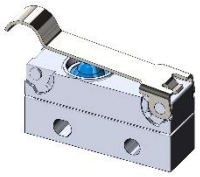
Type **A85** : Straight lever with simulated roller L85 - position A

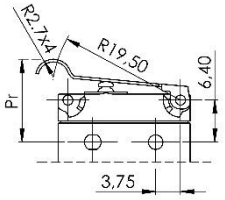




	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	1.0	0.6
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	14.6 ± 0.4	14.6 ± 0.4
Operating Position Pa (mm)	12.6 ± 0.4	12.6 ± 0.4
Over-travel sr min. (mm)	1.2	1.2
Differential movement sd max. (mm)	0.40	0.40

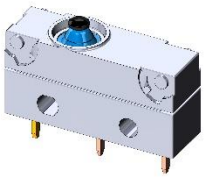
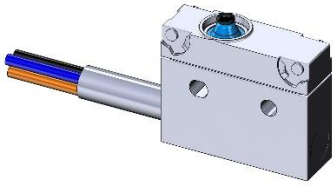
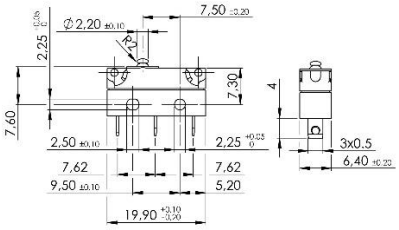
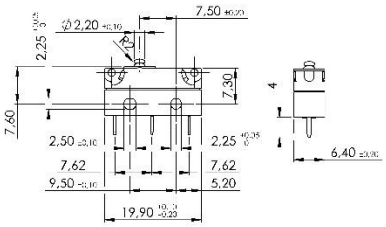
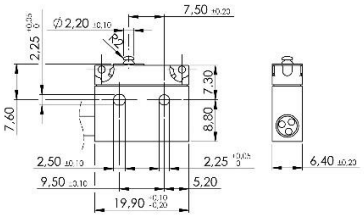
Type **B85** : Straight lever with simulated roller L85 - position A





	MP500 MP550	MP520 MP570
Actuating Force Fa max. (N)	2.0	1.0
Release Force Fr min (N)	0.3	0.2
Free Position Pr (mm)	12.9 ± 0.4	12.9 ± 0.4
Operating Position Pa (mm)	11.8 ± 0.4	11.8 ± 0.4
Over-travel sr min. (mm)	0.6	0.6
Differential movement sd max. (mm)	0.20	0.20

Terminations

T000 Solder terminals	**T001** PCB terminals	**C**XXX Cable overmould
		
		

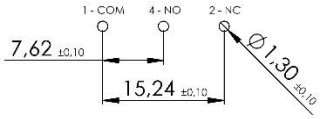
Flexible conductors to be used.

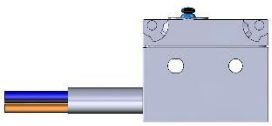
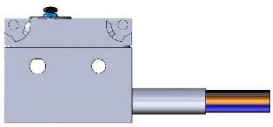
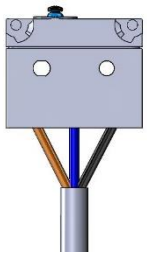
With provisions for securing the conductor by mechanical means and providing circuit continuity by soldering.
Soldering by hand with a soldering iron.

Remark : Avoid overheating as this may damage the switch.

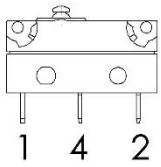
Recommendation: Temperature of soldering iron max. 340 ° C for 4 seconds, using a welding wire preferably without Chlore

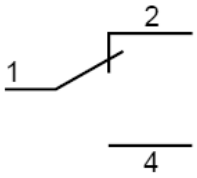
Print PCB



	Cable standard exit	**Cable opposite exit**	**Cable underside exit**
Cable	**C**XXX	**D**XXX	**F**XXX
Wires	**G**XXX	**K**XXX	**N**XXX
			

Standard wiring diagram

	Solder terminal **PCB**	**T000** **T001**		
			2A - 0.25 mm²	**5A - 0.50 mm²**
Cable Wires	**PVC** EN/UL certified -20°C to 105°C	XXX**P**	1 - Brown 2 - Black 4 - Blue	1 - Black 2 - Grey 4 - Blue
	Polyurethane EN certified -40°C to 80°C	XXX**U**	1 - Brown 2 - White 4 - Green	
	Silicon EN certified -40°C to 125°C	XXX**S**	1 - Brown 2 - White 4 - Green	



Ordering information

	MP5	0	0	A70	C10P
Protection – Force **0** : IP67/IP69 Standard force **2** : IP67/IP69 Low force **5** : IP40 Standard force **7** : IP40 Low force					
Contact **0** : Silver Contact 2A - Wire 0,25 mm^2 **1** : Gold Contact 1µ - Wire 0,25 mm^2 or Solder lugs or PCB **5** : Silver Contact 5A - Wire 0,50 mm^2 or Solder lugs or PCB					
Actuator **L00** : Pin button **A70** : Straight lever L70 - position A **B70** : Straight lever L70 - position B **A80** : Straight lever with plastic roller L80 - position A **B80** : Straight lever with plastic roller L80 - position B **A85** : Straight lever with simulated roller L85 – position A **B85** : Straight lever with simulated roller L85 – position B					
Terminals without cable or wires **T000** : Solder terminals **T001** : PCB					
Termination with cable / wires **C** : Cable standard exit **D** : Cable opposite exit **F** : Cable underside exit **G** : Single wires standard exit - only PVC **K** : Single wires opposite exit - only PVC **N** : Single wires underside exit - only PVC					
Cable length **05** : 0.5 m **10** : 1 m **20** : 2 m					
Cable material **P** : PVC **U** : PUR - only 2A - Section 0,25 mm^2 **S** : Silicon - only 2A - Section 0,25 mm^2					