


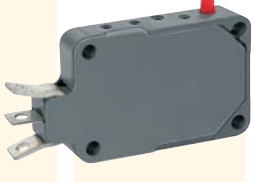








Product Selection Guide

Industrial Applications

Microswitches

Protected (unsealed)

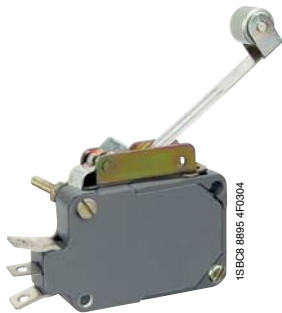
Products	General use				Miniature	
						
Types	C	AM	KM	M and CM	HP and HL	H
Operating temperature	-25 ... +85 °C	-15 ... +55 °C	-35 ... +70 °C	-25 ... +85 °C	-40 ... +85 °C	-55 ... +85 °C -55 ... +150 °C
Degree of protection (Protective class)	IP40	IP40	IP40	IP40	IP40	IP40
Casing dimensions (L x H x P) mm	49 x 21 x 17.4	28 x 16.5 x 10.3	32 x 13 x 14	41 x 21 x 7.1	20.5 x 10 x 6.35	19.5 x 10 x 6.3
Fixing centres distance Fixing holes diameter	25 mm ø 4.2 mm	22.2 x 10.3 ø 3.1 mm	13 x 8 mm ø 2.2 mm	25.5 x 16 mm ø 2.4 mm	9.5 mm ø 2.2 mm	9.5 mm ø 2.2 mm
Operating force	≤ 4 N	≤ 3.6 N	≤ 4.5 N	≤ 1.9 N	≤ 1.5 or ≤ 0.6 N	≤ 2.5 N
Pretravel	≤ 1.3 mm	≤ 1.3 mm	≤ 1.5 mm	≤ 1.2 mm	–	≤ 0.55 mm
Differential movement	≤ 0.33 mm	≤ 0.5 mm	≤ 1.2 mm	≤ 0.6 mm	≤ 0.15 mm	≤ 0.1 mm
Rated breaking capacity (Resistive load)	up to 10 A	up to 6 A	up to 15 A	up to 10 A	50 mA ... 5 A	0.2 A or 4 A
Mechanical life	5 x 10 ⁶ cycles	2 x 10 ⁶ cycles	1 x 10 ⁶ cycles	1 x 10 ⁶ cycles	1 x 10 ⁷ cycles	1 x 10 ⁶ cycles
Connection type	Solder terminals Screw terminals	Solder terminals Screw terminals, Quick connect terminals	Solder terminals	Solder terminals	Solder terminals PCB terminals, Quick connect terminals	Solder terminals PCB terminals, Fork terminals
Casing material	Plastic material	Plastic material	Plastic material	Plastic material	Plastic material	Plastic material
For further information: 	page 40	page 46	page 48	page 50	page 34	page 30
Other products: 	CF6165 Switch for rabbets  page 74				Manual control switches  page 76	

M and CM Microswitches

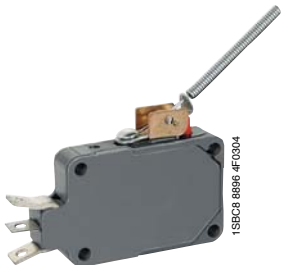
Low Travel M Types, Low Operating Force CM Types



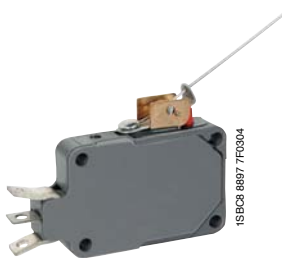
CM11A1



M11L26G



CM11L43



CM11L41

Application

Microswitch for industrial applications.

- Operating temperature: -25 °C ... +85 °C.
- 2 available product types according to pin actuator position:
 - low travel device "M",
 - low operating force device **CM**.
- Mechanical life: 1 000 000 cycles.

Description

Snap action switch - unsealed.

- Plastic casing.
- Silver contacts.
- Mounting holes for M2 screws.
- Pin actuator or auxiliary actuator (accessory).
- Terminals: solder terminals.

Ordering Details

Version	Pin actuator position mm	Type	Order code	Weight 1 piece kg
Microswitch with pin actuator				
Low travel	12.7	M11A1	1SBU 20 0000 R4001	0.006
Low operating force	3.2	CM11A1	1SBU 20 0000 R4002	0.006
		CM21A1	1SBU 20 0000 R4003	0.006

Microswitch with flexible roller lever actuator

Low operating force	3.2	CM31L10G	1SBU 20 0000 R4050	0.007
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Microswitch with integral lever actuator

Low operating force	3.2	CM31L25	1SBU 20 0000 R4051	0.008
Low travel	12.7	M11L26	1SBU 20 0000 R4052	0.008

Microswitch with integral roller lever actuator

Low travel	12.7	M11L26G	1SBU 20 0000 R4053	0.008
		M11L27G	1SBU 20 0000 R4054	0.008

Microswitch with wire rod actuator

Low operating force	3.2	CM11L41	1SBU 20 0000 R4055	0.007
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Microswitch with spring lever actuator

Low operating force	3.2	CM11L43	1SBU 20 0000 R4056	0.008
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Note: Only above listed product types are available.

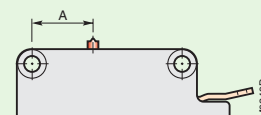
Operating Characteristics

Characteristics according to the actuating point (arrow) indicated on dimension drawings.

M type - Low travel		M11A1	M11L26	M11L26G	M11L27G
Max. operating force	N	1.90	0.50	0.50	0.90
Pretravel	mm	0.30 ... 0.80	2.50 ... 7.0	2.50 ... 7.0	0.80 ... 2.10
Differential movement	mm	0.08 ... 0.20	0.50 ... 2.0	0.75 ... 2.0	0.25 ... 0.60
Min. overtravel (1)	mm	0.50	1.50	1.50	0.60
Pin actuator position: "A" dimension mm		12.7			

(1) Do not exceed this value in use.

Pin actuator position
dimension A: 12.7 mm or 3.2 mm



M and CM Microswitches

Low Travel M Types, Low Operating Force CM Types

Operating Characteristics (continued)

Characteristics according to the actuating point (arrow) indicated on dimension drawings.

CM type - Low operating force		CM11A1	CM21A1	CM31L10G	CM31L25	CM11L41	CM11L43
Max. operating force	N	0.35	0.50	2.0	0.07	0.03	0.04
Pretravel	mm	0.40 ... 1.0	0.70 ... 1.20	0.60 ... 1.50	17.0 max.	10.0 ... 17.0	12.0 max.
Differential movement	mm	0.2 ... 0.60	0.3 ... 0.60	0.25 ... 0.80	11.50 max.	4.0 ... 12.0	7.0 max.
Min. overtravel (1)	mm	1.50	1.50	0.30	10.0	20.0	10.0
Pin actuator position: "A" dimension	mm	3.2					

(1) Do not exceed this value in use.

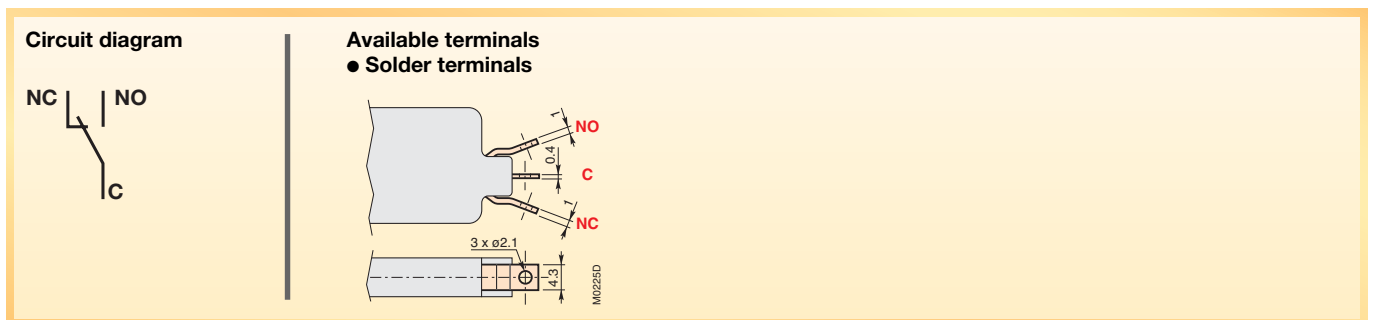
Electrical Data

Types	M	CM				
Ratings (electrical load on one throw only)	30 ... 48 V d.c.	125 V a.c. - 50Hz	220 V a.c. - 50Hz	30 ... 48 V d.c.	125 V a.c. - 50Hz	220 V a.c. - 50Hz
- resistive load	A 4	10	5	2	5	3
- inductive load	A 2 (L/R ≤ 5 ms)	5 (cos φ ≥ 0.5)	3 (cos φ ≥ 0.5)	1 (L/R ≤ 5 ms)	2.5 (cos φ ≥ 0.5)	1.5 (cos φ ≥ 0.5)
Electrical life	cycles 100 000					
Dielectric strength (50 Hz - 1 mn)						
- between terminals	V a.c. 500					
- between all terminals and earth (ground)	V a.c. 1500					

Specific Products - Contact us for more information ; data sheet on request

- Devices with quick connect 2.8 x 0.5 mm terminals are available.
- Product design according to local climatic stress.

Connection Type



Dimensions (in mm)

M type - Low travel

Mounting holes for M2 screws - Recommended tightening torque: 0.25 to 0.30 Nm.

