

ZIPPY

Let you secure and at ease



MICRO SWITCHES



About US



Founded in 1983, ZIPPY Technology Corporation started with the development and manufacture of micro switches. With the continuous effort over the years, ZIPPY has accumulated industry's best R&D capabilities and become one of the biggest and highest quality manufacturers. Currently the company has three major divisions which include Power, Electronic Components and Consumer Electronics. The Electronics Components Division focuses on the development of micro switches. Our products are certified by many well-known companies worldwide and widely used in consumer electronics, computers, communication devices, home appliances, industrial equipments, automobiles and medical devices.

The development in technology and manufacturing are ZIPPY's unique advantages among other industry competitors. The R&D team has developed numerous switches such as waterproof switches or customized components according to our customer's demands. Currently ZIPPY owns more than 341 switch related patents worldwide. Quality is also one of our main focuses as well. Since 1994, ZIPPY has been certified under ISO9001, IATF-16949 and some other major international certifications. In recent years, ZIPPY also use automated production process in order to increase quality and competitiveness of our products. ZIPPY has incorporated the concept of Positive Thinking, absolute transparency, and cooperation into our corporate culture and daily lifestyle. Therefore we have a team of responsible and honorable staffs with great ideas to cooperate under this business model. ZIPPY's biggest asset is our employees, we service our customers with this greatest asset to create a better future and perpetuate the business.

EXPLANATORY NOTES

OPERATING CHARACTERISTICS

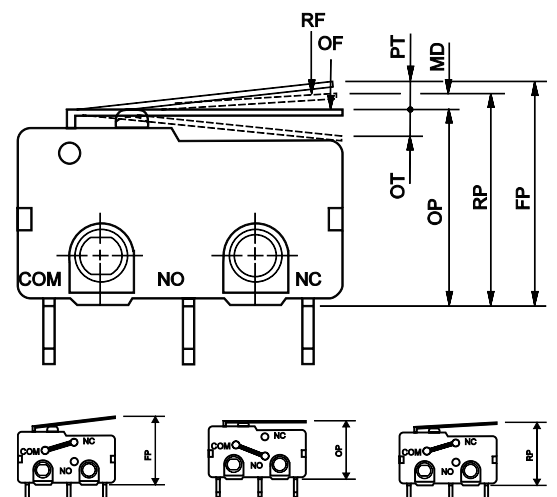
OPERATING APPLICATION OF THE SWITCH: Set the switch pushing distance from 60% to 90% of the specified OT value

FP=FREE POSITION	RP=RELEASE POSITION
OT=OVERTRAVEL	MD=MOVEMENT DIFFERENTIAL
OP=OPERATING POSITION	OF=OPERATING FORCE
PT=PRETRAVEL	

We are ready for manufacturing special type switches other than those shown in the catalogue.

Please feel free to contact our Sales Department at any time.

Designs and specifications are subject to change for improvement without prior notice.



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WATER PROOF SWITCHES
DW36 SERIES **NEW**



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WATER PROOF SWITCHES
DW32 SERIES



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WATER PROOF SWITCHES
DW32 (IP67) SERIES



014

WATER PROOF SWITCHES
DW33 SERIES



016

WATER PROOF SWITCHES
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WATER PROOF SWITCHES
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021

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MICRO SWITCHES V3 SERIES Full-Disconnection-Gap > 3mm



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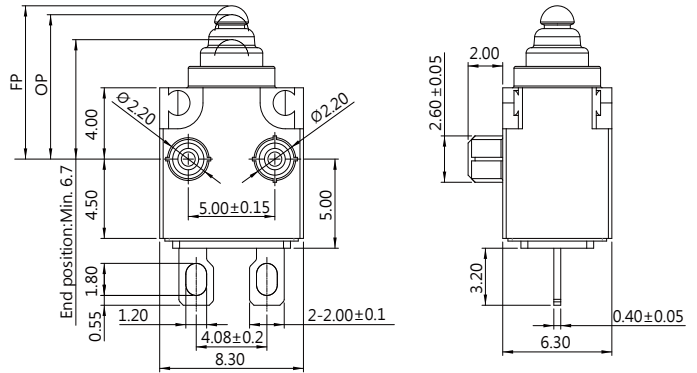
187

WATER PROOF SWITCHES

尚未正式量產
MASS PRODUCTION NOT YET RELEASED

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions



DW36 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 100m Ω

Measured by ohm meter –Open Voltage < 1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

5A 12VDC- Min. 200,000 operations

3A 12VDC- Min. 500,000 operations

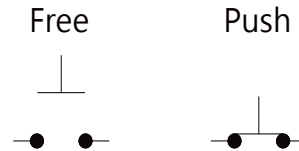
Electrical Operating Frequency

10~30 operations per minute

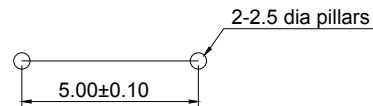
Degree of Protection

IP67 (excluding the terminals on terminal models)

CONTACT CONFIGURATION



PILLAR PITCH



APPLICATION

Automobiles

(detection of door opening and closing and shift lever position, etc.)

Household appliances

(propane stoves, vacuum cleaners, air conditioners Washing machines, etc.)

ORDERING INFORMATION

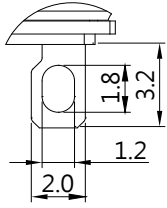
Ordering code: DW 36 — 05 — S — 5 — L — 00 — A — 1 — A — 0 A — Z

SERIES PREFIX	RATING CURRENT	OPERATING FORCE	EXTERNAL SNAP-FIT LEVER	DIRECTION OF LEVER	ACTUATOR TYPE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	PILLAR TYPE	SPECIAL CODE	ROHS CODE
DW 36	05 5A 12VDC 3A 12VDC	S STANDARD	5 EXTERNAL	L NO LEVER	00 [Diagram]	A [Diagram]	1 S.P.S.T.-NO.	A [Diagram]	0 A	Z

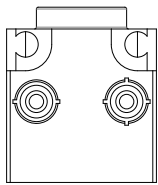
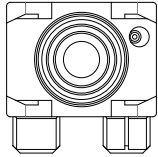
DIMENSIONS

CODE	L1	H	ΦA	ΦB	C	D	P
A	2.0	4.0	2.2	2.2	2.6	2.6	5.0

TERMINAL TYPES(THE thickness of each terminal is 0.4 mm)

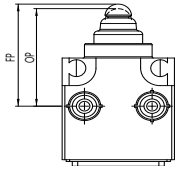
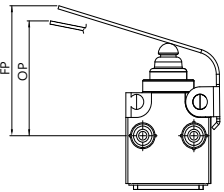


COVER TYPES (PILLAR & TRAVEL TYPES)



TYPE A

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max(gf)	FP Max (mm)	OP (mm)	OT Ref.(mm)
DW36-05S-500 □□ -Z		122	8.7	8.0±0.25	1.75
DW36-05S-5R02 □□ -Z		35	12.5	9.9±1.00	5.25

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. Wires should not be dragged.
使用帶線型式，請注意避免拉扯線材。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。
6. Allowable operating speed : 30 – 500 mm/sec
允許的操作速率: 30 – 500 mm/sec

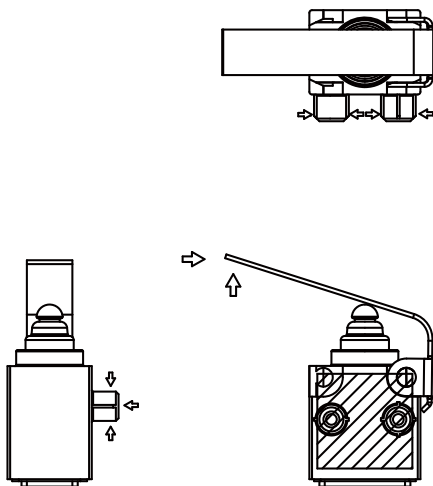


Figure-1

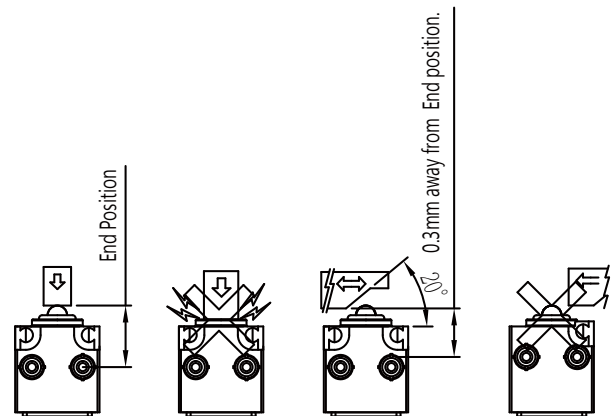
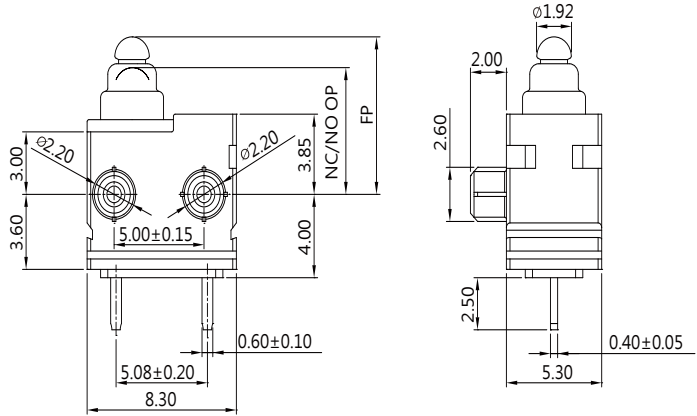


Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions



DW32 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 500m Ω

Measured by ohm meter –Open Voltage < 1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

50mA 16VDC- Min. 150,000 operations

100mA 12VDC- Min. 300,000 operations

1mA 5VDC- Min. 300,000 operations

Electrical Operating Frequency

Max. 120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

Degree of Protection

IP67 (excluding the terminals on terminal models)

APPLICATION

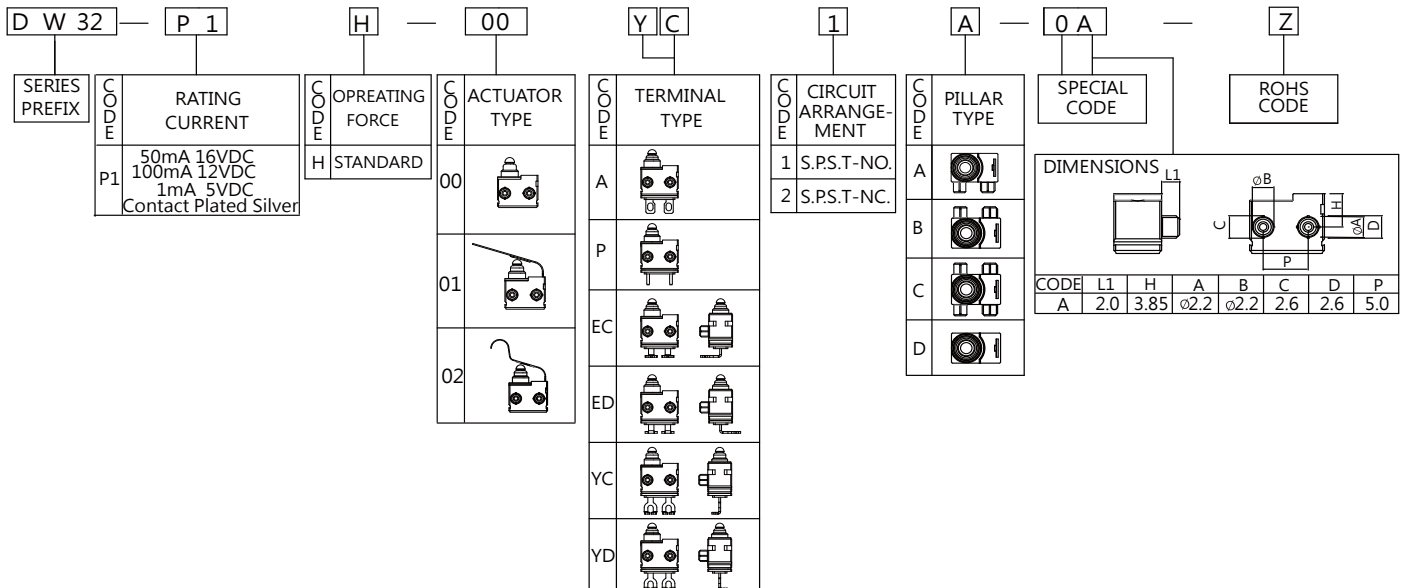
Automobiles

(detection of door opening and closing and shift lever position, etc.)

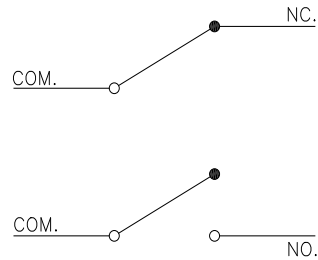
Household appliances

(propane stoves, vacuum cleaners, air conditioners, Washing machines, etc.)

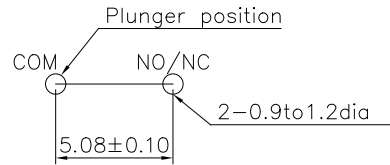
ORDERING INFORMATION



CONTACT CONFIGURATION

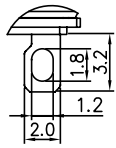


MOUNTING HOLES FOR PCB TERMINAL

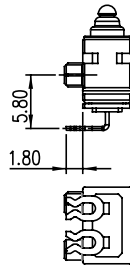


TERMINAL TYPES(THE thickness of each terminal is 0.4 mm)

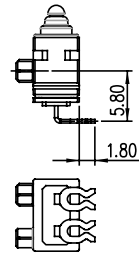
A TYPE



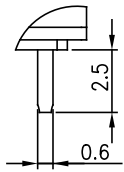
E- TERMINAL C TYPE



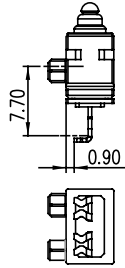
E- TERMINAL D TYPE



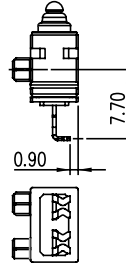
P TYPE



Y- TERMINAL C TYPE

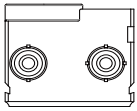
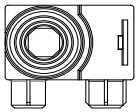


Y- TERMINAL D TYPE

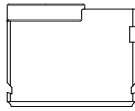
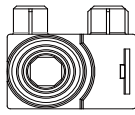


COVER TYPES (PILLAR & TRAVEL TYPES)

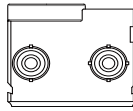
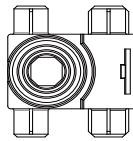
A TYPE



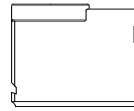
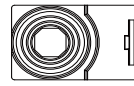
B TYPE



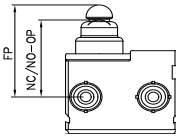
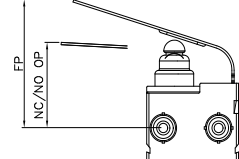
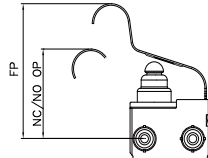
C TYPE



D TYPE



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF		FP Max (mm)	NC/NO-OP (mm)	NC/NO-OT Min.(mm)
		H	160			
DW32- □□ -00 □□ -Z		H	160	7.7	7.1±0.25	1.75
DW32- □□ -01 □□ -Z		H	150	12.0	8.3±1.25	-
DW32- □□ -02 □□ -Z		H	153	13.4	10.75±0.6	2.25

CAUTIONS:

注意事項

Terminal EC, ED, YC, and YD are not designed for soldering. Please do not solder wires with these terminal types.

端子型式EC, ED, YC 以及YD 不適用於焊線或焊接。

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure 1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
4. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。
5. < Important > To prevent deterioration of contact reliability, fork terminals should not be deformed in any situation. In order to prevent the deformation of the fork terminals, please use a special tooling to keep the switch vertical to the actual equipment. When inserting the fork terminal to the actual equipment, please make sure the fork terminal is well-supported, As shown in (Figure-2)
<重要> 為防止叉形端子變形而導致接觸可靠性下降，應使用專用工具安裝叉形端子開關，以使其保持垂直於實際設備的狀態，並在支撐端子的同時插入端子。建議安裝方式請參照(圖-2)。
6. < Suggestion > After the installation of the switch, please seal the terminal part properly to prevent the deterioration of the contact reliability due to vibration, impact, humidity and gas. Before the sealing process, please make sure the fork terminal fixed on the equipment. Please selection a sealing material that does not cause sulfuration, oxidation or generation of low molecular siloxane gas.
<建議> 在端子部上使用密封材料，將開關完全固定並密封端子部，以防止由於開關的叉形端子和實際設備的端子因振動、衝擊、潮濕和氣體而導致連接部分的接觸可靠性下降。（切勿使用未密封的開關）此外，有必要選擇不會引起硫化、氧化或低分子矽氧烷氣體生成的密封材料，因為存在因密封材料而導致接觸失敗的風險。為了選擇密封材料，應事先通過實際設備進行充分驗證。
7. < Important > The contact reliability may highly deteriorate due to unmatched materials or inaccurate of the connection between fork terminal and the matting equipment. Please contact your Zippy representative before using fork terminal type switch.
<重要> 由於使用不匹配的材料或叉形端子與設備裝配不精準，端子連接部分的接觸可靠性可能會大大降低。如果您考慮使用叉形端子類型，請務必諮詢我們。

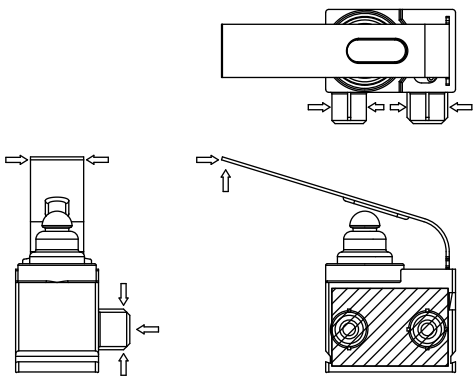


Figure-1

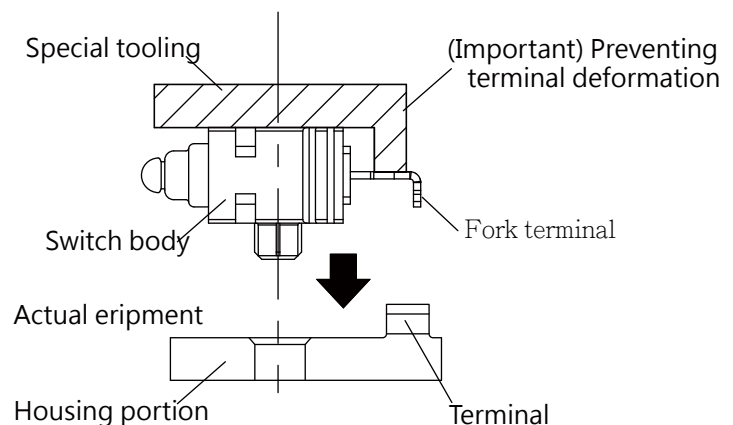


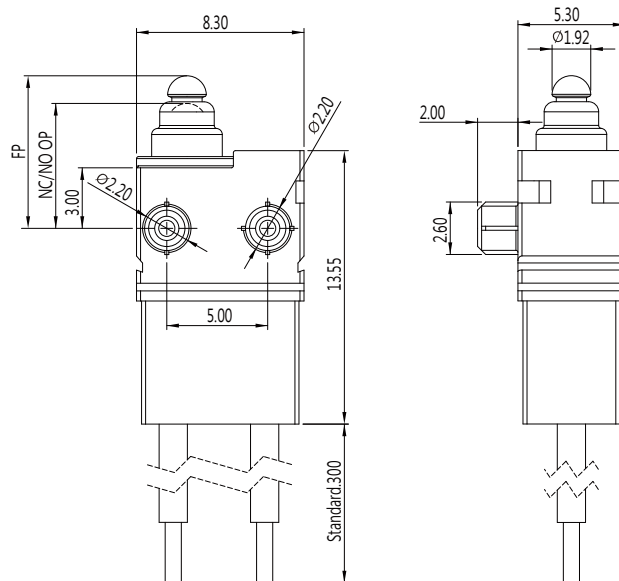
Figure-2

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



DW32(IP67) SERIES

APPLICATIONS

- Automobiles
(detection of door opening and closing and shift lever position, etc.)
- Household appliances
(propane stoves, vacuum cleaners, air conditioners Washing machines, etc.)

※ For the specification, please refer to DW32 SERIES. ※

ORDERING INFORMATION

D W 32	P 1	H	00	A	1	M	F	0 0 1	A	Z																
SERIES PREFIX	CODE	CODE	CODE	CODE	CODE	CODE	CODE	SPECIAL CODE	SPECIAL CODE	ROHS CODE																
P1	RATING CURRENT 50mA 16VDC 100mA 12VDC 1mA 5VDC Contact Plated Silver	H STANDARD	ACTUATOR TYPE 00 01 02	PILLAR TYPE A B C D	CIRCUIT ARRANGEMENT 1 S.P.S.T-NO. 2 S.P.S.T-NC.	AWG TYPE M 0.3mm ² G 24AWG	UL NUMBER F AVSS A UL 1007			<table border="1"> <thead> <tr> <th>CODE</th> <th>L1</th> <th>H</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>P</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2.0</td> <td>3.85</td> <td>2.2</td> <td>2.2</td> <td>2.6</td> <td>2.6</td> <td>5.0</td> </tr> </tbody> </table>	CODE	L1	H	A	B	C	D	P	A	2.0	3.85	2.2	2.2	2.6	2.6	5.0
CODE	L1	H	A	B	C	D	P																			
A	2.0	3.85	2.2	2.2	2.6	2.6	5.0																			

CAUTIONS:

注意事項

Terminal EC, ED, YC, and YD are not designed for soldering. Please do not solder wires with these terminal types.

端子型式EC, ED, YC 以及YD 不適用於焊線或焊接。

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure 1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。
6. < Important > To prevent deterioration of contact reliability, fork terminals should not be deformed in any situation. In order to prevent the deformation of the fork terminals, please use a special tooling to keep the switch vertical to the actual equipment. When inserting the fork terminal to the actual equipment, please make sure the fork terminal is well-supported, As shown in (Figure-2)
<重要> 為防止叉形端子變形而導致接觸可靠性下降，應使用專用工具安裝叉形端子開關，以使其保持垂直於實際設備的狀態，並在支撐端子的同時插入端子。建議安裝方式請參照(圖-2)。
7. < Suggestion > After the installation of the switch, please seal the terminal part properly to prevent the deterioration of the contact reliability due to vibration, impact, humidity and gas. Before the sealing process, please make sure the fork terminal fixed on the equipment. Please selection a sealing material that does not cause sulfuration, oxidation or generation of low molecular siloxane gas.
<建議> 在端子部上使用密封材料，將開關完全固定並密封端子部，以防止由於開關的叉形端子和實際設備的端子因振動、衝擊、潮濕和氣體而導致連接部分的接觸可靠性下降。(切勿使用未密封的開關)此外，有必要選擇不會引起硫化、氧化或低分子矽氧烷氣體生成的密封材料，因為存在因密封材料而導致接觸失敗的風險。為了選擇密封材料，應事先通過實際設備進行充分驗證。
8. < Important > The contact reliability may highly deteriorate due to unmatched materials or inaccurate of the connection between fork terminal and the matting equipment. Please contact your Zippy representative before using fork terminal type switch.
<重要> 由於使用不匹配的材料或叉形端子與設備裝配不精準，端子連接部分的接觸可靠性可能會大大降低。如果您考慮使用叉形端子類型，請務必諮詢我們。

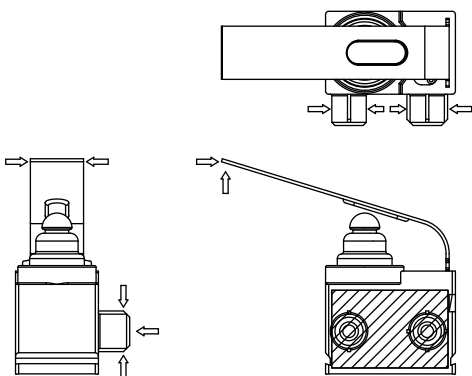


Figure-1

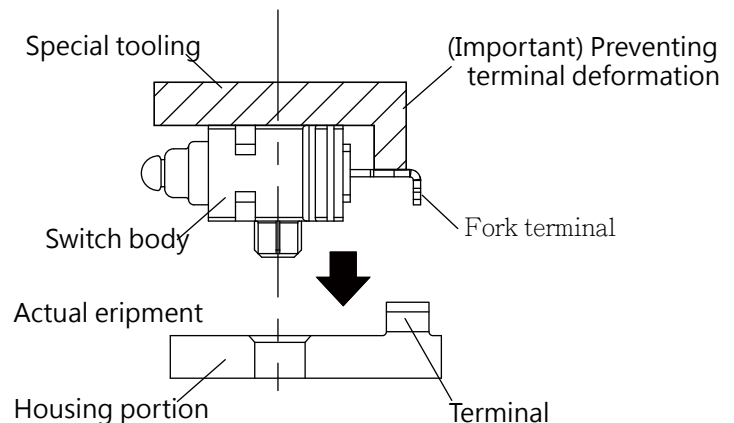
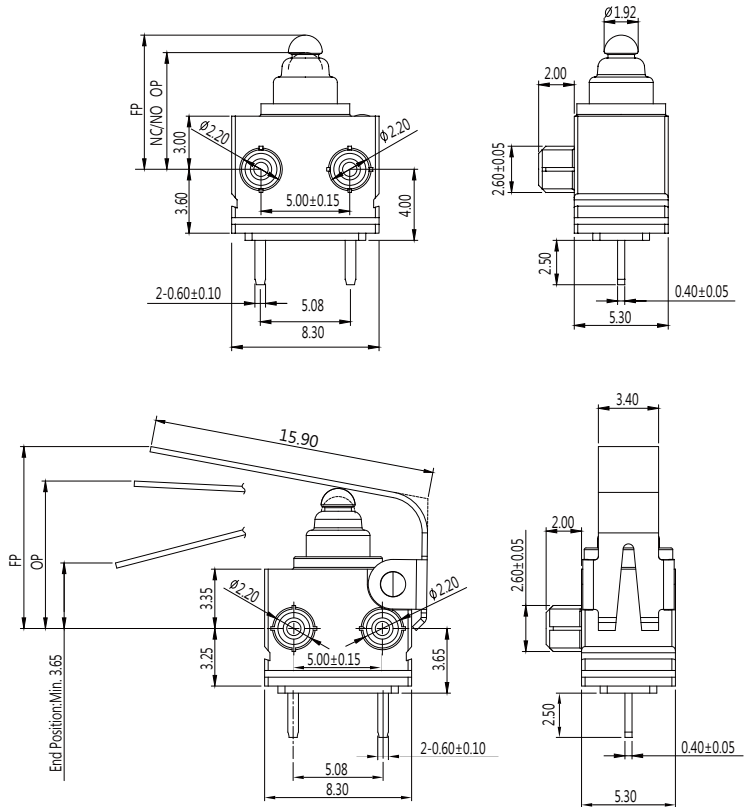


Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions



DW33 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 500m Ω

Measured by ohm meter -Open Voltage < 1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

50mA 16VDC- Min. 150,000 operations

100mA 12VDC- Min. 300,000 operations

1mA 5VDC- Min. 300,000 operations

Electrical Operating Frequency

Max. 120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

Degree of Protection

IP67 (excluding the terminals on terminal models)

APPLICATION

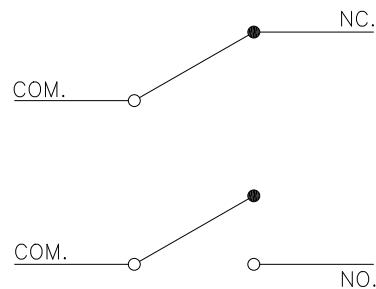
Automobiles

(detection of door opening and closing and shift lever position, etc.)

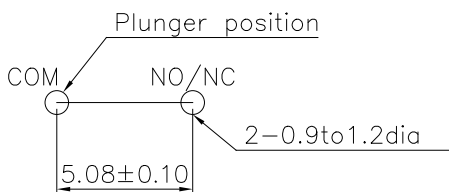
Household appliances

(propane stoves, vacuum cleaners, air conditioners Washing machines, etc.)

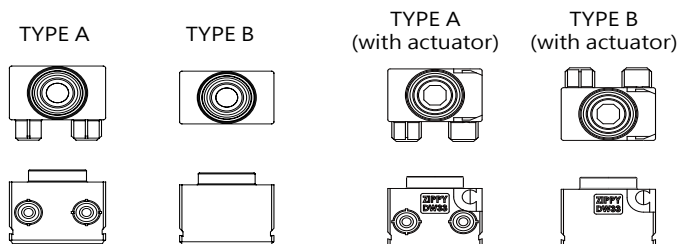
CONTACT CONFIGURATION



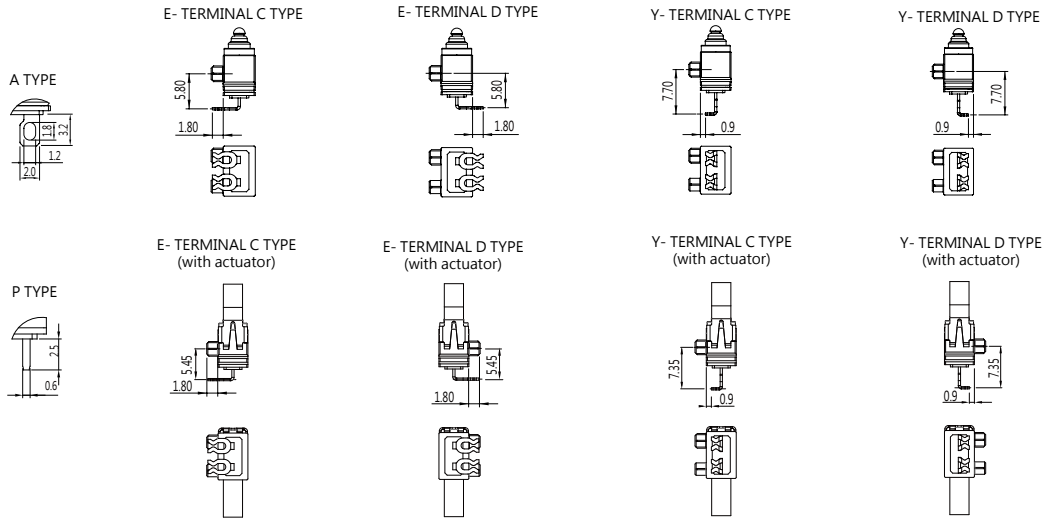
MOUNTING HOLES FOR PCB TERMINAL



COVER TYPES (PILLAR & TRAVEL TYPES)



TERMINAL TYPES (THE thickness of each terminal is 0.4 mm)



ORDERING INFORMATION

D W 33 — P 1 S — Y C 1 A — O A — Z

SERIES PREFIX	CODE	RATING CURRENT	OPERATING FORCE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	PILLAR TYPE	SPECIAL CODE	ROHS CODE
DW33	P1	50mA 16VDC 100mA 12VDC 1mA 5VDC Contact Plated Silver	S STANDARD	A P EC ED YC YD	1 S.P.S.T-NO. 2 S.P.S.T-NC.	A B		

DIMENSIONS

CODE	L1	H	A	B	C	D	P
A	2.0	3.0	∅2.2	∅2.2	2.6	2.6	5.0

(with actuator)

D W 33 — P 1 S — 5 0 0 Y C 1 A — O A — Z

SERIES PREFIX	CODE	RATING CURRENT	OPERATING FORCE	EXTERNAL SNAP-FIT LEVER	ACTUATOR TYPE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	PILLAR TYPE	SPECIAL CODE	ROHS CODE
DW33	P1	50mA 16VDC 100mA 12VDC 1mA 5VDC Contact Plated Silver	S STANDARD	5 EXTERNAL	00 02	A P EC ED YC YD	1 S.P.S.T-NO. 2 S.P.S.T-NC.	A B		

DIMENSIONS

CODE	L1	H	A	B	C	D	P
A	2.0	3.35	∅2.2	∅2.2	2.6	2.6	5.0

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max (mm)	FP Max (mm)	NC/NO-OP (mm)	NC/NO-OT Min.(mm)
DW33-P1S-□□-Z		122	7.7	7.1±0.25	1.75
DW33-P1S-500□□-Z		122	8.05	7.45±0.25	1.75
DW33-P1S-502□□-Z		35	12.0	9.75±1.35	1.75

CAUTIONS:

注意事項

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端子型式EC, ED, YC 以及YD 不適用於焊線或焊接。

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使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
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為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
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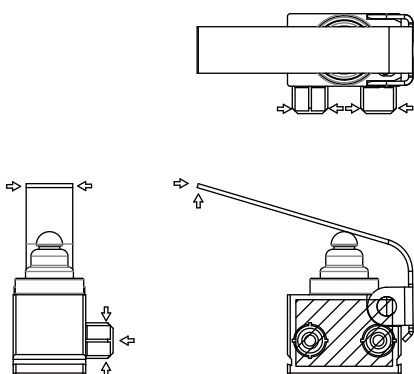


Figure-1

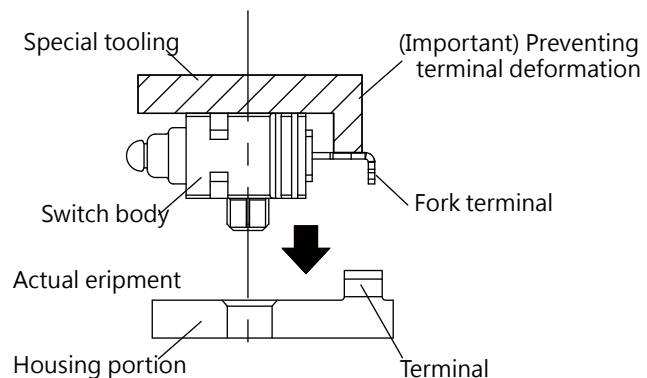


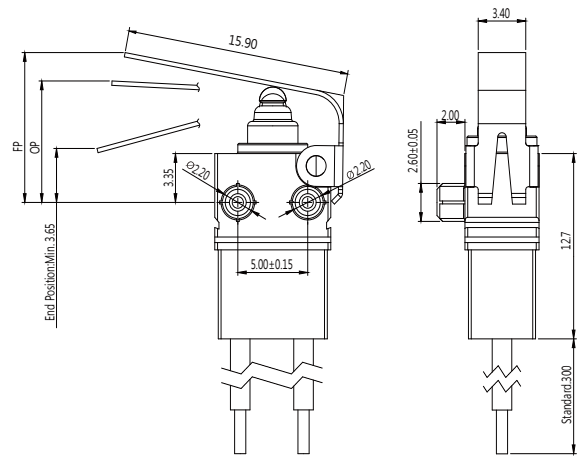
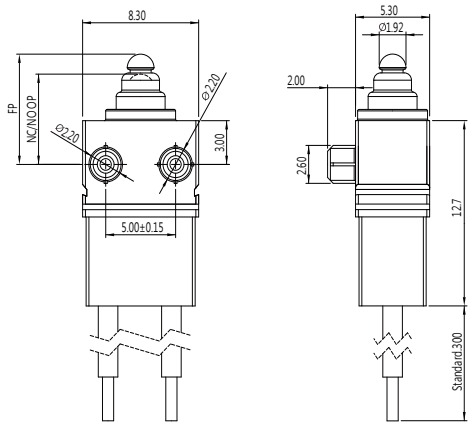
Figure-2

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



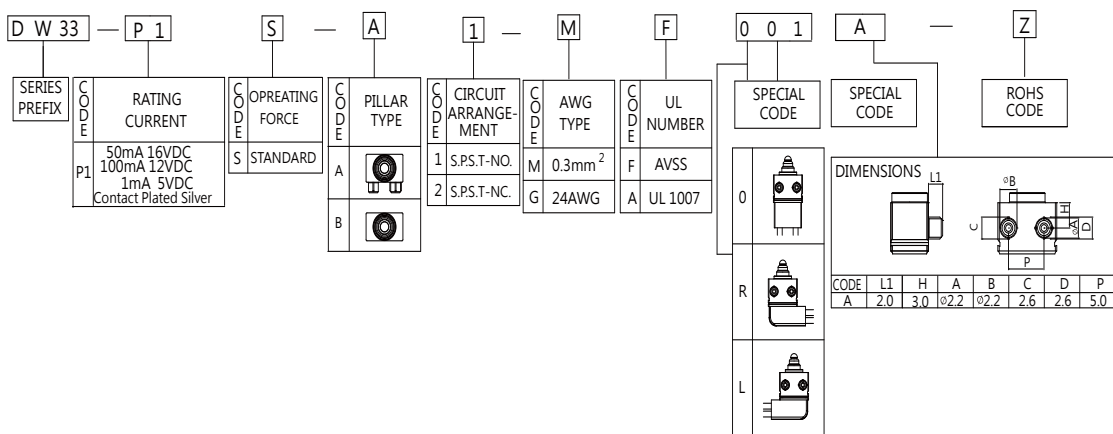
DW33(IP67) SERIES

APPLICATIONS

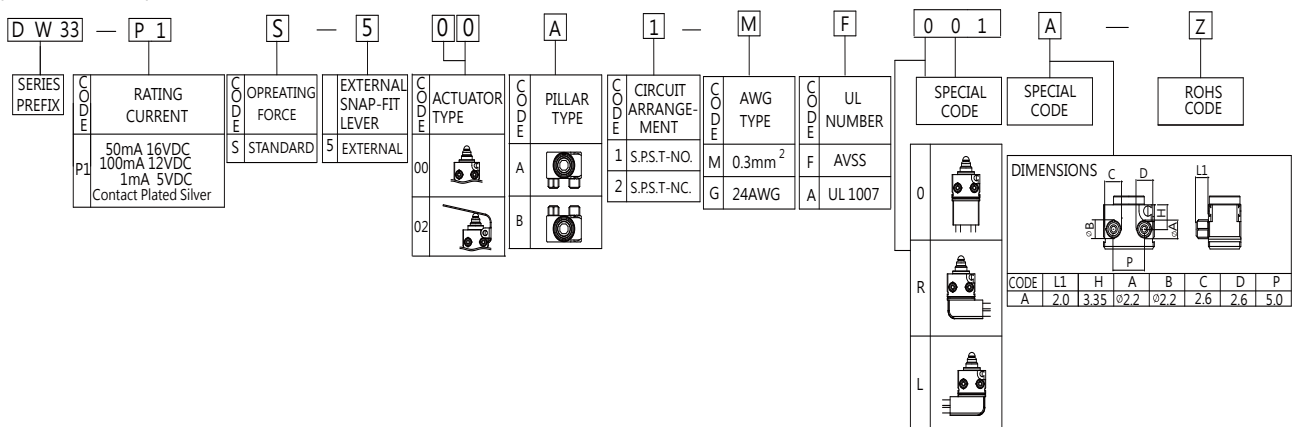
- Automobiles
(detection of door opening and closing and shift lever position, etc.)
- Household appliances
(propane stoves, vacuum cleaners, air conditioners, washing machines, etc.)

※ For the specification, please refer to DW33 SERIES. ※

ORDERING INFORMATION



(with actuator)



CAUTIONS:

注意事項

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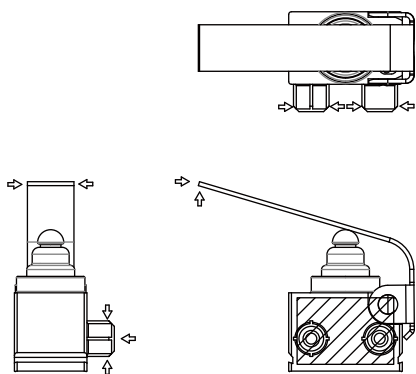


Figure-1

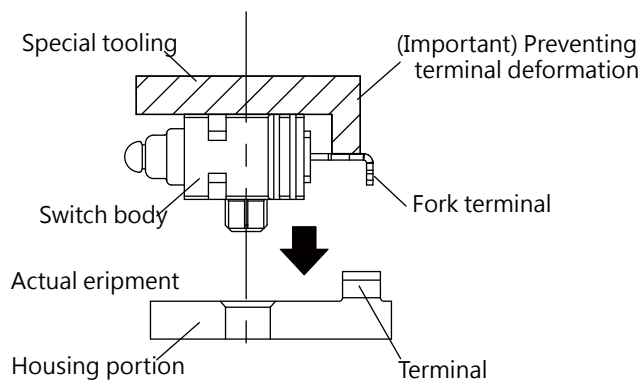


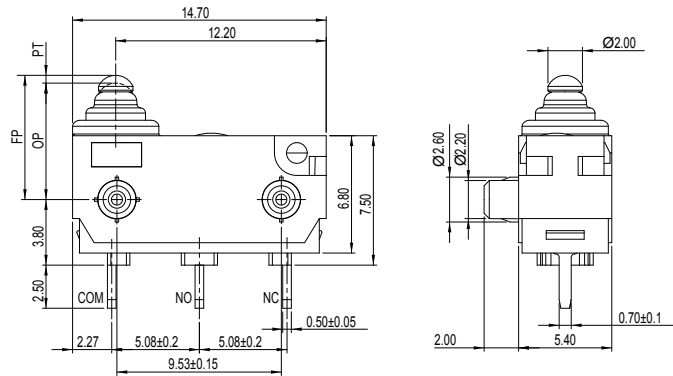
Figure-2

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW51 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage <1 VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 400VAC(50-60HZ)/minute between Live parts.

Min. 1300VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 100,000 operations

3A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 500,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

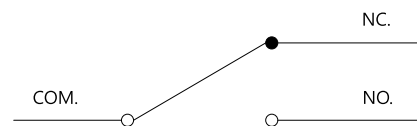
Degree of Protection

IP67 (excluding the terminals on terminal models)

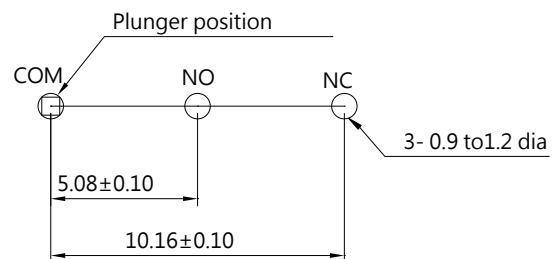
APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

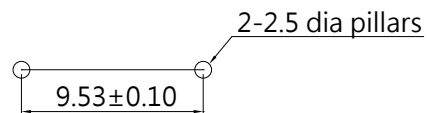
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PILLAR PITCH

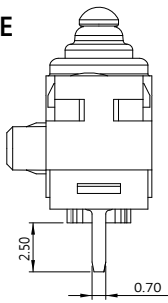


CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW51-P1 or G1	0.1RA 12 VDC, μ T55 1E5 0.1RA 125 VAC, μ T55 1E4	0.1A 12 VDC, μ T55 1E5 0.1A 125 VAC, μ T55 1E4
DW51-03 or G3	3RA 12 VDC, μ T55 1E5 3GPA 125 VAC, μ T55 1E4	3A 12 VDC, μ T55 1E5 3A 125 VAC, μ T55 1E4

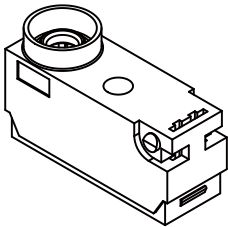
TERMINAL TYPES (THE thickness of each terminal is 0.5mm)

P TYPE

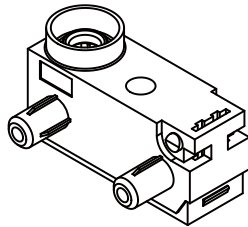


COVER TYPES (PILLAR & TRAVEL TYPES)

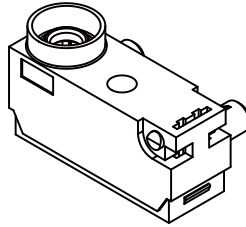
A TYPE



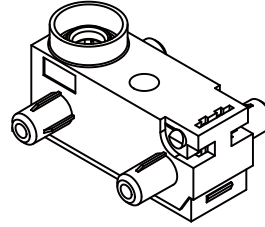
B TYPE



C TYPE



D TYPE



ORDERING INFORMATION

DW51

SERIES
PREFIX

03

CODE	RATING CURRENT
G1	0.1A 125VAC Contact plated gold
P1	0.1A 125VAC
G3	3A 125VAC Contact plated gold
03	3A 125VAC

S

CODE	OPERATING FORCE
S	STANDARD

01

CODE	ACTUATOR TYPE (for DW51)
00	
01	

P

CODE	TERMINAL TYPE
P	

0

CODE	CIRCUIT ARRANGEMENT
0	S.P.D.T
1	S.P.S.T NO
2	S.P.S.T NC

A

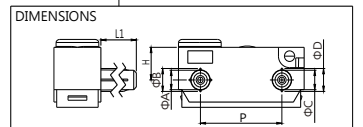
CODE	PILLAR TYPE
A	
B	
C	
D	

0A

SPECIAL CODE

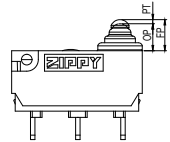
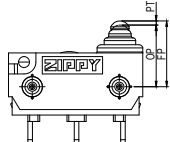
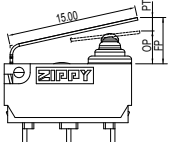
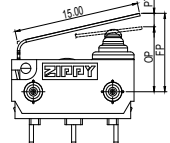
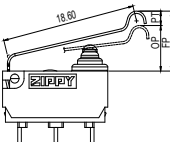
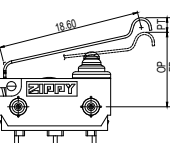
Z

ROHS CODE



CODE	L1	H	ΦA	ΦB	ΦC	ΦD	P
	5.0	3.7	2.2	2.6	2.2	2.6	9.53
A	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF		OP (mm)	PT Max (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
		Max (gf)							
DW51- □□ S-00 □□ -Z		S	130	3.05±0.2	0.8	0.8	0.3	3.65	35
				6.75±0.2				7.35	
DW51- □□ S-01 □□ -Z		S	195	3.7±0.5	3.85	1.35	0.5	7.0	55
				7.4±0.5				10.7	
DW51- □□ S-04 □□ -Z		S	160	6.2±0.8	4.8	1.65	0.7	10.1	45
				9.9±0.8				13.8	

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
4. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

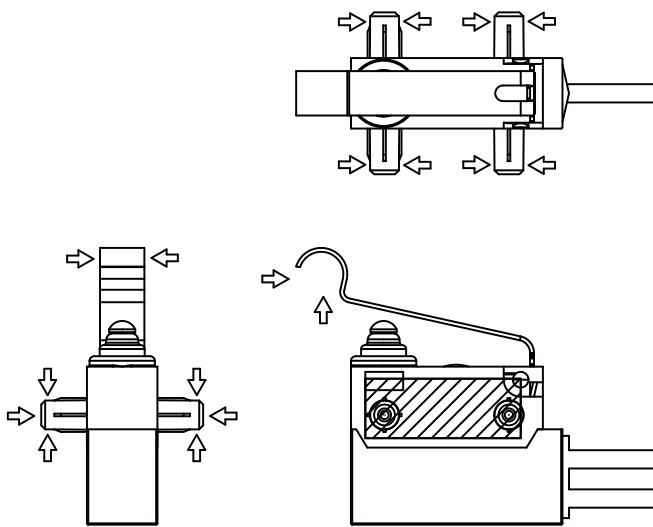


Figure-1

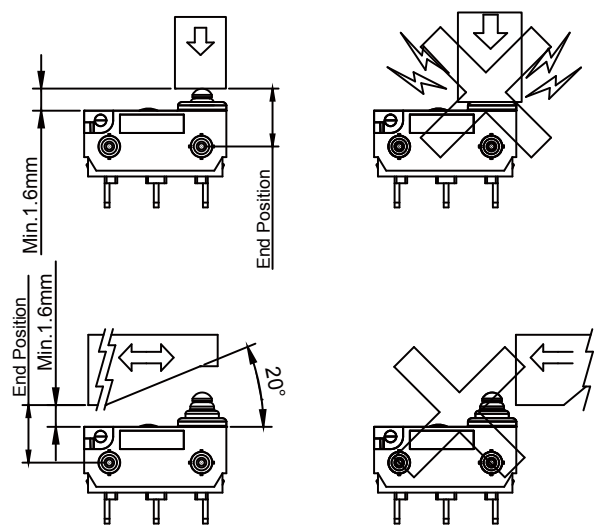
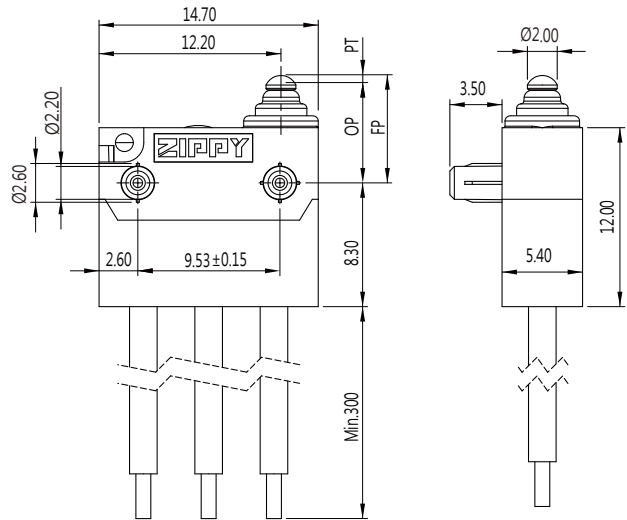


Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW51 (IP67) SERIES

APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW51-P1 or G1	0.1RA 12 VDC 0.1RA 125 VAC	0.1A 12 VDC 0.1A 125 VAC
DW51-03 or G3	3RA 12 VDC 3GPA 125 VAC	3A 12 VDC 3A 125 VAC

※ For the specification, please refer to DW51 SERIES. ※

ORDERING INFORMATION

DW51 — **03** — **S** — **01** — **R** — **0** — **A** — **E** — **A001A** — **Z**

CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	WIRE SIDE	CODE	CIRCUIT ARRANGEMENT	CODE	PILLAR TYPE	CODE	AWG TYPE	CODE	UL NUMBER	SPECIAL CODE	ROHS CODE
G1	0.1A 125VAC Contact plated gold	S	STANDARD	00		0		0	S.P.D.T	A		E	20	A	UL 1007		
P1	0.1A 125VAC			01		R		1	S.P.S.T NO	B		F	22	C	UL 1430		
G3	3A 125VAC Contact plated gold					L		2	S.P.S.T NC	C		G	24	D	UL 1061		
03	3A 125VAC									D		H	26				

DIMENSIONS

CODE	L1	H	ΦA	ΦB	ΦC	ΦD	P
A	5.0	3.7	2.2	2.6	2.2	2.6	9.53
B	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
4. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

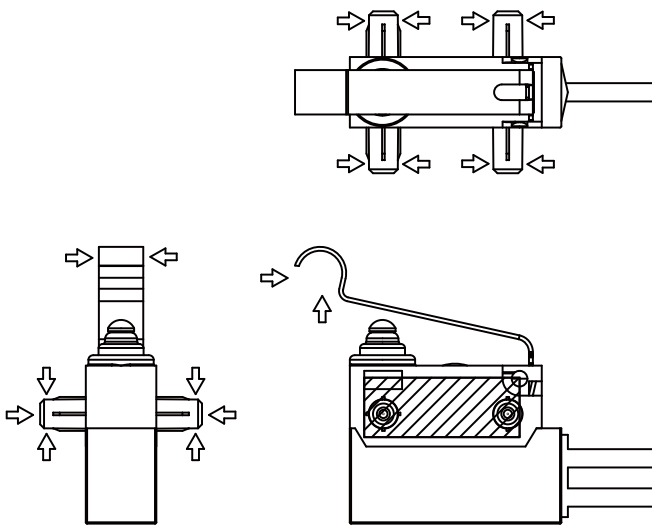


Figure-1

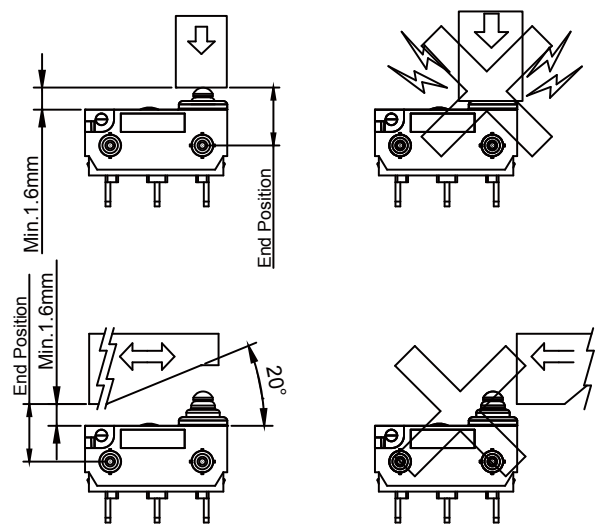


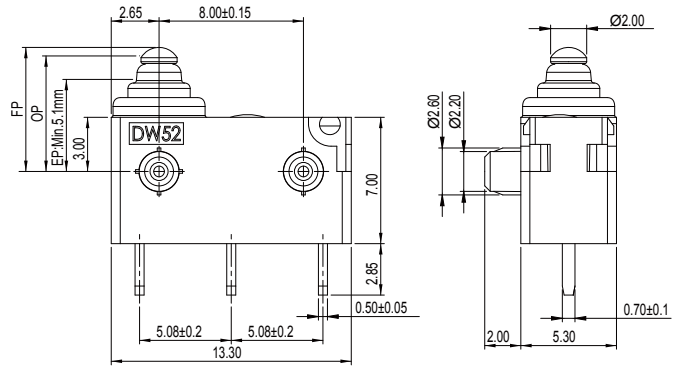
Figure-2

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW52 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage <1 VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 400VAC(50-60HZ)/minute between Live parts.

Min. 1300VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 100,000 operations

3A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 500,000 operations

Mechanical Operating Frequency

120 operations per minute

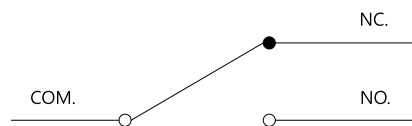
Degree of Protection

IP67 (excluding the terminals on terminal models)

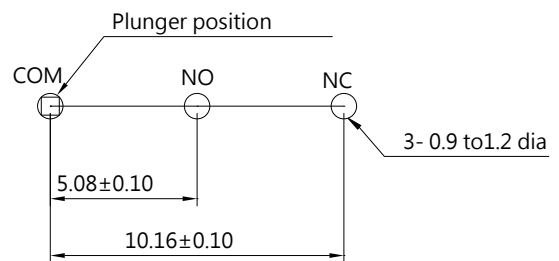
APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

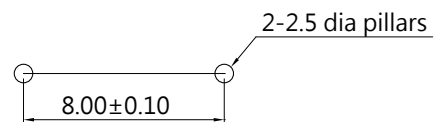
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PILLAR PITCH

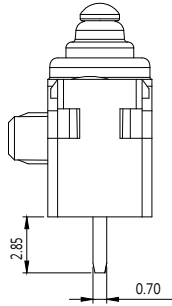


CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW52-P1 or G1	0.1RA 12 VDC, μ T55 1E5 0.1RA 125 VAC, μ T55 1E4	0.1A 12 VDC, μ T55 1E5 0.1A 125 VAC, μ T55 1E4
DW52-03 or G3	3RA 12 VDC, μ T55 1E5 3GPA 125 VAC, μ T55 1E4	3A 12 VDC, μ T55 1E5 3A 125 VAC, μ T55 1E4

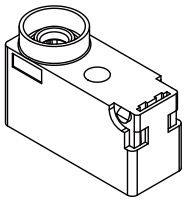
TERMINAL TYPES (THE thickness of each terminal is 0.5mm)

P TYPE

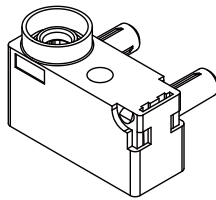


COVER TYPES (PILLAR & TRAVEL TYPES)

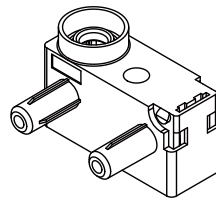
A TYPE



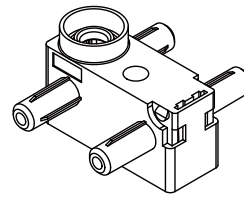
B TYPE



C TYPE



D TYPE

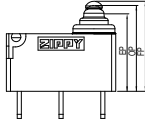
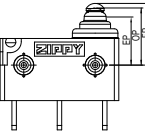
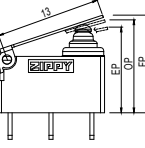
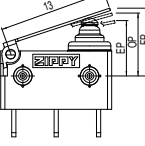
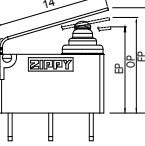
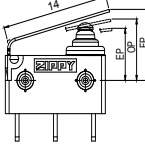


ORDERING INFORMATION

D	W	5	2	—	0	3	S	—	0	1	P	0	A	—	0	A	—	Z		
SERIES PREFIX					RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE (for DW51)		TERMINAL TYPE		CIRCUIT ARRANGEMENT		PILLAR TYPE		SPECIAL CODE		ROHS CODE	
					G1	0.1A 125VAC Contact plated gold	S		00		P		0		A		0		Z	
					P1	0.1A 125VAC			01				1		B					
					G3	3A 125VAC Contact plated gold			A01				2		C					
					03	3A 125VAC									D					

DIMENSIONS							
	L1	H	ΦA	ΦB	ΦC	ΦD	P
A	2.0	3.0	2.2	2.6	2.2	2.6	8.00

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max (gf)	OP (mm)	EP Min (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
DW52- □□ S-00 □□ -Z		S	130	10.4±0.2	9.1	1.1	0.25	11.2
				6.4±0.2	5.1			7.2
DW52- □□ S-01 □□ -Z		S	110	11.5±0.5	10	1.0	0.5	12.8
				7.5±0.5	6			8.8
DW52- □□ S-A01 □□ -Z		S	200	11.4±0.5	9.8	1.1	0.5	13.3
				7.4±0.5	5.8			9.3

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
 使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。

使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。

2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.

為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。

3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)

圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)

4. Avoid applying any grease/oil and chemicals on the switch rubber.

請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

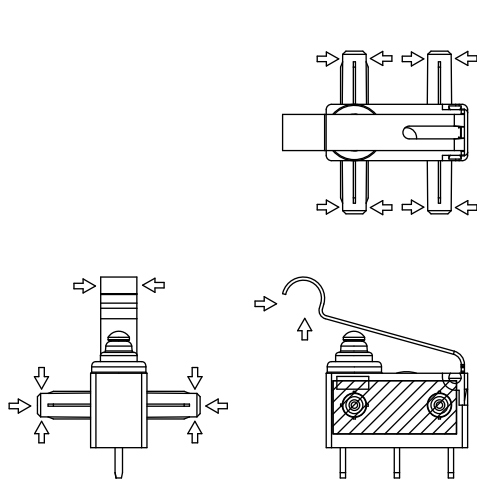


Figure-1

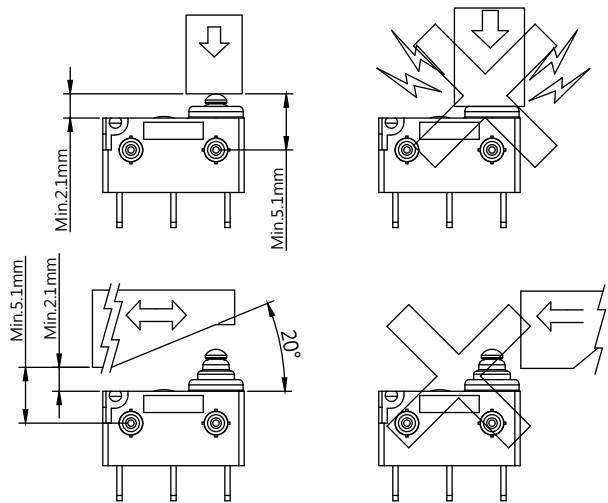


Figure-2

WATER PROOF SWITCHES



DW52 (IP67) SERIES

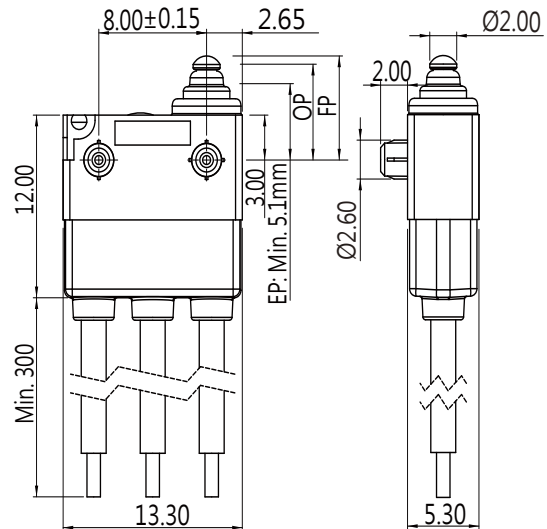
APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

※ For the specification, please refer to DW52 SERIES. ※

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW51-P1 or G1	0.1RA 12 VDC 0.1RA 125 VAC	0.1A 12 VDC 0.1A 125 VAC
DW51-03 or G3	3RA 12 VDC 3GPA 125 VAC	3A 12 VDC 3A 125 VAC

ORDERING INFORMATION

DW52 - 03 S - 01 R 0 A - E A 001A - Z

CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE (for DW51)	CODE	WIRE SIDE	CODE	CIRCUIT ARRANGEMENT	CODE	PILLAR TYPE	CODE	AWG TYPE	CODE	UL NUMBER	SPECIAL CODE	ROHS CODE
G1	0.1A 125VAC Contact plated gold	S	STANDARD	00		0		0	S.P.D.T	A		E	20	A	UL 1007		
P1	0.1A 125VAC			01		R		1	S.P.S.T NO	B		F	22	C	UL 1430		
G3	3A 125VAC Contact plated gold			A01		L		2	S.P.S.T NC	C		G	24	D	UL 1061		
03	3A 125VAC									D		H	26				

DIMENSIONS

CODE	L1	H	ΦA	ΦB	ΦC	ΦD	P
A	2.0	3.0	2.2	2.6	2.2	2.6	8.00

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
2. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

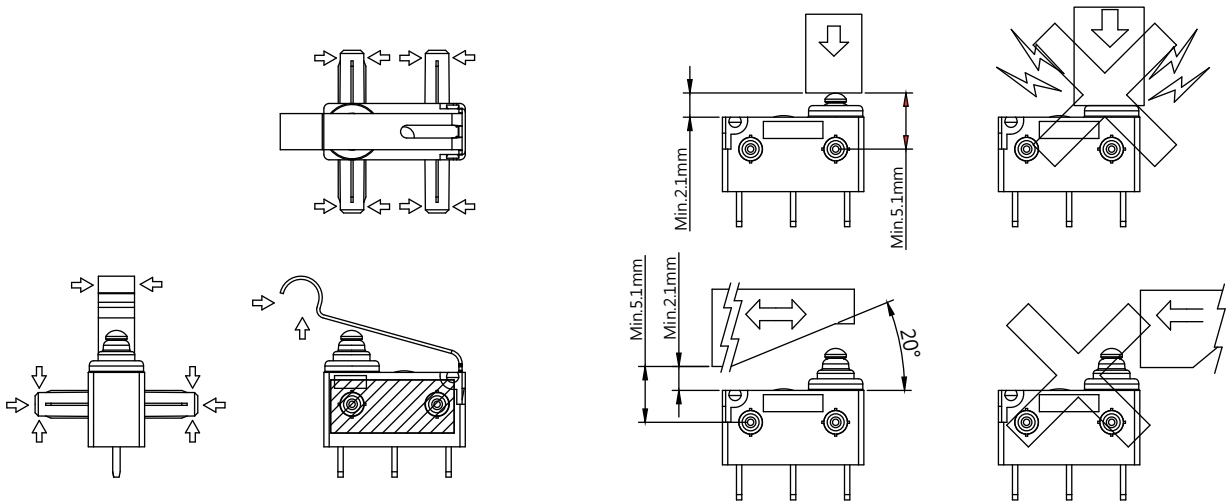


Figure-1

Figure-2

WATER PROOF SWITCHES



DFW SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 100mΩ

(Measured by ohm meter-Open Voltage<1VDC,Driver current-100mA)

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

Degree of Protection

IP67 (excluding the terminals on terminal models)

APPLICATIONS

Automotive (Operation system, Engine area Interior)

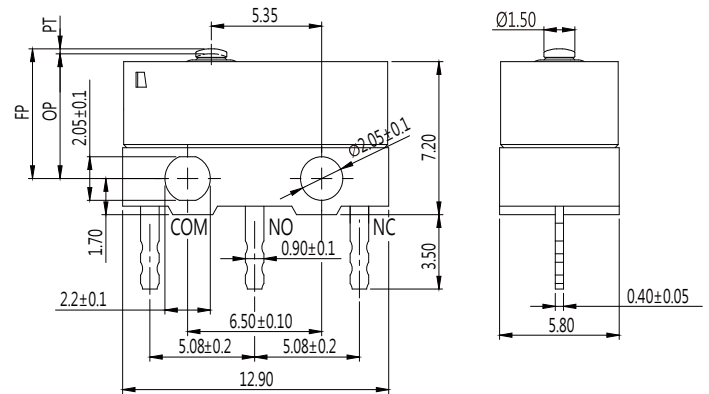
Air conditioner, communication, Electric tooth brush, Toy

CERTIFICATE INFORMATION

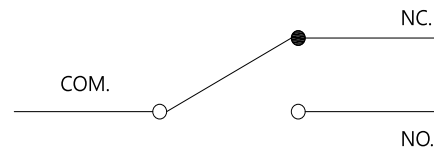
Model Name	UL, cUL	ENEC
DFW-P1	0.1RA 125/250VAC μT85 1E4	0.1A 125/250VAC μT85 1E4
DFW-G1	3RA 24VDC μT85 1E4	3A 24VDC μT85 1E4
DFW-03	3RA 125/250VAC μT85 1E4	3A 125/250VAC μT85 1E4
DFW-G3	3RA 24VDC μT85 1E4	3A 24VDC μT85 1E4
DFW-05	5RA 125/250VAC μT85 1E4 3RA 24VDC μT85 1E4	5A 125/250VAC μT85 1E4 3A 24VDC μT85 1E4

DIMENSIONS

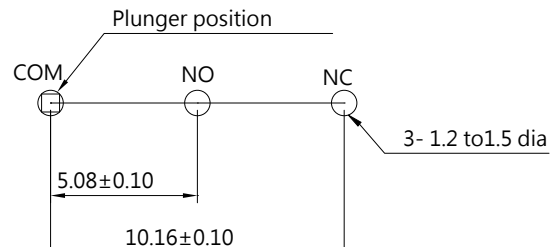
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL

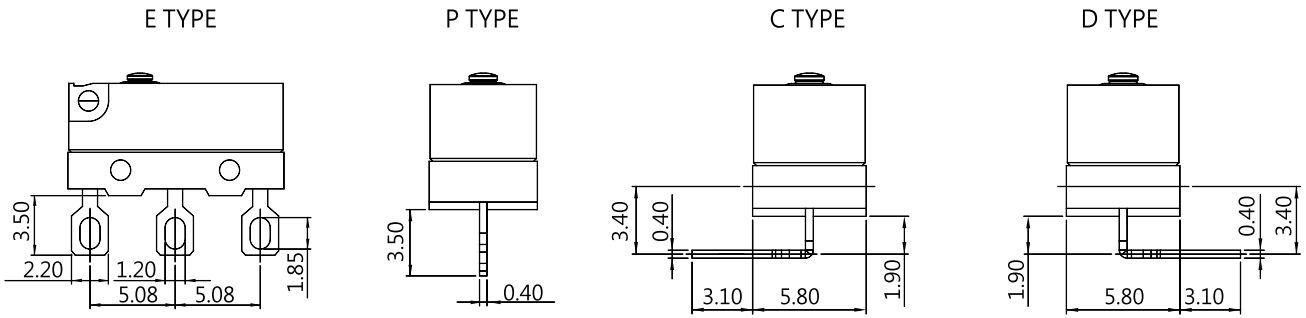


THE SELECTION OF RATING & FORCE

Model	Rating	L	S
DFW	P1	*	*
	G1		
	03	*	*
	G3		
	05	*	*

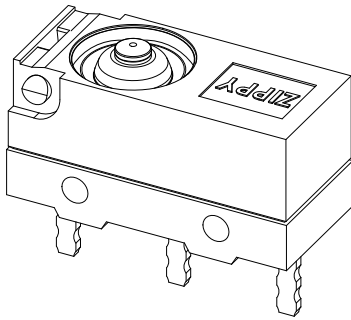
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES



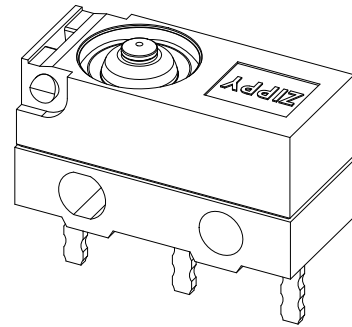
COVER TYPES

A type



A type – Screw holes Ø1.2 mm

E type

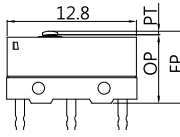
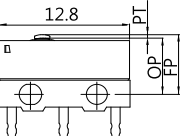
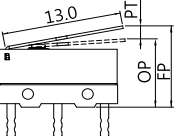
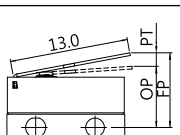
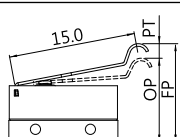
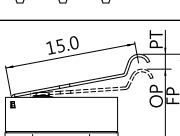
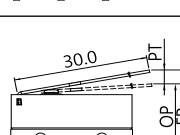
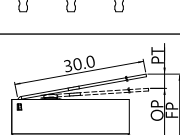


E type – Screw holes Ø2.05 mm

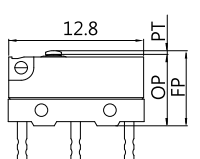
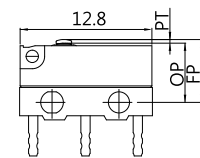
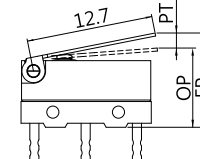
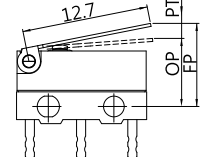
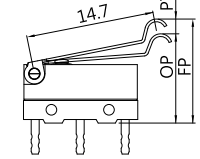
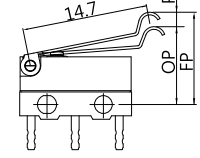
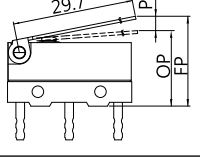
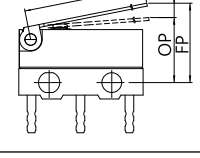
ORDERING INFORMATION

D	F	W	—	0	5	S	—	B	0	1	P	0	A	—	Z
SERIES PREFIX				RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE			CIRCUIT ARRANGEMENT		COVER & CASE TYPE		ROHS CODE
				P1	0.1A	S		A00			0		A		
				G1	125/250VAC	STANDARD		A01			1		E		
				03	3A	L		A02			2		E		
				G3	125/250VAC										
				05	5A										
					125/250VAC										
								CODE ACTUATOR TYPE							
								B00							
								B01							
								B02							

OPERATING CHARACTERISTICS (Internal snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DFW- □□□ -A00 □ -Z		L	100	7.0 ± 0.2	0.5	0.2	0.12	7.5	21
		S	170						35
		L	100	5.9 ± 0.2	0.5	0.2	0.12	6.4	21
		S	170						35
DFW- □□□ -A01 □ -Z		L	32	8.2 ± 0.8	3.4	0.6	0.8	10.1	5
		S	56						8
		L	32	7.1 ± 0.8	3.4	0.6	0.8	9.0	5
		S	56						8
DFW- □□□ -A02 □ -Z		L	28	10.2 ± 0.8	3.5	0.7	0.92	14.2	5
		S	48						7
		L	28	9.1 ± 0.8	3.5	0.7	0.92	13.1	5
		S	48						7
DFW- □□□ -A09 □ -Z		L	22	9.5 ± 1.7	6.9	0.55	1.9	16.8	1
		S	24						3
		L	22	8.4 ± 1.7	6.9	0.55	1.9	15.7	1
		S	24						3

OPERATING CHARACTERISTICS (External snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
DFW- □□□ -B00 □ -Z		L	100	7.0 ± 0.2	0.5	0.2	0.12	7.5	21
		S	170						35
		L	100	5.9 ± 0.2	0.5	0.2	0.12	6.4	21
		S	170						35
DFW- □□□ -B01 □ -Z		L	32	8.2 ± 0.8	3.4	0.6	0.8	10.1	5
		S	56						8
		L	32	7.1 ± 0.8	3.4	0.6	0.8	9.0	5
		S	56						8
DFW- □□□ -B02 □ -Z		L	28	10.2 ± 0.8	3.5	0.7	0.92	14.2	5
		S	48						7
		L	28	9.1 ± 0.8	3.5	0.7	0.92	13.1	5
		S	48						7
DFW- □□□ -B09 □ -Z		L	22	9.5 ± 1.7	6.9	0.55	1.9	16.8	1
		S	24						3
		L	22	8.4 ± 1.7	6.9	0.55	1.9	15.7	1
		S	24						3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式上蓋，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1N•m。
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

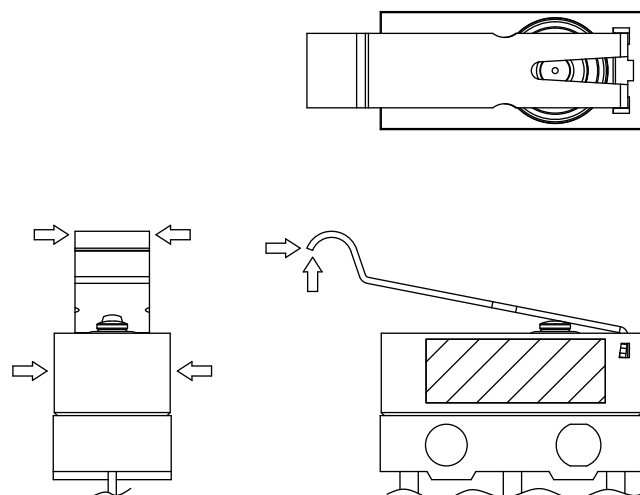


Figure-1 (圖-1)

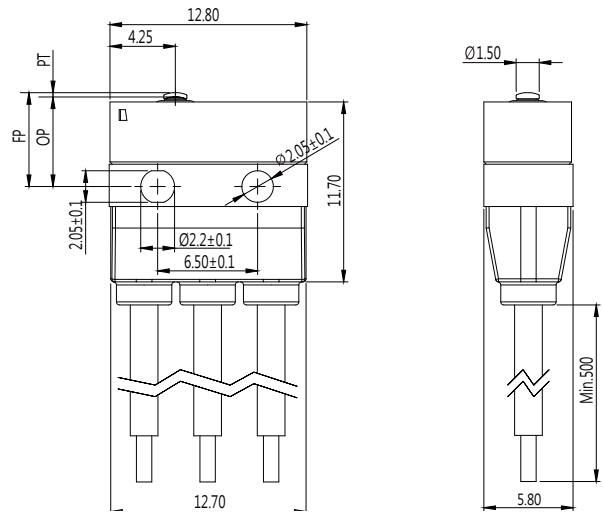
WATER PROOF SWITCHES



DFW (IP67) SERIES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



APPLICATIONS

Automotive (Operation system, Engine area Interior)
Air conditioner, communication, Electric tooth brush, toys

※ For the specification, please refer to DFW SERIES. ※

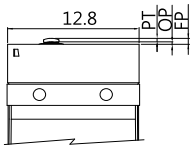
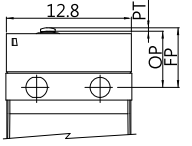
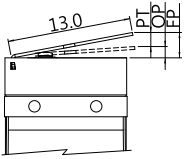
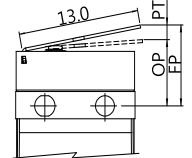
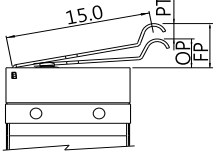
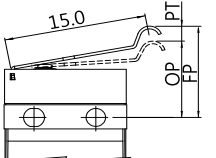
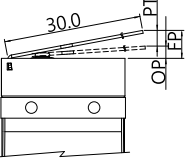
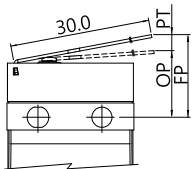
CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DFW-P1	0.1RA 125/250VAC	0.1A 125/250VAC
DFW-G1	3RA 24VDC	3A 24VDC
DFW-03	3RA 125/250VAC	3A 125/250VAC
DFW-G3	3RA 24VDC	3A 24VDC
DFW-05	5RA 125/250VAC 3RA 24VDC	5A 125/250VAC 3A 24VDC

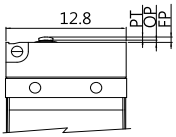
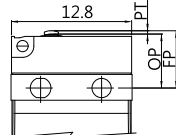
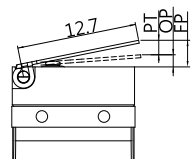
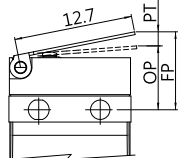
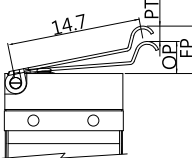
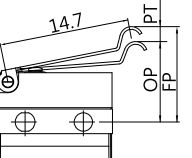
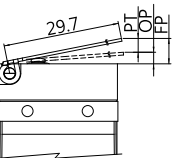
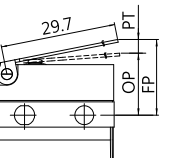
ORDERING INFORMATION

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	WIRE TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	CASE & COVER TYPE	CODE	AWG TYPE	CODE	UL NUMBER	SERIAL CODE	ROHS CODE
DFW	05	P1 G1	S	STANDARD	A00	D	D	D	0	S.P.D.T	A	A	E	20 AWG	A	UL1007	001	Z
		03 G3	L	LIGHT	A01	R	R	R	1	S.P.S.T NO	E	E	F	22 AWG	C	UL1430		
		05			A02	L	L	L	2	S.P.S.T NC			G	24 AWG	D	UL1061		
					B00													
					B01													
					B02													

OPERATING CHARACTERISTICS (Internal snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DFW- □□□ -A00 □ -Z		L	100	0.4 ± 0.2	0.5	0.2	0.12	0.9	21
		S	170						35
		L	100	5.9 ± 0.2	0.5	0.2	0.12	6.4	21
		S	170						35
DFW- □□□ -A01 □ -Z		L	32	1.6 ± 0.8	3.4	0.6	0.8	3.5	5
		S	56						8
		L	32	7.1 ± 0.8	3.4	0.6	0.8	9.0	5
		S	56						8
DFW- □□□ -A02 □ -Z		L	28	3.6 ± 0.8	3.5	0.7	0.92	7.6	5
		S	48						7
		L	28	9.1 ± 0.8	3.5	0.7	0.92	13.1	5
		S	48						7
DFW- □□□ -A09 □ -Z		L	22	2.9 ± 1.7	6.9	0.55	1.9	10.2	1
		S	24						3
		L	22	8.4 ± 1.7	6.9	0.55	1.9	15.7	1
		S	24						3

OPERATING CHARACTERISTICS (External snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DFW- □□□ -B00 □ -Z		L	100	0.4 ± 0.2	0.5	0.2	0.12	0.9	21
		S	170						35
		L	100	5.9 ± 0.2	0.5	0.2	0.12	6.4	21
		S	170						35
DFW- □□□ -B01 □ -Z		L	32	1.6 ± 0.8	3.4	0.6	0.8	3.5	5
		S	56						8
		L	32	7.1 ± 0.8	3.4	0.6	0.8	9.0	5
		S	56						8
DFW- □□□ -B02 □ -Z		L	28	3.6 ± 0.8	3.5	0.7	0.92	7.6	5
		S	48						7
		L	28	9.1 ± 0.8	3.5	0.7	0.92	13.1	5
		S	48						7
DFW- □□□ -B09 □ -Z		L	22	2.9 ± 1.7	6.9	0.55	1.9	10.2	1
		S	24						3
		L	22	8.4 ± 1.7	6.9	0.55	1.9	15.7	1
		S	24						3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式上蓋，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m。
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

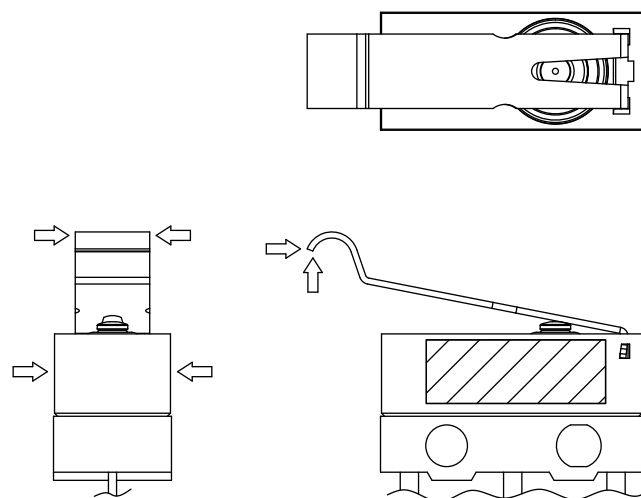


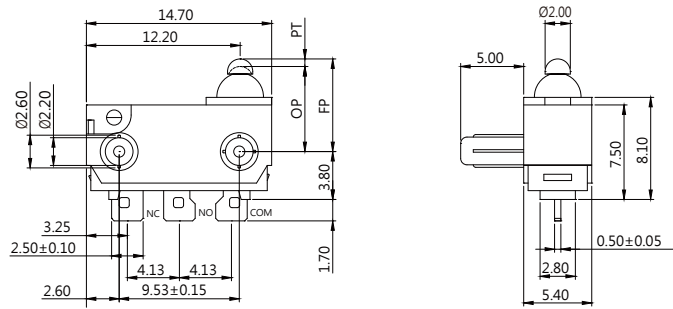
Figure-1 (圖-1)

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage <1 VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 150VAC(50-60HZ)/minute between Live parts.

Min. 500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

10mA - Min. 500,000 operations

3A - Min. 6,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 500,000 operations

Mechanical Operating Frequency

120 operations per minute

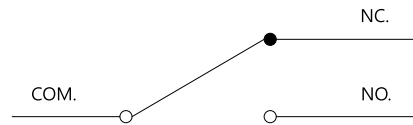
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

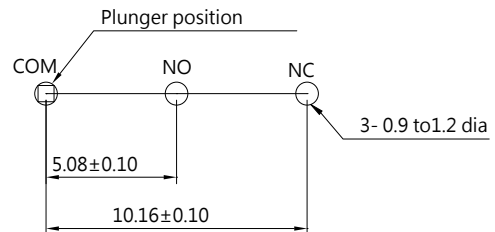
Degree of Protection

IP67 (excluding the terminals on terminal models)

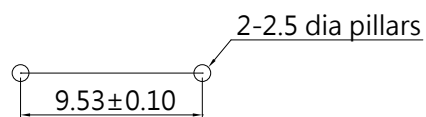
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PILLAR PITCH



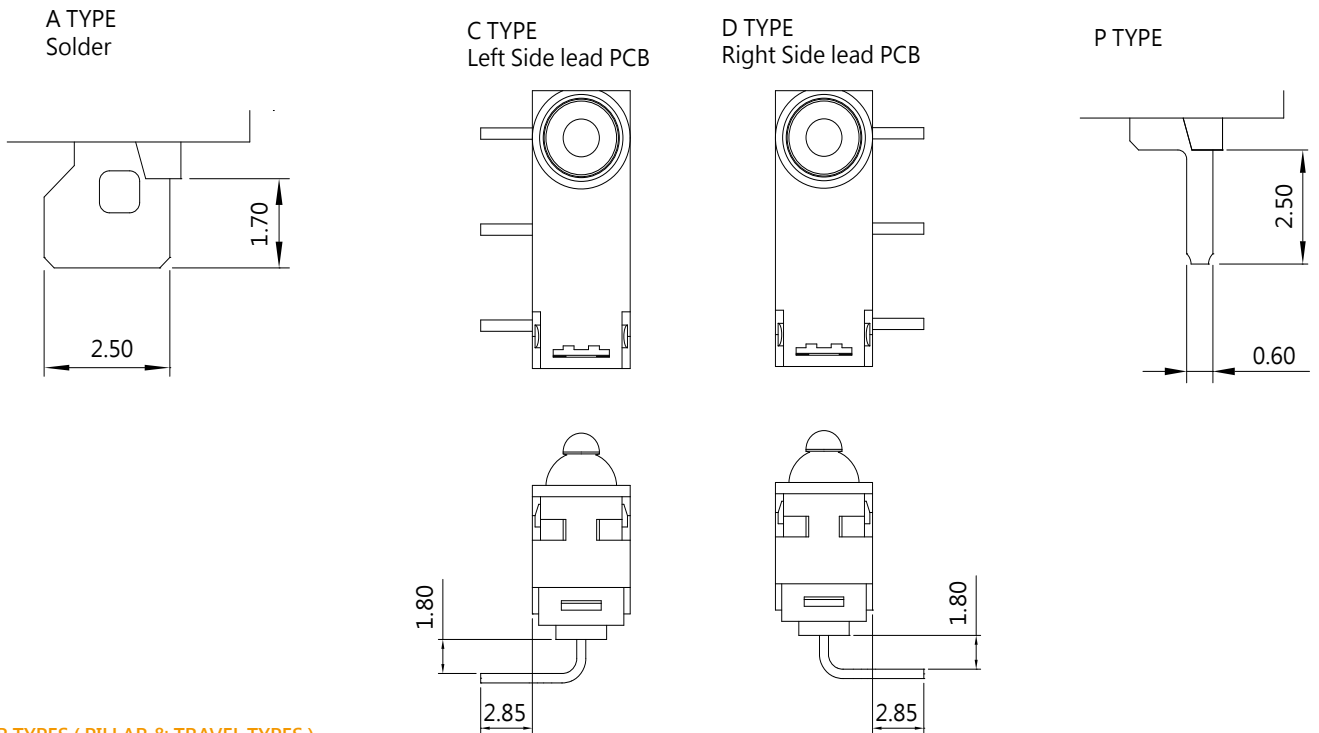
APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

CERTIFICATE INFORMATION

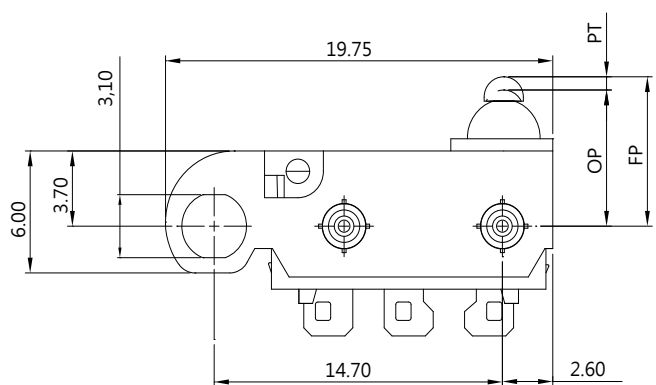
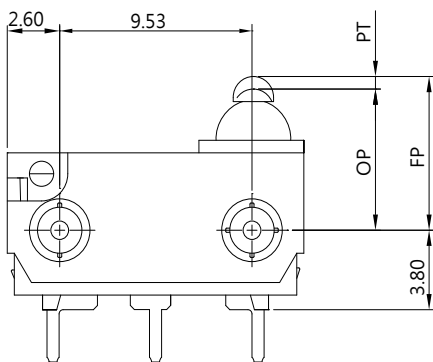
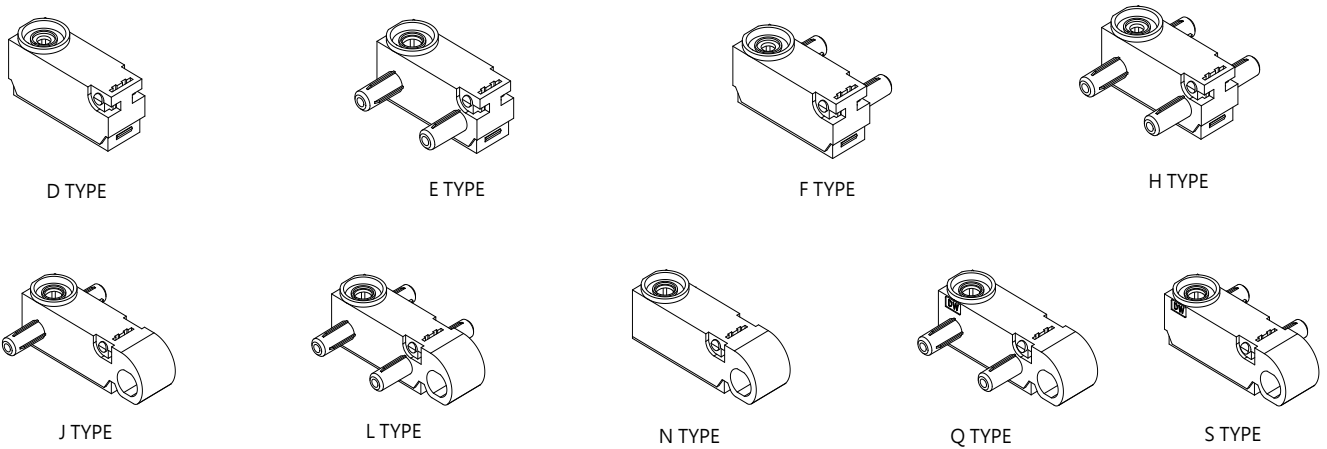
Model Name	UL, cUL	ENEC
DW-N2S	10 mA 12 VDC (Temp65°C), Min. 10,000 operations	10 mA 12 VDC, μ T55 5E5
DW-N3S	3 A 12 VDC (Temp65°C) Min. 100,000 operations 3 A 125 VAC (Temp65°C) Min. 6,000 operations	3 A 12 VDC, μ T55 1E5

TERMINAL TYPES (THE thickness of each terminal is 0.5mm)



COVER TYPES (PILLAR & TRAVEL TYPES)

LONG TRAVEL



ORDERING INFORMATION

D	W	N	2	S	0	1	A	0	A	0	A	Z		
SERIES PREFIX	C O D E	RATING CURRENT	C O D E	OPERATING FORCE	C O D E	ACTUATOR TYPE	C O D E	TERMINAL TYPE	C O D E	CIRCUIT ARRANGEMENT	C O D E	PILLAR & TRAVEL TYPE	SERIAL CODE	ROHS CODE
	N2	10mA 12VDC Contact Plated Gold and Terminal Plated Sliver	S	STANDARD	00		A		0	S.P.D.T	D			
	N3	3A 125VAC			01		C		1	S.P.S.T.NO	E			
					04		D		2	S.P.S.T.NC	F			
							P				H			
											J			
											L			
											N			
											Q			
											S			

DIMENSIONS							
CODE	L1	H	ØA	ØB	ØC	ØD	P
	5.0	3.7	2.2	2.6	2.2	2.6	9.53
A	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53
C	2.8	3.75	2.7	3.1 (THREE RIBS)	2.2	2.6	9.53
D	4.0	3.7	2.2	2.6	2.2	2.6	9.53
E	0.9	3.7	2.2	N/A	2.2	N/A	9.53
F	1.8	3.7	2.5	N/A	2.5	N/A	9.53
G	5.0	3.7	2.4	2.8	2.4	2.8	8.0

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max (gf)	OP (mm)	PT Max (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
DW- □□ S-00 □□ -Z		S	130	0.8	0.8	0.3	3.65	35
							7.35	
DW- □□ S-01 □□ -Z		S	195	3.85	1.35	0.5	7.0	55
							10.7	
DW- □□ S-04 □□ -Z		S	160	4.8	1.65	0.7	10.1	45
							13.8	

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.29 N•m.
若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 N•m.
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

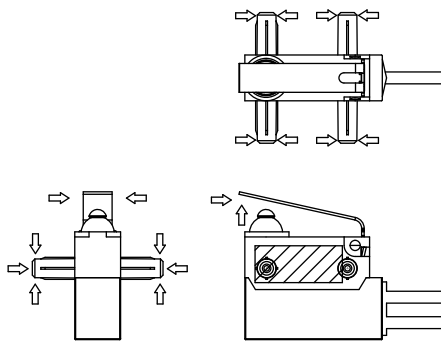


Figure-1

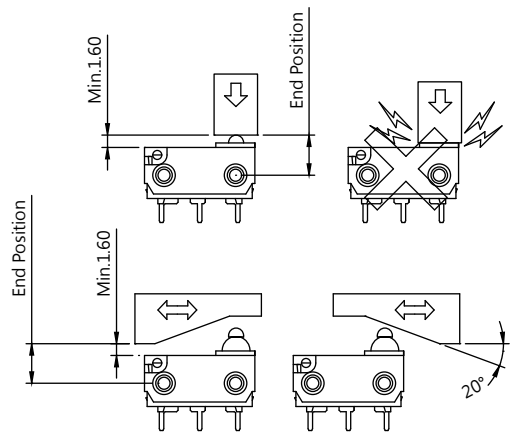


Figure-2

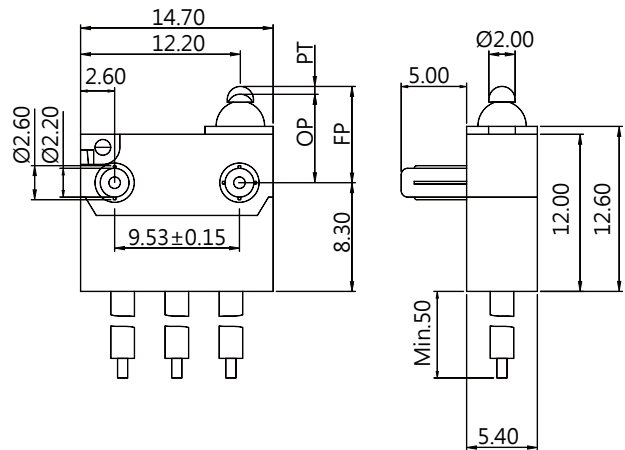
WATER PROOF SWITCHES



DW (IP67) SERIES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



APPLICATIONS

Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW-N2S	10 mA 12 VDC	10mA 12VDC
DW-N3S	3 A 12 VDC 3A 125 VAC	3A 12VDC

※ For the specification, please refer to DW SERIES. ※

ORDERING INFORMATION

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	PILLAR & TRAVEL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	AWG TYPE	CODE	UL NUMBER	SERIAL CODE	ROHS CODE
DW	N2	10mA 12VDC Contact Plated N2 Gold and Terminal Plated Sliver	S	STANDARD	00		D		0	S.P.D.T	E	20	A	UL 1007	001A	Z
	N3	3A 12VDC			01		E		1	S.P.S.T.NO	F	22	C	UL 1430		
					04		F		2	S.P.S.T.NC	G	24	D	UL 1061		
							H									
							J									
							L									
							N									
							Q									
							S									

DIMENSIONS							
CODE	L1	H	ØA	ØB	ØC	ØD	P
A	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53
C	2.8	3.75	2.7	3.1 (THREE RIBS)	2.2	2.6	9.53
D	4.0	3.7	2.2	2.6	2.2	2.6	9.53
E	0.9	3.7	2.2	N/A	2.2	N/A	9.53
F	1.8	3.7	2.5	N/A	2.5	N/A	9.53
G	5.0	3.7	2.4	2.8	2.4	2.8	8.0

Note 1: Safety leads wire: Min. 50mm (20~26AWG)

WATER PROOF SWITCHES

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.29 N•m.
若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 N•m。
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

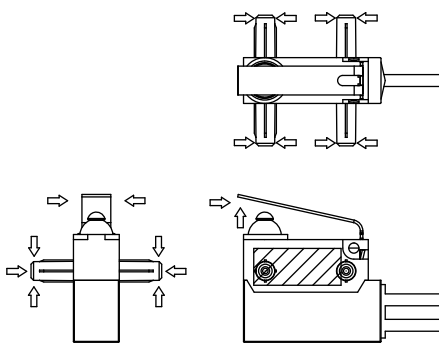


Figure-1

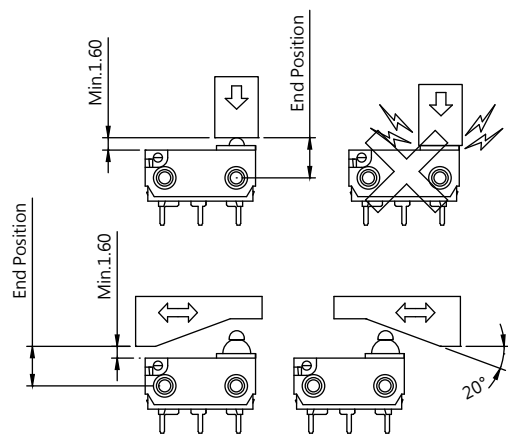
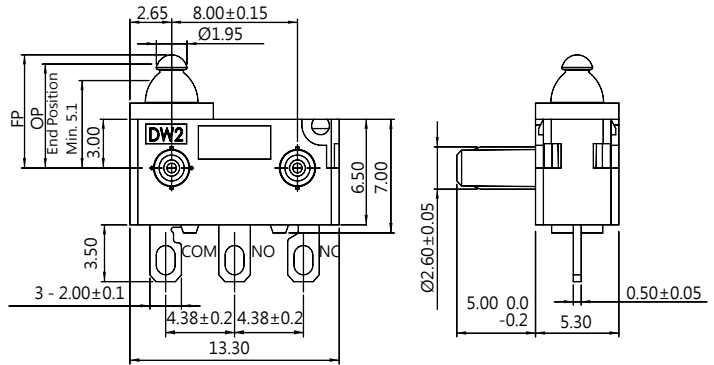


Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW2 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 100m Ω

(Measured by ohm meter-Open Voltage < 1VDC, Driver current-100mA)

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 100,000 operations

3A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

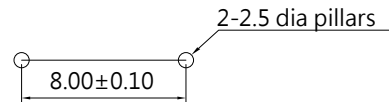
Mechanical Operating Frequency

120 operations per minute

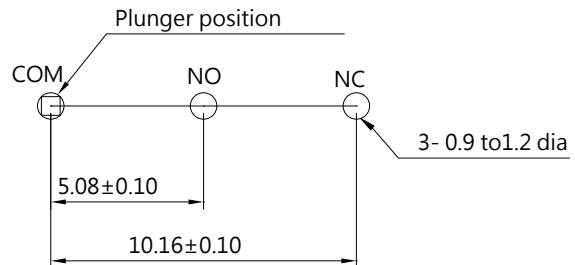
Degree of Protection

IP67 (excluding the terminals on terminal models)

PILLAR PITCH



MOUNTING HOLES FOR PCB TERMINAL



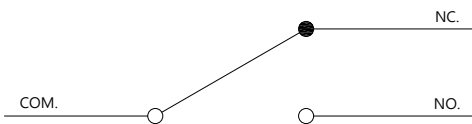
APPLICATIONS

Automotive (Seat, Door Latch, Engine Hood, Door Truck),

Air Conditioner, Communication, Security System,

Electric tooth brush, Toy

CONTACT CONFIGURATION

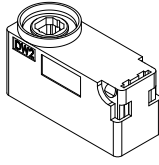


CERTIFICATE INFORMATION

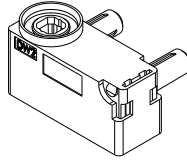
Model Name	UL, cUL	ENEC
DW2-03	0.1RA 3RA 12VDC μ T55 1E5 3RA 24VDC μ T55 5E4 0.1RA 3RA 125/250VAC μ T55 1E4	0.1A 3A 12VDC μ T55 1E5 3A 24VDC μ T55 5E4 0.1A 3A 125/250VAC μ T55 1E4
DW2-G3	0.1RA 3RA 12VDC μ T55 1E5 3RA 24VDC μ T55 5E4 0.1RA 3RA 125/250VAC μ T55 1E4	0.1A 3A 12VDC μ T55 1E5 3A 24VDC μ T55 5E4 0.1A 3A 125/250VAC μ T55 1E4

COVER TYPES (PILLAR & TRAVEL TYPES)

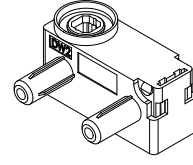
A TYPE



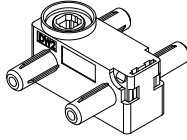
B TYPE



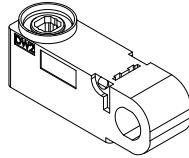
C TYPE



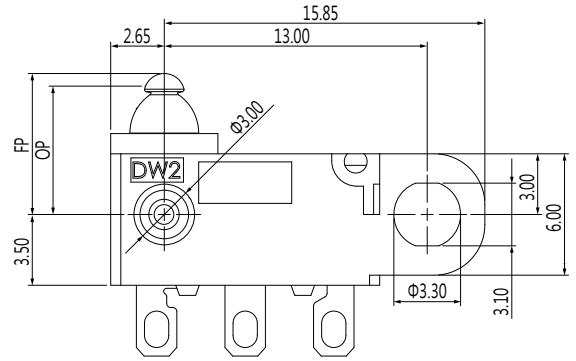
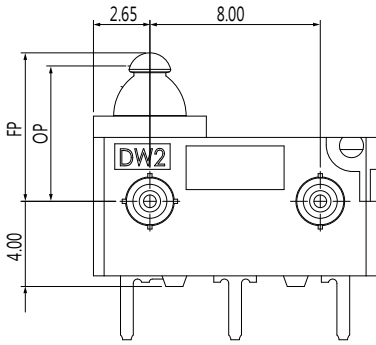
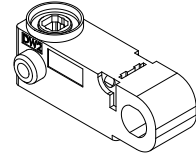
D TYPE



E TYPE



F TYPE



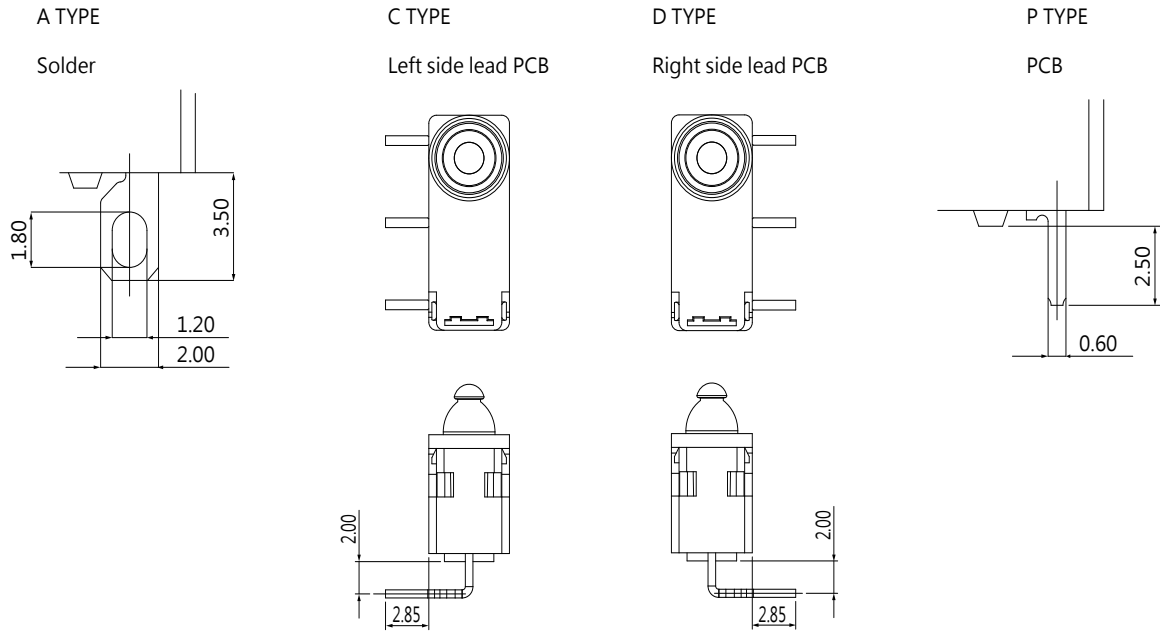
ORDERING INFORMATION

D	W	2	—	0	3	H	—	0	1	A	0	A	A	—	Z	
SERIES PREFIX			RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE			CIRCUIT ARRANGEMENT		PILLAR TYPE		ROHS CODE	
G3			3A 125/250VAC (Contact Plated Gold)			S STANDARD		00			0 S.P.D.T		A			
03			3A 125/250VAC			H HEAVY		01			1 S.P.S.T.NO		B			
								A01			2 S.P.S.T.NC		C			
								C			0 S.P.D.T		D			
								D					E			
													F			

DIMENSIONS FOR B TYPE C TYPE D TYPE							
CODE	L1	H	ØA	ØB	ØC	ØD	P
A	2.0	3.0	2.2	2.6	2.2	2.6	8.0
B	4.0	3.0	2.2	2.6	2.2	2.6	8.0
C	0.7	3.0	2.5	N/A	2.5	N/A	8.0

DIMENSIONS FOR F TYPE						
CODE	L1	H1	H2	ØA	ØB	P
	1.5	3.0	3.1	3.0	3.3	13.0

TERMINAL TYPES (THE thickness of each terminal is 0.5mm)



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF		OP (mm)	EP Min (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
		Max (gf)							
DW2- □□□ -00 □□ -Z		S	95	10.4±0.2	9.1	1.1	0.25	11.2	10
		H	150						20
		S	95	6.4±0.2	5.1				10
		H	150						20
DW2- □□□ -01 □□ -Z		S	95	11.5±0.5	10	1.0	0.5	12.8	7
		H	135						13
		S	95	7.5±0.5	6				7
		H	135						13
DW2- □□□ -A01 □□ -Z		S	183	11.4±0.5	9.8	1.1	0.5	13.3	20
		H	220						38
		S	183	7.4±0.5	5.8				20
		H	220						38

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.29 N•m.
若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 N•m.
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

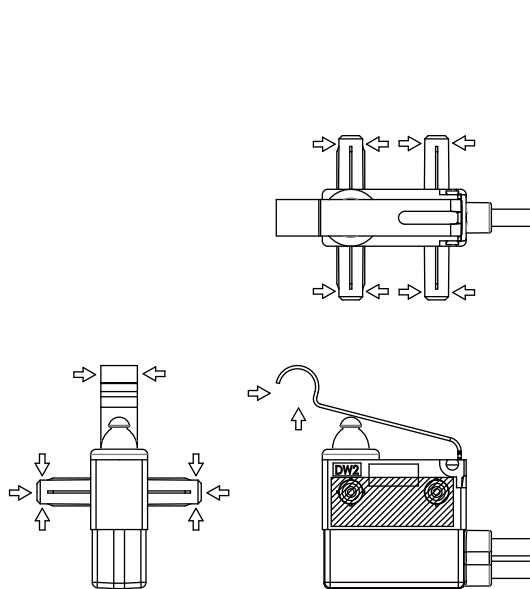


Figure-1

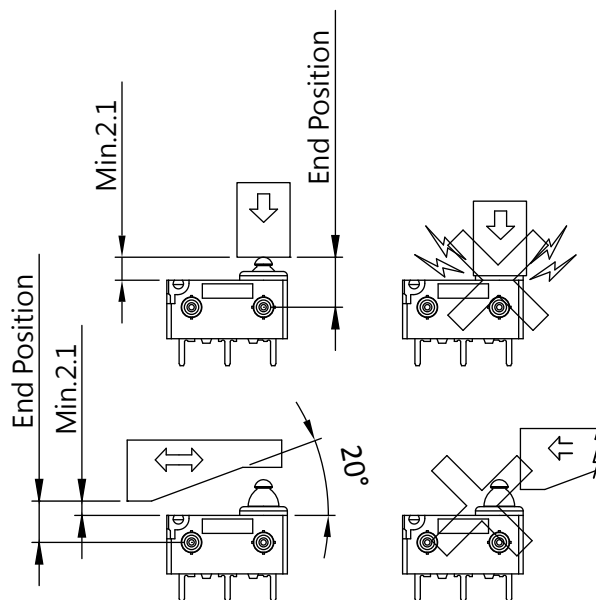
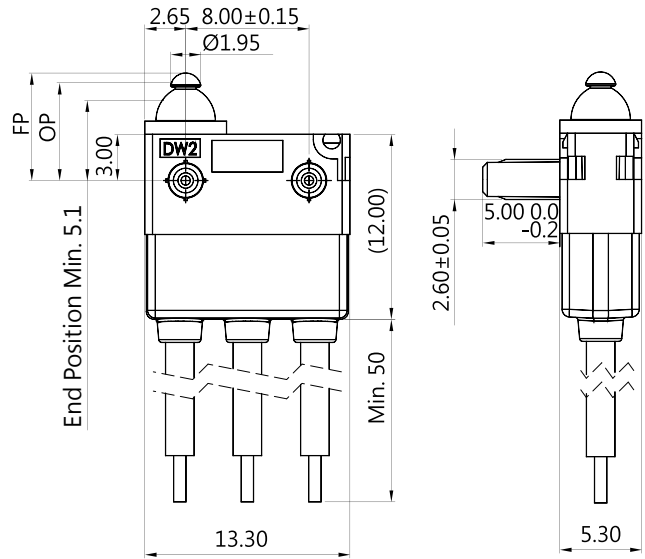


Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DW2 (IP67) SERIES

APPLICATIONS

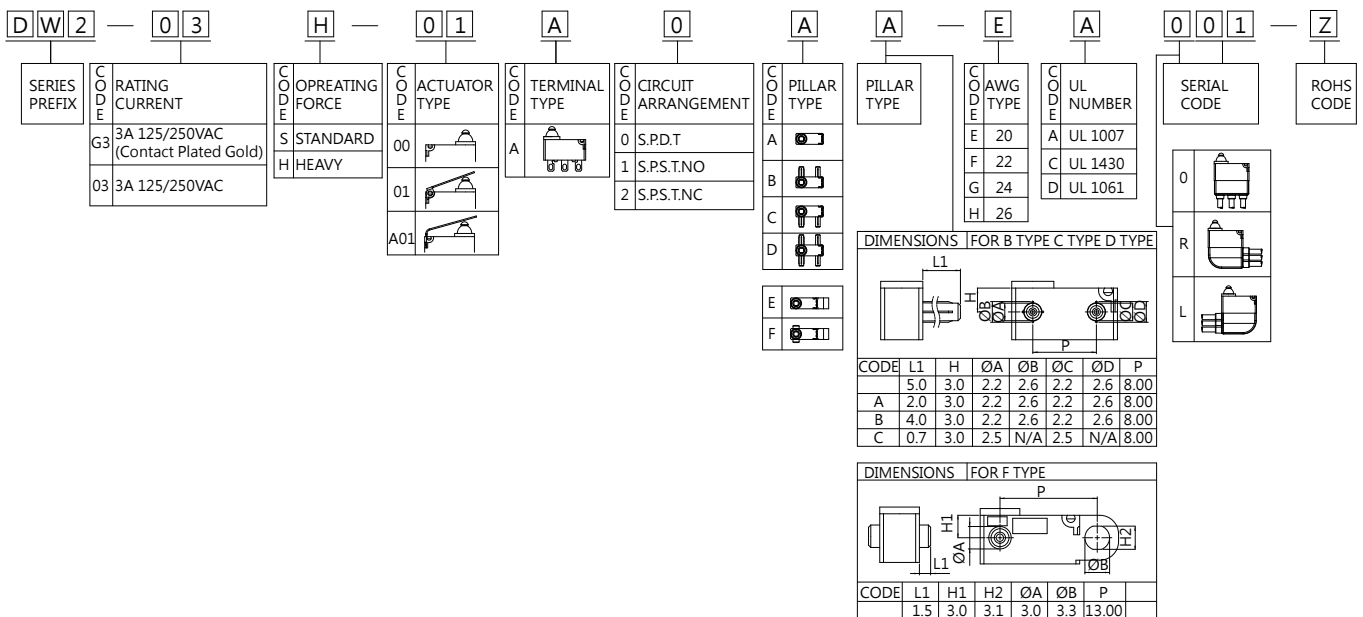
Automotive (Seat, Door Latch, Engine Hood, Door Truck),
Air Conditioner, Communication, Security System,
Electric tooth brush, Toy

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW2-03	0.1RA 3RA 12VDC 0.1A 3RA 125/250VAC	0.1A 3A 12VDC 3A 24VDC 0.1A 3A 125/250VAC
DW2-G3	0.1RA 3RA 12VDC 3RA 24VDC 0.1RA 3RA 125/250VAC	0.1A 3A 12VDC 3A 24VDC 0.1A 3A 125/250VAC

※ For the specification, please refer to DW2 SERIES. ※

ORDERING INFORMATION



CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.29 N•m.
若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 N•m.
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
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圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)
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請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

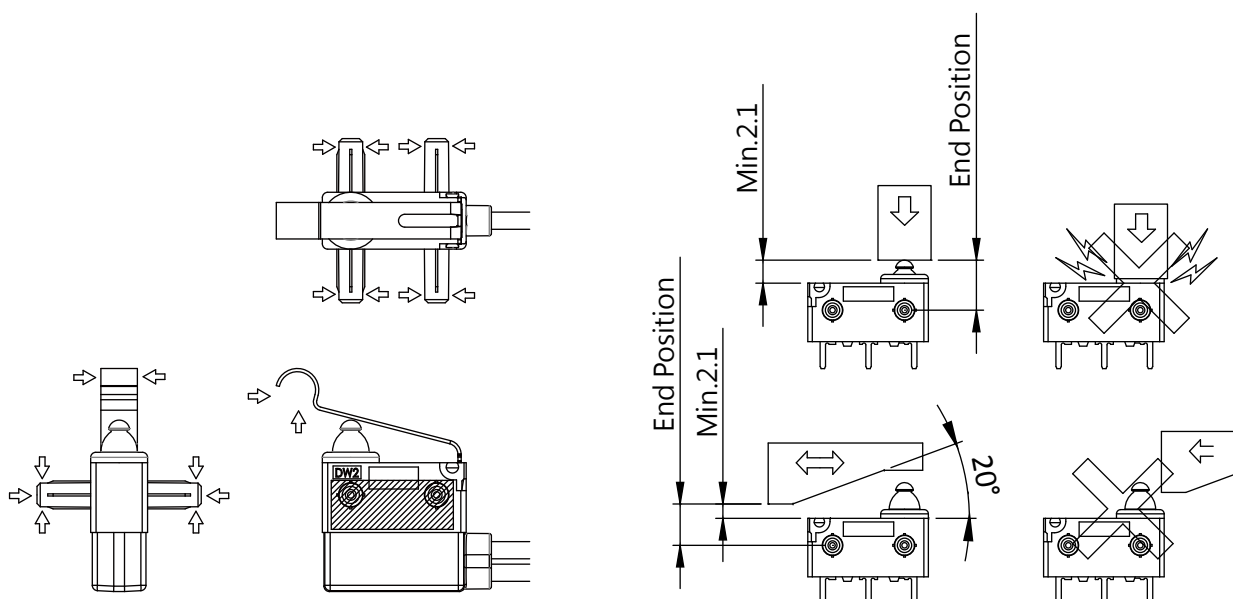


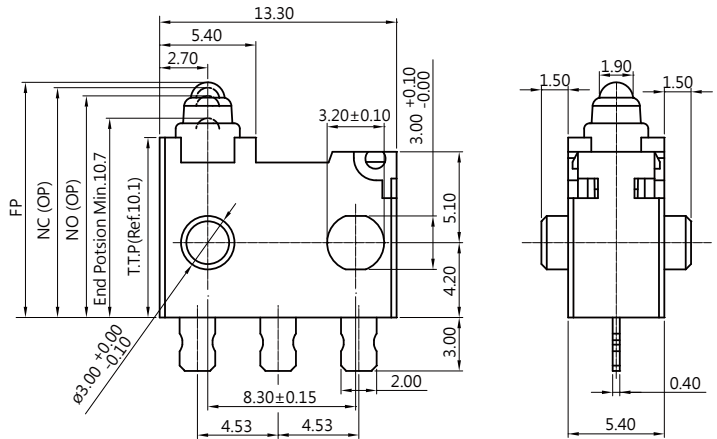
Figure-1

Figure-2

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions



DW3 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 1Ω

Measured by ohm meter –Open Voltage < 1VDC, Driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. $100M\Omega$

Dielectric Strength

Min. 600VAC(50-60HZ)/minute between Live parts.

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

100mA 30VDC- Min. 300,000 operations

50mA 16VDC- Min. 500,000 operations

1mA 5VDC- Min. 500,000 operations

Electrical Operating Frequency

Max. 120 operations per minute

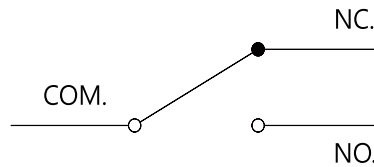
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

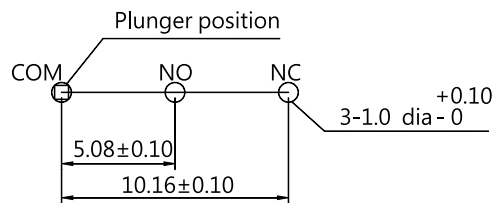
Degree of Protection

IP67 (excluding the terminals on terminal models)

CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



APPLICATION

Automobiles

(detection of door opening and closing and shift lever position, etc.)

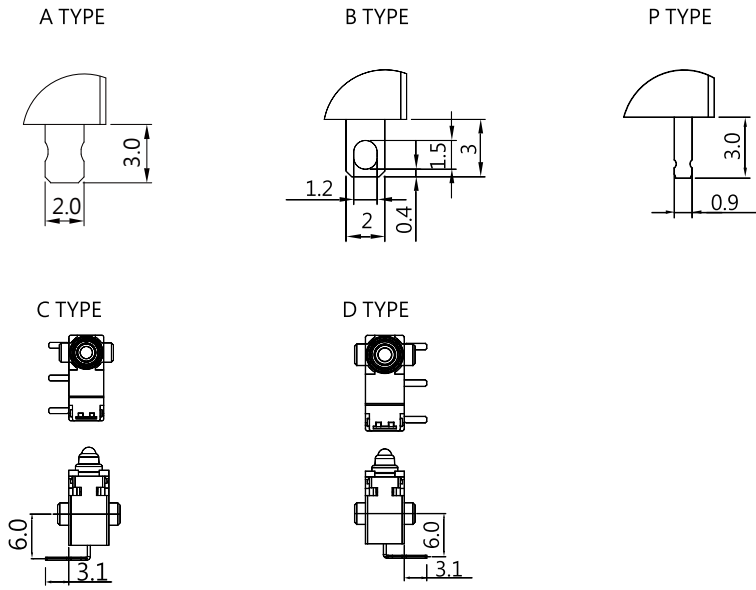
Household appliances

(propane stoves, vacuum cleaners, air conditioners Washing machines, etc.)

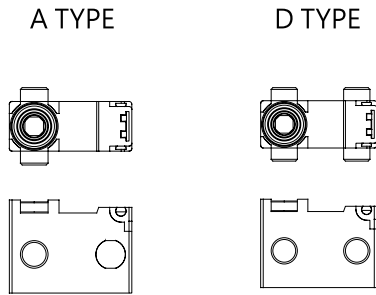
ORDERING INFORMATION

D	W	3	-	G	1	S	-	0	0	A	0	A	-	0	A	-	Z					
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	PILLAR TYPE	SERIAL CODE	ROHS CODE	DIMENSIONS L1							
	P1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Sliver	S	STANDARD	00		A		0	S.P.D.T	A											
	G1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Gold			A01		B				D				CODE	L1	H	ØA	ØB	ØC	ØD	P
							C				P				A	1.5	5.9	3.0	HOLE 3.2	HOLE 3.0	N/A	8.3
							D						C	1.5	5.9	3.0	3.0	N/A	N/A	N/A	8.3	

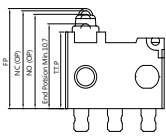
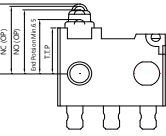
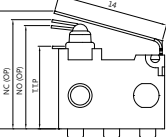
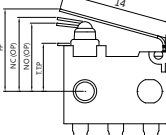
TERMINAL TYPES(THE thickness of each terminal is 0.4 mm)



COVER TYPES (PILLAR & TRAVEL TYPES)



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max (gf)	FP Max (mm)	NC-OP (mm)	NO-OP (mm)	NC-OT Min.(mm)	NO-OT Min. (mm)	
DW3- □□ -00A0-Z		S	153	13.4	12.9±0.3	12.6±0.3	2.5	2.2
				9.2	8.7±0.3	8.4±0.3		
DW3- □□ -A01A0-Z		S	185	15.7	14.0±0.6	13.45±0.6	3.0	2.45
				11.5	9.8±0.6	9.25±0.6		

CAUTIONS:

注意事項

1: To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.29 N•m.

若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 Nm.

2: Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.

使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。

3: To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.

為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。

4: Avoid applying any grease/oil and chemicals on the switch rubber.

請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

5: To ensure switch functioned well, switch plunger should not be pushed over the End Position.

為確保開關正常運作，開關按鈕作動請勿超過下死點。

6: Actuation with high speed or under shock even within the operation limit might reduce switch service life and endurance. Please verify under actual conditions with the manufacturer to ensure reliability during actual use.

開關即使在操作極限內，當高速或衝擊驅動時也可能會降低開關的使用壽命和耐用性。請在實際運作條件下進行驗證，以確保實際使用過程中的可靠性。

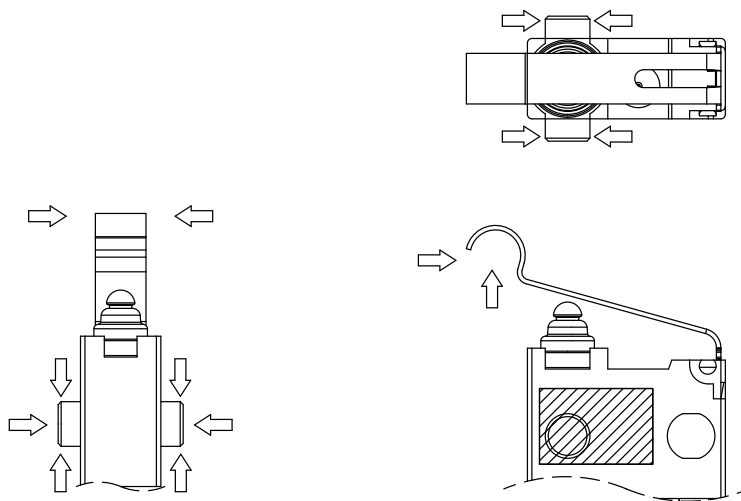
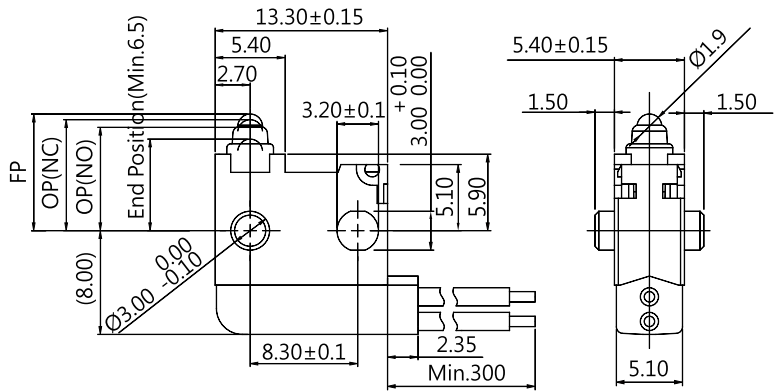


Figure-1

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions



DW3 (IP67) SERIES

APPLICATION

- Automobiles
(detection of door opening and closing and shift lever position, etc.)
- Household appliances
(propane stoves, vacuum cleaners, air conditioners Washing machines, etc.)

※ For the specification, please refer to DW3 SERIES. ※

WATER PROOF SWITCHES

ORDERING INFORMATION

DW3	-	G1	S	-	00	A	0	-	M	F	001	A	-	Z			
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	PILLAR TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	AWG TYPE	CODE	UL NUMBER	SERIAL CODE	SPECIAL CODE	ROHS CODE
	P1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Silver	S	STANDARD	00		A		0	S.P.D.T	M	0.3mm ^l	F	AVSS			
	G1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Gold			A01		D		1	S.P.S.T-NO	G	24AWG	A	UL1007			
									2	S.P.D.T-NC							

CODE	DIMENSIONS						
	L1	H	ØA	ØB	ØC	ØD	P
A	1.5	5.9	3.0	HOLE 3.2	HOLE 3.0	N/A	8.3
C	1.5	5.9	3.0	3.0	N/A	N/A	8.3

CAUTIONS:

注意事項

1: To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.29 N•m.
若使用定位孔型式上蓋，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.29 Nm。

2: Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。

3: Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。

4: To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。

5: Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

6: To ensure switch functioned well, switch plunger should not be pushed over the End Position.
為確保開關正常運作，開關按鈕作動請勿超過下死點。

7: Actuation with high speed or under shock even within the operation limit might reduce switch service life and endurance. Please verify under actual conditions with the manufacturer to ensure reliability during actual use.
開關即使在操作極限內，當高速或衝擊驅動時也可能會降低開關的使用壽命和耐用性。請在實際運作條件下進行驗證，以確保實際使用過程中的可靠性。

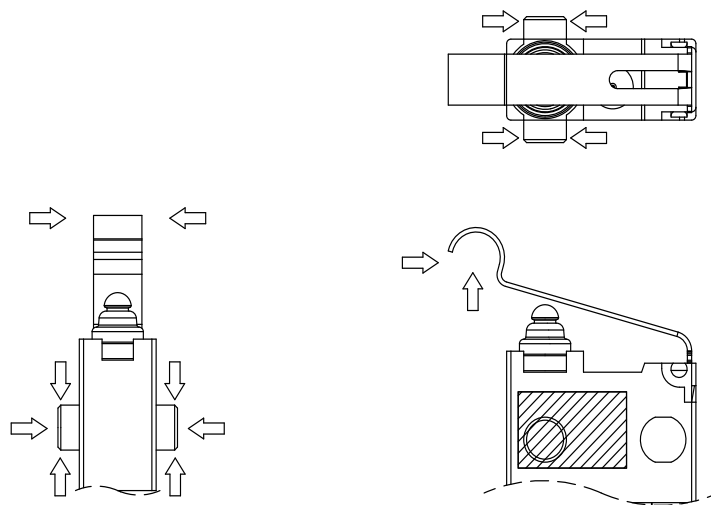


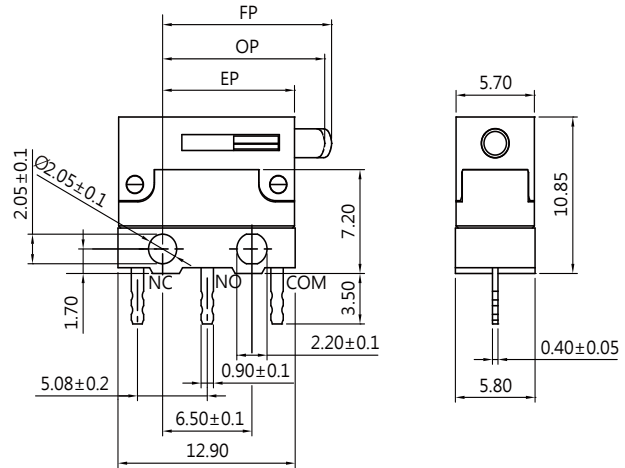
Figure-1

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



MDU-DFW SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. $100\text{m}\Omega$
(Measured by ohm meter-Open Voltage<1VDC,Driver current-100mA)

Insulation Resistance (at 500VDC/minute)

Min. $100\text{M}\Omega$

Dielectric Strength

Min. $500\text{VAC}(50\text{-}60\text{HZ})/\text{minute}$ between Live parts.
Min. $1500\text{VAC}(50\text{-}60\text{HZ})/\text{minute}$ between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

$10\sim 55\text{Hz}$, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

$10\sim 30$ operations per minute

Mechanical Service Life

Min. 1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

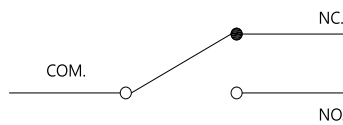
Degree of Protection

IP67 (excluding the terminals on terminal models)

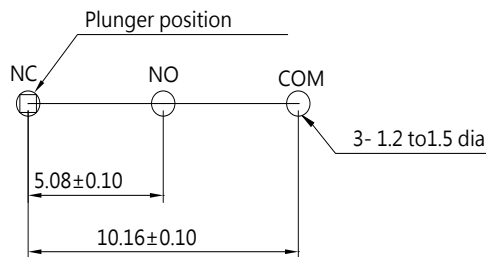
APPLICATIONS

Automotive (Operation system, Engine area Interior)
Air conditioner, communication, Electric tooth brush, Toy

CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



CERTIFICATE INFORMATION

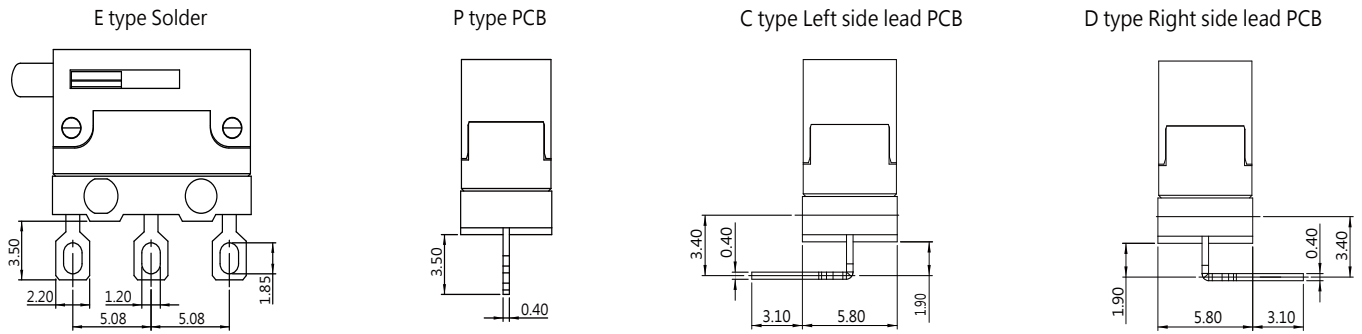
Model Name	UL, cUL	ENEC
MDU-DFW-P1	0.1RA 125/250VAC $\mu\text{T85 1E4}$	0.1A 125/250VAC $\mu\text{T85 1E4}$
MDU-DFW-G1	3RA 24VDC $\mu\text{T85 1E4}$	3A 24VDC $\mu\text{T85 1E4}$
MDU-DFW-03	3RA 125/250VAC $\mu\text{T85 1E4}$	3A 125/250VAC $\mu\text{T85 1E4}$
MDU-DFW-G3	3RA 24VDC $\mu\text{T85 1E4}$	3A 24VDC $\mu\text{T85 1E4}$
MDU-DFW-05	5RA 125/250VAC $\mu\text{T85 1E4}$ 3RA 24VDC $\mu\text{T85 1E4}$	5A 125/250VAC $\mu\text{T85 1E4}$ 3A 24VDC $\mu\text{T85 1E4}$

THE SELECTION OF RATING & FORCE

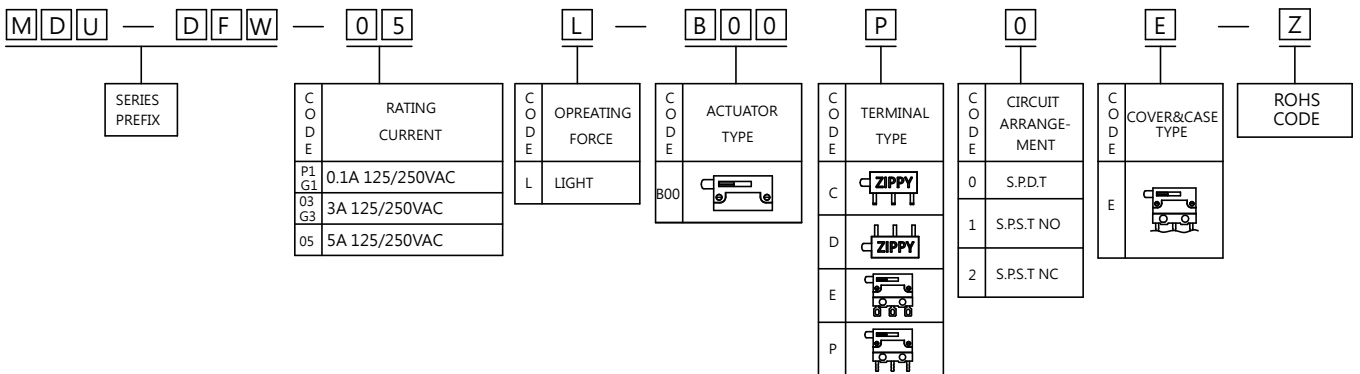
Model	Rating	L
MDU-DFW	P1	*
	G1	*
	O3	*
	G3	*
	O5	*

NOTE : The Symbol " * " to represent the result is accepted

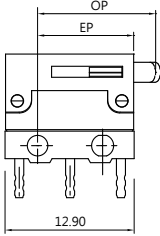
TERMINAL TYPES



ORDERING INFORMATION



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max (gf)	OP (mm)	PT Max (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)	
MDU-DFW-□□ L-B00 □ -Z		L	130	11.8±0.5	0.7	2.0	0.4	12.5	20

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式上蓋，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m。
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

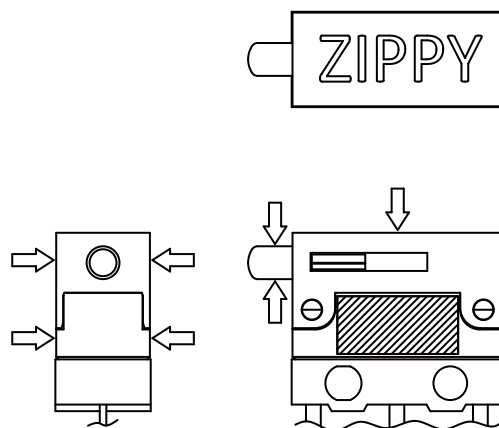


Figure-1 (圖-1)

WATER PROOF SWITCHES



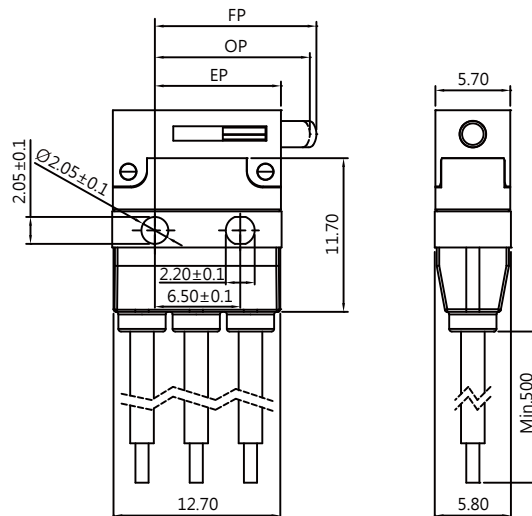
MDU-DFW(IP67) SERIES

APPLICATIONS

Automotive (Operation system, Engine area Interior)
Air conditioner, communication, Electric tooth brush, toys

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.

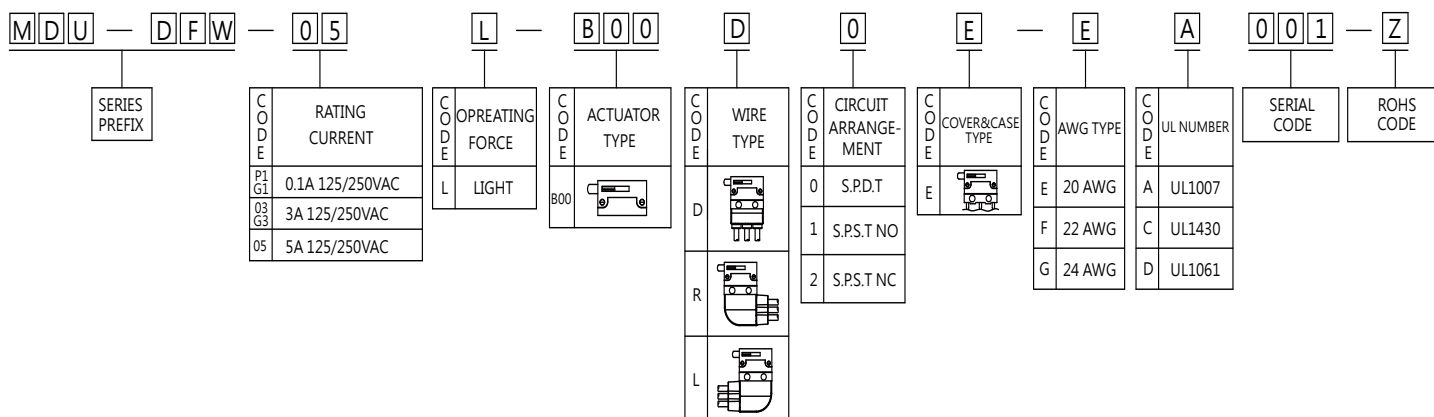


CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
MDU-DFW-P1	0.1RA 125/250VAC	0.1A 125/250VAC
MDU-DFW-G1	3RA 24VDC	3A 24VDC
MDU-DFW-03	3RA 125/250VAC	3A 125/250VAC
MDU-DFW-G3	3RA 24VDC	3A 24VDC
MDU-DFW-05	5RA 125/250VAC 3RA 24VDC	5A 125/250VAC 3A 24VDC

※ For the specification, please refer to MDU-DFW SERIES. ※

ORDERING INFORMATION



CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the Switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式上蓋，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m。
2. Do not handle the switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

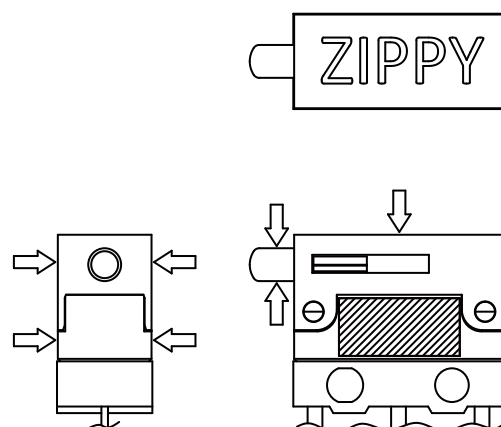
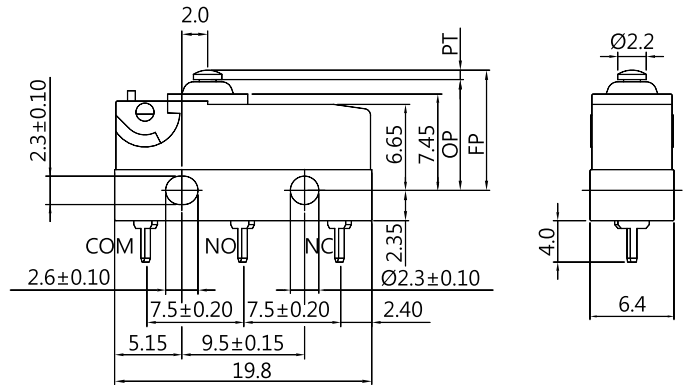


Figure-1 (圖-1)

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 30 m Ω

Measured by ohm meter - open voltage <1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 120°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 2,000,000 operations

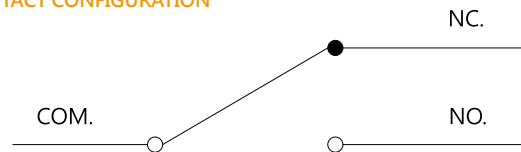
Mechanical Operating Frequency

120 operations per minute

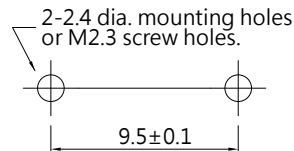
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

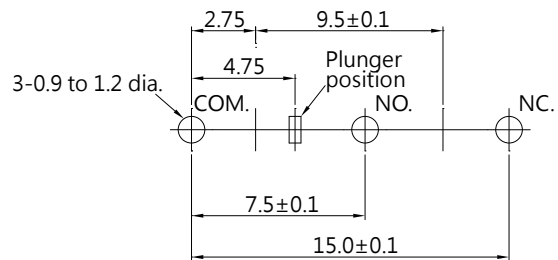
CONTACT CONFIGURATION



MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



APPLICATIONS

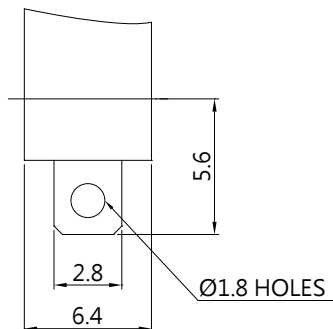
Telephone, Air Conditioner, Computer, Humidifier, Alarm, Time Recorder, Mixer & Chopper, Solder Gun, Neon Phone, Fax Machine, Joystick, Water Pump, Gas Detector, Pencil Sharpener, Money Sorter, Food Processor, Electric Knife, Toy Car, Juice Maker, Electric Steak Pan

CERTIFICATE INFORMATION

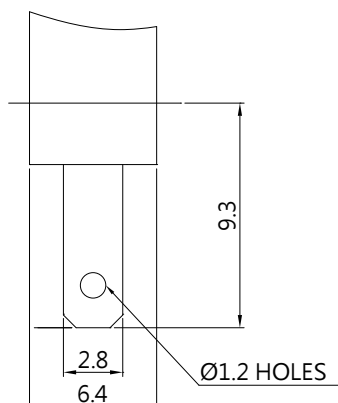
Model Name	UL, cUL	ENEC
SW-05	0.1A 125/250VAC 5A 125/250VAC (Temp: 120°C) Min. 6000 operations	6A 250VAC μ T120 1E4

TERMINAL TYPES

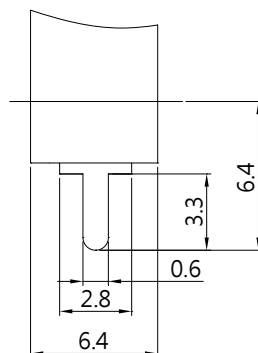
A TYPE



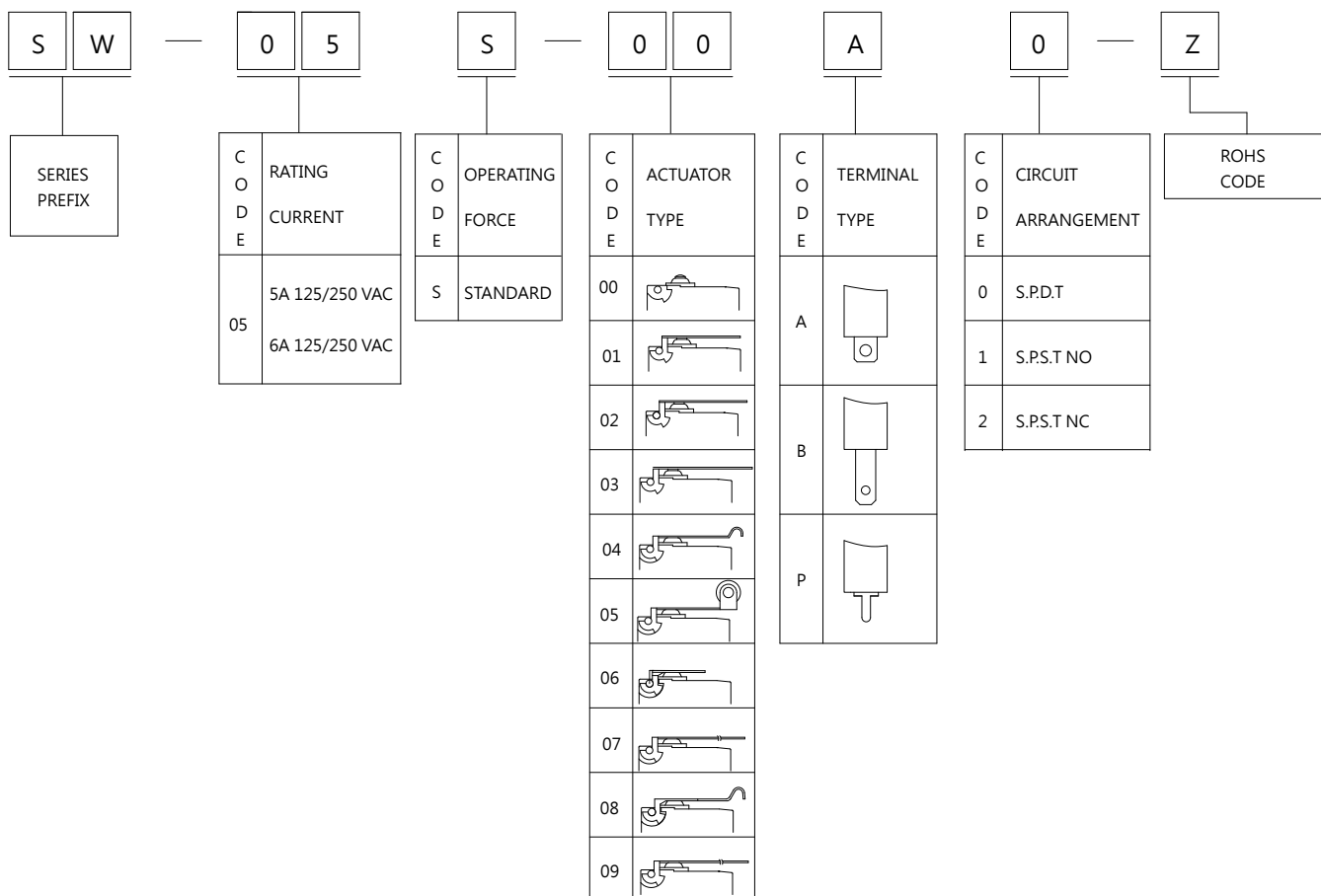
B TYPE



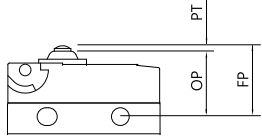
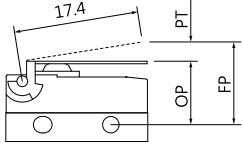
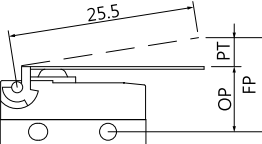
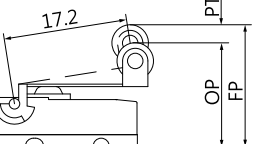
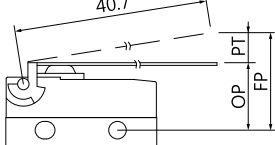
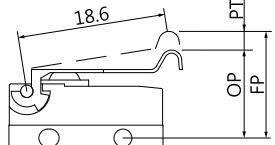
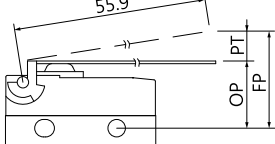
P TYPE



ORDERING INFORMATION



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)	OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
SW-05S-00 □□ -Z		203	8.4±0.3	1.2	0.6	0.2	9.9	50
SW-05S-01 □□ -Z		82	8.8±1.1	4.3	0.9	0.6	12.0	16
SW-05S-02 □□ -Z		66	8.8±1.2	4.8	1.0	0.7	12.4	13
SW-05S-03 □□ -Z		54	8.8±1.6	6.3	1.6	0.9	13.5	11
SW-05S-04 □□ -Z		68	10.7±1.2	4.6	1.0	0.65	14.1	14
SW-05S-05 □□ -Z		72	14.5±1.1	4.3	0.9	0.6	17.7	15
SW-05S-06 □□ -Z		98	8.8±0.9	3.2	0.6	0.5	11.1	21
SW-05S-07 □□ -Z		39	8.8±2.6	10.1	2.1	2.3	16.3	8
SW-05S-08 □□ -Z		68	11.3±1.3	4.9	0.95	0.8	14.9	13
SW-05S-09 □□ -Z		33	8.8±3.5	13.8	2.9	3.6	19.1	7

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.16 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.16 N•m.
2. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

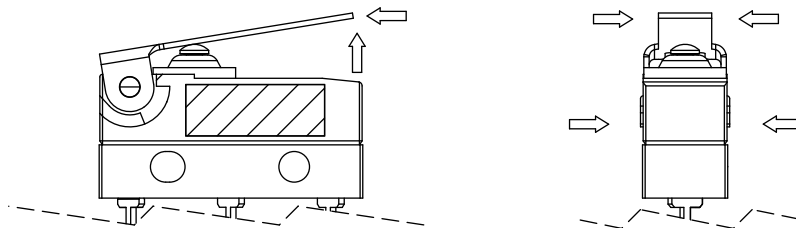
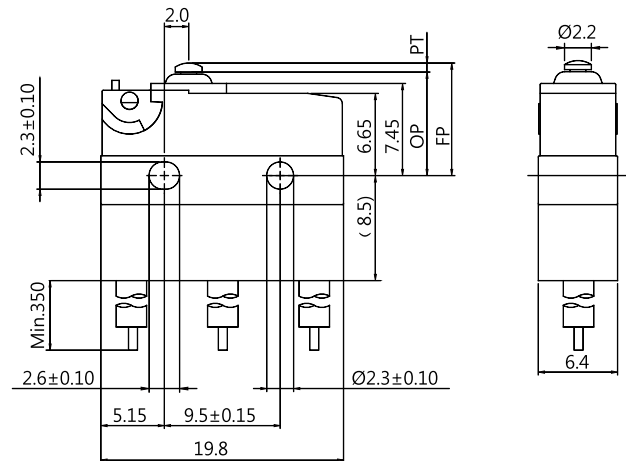


Figure-1

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW (IP67) SERIES

APPLICATIONS

Automotive Door Latch, Coffee Machine, Steamer, Telephone, Air Conditioner, Humidifier, Alarm, Time Recorder, Security Device, Mixer & Chopper, Solder Gun, Neon Phone, Fax Machine, Joystick, Water Pump, Gas Detector, Pencil Sharpener, Money Sorter, Food Processor, Electric Knife, Toy Car, Juice Maker, Electric Steak Pan

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
SW-05	0.1A 125/250VAC 5A 125/250VAC	6A 250VAC

※ For the specification, please refer to SW SERIES. ※

ORDERING INFORMATION

SERIES PREFIX	RATING CURRENT	OPERATING FORCE	ACTUATOR TYPE	WIRE SIDE	CIRCUIT ARRANGEMENT	AWG TYPE	UL NUMBER	SERIAL CODE	ROHS CODE
SW	05	S	00	A	0	E	A	001	Z
	5A 125/250 VAC 6A 125/250 VAC	STANDARD	00	A	0 S.P.D.T. 1 S.P.S.T. NO 2 S.P.S.T. NC	E 20 F 22 G 24 H 26	A UL1007 B UL1015 C UL1430 D UL1061 F AV		
			01	B					
			02	C					
			03	D					
			04	E					
			05						
			06						
			07						
			08						
			09						

Note 1: Safety leads wire : AWG: 20~26

2: UL NUMBER CODE: F , AV wire (No safety)

WATER PROOF SWITCHES

CAUTIONS:

注意事項

1. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
2. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.16 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.16N•m。
3. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

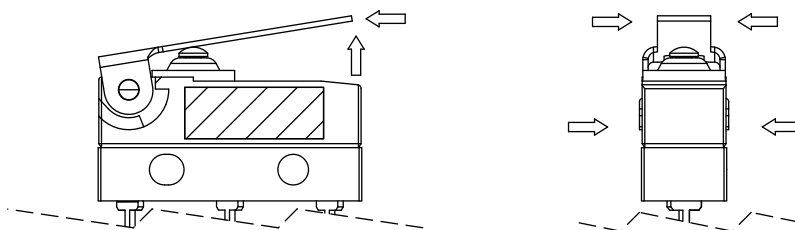


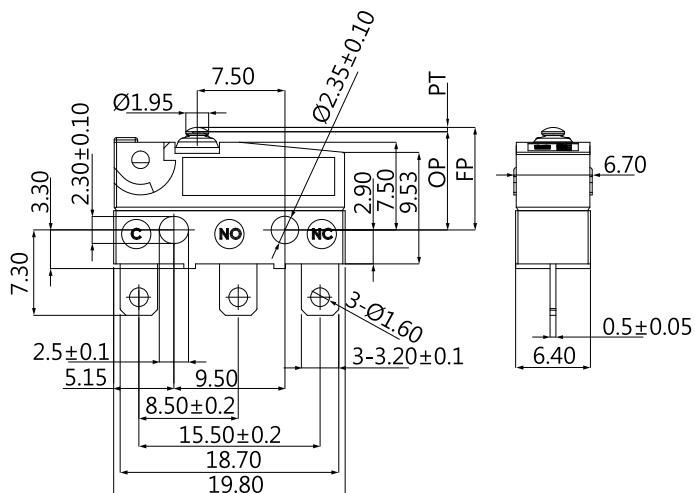
Figure-1

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW1 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 300m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 2,000,000 operations (D, L, S force Only)

Mechanical Operating Frequency

120 operations per minute

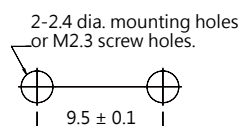
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

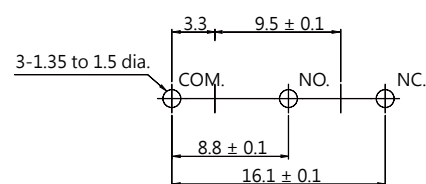
Degree of Protection

IP67 (excluding the terminals on terminal models)

MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



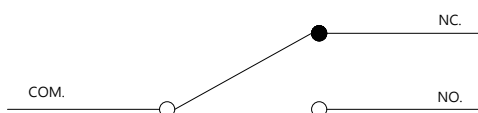
CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
SW1-P1	0.1RA 30VDC μ T125 1E4 0.1RA 125/250VAC μ T125 1E4	0.1A 30VDC μ T125 1E4 0.1A 125/250VAC μ T125 1E4
SW1-06	5RA 30VDC μ T125 1E4 6RA 125/250VAC μ T125 1E4	5A 30VDC μ T125 1E4 6A 125/250VAC μ T125 1E4
SW1-10	5RA 30VDC μ T125 1E4 10RA 125/250VAC μ T125 1E4	5A 30VDC μ T125 1E4 10A 125/250VAC μ T125 1E4
SW1-12	5RA 30VDC μ T125 1E4 12RA 12GPA 125/250VAC μ T125 1E4	5A 30VDC μ T125 1E4 12A 125/250VAC μ T125 1E4

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

CONTACT CONFIGURATION



THE SELECTION OF RATING & FORCE

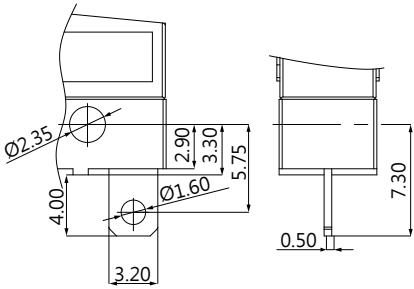
MODEL	Rating	D	L	S	H
SW1	0.1A	*	*	*	*
	6 A		*	*	*
	10A			*	*
	12A				*

NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES (The thickness of terminal is 0.5)

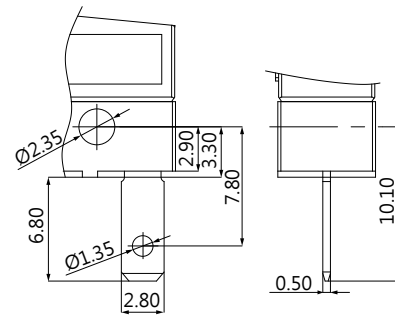
A TYPE

Solder



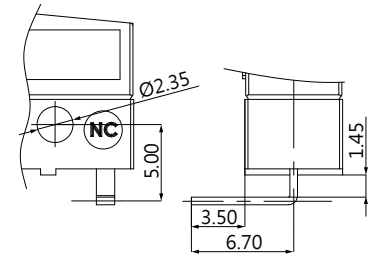
B TYPE

Solder (Long type)



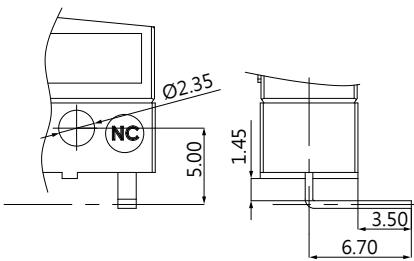
C TYPE

Left side lead PCB



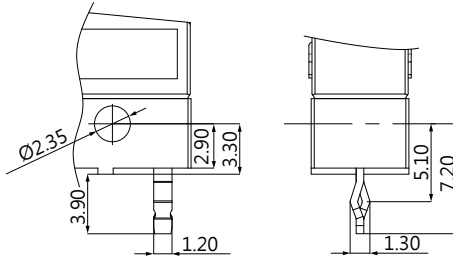
D TYPE

Right side lead PCB



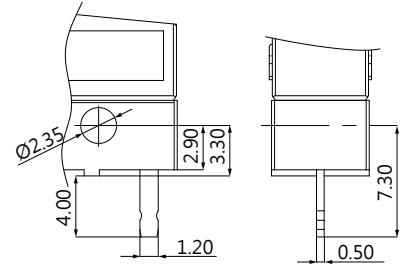
F TYPE

Snap in terminal

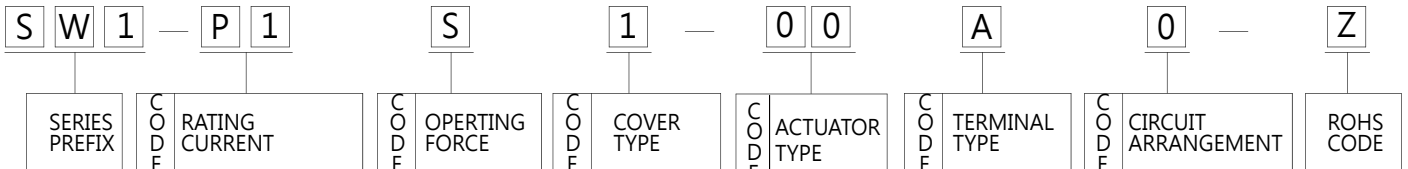


P TYPE

PCB



ORDERING INFORMATION



SERIES PREFIX

CODE	RATING CURRENT
P1	0.1A 125/250 VAC
06	6A 125/250 VAC
10	10A 125/250 VAC
12	12A 125/250 VAC

CODE	OPERATING FORCE
H	HEAVIER
S	STANDARD
L	LIGHT
D	SLIGHT

CODE	COVER TYPE
1	

CODE	ACTUATOR TYPE
00	
01	
02	
03	
04	
05	
06	
07	
08	
09	

CODE	TERMINAL TYPE
A	
B	
C	
D	
P	
F	

CODE	CIRCUIT ARRANGEMENT
0	S.P.D.T
1	S.P.S.T NO
2	S.P.S.T NC

ROHS CODE

#NOTE		
ITEM	RATING CURRENT	OPERATION FORCE
1	Code:P1	H,S,L,D
2	Code:06	H,S,L
3	Code:10	H,S
4	Code:12	H

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)	
		H	S						H	S
SW1- □□□□ -00 □□ -Z		H	355	8.4±0.3	1.2	0.6	0.2	9.9	H	100
		S	203						S	50
		L	150						L	30
		D	95						D	10
SW1- □□□□ -01 □□ -Z		H	121	8.8±1.1	4.3	0.9	0.6	12.0	H	22
		S	82						S	16
		L	73						L	14
		D	50						D	4
SW1- □□□□ -02 □□ -Z		H	105	8.8±1.2	4.8	1.0	0.7	12.4	H	20
		S	66						S	13
		L	55						L	11
		D	-						D	-
SW1- □□□□ -03 □□ -Z		H	72	8.8±1.6	6.3	1.6	0.9	13.5	H	17
		S	54						S	11
		L	29						L	6
		D	-						D	-
SW1- □□□□ -04 □□ -Z		H	106	10.7±1.2	4.6	1.0	0.75	14.3	H	15
		S	68						S	14
		L	42						L	7
		D	-						D	-
SW1- □□□□ -05 □□ -Z		H	100	14.5±1.1	4.3	0.9	0.6	17.7	H	20
		S	72						S	15
		L	54						L	4
		D	-						D	-
SW1- □□□□ -06 □□ -Z		H	165	8.8±0.9	3.2	0.6	0.5	11.1	H	23
		S	98						S	21
		L	66						L	10
		D	-						D	-
SW1- □□□□ -07 □□ -Z		H	65	8.8±2.6	10.1	2.1	2.3	16.3	H	8
		S	39						S	4
		L	33						L	1
		D	-						D	-
SW1- □□□□ -08 □□ -Z		H	106	11.3±1.3	4.9	0.95	0.8	14.9	H	14
		S	68						S	13
		L	58						L	11
		D	-						D	-
SW1- □□□□ -09 □□ -Z		H	50	8.8±3.5	13.8	2.9	3.6	19.1	H	7
		S	33						S	3
		L	23						L	1
		D	-						D	-

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

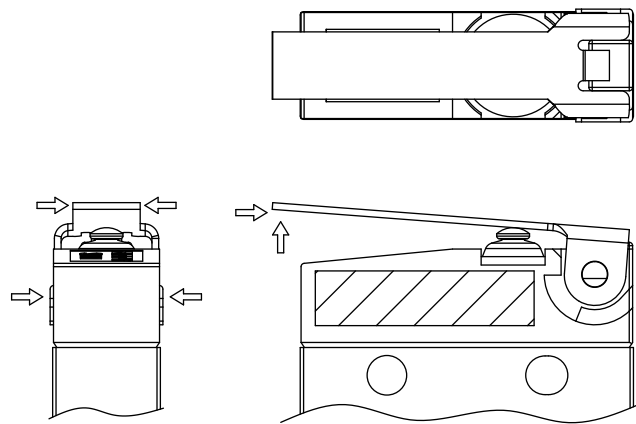
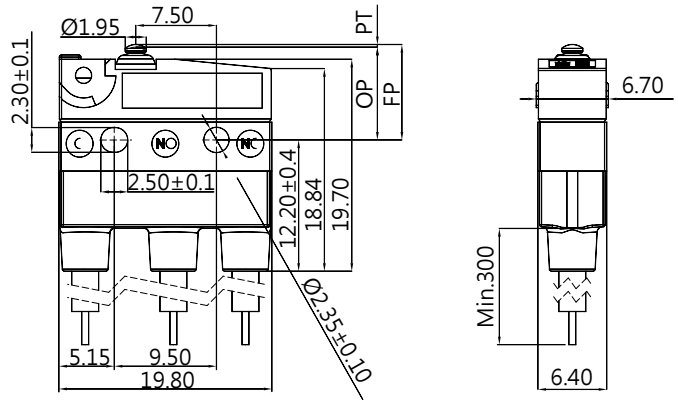


Figure-1

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW1 (IP67) SERIES

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
SW1-P1	0.1RA 30VDC 0.1RA 125/250VAC	0.1A 30VDC 0.1A 125/250VAC
SW1-06	5RA 30VDC 6RA 125/250VAC	5A 30VDC 6A 125/250VAC
SW1-10	5RA 30VDC 10RA 125/250VAC	5A 30VDC 10A 125/250VAC
SW1-12	5RA 30VDC 12RA 12GPA 125/250VAC	5A 30VDC 12A 125/250VAC

※ For the specification, please refer to SW1 SERIES. ※

THE SELECTION OF RATING & FORCE

MODEL	Rating	D	L	S	H
SW1	0.1A	*	*	*	*
	6 A		*	*	*
	10A			*	*
	12A				*

NOTE : The Symbol " * " to represent the result is accepted

ORDERING INFORMATION

SERIES PREFIX	CODE RATING CURRENT	CODE OPERATING FORCE	CODE COVER TYPE	CODE ACTUATOR TYPE	CODE TERMINAL TYPE	CODE CIRCUIT ARRANGEMENT	CODE AWG TYPE	CODE UL NUMBER	SERIAL CODE	ROHS CODE
SW1	P1 0.1A 125/250 VAC	H HEAVIER	1	00	A	0 S.P.D.T	E 20	A UL1007		
	06 6A 125/250 VAC	S STANDARD		01		1 S.P.S.T NO	F 22	B UL1015		
	10 10A 125/250 VAC	L LIGHT		02		2 S.P.S.T NC	G 24	C UL1430		
	12 12A 125/250 VAC	D SLIGHT		03			H 26			
				04						
				05						
				06						
				07						
				08						
				09						

#NOTE				
ITEM	RATING CURRENT	OPERATION FORCE	AWG TYPE	LEADS WIRE
1	Code:P1	H,S,L,D	20,22,24,26	Min.30cm
2	Code:06	H,S,L	20,22	Min.30cm
3	Code:10	H,S	20,22	Min.30cm
4	Code:12	H	20	Min.30cm

CAUTIONS:

注意事項

1. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
2. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m。
3. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

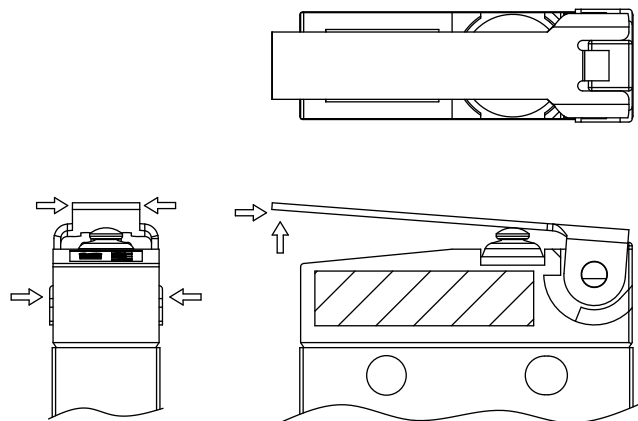


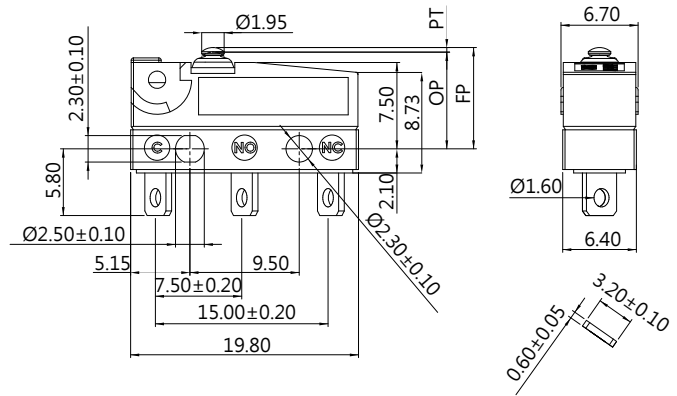
Figure-1

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW2 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 300m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 2,000,000 operations

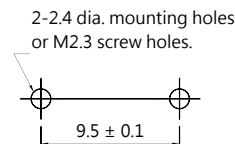
Mechanical Operating Frequency

120 operations per minute

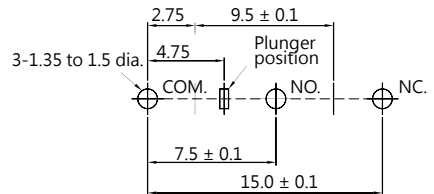
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



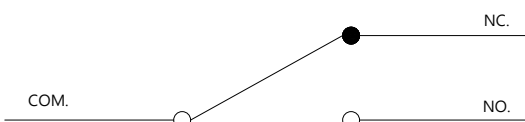
CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
SW2-P1	0.1RA 125/250VAC uT125 1E4	0.1A 125/250VAC uT125 1E4
SW2-03	3GPA 125/250VAC uT125 1E4	3A 125/250VAC uT125 1E4
SW2-06	5RA 30VDC uT125 1E4	5A 30VDC uT125 1E4
	6GPA 125/250VAC uT125 1E4	6A 125/250VAC uT125 1E4
SW2-10	5RA 30VDC uT125 1E4	5A 30VDC uT125 1E4
	10RA125/250VAC uT125 1E4	10(2)A 125/250VAC uT125 1E4
	10GPA 125/250VAC uT125 1E4	
SW2-H10	5RA 30VDC uT125 1E4	5A 30VDC uT125 1E4
	10RA125/250VAC uT125 1E4	10(2)A 125/250VAC uT125 1E4
	10GPA 125/250VAC uT125 1E4	
	1/4HP 125/250VAC uT125 1E4	

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

CONTACT CONFIGURATION

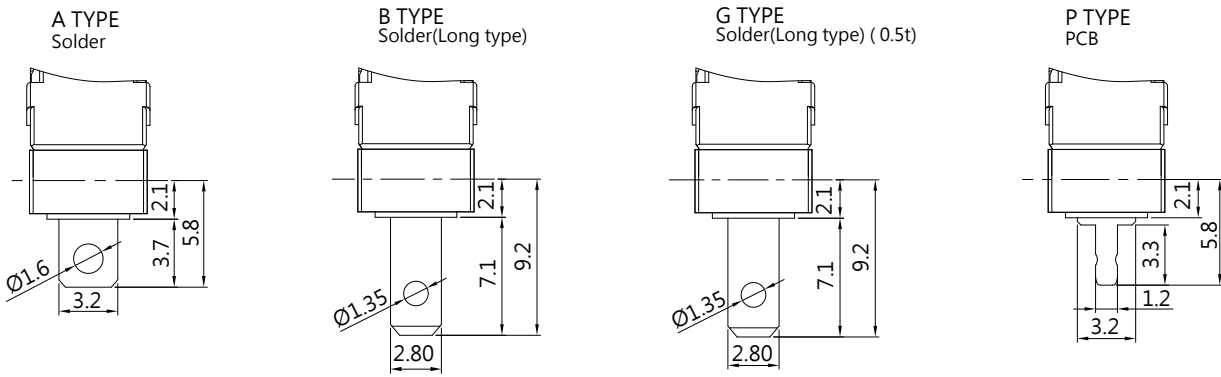


THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S	H
SW2	0.1A	*	*	*
	3A	*	*	*
	6A	*	*	*
	10A 10(2)A		*	*
	1/4 hp 10A 10(2)A		*	*

NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES (THE thickness of each terminal is 0.6 mm)

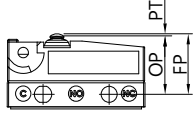
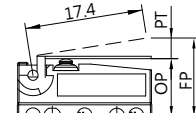
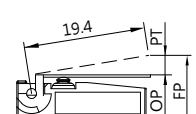
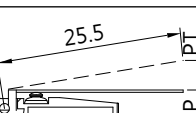
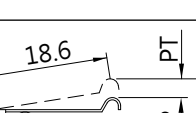
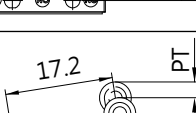
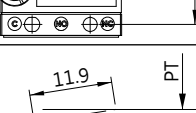
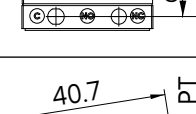

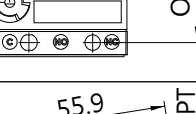


ORDERING INFORMATION

S	W	2	—	0	6	S	1	—	0	0	A	0	—	Z	
SERIES PREFIX				RATING CURRENT		OPERATING FORCE		COVER TYPE		ACTUATOR TYPE		CIRCUIT ARRANGEMENT		ROHS CODE	
				P1	0.1A 125/250 VAC	H	HEAVIER	1		00		A		0	S.P.D.T
				03	3A 125/250 VAC	S	STANDARD			01				1	S.P.S.T NO
				06	6A 125/250 VAC	L	LIGHT			02		B		2	S.P.S.T NC
				10	10A 125/250 VAC					03					
					10(2)A 125/250 VAC					04					
				H10	10A 125/250 VAC					05		P			
					10(2)A 125/250 VAC					06					
					1/4 hp 125/250 VAC					07		G			
										08					
										09					

#NOTE		
	RATING CURRENT	OPERATING FORCE
1	Code:P1	L, S, H
	Code:03	L, S, H
	Code:06	L, S, H
	Code: 10	S, H
	Code:H10	S, H

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)	
		H	S						H	S
SW2- □□□□ -00 □□ -Z		H	300	8.4 ± 0.3	1.2	0.4	0.2	9.9	H	70
		S	203						S	50
		L	150						L	30
SW2- □□□□ -01 □□ -Z		H	121	8.8 ± 1.1	4.3	0.6	0.6	1.2	H	17
		S	82						S	16
		L	73						L	14
SW2- □□□□ -02 □□ -Z		H	105	8.8 ± 1.2	4.8	0.67	0.7	12.4	H	14
		S	66						S	13
		L	55						L	11
SW2- □□□□ -03 □□ -Z		H	72	8.8 ± 1.6	6.3	0.89	0.9	13.5	H	12
		S	54						S	11
		L	29						L	6
SW2- □□□□ -04 □□ -Z		H	106	10.7 ± 1.2	4.6	0.64	0.75	14.3	H	15
		S	68						S	14
		L	42						L	7
SW2- □□□□ -05 □□ -Z		H	100	14.5 ± 1.1	4.3	0.6	0.6	17.7	H	16
		S	72						S	15
		L	54						L	4
SW2- □□□□ -06 □□ -Z		H	165	8.8 ± 0.9	3.2	1.0	0.5	11.1	H	23
		S	98						S	21
		L	66						L	10
SW2- □□□□ -07 □□ -Z		H	65	8.8 ± 2.6	10.1	1.5	2.3	16.3	H	8
		S	39						S	4
		L	33						L	1
SW2- □□□□ -08 □□ -Z		H	106	11.3 ± 1.3	4.9	0.6	0.8	14.9	H	14
		S	68						S	13
		L	42						L	6
SW2- □□□□ -09 □□ -Z		H	50	8.8 ± 3.5	13.8	1.0	3.6	19.1	H	7
		S	33						S	3
		L	23						L	1

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

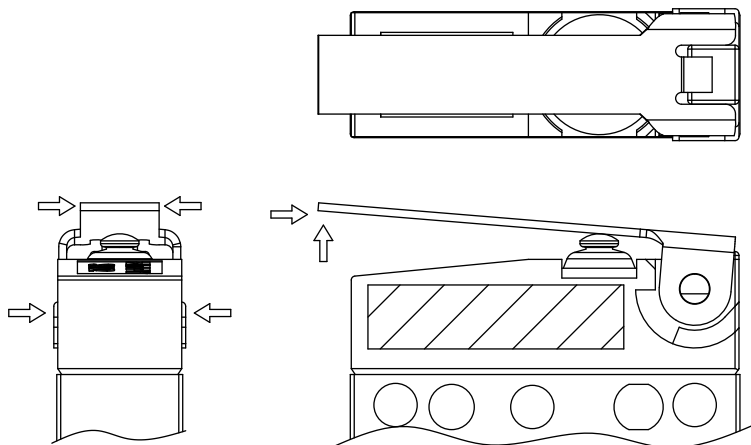


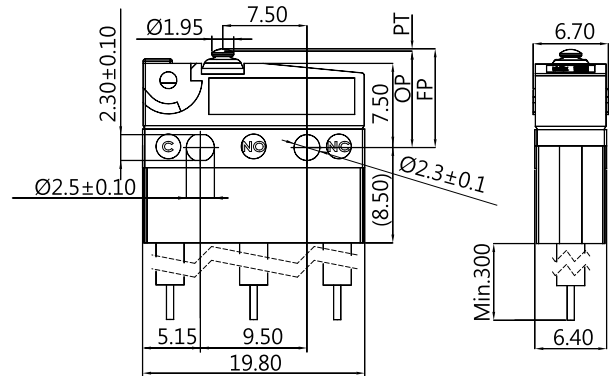
Figure-1

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW2 (IP67) SERIES

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

※ For the specification, please refer to SW2 SERIES. ※

THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S	H
SW2	0.1A	*	*	*
	3A	*	*	*
	6A	*	*	*
	10A 10(2)A		*	*
	1/4 hp 10A 10(2)A		*	*

NOTE : The Symbol " * " to represent the result is accepted

CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
SW2-C1	0.1RA 125/250VAC	0.1A 125/250VAC
SW2-C3	3GPA 125/250VAC	3A 125/250VAC
SW2-06	5RA 30VDC u 6GPA 125/250VAC	5A 30VDC 6A 125/250VAC
SW2-10	5RA 30VDC 10RA 125/250VAC	5A 30VDC 10(2)A 125/250VAC
SW2-H10	5RA 30VDC 10RA125/250VAC 10GPA 125/250VAC 1/4HP 125/250VAC	5A 30VDC 10(2)A 125/250VAC

ORDERING INFORMATION

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	COVER TYPE	CODE	ACTUATOR TYPE	CODE	WIRE SIDE	CODE	CIRCUIT ARRANGEMENT	CODE	AWG TYPE	CODE	UL NUMBER	SERIAL CODE	ROHS CODE	
SW2	06	6A 125/250 VAC	S	STANDARD	1		00		0		0	S.P.D.T	E	20	A	UL1007			
	03	3A 125/250 VAC					01					1	S.P.S.T NO	F	22	B	UL1015		
	06	6A 125/250 VAC					02					2	S.P.S.T NC	G	24	C	UL1430		
	10	10A 125/250 VAC 10(2)A 125/250 VAC					03							H	26	D	UL1061		
	H10	10A 125/250 VAC 10(2)A 125/250 VAC 1/4 hp 125/250 VAC					04									F	AV		
							05												
							06												
							07												
							08												
							09												

#NOTE				
RATING CURRENT	AWG TYPE	LEADS WIRE	OPERATING FORCE	
Code:P1	20,22,24,26	Min.30cm	L, S, H	
Code:03	20,22,24,26	Min.30cm	L, S, H	
Code:06	20,22	Min.30cm	L, S, H	
Code:10	20	Min.30cm	S, H	
Code:H10	20	Min.30cm	S, H	
2	UL number code:F.AV wire(no safety).			

CAUTIONS:

注意事項

1. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
2. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m。
3. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
4. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

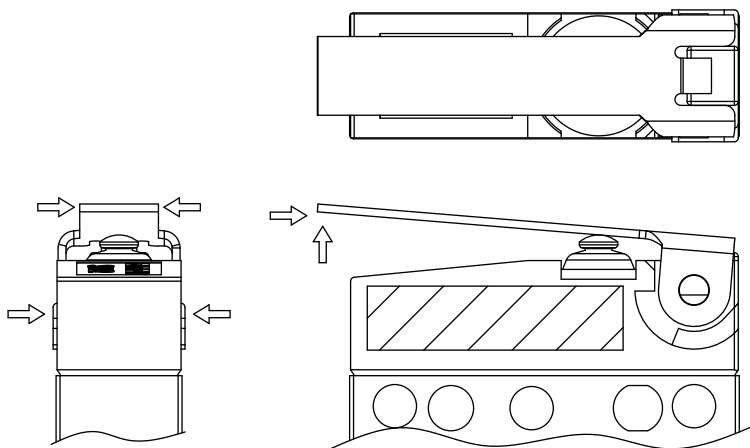
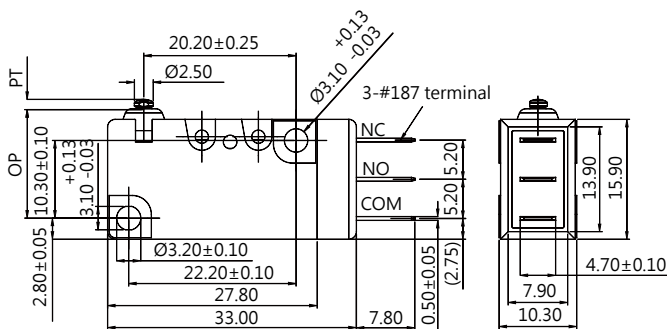


Figure-1

WATER PROOF SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



VW1 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 300m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

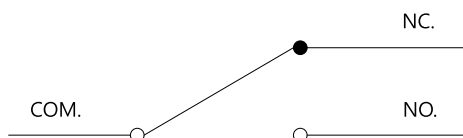
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

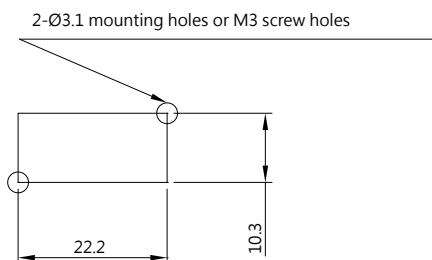
APPLICATIONS

Alarm device, Home security, Time recorder, Air conditioner, Food processor, Juice maker, Lawnmower, Mixer, Central water heater, Industrial apparatus, Special forklifts, Special vehicles

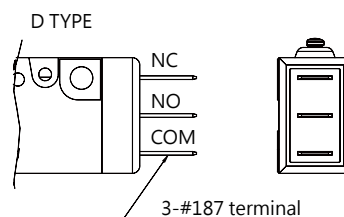
CONTACT CONFIGURATION



MOUNTING HOLES



TERMINAL TYPES



THE SELECTION OF RATING & FORCE











MODEL	Rating	D	J	L	S	H
VW1	0.1A	*	*	*	*	*
	3A	*	*	*	*	*
	6 A	*	*	*	*	*
	10 A				*	*

NOTE : The Symbol " * " to represent the result is accepted

CERTIFICATE INFORMATION

Model Name	UL	ENEC
VW1-P1	0.1RA 30VDC μ T85 1E4 0.1RA 125/250VAC μ T85 1E4	0.1A 30VDC μ T85 1E4 0.1A 125/250VAC μ T85 1E4
VW1-03	3RA 30VDC μ T85 1E4 3RA 125/250VAC μ T85 1E4	3A 30VDC μ T85 1E4 3A 125/250VAC μ T85 1E4
VW1-06	5RA 30VDC μ T85 1E4 6RA 125/250VAC μ T85 1E4	5A 30VDC μ T85 1E4 6A 125/250VAC μ T85 1E4
VW1-10	5RA 30VDC μ T85 1E4 10RA 125/250VAC μ T85 1E4	5A 30VDC μ T85 1E4 10A 125/250VAC μ T85 1E4

ORDERING INFORMATION

V	W	1	P	1	S	0	0	0	D	3	Z					
SERIES PREFIX			RATING CURRENT		OPERATING FORCE		ACTUATOR LEVER FIXED		ACTUATOR TYPE		TERMINAL TYPE		CIRCUIT ARRANGEMENT		ROHS CODE	
			10A 125/250VAC		H HEAVIER		0 		00 No Lever		D 		3 S.P.D.T			
			06 6A 125/250VAC		S STANDARD		1 		01 				4 S.P.S.T NO			
			03 3A 125/250VAC		L LIGHT		2 		02 				5 S.P.S.T NC			
			P1 0.1A 125/250VAC		J SLIGHT				03 							
					D LIGHTNESS				04 							
									05 							
									06 							

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code : P1	H, S, L, J, D
2	Code : 03	H, S, L, J, D
3	Code : 06	H, S, L, J, D
4	Code : 10	H, S

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)					OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		D	J	L	S	H				
VW1- □□□ 0-00 □□ -Z		50	100	150	200	300	14.7 ± 0.4	1.2	1.0	0.4
VW1- □□□ 1-01 □□ -Z		45	85	125	160	255	15.1 ± 0.6	2.6	1.1	0.6
VW1- □□□ 2-01 □□ -Z		25	55	75	90	145	15.0 ± 1.1	5.1	1.2	1.1
VW1- □□□ 1-02 □□ -Z		30	60	85	110	160	14.8 ± 0.8	4.0	1.5	0.9
VW1- □□□ 2-02 □□ -Z		20	40	60	75	110	14.5 ± 1.6	8	2.4	1.8
VW1- □□□ 1-03 □□ -Z		20	40	55	70	100	H force:			
							12.4 ± 2.0	7.0	-	2.5
							D, J, L, S force:			
VW1- □□□ 2-03 □□ -Z		15	28	40	50	70	H force:			
							11.9 ± 3.3	16.5	-	3.0
							D, J, L, S force:			
VW1- □□□ 1-04 □□ -Z		36	65	95	125	185	H force:			
							12.9 ± 3.3	17.5	-	3.0
							D, J, L, S force:			
VW1- □□□ 2-04 □□ -Z		20	45	60	75	110	17.6 ± 1.5	7.2	2.1	1.7
VW1- □□□ 1-05 □□ -Z		55	100	150	200	300	20.6 ± 0.5	2.1	1.0	0.5
VW1- □□□ 2-05 □□ -Z		30	65	98	150	175	20.4 ± 0.9	4.2	1.2	0.9
VW1- □□□ 1-06 □□ -Z		40	70	105	130	195	20.4 ± 0.7	3.3	1.3	0.7
VW1- □□□ 2-06 □□ -Z		25	43	60	70	105	20.2 ± 1.2	6.5	1.5	1.4

* There is another series of VW1 with MD reduced to 63%.

CAUTIONS:
注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
4. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
5. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

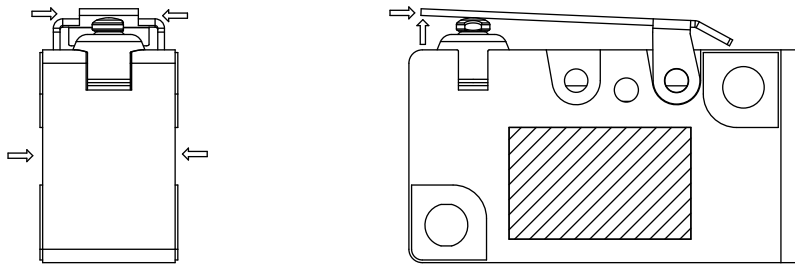


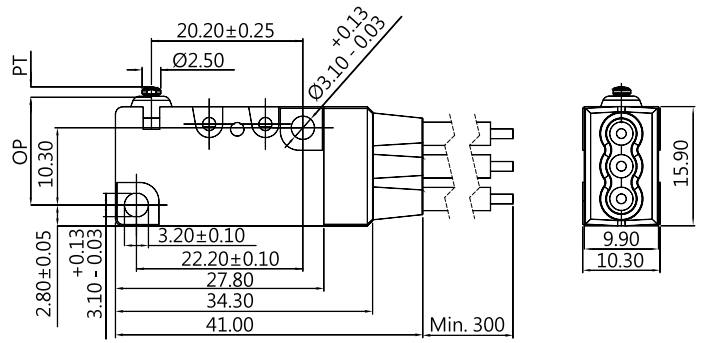
Figure-1

WATER PROOF SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.

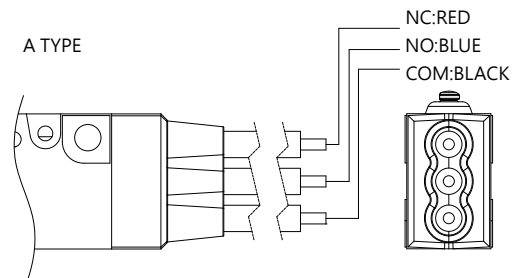


VW1 (IP67) SERIES

APPLICATIONS

Alarm devices, Home security, Time recorder, Air conditioner, Food processor, Juice maker, Lawnmowers, Mixer, Central water heater, Industrial apparatus, Special forklifts, Special vehicles

TERMINAL TYPES



CERTIFICATE INFORMATION

Model Name	UL	ENEC
VW1-P1	0.1RA 30VDC 0.1RA 125/250VAC	0.1A 30VDC 0.1A 125/250VAC
VW1-03	3RA 30VDC 3RA 125/250VAC	3A 30VDC 3A 125/250VAC
VW1-06	5RA 30VDC 6RA 125/250VAC	5A 30VDC 6A 125/250VAC
VW1-10	5RA 30VDC 10RA 125/250VAC	5A 30VDC 10A 125/250VAC

※ For the specification, please refer to VW1 SERIES. ※

THE SELECTION OF RATING & FORCE

MODEL	Rating	D	J	L	S	H
VW1	0.1A	*	*	*	*	*
	3A	*	*	*	*	*
	6 A	*	*	*	*	*
	10 A				*	*

NOTE : The Symbol " * " to represent the result is accepted

ORDERING INFORMATION

SERIES PREFIX	RATING CURRENT	OPERATING FORCE	ACTUATOR LEVER FIXED	ACTUATOR TYPE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	AWG TYPE	UL NUMBER	SERIAL CODE	ROHS CODE
VW1	10 10A 125/250VAC	H HEAVIER	0 [Symbol]	00 No Lever	A [Symbol] NC:RED NO:BLUE COM:BLACK	0 S.P.D.T	C 16	B UL1015		Z
	06 6A 125/250VAC	S STANDARD	1 5 [Symbol]	01 [Symbol]		1 S.P.S.T NO	D 18			
	03 3A 125/250VAC	L LIGHT	2 12.5 [Symbol]	02 [Symbol]		2 S.P.S.T NC	E 20			
	P1 0.1A 125/250VAC	J SLIGHT		03 [Symbol]			F 22			
		D LIGHTNESS		04 [Symbol]			G 24			
				05 [Symbol]			H 26			
				06 [Symbol]						

#NOTE				
ITEM	RATING CURRENT	OPERATING FORCE	AWG TYPE	LEADS WIRE
1	Code : P1	H, S, L, J, D	16, 18, 20, 22, 24, 26	Min.30 cm
2	Code : 03	H, S, L, J, D	16, 18, 20	Min.30 cm
3	Code : 06	H, S, L, J, D	16, 18	Min.30 cm
4	Code : 10	H, S	16	Min.30 cm

WATER PROOF SWITCHES

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. Do not handle the Switch in a way that may cause damage to the sealed rubber & switch sealing.
使用開關時，請勿損壞開關防水矽膠罩及開關防水膠。
3. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
4. Wires should not be dragged.
使用帶線型式時，請注意避免拉扯線材。
5. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。
6. Avoid applying any grease/oil and chemicals on the switch rubber.
請避免沾附任何油脂或者化學物質在開關的矽膠防水罩上。

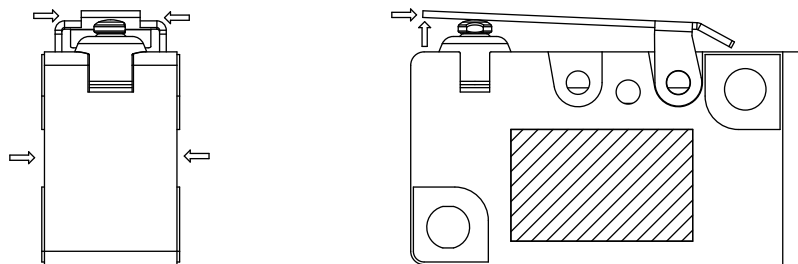
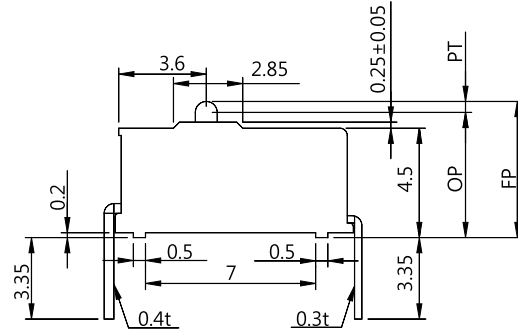
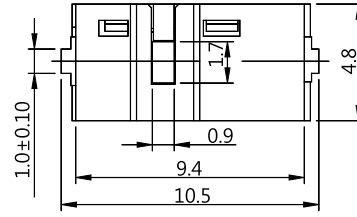


Figure-1

MICRO SWITCHES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DS SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 800 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance(at 250 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 250VAC(50-60HZ)/minute between Live-parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min.1,000,000 operations

Electrical Operating Frequency

120 operations per minute

Mechanical Service Life

Min. 3,000,000 operations

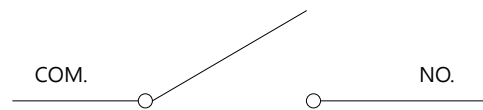
Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

CONTACT CONFIGURATION



RATING

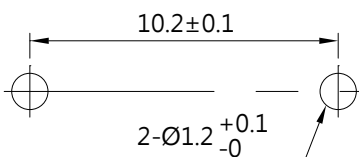
0.1A 125VAC, 0.1A 48VDC ,
50mA 12VDC

APPLICATIONS

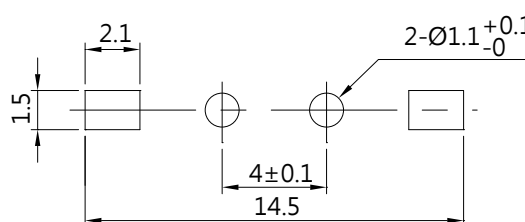
Mouse, Joystick

MOUNTING HOLES

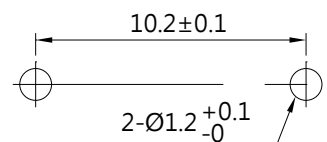
P Type Terminal



D Type Terminal

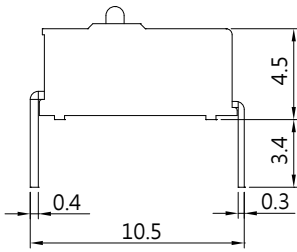


R · L Type Terminal

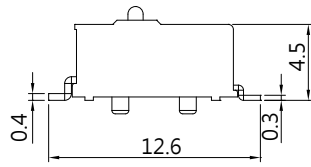


TERMINAL TYPES

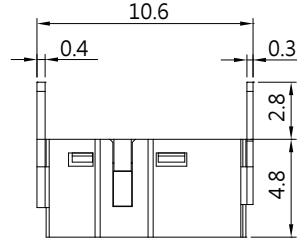
P TYPE



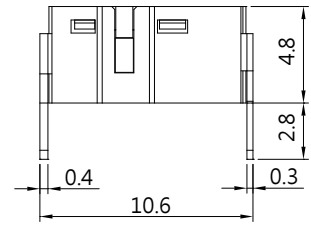
D TYPE



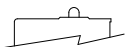
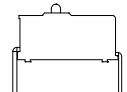

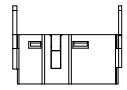
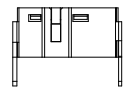
L TYPE



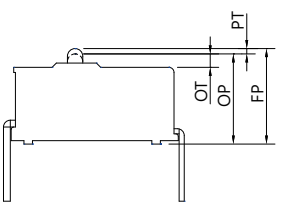
R TYPE



ORDERING INFORMATION

D	S	-	P	1	L	-	0	0	P	-	Z
SERIES PREFIX		RATING CURRENT		OPERATING FORCE		BUTTON TYPE		TERMINAL TYPE		ROHS CODE	
P1		0.1A 48VDC		L 75±25gf S MAX. 150g				   			

OPERATING CHARACTERISTICS

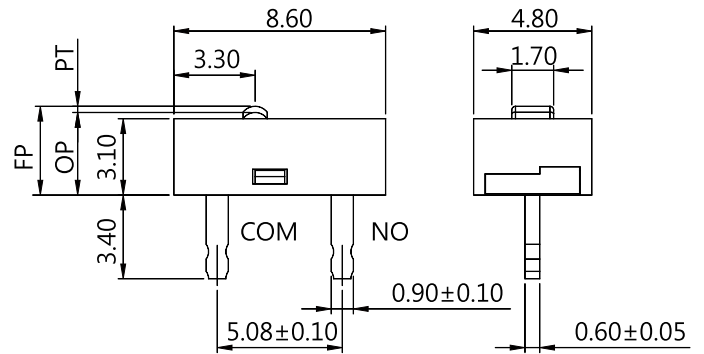
SWITCH TYPE	PART SUFFIX	OF (gf)	OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	RF Min. (gf)
DS-P1 □ -00 □ -Z		L	75±25	5.25±0.2	0.95	0.25	0.35
		S	Max.150				
							30

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DA SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance(at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 600VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm(p-p)

Electrical Service Life

Min. 5,000,000 operations

Electrical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

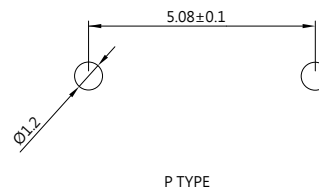
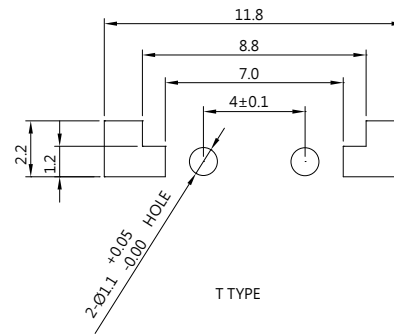
RATING

0.1A 30VDC

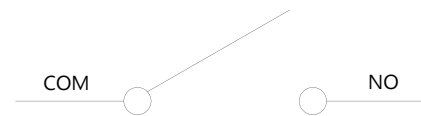
APPLICATIONS

Mouse, Digital Pen

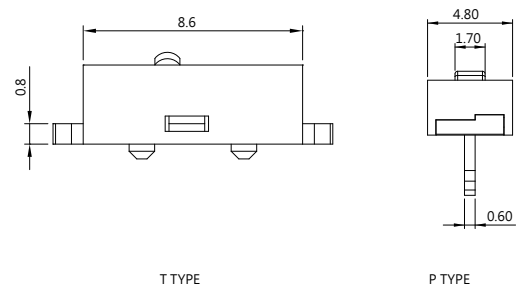
MOUNTING HOLES FOR PCB TERMINAL



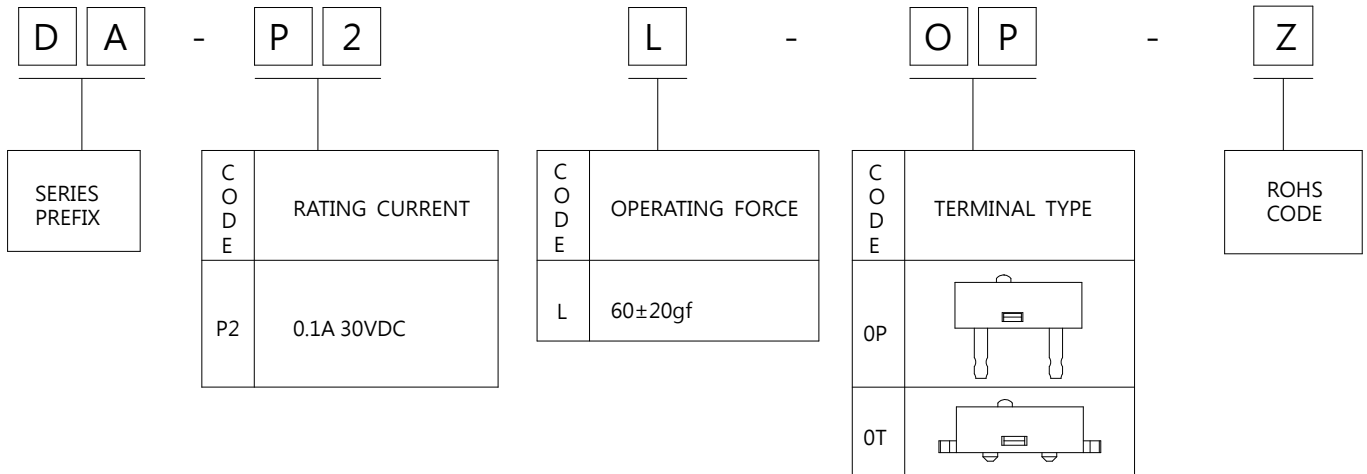
CONTACT CONFIGURATION



TERMINAL TYPES



ORDERING INFORMATION



OPERATING CHARACTERISTICS

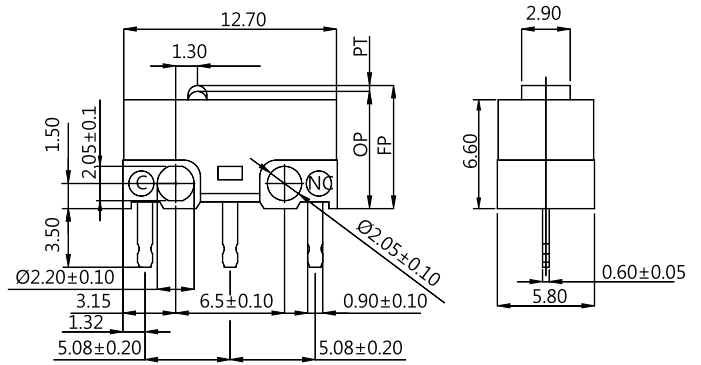
SWITCH TYPE	PART SUFFIX	OF (gf)	OP (mm)	PT Max. (mm)	OT Min. (mm)	FP Max. (mm)	MD Max. (mm)	RF Min. (gf)
DA-P2L-0□-Z		60±20	3.35 ^{+0.2} _{-0.15}	0.65	0.1	3.60±0.15	0.12	20

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DF-M SERIES (HIGH OPERATION POINT)

SPECIFICATIONS

Contact Resistance (initial)

Max. 100m Ω

Measured by ohm meter –Open Voltage <1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

Other ratings - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

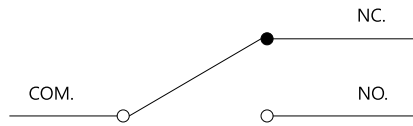
Mechanical Operating Frequency

120 operations per minute

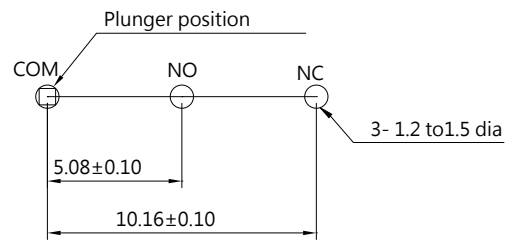
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

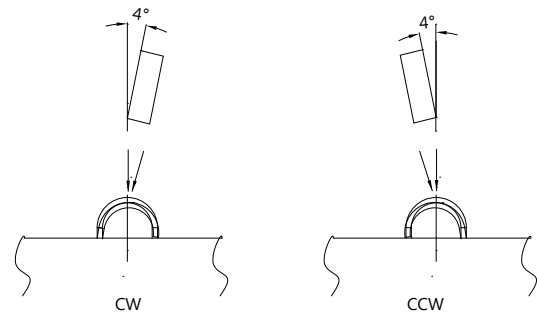
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PRESSING DIRECTION IS SUGGESTED TO BE VERTICAL AND WITH $\pm 4^\circ$



Available for the model that mouse has stoppers added more than Min.0.1mm

THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S
DF	0.1A	*	*
	1A	*	*
	3A	*	*

NOTE : The Symbol " * " to represent the result is accepted

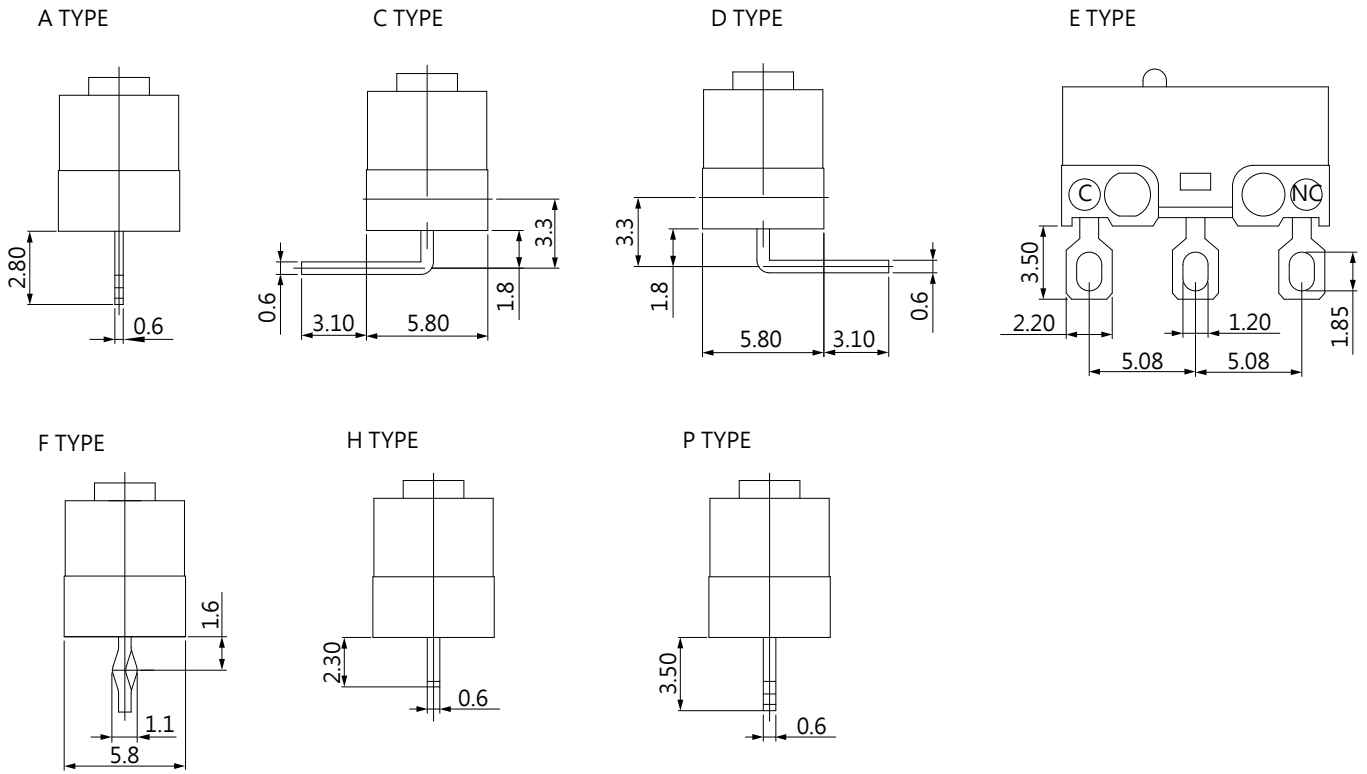
APPLICATIONS

Mouse, Joystick, Small home appliance, Central heating control

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DF-01	1RA 125/250VAC μ T55 1E4 1RA 24VDC μ T55 1E4	1A 125/250VAC μ T55 1E4 1A 24VDC μ T55 1E4
DF-03	3A 125VAC (Temp:65°C) Min. 6000 operations	3A 125VAC μ T55 1E4
DF-G3	3A 125VAC(Temp:65°C) Min. 6000 operations	Non
DF-D3	3A 5VDC /12VDC (Temp:65°C) Min. 6000 operations	Non

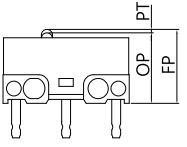
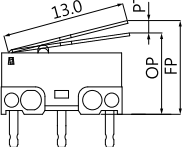
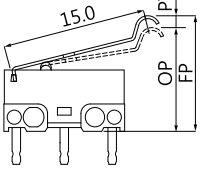
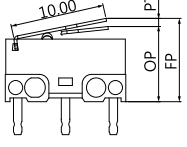
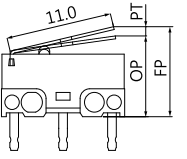
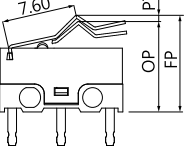
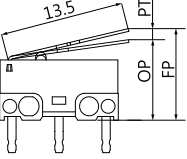
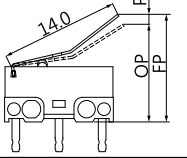
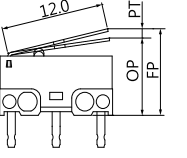
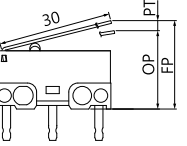
TERMINAL TYPES



ORDERING INFORMATION

D	F	P	1	L	0	P	M	Z					
SERIES PREFIX		C O D E		C O D E		C O D E		C O D E					
		RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE					
		P1 0.1A 125VAC		L LIGHT		0		A					
		01 1A 125/250VAC		S STANDARD		1		HIGH OPERATION POINT					
		03 3A 125VAC				2				C			
		G1 0.1A 125VAC CONTACT PLATED GOLD				3				3		H	
		G3 3A 125VAC CONTACT PLATED GOLD				4				4		P	
		D3 3A 12VDC				5				5		E	
						6				ROHS CODE			
				7		7							
				8		8							
				9		9							

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DF- □□□ -0 □ -M-Z		L	80	7.0±0.2	0.62	0.2	0.12	7.35	21
		S	150						35
DF- □□□ -1 □ -M-Z		L	30	8.4±0.8	3.0	0.6	0.8	10.6	5
		S	56						8
DF- □□□ -2 □ -M-Z		L	25	10.5±0.8	3.5	0.6	1.0	13.2	5
		S	43						7
DF- □□□ -3 □ -M-Z		L	35	7.9±0.8	2.9	0.3	0.6	10.0	5
		S	57						12
DF- □□□ -4 □ -M-Z		L	39	8.1±0.8	3.0	0.6	0.7	10.3	6
		S	69						10
DF- □□□ -5 □ -M-Z		L	50	9.1±0.8	2.0	0.4	0.3	11.0	5
		S	70						11
DF- □□□ -6 □ -M-Z		L	30	8.5±0.8	3.0	0.6	0.8	10.7	3
		S	50						8
DF- □□□ -7 □ -M-Z		L	27	11.3±1.0	3.5	0.3	0.8	13.85	3
		S	48						8
DF- □□□ -8 □ -M-Z		L	33	8.2±0.8	2.8	0.6	0.7	11.2	5
		S	54						9
DF- □□□ -9 □ -M-Z		L	13	10.79±2.1	7.7	1.0	1.0	15.63	2
		S	21	10.15±2.3					3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

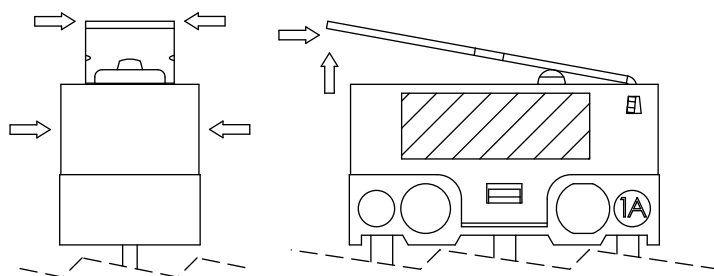


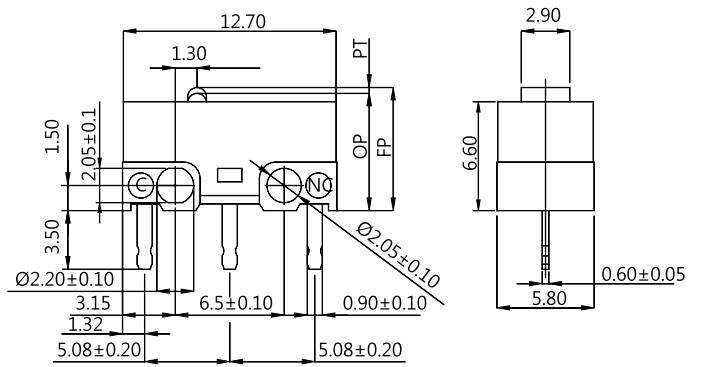
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DF SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 100m Ω

Measured by ohm meter –Open Voltage < 1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

Other ratings - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

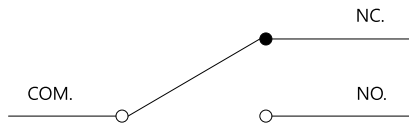
Mechanical Operating Frequency

120 operations per minute

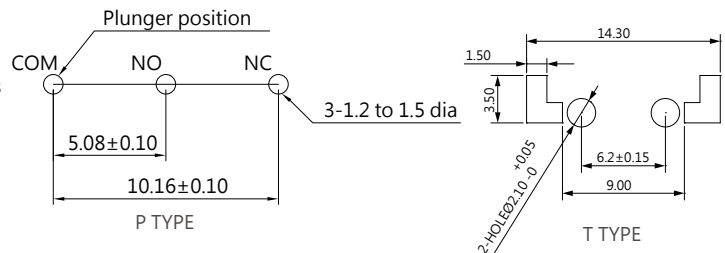
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

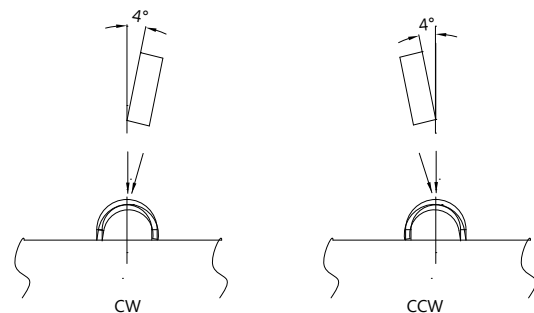
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PRESSING DIRECTION IS SUGGESTED TO BE VERTICAL AND WITH $\pm 4^\circ$



Available for the model that mouse has stoppers added more than Min.0.1mm

THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S
DF	0.1A	*	*
	1A	*	*
	3A	*	*

NOTE : The Symbol " * " to represent the result is accepted

APPLICATIONS

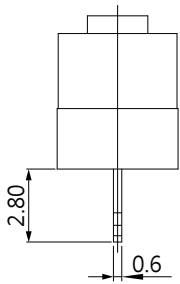
Mouse, Joystick, Small home appliance, Central heating control

CERTIFICATE INFORMATION

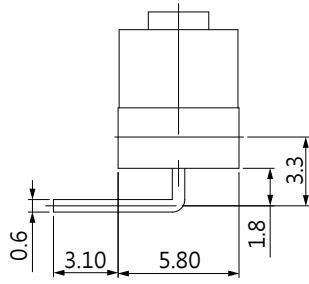
Model Name	UL, cUL	ENEC
DF-01	1RA 125/250VAC μ T55 1E4 1RA 24VDC μ T55 1E4	1A 125/250VAC μ T55 1E4 1A 24VDC μ T55 1E4
DF-03	3A 125VAC (Temp:65°C) Min. 6000 operations	3A 125VAC μ T55 1E4 (250VAC option)
DF-G3	3A 125VAC(Temp:65°C) Min. 6000 operations	Non
DF-D3	3A 5VDC /12VDC (Temp:65°C) Min. 6000 operations	Non

TERMINAL TYPES

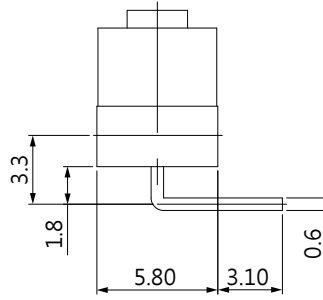
A TYPE



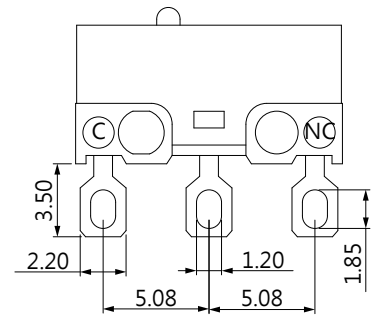
C TYPE



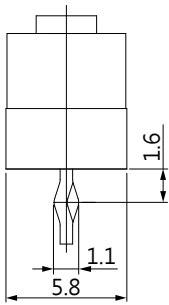
D TYPE



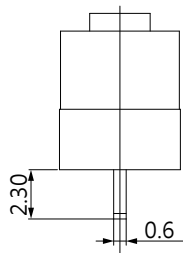
E TYPE



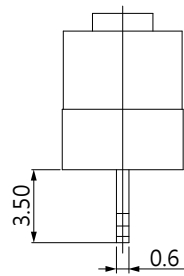
F TYPE



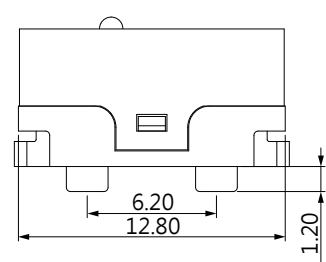
H TYPE



P TYPE



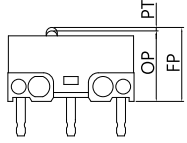
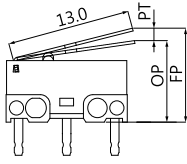
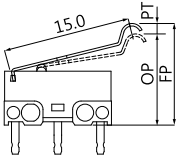
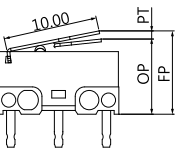
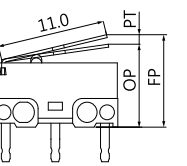
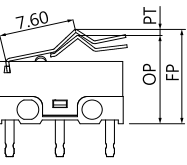
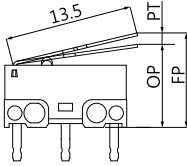
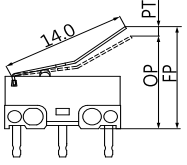
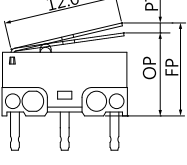
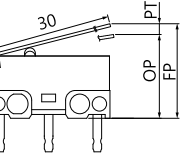
T TYPE



ORDERING INFORMATION

D	F	—	P	1		L	—	0		P	—	Z
SERIES PREFIX			RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE		ROHS CODE
			P1	0.1A 125VAC		L	LIGHT	0		A		
			01	1A 125/250VAC		S	STANDARD	1		C		
			03	3A 125VAC				2		D		
			G1	0.1A 125VAC CONTACT PLATED GOLD				3		H		
			G3	3A 125VAC CONTACT PLATED GOLD				4		F		
			D3	3A 12VDC				5		P		
								6		E		
								7		T		
								8				
								9				

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DF- □□□ -0 □ -Z		L	80	7.0±0.2	0.62	0.2	0.12	7.35	21
		S	150						35
DF- □□□ -1 □ -Z		L	30	7.9±0.8	3.4	0.6	0.8	10.1	5
		S	56						8
DF- □□□ -2 □ -Z		L	25	9.8±0.9	3.5	0.7	0.92	14.2	5
		S	43						7
DF- □□□ -3 □ -Z		L	35	7.9±0.7	2.1	0.3	0.29	9.3	5
		S	57						12
DF- □□□ -4 □ -Z		L	39	8.0±0.8	2.5	0.5	0.7	10.8	6
		S	69						10
DF- □□□ -5 □ -Z		L	50	9.0±0.6	1.64	0.49	0.3	10.15	5
		S	70						11
DF- □□□ -6 □ -Z		L	30	8.33±0.9	3.5	0.6	0.8	10.6	3
		S	50						8
DF- □□□ -7 □ -Z		L	27	10.75±0.8	3.5	0.3	0.8	13.5	3
		S	48						8
DF- □□□ -8 □ -Z		L	33	8.17±0.8	2.8	0.6	0.7	11.2	5
		S	54						9
DF- □□□ -9 □ -Z		L	13	9.75±1.9	6.9	0.55	1.9	16.8	2
		S	21	9.5±1.9					3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

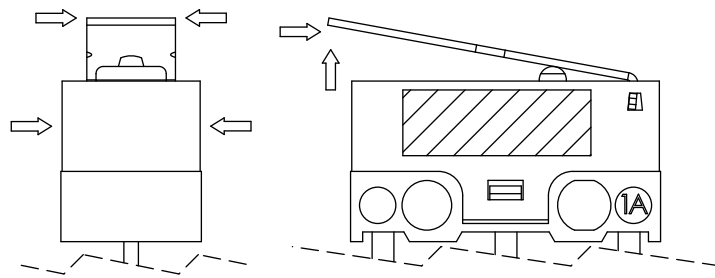


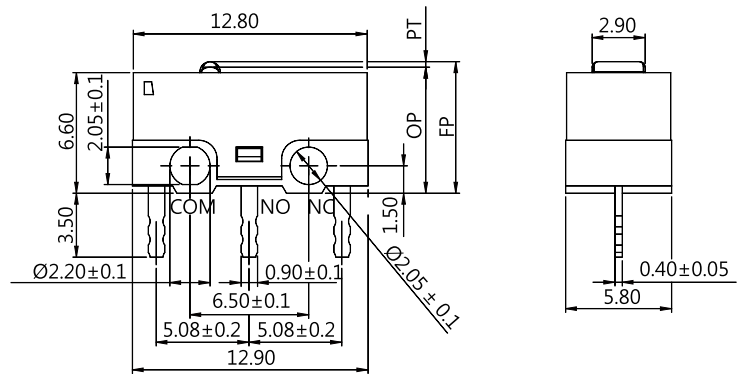
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DF3 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 100m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 5,000,000 operations

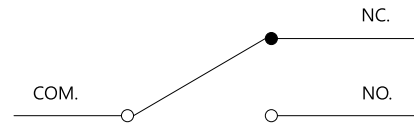
Mechanical Operating Frequency

120 operations per minute

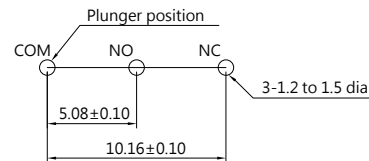
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

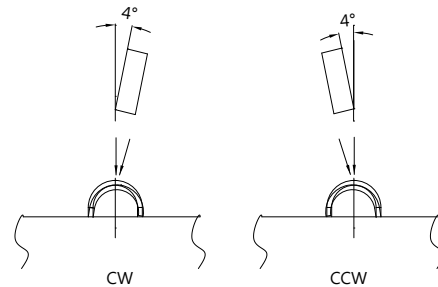
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PRESSING DIRECTION IS SUGGESTED TO BE VERTICAL AND WITH $\pm 4^\circ$



Available for the model that mouse has stoppers added more than Min.0.1mm

APPLICATIONS

Mouse, Joystick, Small home appliance, Central heating control

CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DF3-03	3RA 125/250VAC μ T55 1E4	3A 125/250VAC μ T55 1E4
DF3-G3	3RA 24VDC μ T55 1E4	3A 24VDC μ T55 1E4
DF3-S3	3RA 125VAC μ T55 5E4 3RA 250VAC μ T55 3E4 3RA 24VDC μ T55 1E4	3A 125VAC μ T55 5E4 3A 250VAC μ T55 3E4 3A 24VDC μ T55 1E4
DF3-05	5RA 125/250VAC μ T85 1E4 3RA 24VDC μ T85 1E4	5A 125/250VAC μ T85 1E4 3A 24VDC μ T85 1E4

THE SELECTION OF RATING & FORCE

Model	Rating	L	S
DF3-03	3A	*	*
DF3-G3	3A	*	*
DF3-S3	3A	*	*
DF3-05	5A	*	*

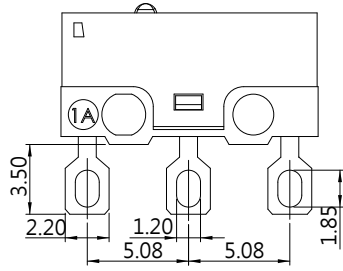
NOTE : The Symbol " * " to represent the result is accepted

SPECIAL APPLICATIONS FOR GAMING MOUSE

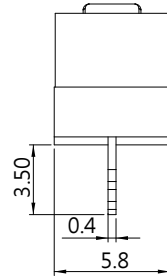
DF3-0.1A, Min. 20,000,000 operations

TERMINAL TYPES

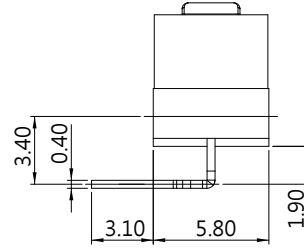
E type



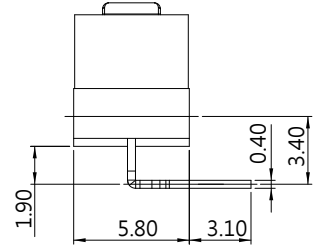
P type



C type

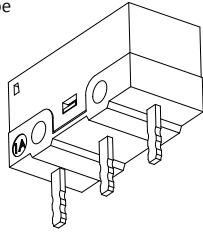


D type

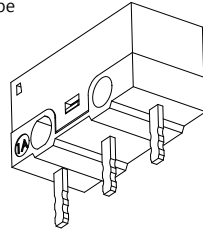


PILLAR TYPES

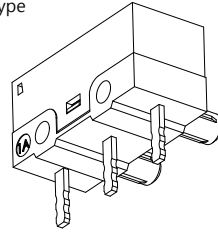
A0 type



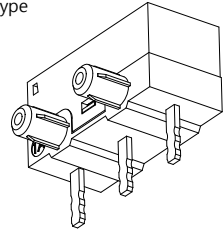
B0 type



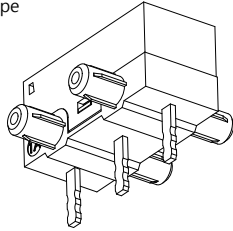
C1 type



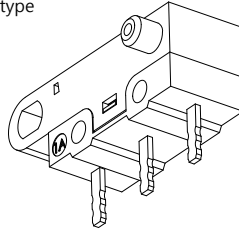
C2 type



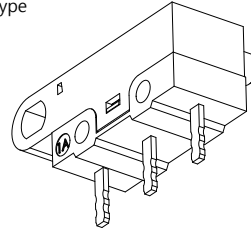
C3 type



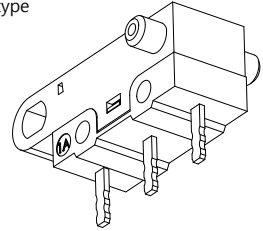
D4 type



D5 type



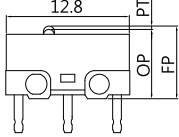
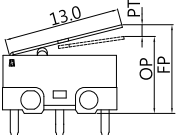
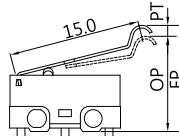
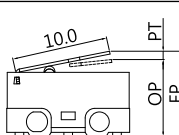
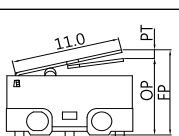
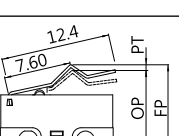
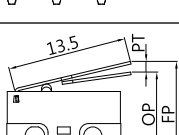
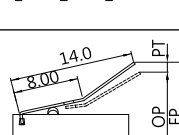
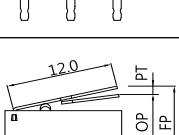
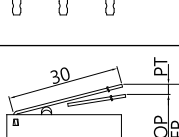
D6 type



ORDERING INFORMATION

D	F	3	—	0	3	S	0	—	0	1	P	0	C	1	—	0	A	—	Z																																																									
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	STRUCTURE TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	PILLAR & MOUNTING HOLES TYPE	CODE	PILLAR TYPE	SPECIAL CODE	ROHS CODE																																																										
	03 G3	3A 125/250VAC		S L	STANDARD LIGHT	0 SINGLE BLADE		00 01 02 03 04		C D E P		0 1 2	S.P.D.T S.P.S.T NO S.P.S.T NC	A B C D	0 1 2 3 4 5 6	WITHOUT PILLAR																																																												
	05 S3	5A 125/250VAC 3A 125/250VAC (High Life)																																																																										
<table border="1"> <thead> <tr> <th colspan="8">DIMENSIONS FOR C1 / C2 / C3 TYPE</th> </tr> </thead> <tbody> <tr> <td colspan="8"></td> </tr> <tr> <td>CODE</td><td>L1</td><td>H</td><td>ØA</td><td>ØB</td><td>ØC</td><td>ØD</td><td>P</td> </tr> <tr> <td>A</td><td>3.15</td><td>5.10</td><td>2.05</td><td>2.45</td><td>2.05</td><td>2.45</td><td>6.50</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="7">DIMENSIONS FOR D4 / D5 / D6 TYPE</th> </tr> </thead> <tbody> <tr> <td colspan="7"></td> </tr> <tr> <td>CODE</td><td>L1</td><td>H1</td><td>H2</td><td>ØA</td><td>ØB</td><td>P</td> </tr> <tr> <td>A</td><td>1.95</td><td>1.85</td><td>2.05</td><td>2.05</td><td>2.60</td><td>13.05</td> </tr> </tbody> </table>																	DIMENSIONS FOR C1 / C2 / C3 TYPE																CODE	L1	H	ØA	ØB	ØC	ØD	P	A	3.15	5.10	2.05	2.45	2.05	2.45	6.50	DIMENSIONS FOR D4 / D5 / D6 TYPE														CODE	L1	H1	H2	ØA	ØB	P	A	1.95	1.85	2.05	2.05	2.60	13.05
DIMENSIONS FOR C1 / C2 / C3 TYPE																																																																												
CODE	L1	H	ØA	ØB	ØC	ØD	P																																																																					
A	3.15	5.10	2.05	2.45	2.05	2.45	6.50																																																																					
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CODE	L1	H1	H2	ØA	ØB	P																																																																						
A	1.95	1.85	2.05	2.05	2.60	13.05																																																																						

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DF3- □□□□ -0 □ -Z		L	80	7.0±0.2	0.5	0.2	0.12	7.50	21
		S	150						35
DF3- □□□□ -1 □ -Z		L	30	8.2±0.8	3.4	0.6	0.8	10.1	5
		S	56						8
DF3- □□□□ -2 □ -Z		L	25	10.2±0.8	3.5	0.7	0.92	14.2	5
		S	43						7
DF3- □□□□ -3 □ -Z		L	40	7.9±0.5	2.1	0.3	0.4	9.3	5
		S	57						12
DF3- □□□□ -4 □ -Z		L	36	8.0±0.6	2.5	0.5	0.7	10.8	6
		S	60						10
DF3- □□□□ -5 □ -Z		L	50	9.2±0.6	1.64	0.49	0.3	10.15	7
		S	75						11
DF3- □□□□ -6 □ -Z		L	30	8.33±0.9	3.5	0.6	0.8	10.6	5
		S	50						8
DF3- □□□□ -7 □ -Z		L	27	10.75±0.9	3.5	0.3	0.8	13.5	3
		S	48						8
DF3- □□□□ -8 □ -Z		L	33	8.15±0.7	2.8	0.6	0.7	11.2	5
		S	54						9
DF3- □□□□ -9 □ -Z		L	13	9.5±1.7	6.9	0.55	1.9	16.8	2
		S	21						3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.1 N•m.
若使用定位孔型式，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。

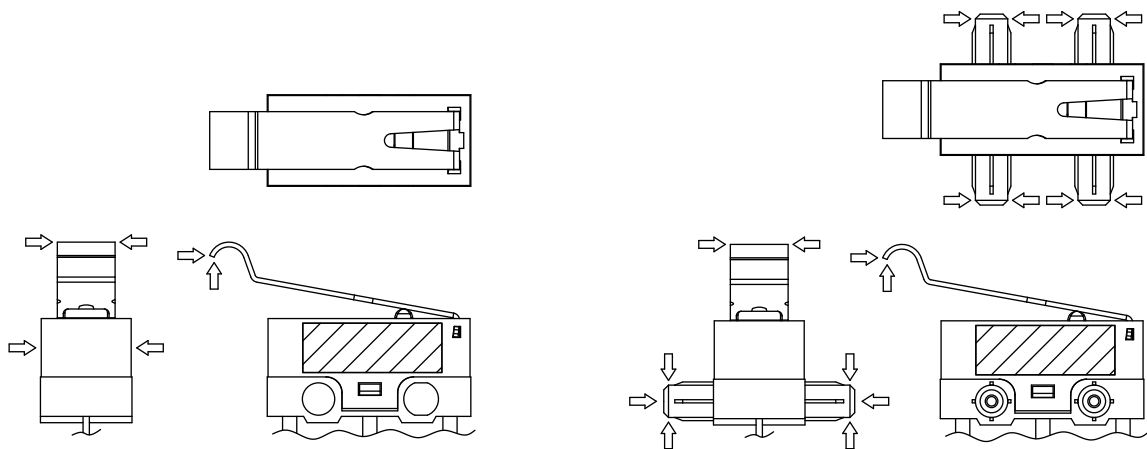


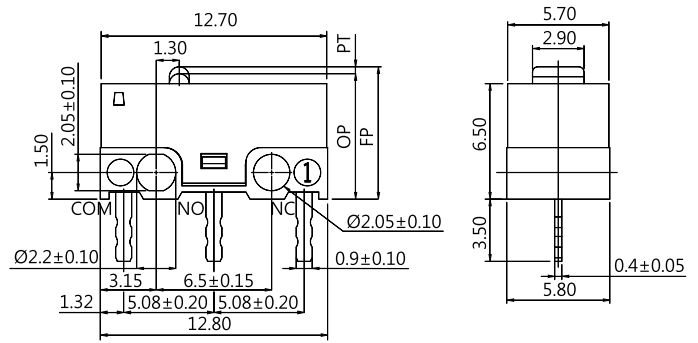
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



DM SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 65°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A, 0.2A - Min. 1,000,000 operations

3A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

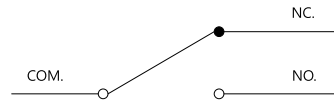
Mechanical Operating Frequency

120 operations per minute

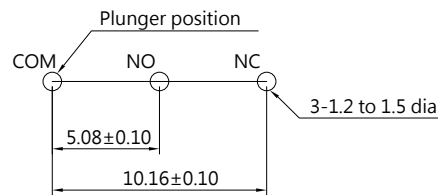
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DM-03	0.1A 48VDC 0.2A 60VDC 0.1A 125VAC 3A 125VAC (Temp:65°C) Min. 10,000 operations	3A 125VAC μ T55 1E4

APPLICATIONS

Walkie talkie, Mouse, Electric knife, Electric stapler, Telephone, Calculator, Mixer & chopper, Electric pan, Battery charger, Video cassette reminder, Cordless phone, Tester machine

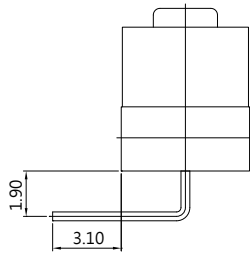
THE SELECTION OF RATING & FORCE

Model	Rating	L	S
DM	0.1A	*	*
	0.2A	*	*
	3A	*	*

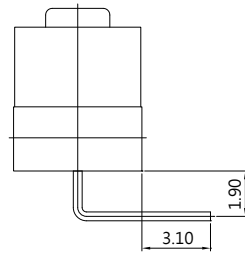
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

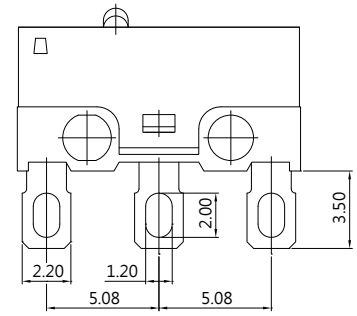
C TYPE



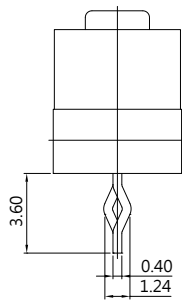
D TYPE



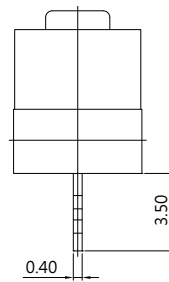
E TYPE



F TYPE



P TYPE



ORDERING INFORMATION

D	M	—	0	3		S	—	0		P	—	Z
SERIES PREFIX			RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE		ROHS CODE
			03	3A 125VAC		L	LIGHT	0		C		
			P1	0.1A 48VDC 0.1A 125VAC		S	STANDARD	1		D		
								2		E		
								3		F		
								4		P		
								5				
								6				
								7				
								8				
								9				

Note1.
for special type DM-03□-□□-A gold plated contacts
rating 0.1A 48VDC ; 0.1A 125VAC ; 0.2A 60VDC ;
1A 125VAC ; 3A 125VAC.

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DM-03 □ -0 □ -Z		L	90	7.0±0.3	1.3	0.2	0.3	8.0	15
		S	150						20
DM-03 □ -1 □ -Z		L	30	8.4±0.8	3.4	0.6	1.3	11.0	5
		S	50						8
DM-03 □ -2 □ -Z		L	27	10.5±0.8	3.8	0.6	1.5	13.5	4
		S	45						7
DM-03 □ -3 □ -Z		L	40	7.9±0.8	3.4	0.6	1.0	10.5	6
		S	70						10
DM-03 □ -4 □ -Z		L	36	8.1±0.8	3.4	0.6	1.1	10.7	5
		S	65						9
DM-03 □ -5 □ -Z		L	53	8.9±0.8	2.9	0.6	0.8	11.0	8
		S	88						12
DM-03 □ -6 □ -Z		L	29	8.5±0.8	3.5	0.7	1.4	11.2	4
		S	50						7
DM-03 □ -7 □ -Z		L	29	11.3±1.0	3.7	0.3	1.4	14.0	4
		S	50						7
DM-03 □ -8 □ -Z		L	33	8.2±0.8	3.4	0.5	1.2	10.8	5
		S	60						8
DM-03 □ -9 □ -Z		L	15	10.79±2.1	10.1	0.9	3.0	16.9	2
		S	22	8.9±2.1					3

CAUTIONS:

注意事項

1. To secure the switch, please use an M2 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.1 N•m.

若使用定位孔型式，請使用M2小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.1 N•m。

2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.

為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.

圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。

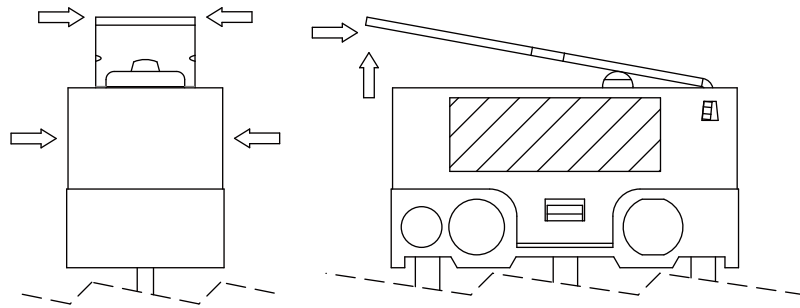


Figure-1

MICRO SWITCHES



DW51 (IP50) SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 mΩ

Measured by ohm meter - open voltage <1 VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Dielectric Strength

Min. 400VAC(50-60HZ)/minute between Live parts.

Min. 1300VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 100,000 operations

3A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 500,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

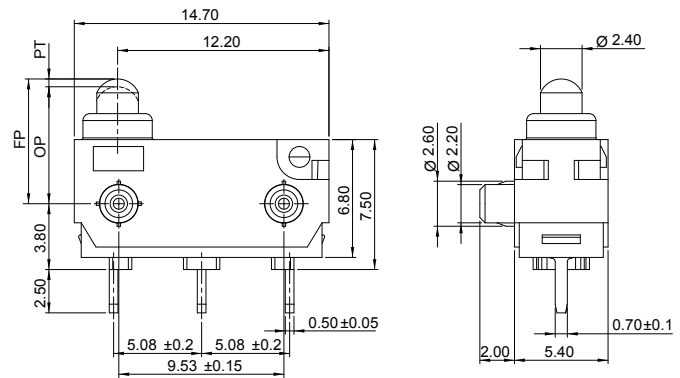
Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

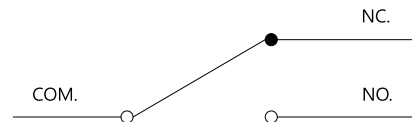
Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

DIMENSIONS

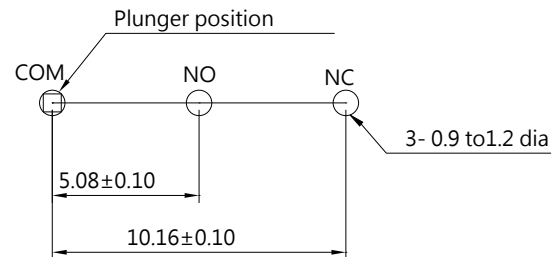
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



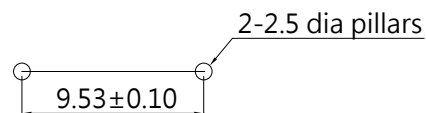
CONTACT CONFIGURATION



MOUNTING HOLES FOR PCB TERMINAL



PILLAR PITCH

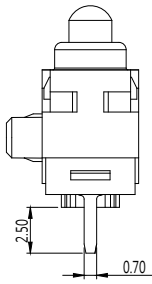


CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DW51-P1 or G1	0.1RA 12 VDC, μ T55 1E5 0.1RA 125 VAC, μ T55 1E4	0.1A 12 VDC, μ T55 1E5 0.1A 125 VAC, μ T55 1E4
DW51-03 or G3	3RA 12 VDC, μ T55 1E5 3GPA 125 VAC, μ T55 1E4	3A 12 VDC, μ T55 1E5 3A 125 VAC, μ T55 1E4

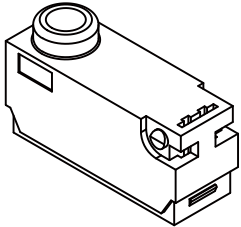
TERMINAL TYPES (THE thickness of each terminal is 0.5mm)

P TYPE

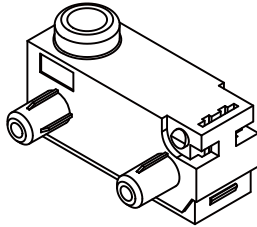


COVER TYPES (PILLAR & TRAVEL TYPES)

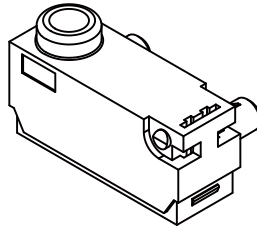
A TYPE



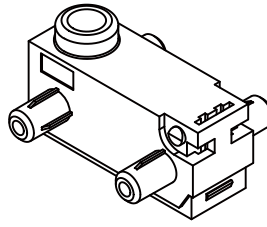
B TYPE



C TYPE



D TYPE



ORDERING INFORMATION

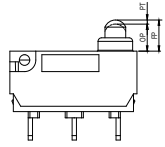
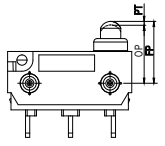
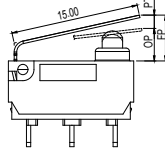
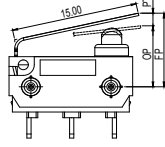
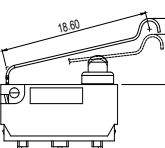
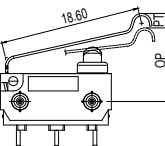
D W S 1 — 0 3 — S — 1 — 0 1 — P — 0 — A — 0 A — Z

CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	COVER & BUTTON TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	PILLAR TYPE	SPECIAL CODE	ROHS CODE
G1	0.1A 125VAC Contact plated gold	S	STANDARD	1		00		P		0	S.P.D.T	A		0 A	Z
P1	0.1A 125VAC					01				1	S.P.S.T NO	B			
G3	3A 125VAC Contact plated gold									2	S.P.S.T NC	C			
03	3A 125VAC											D			

DIMENSIONS

CODE	L1	H	ΦA	ΦB	ΦC	ΦD	P
A	5.0	3.7	2.2	2.6	2.2	2.6	9.53
B	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF		OP (mm)	PT Max (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
		Max (gf)							
DW51- □□ S1-00 □□ -Z		S	130	3.05±0.2	0.8	0.8	0.3	3.65	35
				6.75±0.2				7.35	
DW51- □□ S1-01 □□ -Z		S	195	3.7±0.5	3.85	1.35	0.5	7.0	55
				7.4±0.5				10.7	
DW51- □□ S1-04 □□ -Z		S	160	6.2±0.8	4.8	1.65	0.7	10.1	45
				9.9±0.8				13.8	

CAUTIONS:

注意事項

1. Do not handle the switch in a way that may cause damage to the switch sealing.
使用開關時，請勿損壞開關防水膠。
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in Figure 1. Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在圖-1中箭頭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適用在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure. (Figure-2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖2)

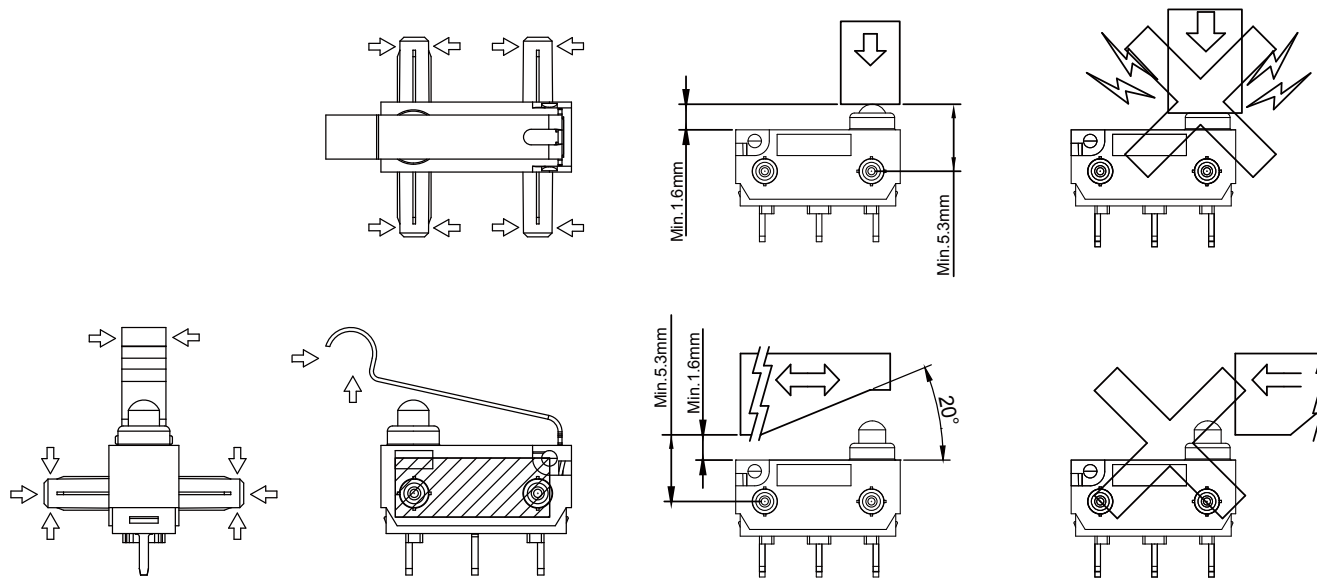


Figure-1

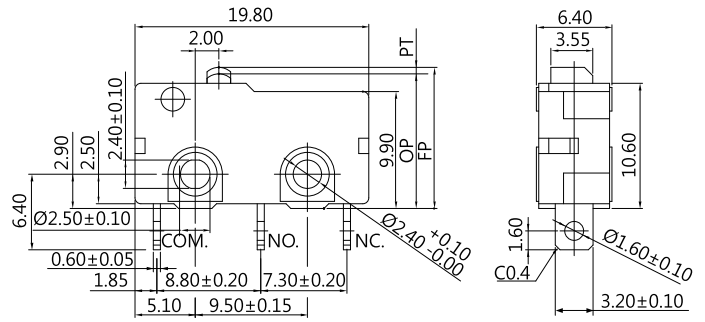
Figure-2

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SM SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 300 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1250VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 120°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

Other rating - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

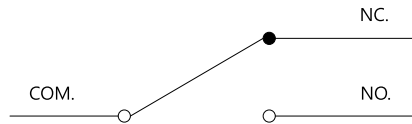
Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

CONTACT CONFIGURATION



CERTIFICATE INFORMATION

Model Name	UL, cUL
SM-P1	0.1A 125/250VAC 0.1A 30VDC (Temp:120°C) Min. 10,000 operations
SM-G1	0.1A 125/250VAC 0.1A 30VDC (Temp:120°C) Min. 10,000 operations
SM-O5	5A 125/250VAC 5A 30VDC (Temp:120°C) Min. 10,000 operations
SM-G5	5A 125/250VAC 5A 30VDC (Temp:120°C) Min. 10,000 operations

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juicer, Electric steak pan.

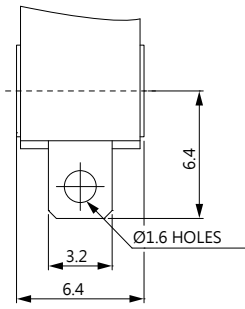
THE SELECTION OF RATING & FORCE

MODEL	Rating	D	L	S	H	Q	T
SM	0.1A	*	*	*	*	*	*
	5A			*	*	*	*

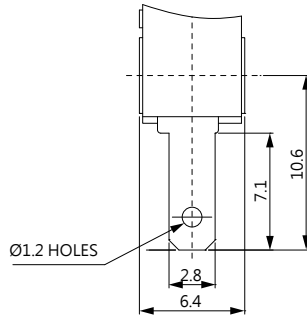
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES (The thickness of each terminal is 0.6mm)

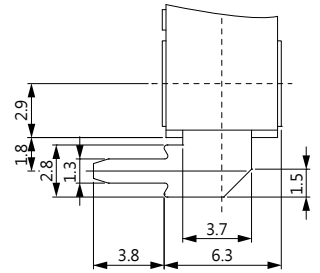
A TYPE



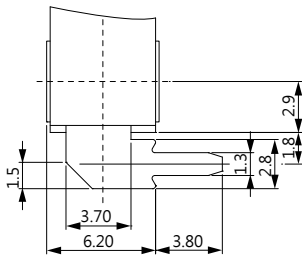
B TYPE



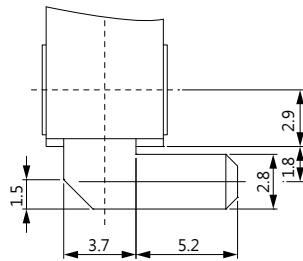
C TYPE



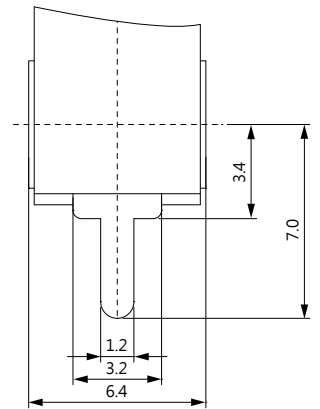
D TYPE



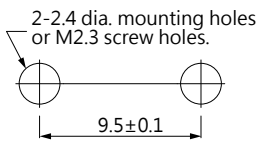
E TYPE



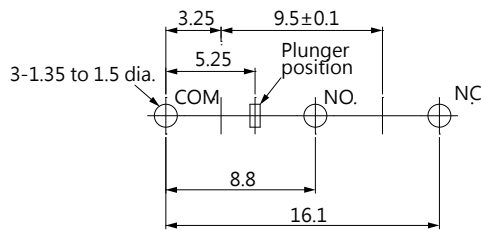
P TYPE



MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



ORDERING INFORMATION

S	M	0	5	S	0	3	P	0	Z			
SERIES PREFIX		RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE		CIRCUIT ARRANGEMENT	ROHS CODE	
		P1	0.1A 125/250VAC	T	MAX HEAVIER	00		A		0	S.P.D.T.	
		05	5A 125/250VAC	Q	HEAVIER	01		B		1	S.P.S.T. NO	
				H	HEAVY	02		C		2	S.P.S.T. NC	
				S	STANDARD	03		D				
				L	LIGHT	04		E				
				D	SLIGHT		:	P				

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code:P1	T,Q,H,S,L,D
2	Code:05	T,Q,H,S

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	S						
SM- □□□ -00 □□ -Z		H	249	11.4±0.3	1.1	0.4	0.2	12.2	50
		S	146						35
		L	104						20
SM- □□□ -01 □□ -Z		H	66	11.8±0.8	3.6	0.6	0.8	14.6	9
		S	40						6
		L	30						3
SM- □□□ -02 □□ -Z		H	58	11.8±0.9	4.0	0.6	0.8	14.9	9
		S	36						6
		L	25						6
SM- □□□ -03 □□ -Z		H	45	11.8±1.5	6.1	0.8	1.5	16.4	6
		S	28						4
		L	20						5
SM- □□□ -04 □□ -Z		H	56	13.7±1.0	4.6	0.8	0.8	17.3	13
		S	34						8
		L	25						5
SM- □□□ -05 □□ -Z		H	60	17.5±0.8	3.8	0.8	0.8	20.5	15
		S	35						8
		L	25						6
SM- □□□ -06 □□ -Z		H	48	19.0±1.5	5.7	1.0	1.0	23.2	10
		S	28						6
		L	20						4
SM- □□□ -07 □□ -Z		H	30	11.8±2.0	8.6	1.5	1.8	18.4	7
		S	20						4
		L	15						2
SM- □□□ -08 □□ -Z		H	30	-2.3±3.0	6.0	1.0	1.9	5.4	3
		S	20						4
		L	15						2
SM- □□□ -09 □□ -Z		H	18	11.8±3.0	13.3	1.0	2.9	22.1	4
		S	12						2.5
		L	8						1.5

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

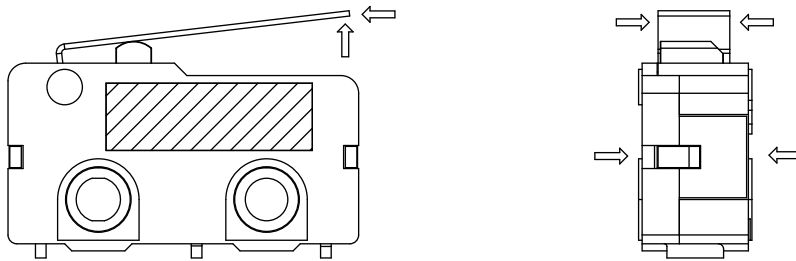


Figure-1

MICRO SWITCHES



internal snap-fit lever



external snap-fit lever

SM1 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 300 mΩ

(Measured by ohm meter-open voltage<1VDC, driver current-100 mA)

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

SM1-06/10/16 series : -40°C to 125°C (with no icing)

SM1-C1/C3/C5 series: -40°C to 85°C (with no icing)

SM1-S5 series: -40°C to 55°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

All series for H force: No define the life cycles

All series for F force and SM1-10S: Min. 1,000,000 operations

Others : Min. 10,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

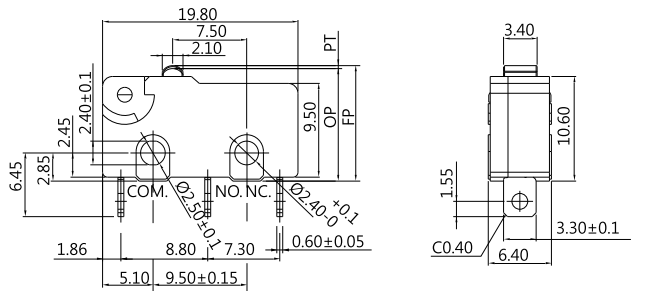
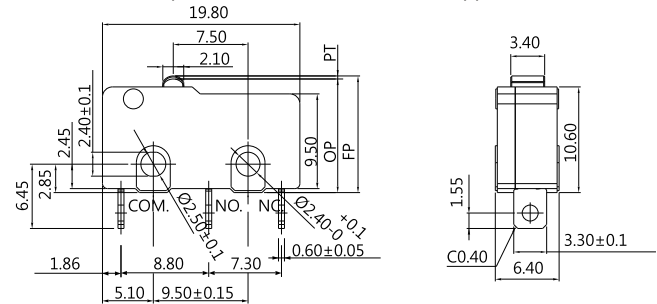
Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan

DIMENSIONS

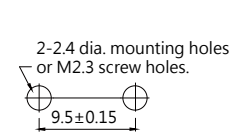
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions



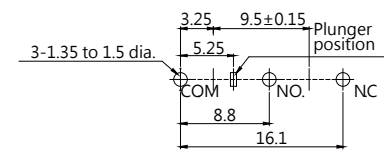
CONTACT CONFIGURATION



MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



CERTIFICATE INFORMATION

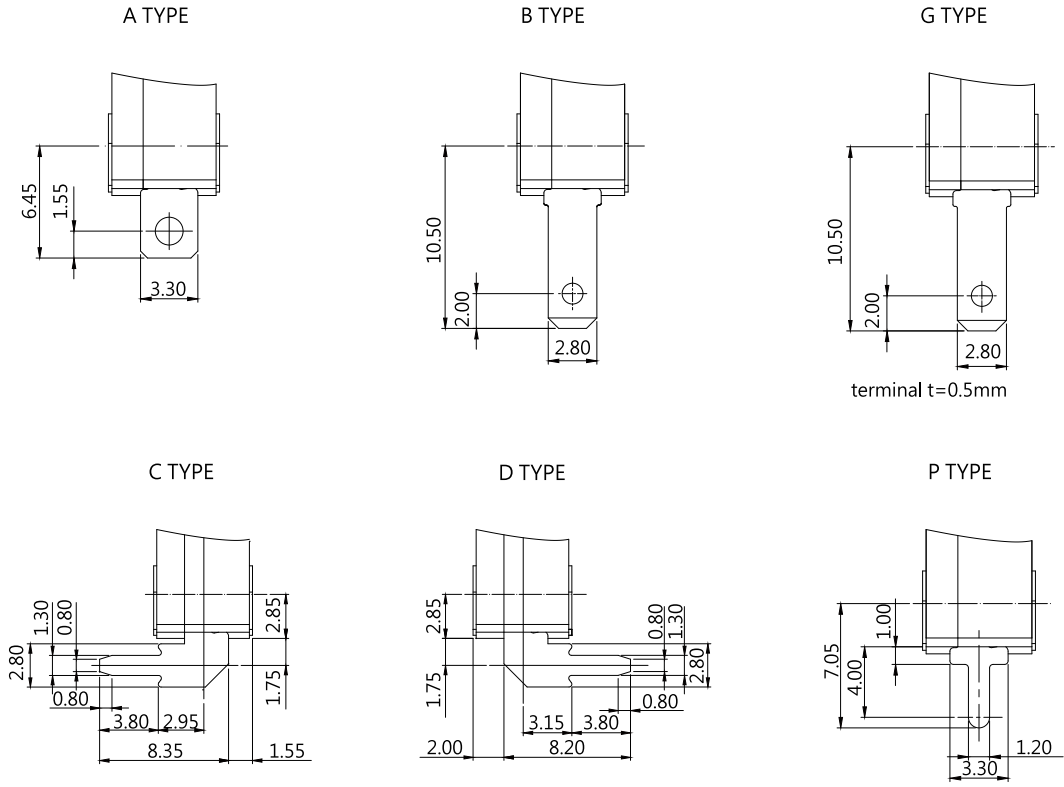
Model Name	UL, cUL	ENEC
SM1-06	6A 125/250VAC (Temp: 125°C) Min. 10,000 operations	6A 125/250VAC μ 40T125 1E4 6(2)A 125/250VAC μ 40T125 1E4
SM1-10	10.1A 125/250VAC (Temp: 125°C) Min. 10,000 operations	10.1A 125/250VAC μ 40T125 1E4 6(2)A 125/250VAC μ 40T125 1E4
SM1-16	16A 125/250VAC (Temp: 125°C) Min. 10,000 operations	16.1A 125/250VAC μ 40T125 1E4 6(3)A 125/250VAC μ 40T125 1E4
SM1-C1	0.1A 125/250VAC (Temp: 85°C) Min. 10,000 operations	0.1A 125/250VAC μ T85 1E4
SM1-C3	3A 125/250VAC (Temp: 85°C) Min. 10,000 operations	3A 125/250VAC μ T85 1E4
SM1-C5	5A 125/250VAC (Temp: 85°C) Min. 10,000 operations	5A 125/250VAC μ T85 1E4
SM1-S5S	5RA 125/250VAC uT55 1E5	5A 125/250VAC uT55 1E5

THE SELECTION OF RATING & FORCE

Model Name	Rating	D	L	S	F	H
SM1	5A	*	*	*	*	*
	6A	*	*	*	*	*
	10.1A			*	*	*
	16A					*

NOTE : The Symbol " * " to represent the result is accepted for AC

TERMINAL TYPES (The thickness of terminal is 0.6 mm, beside G type terminal)



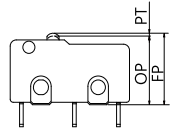
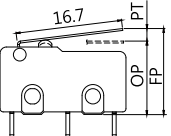
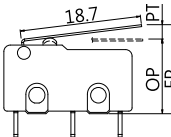
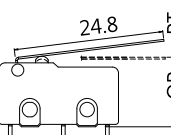
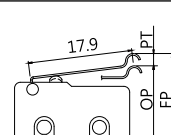
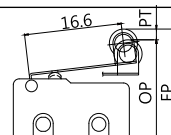
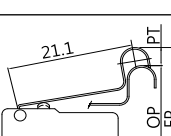
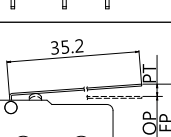
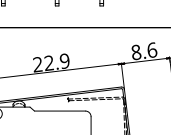
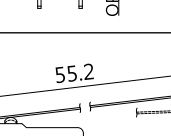
ORDERING INFORMATION

S
M
1
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OR
5
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A
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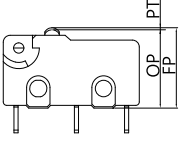
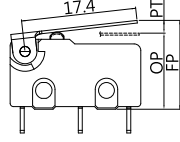
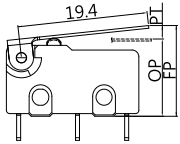
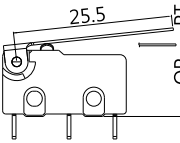
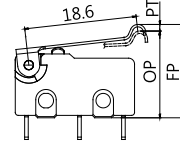
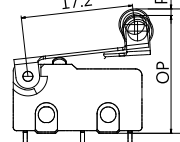
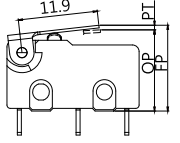
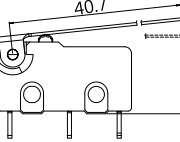
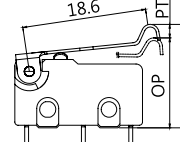
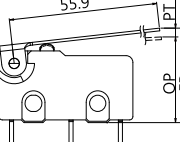
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CONTACT ARRANGEMENT	ROHS CODE
	06	6A 125/250VAC 6(2)A 125/250VAC	S	STANDARD	00		00		A	A	0	S.P.D.T	
	10	10.1A 125/250VAC 6(2)A 125/250VAC	L	LIGHT	01		01		B	B	1	S.P.S.T NO	
	16	16A 125/250VAC 6(3)A 125/250VAC	D	SLIGHT	02		02		C	C	2	S.P.S.T NC	
	C1	0.1A 125/250VAC	F	HEAVY	03		03		D	D			
	C3	3A 125/250VAC	H	HEAVIER	04		04		P	P			
	C5	5A 125/250VAC			05		05		G	G			
	S5	5A 125/250VAC HIGH LIFE			06		06						
					07		07						
					08		08						
					09		09						

NOTE#	ITEM	RATING CURRENT	OPERATING FORCE
1	CODE:06		ALL
2	CODE:10		S,H,F
3	CODE:16		H
4	CODE:C1		ALL
5	CODE:C3		ALL
6	CODE:C5		ALL
7	CODE:S5		S

OPERATING CHARACTERISTICS (SM1 series - internal snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	F						
SM1- □□□ -00 □□ -Z		H	355	11.4±0.3	1.1	0.4	0.2	12.2	100
		F	280						50
		S	150						25
		L	95						10
SM1- □□□ -01 □□ -Z		H	118	11.4±1.1	4.63	0.53	1.45	14.6	20
		F	90	11.8±0.8	3.6	0.6	0.8		9
		S	50						6
		L	28						1
SM1- □□□ -02 □□ -Z		H	107	11.4±1.3	5.29	0.48	1.67	14.94	17
		F	82	11.8±0.9	4.03	0.67	0.9		8
		S	45						5
		L	25						1
SM1- □□□ -03 □□ -Z		H	87	11.0±1.8	7.47	0.18	2.40	15.96	11
		F	70	11.8±1.5	5.35	0.89	1.19		5
		S	34						2
		L	20						1
SM1- □□□ -04 □□ -Z		H	111	13.3±1.2	5.02	0.51	1.58	16.66	19
		F	85	13.7±0.9	3.86	0.64	0.86		8
		S	47						5
		L	26						1
SM1- □□□ -05 □□ -Z		H	117	17.1±1.1	4.60	0.55	1.44	20.5	21
		F	90	17.5±0.8	3.8	0.6	0.8		9
		S	50						6
		L	28						1
SM1- □□□ -06 □□ -Z		H	97	18.0±1.5	6.12	0.4	1.95	23.2	15
		F	75	19.0±1.5	5.7	1.0	1.0		7
		S	42						2
		L	23						1
SM1- □□□ -07 □□ -Z		H	55	9.9±2.7	11.20	0.5	4.1	18.4	8
		F	53	11.8±2.0	8.6	1.5	1.8		3
		S	25						1
		L	16						1
SM1- □□□ -08 □□ -Z		F	58	-2.3±3.0	6.0	X	1.9	5.4	3
		S	25						1
		L	17						1
SM1- □□□ -09 □□ -Z		F	38	11.8±3.0	13.3	1.0	2.9	22.1	2
		S	15						2
		L	12						1

OPERATING CHARACTERISTICS (SM1 series - external snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	F						
SM1- □□□ -500 □□ -Z		H	355	11.4±0.3	1.1	0.4	0.2	12.2	100
		F	280						50
		S	150						25
		L	95						10
SM1- □□□ -501 □□ -Z		H	120	11.8±1.10	4.6	0.9	0.8	15.3	15
		F	105						12
		S	50						6
		L	40						1
SM1- □□□ -502 □□ -Z		H	120	11.8±1.20	5.1	0.7	0.8	15.70	10
		F	100						8
		S	50						5
		L	40						--
SM1- □□□ -503 □□ -Z		H	100	11.8±1.60	6.90	0.9	1.10	17.10	10
		F	80						7
		S	45						4
		L	35						--
SM1- □□□ -504 □□ -Z		H	120	13.7±1.1	4.80	1.50	0.8	17.40	15
		F	100						11
		S	50						6
		L	40						1
SM1- □□□ -505 □□ -Z		H	145	17.9±1.0	4.05	0.55	0.9	21.00	15
		F	110						12
		S	55						6
		L	40						1
SM1- □□□ -506 □□ -Z		H	195	11.8±0.8	3.2	0.6	0.6	14.2	25
		F	145						19
		S	70						10
		L	50						2
SM1- □□□ -507 □□ -Z		H	80	11.8±2.6	10.8	1.2	1.9	20.0	5
		F	60						3
		S	35						1
		L	30						---
SM1- □□□ -508 □□ -Z		H	120	14.9±1.1	4.10	1.0	0.8	17.95	40
		F	100						11
		S	50						3
		L	40						1
SM1- □□□ -509 □□ -Z		H	65	11.8±3.5	14.8	2.8	2.6	23.1	1
		F	50						1
		S	30						1
		L	25						---

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.(Figure -2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖-2)

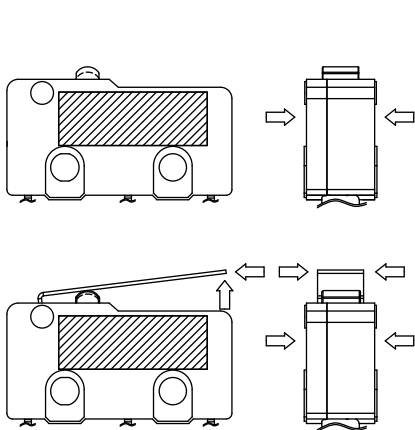


Figure-1

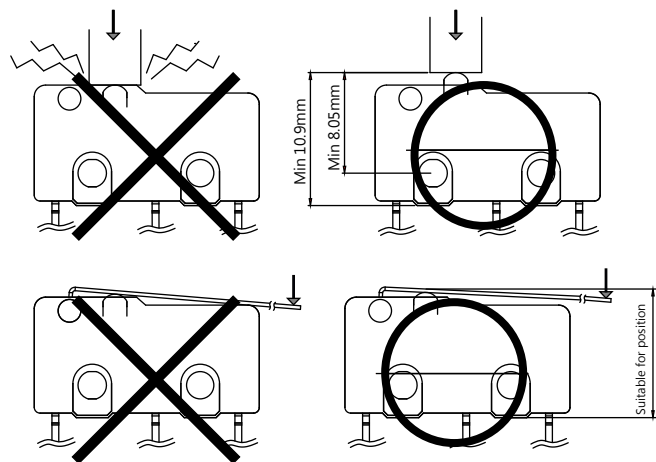


Figure-2

MICRO SWITCHES



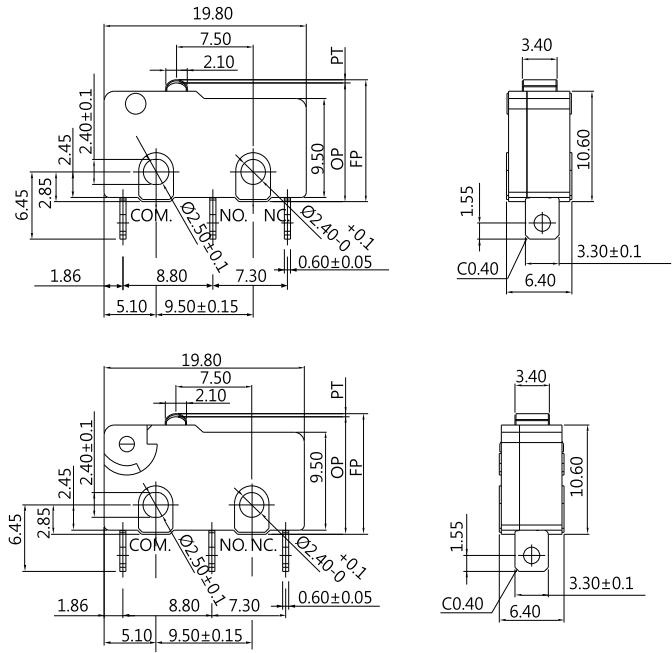
Internal snap-fit lever



External snap-fit lever

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



CONTACT CONFIGURATION



SM1-N & SM1-G SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 300 m Ω

(Measured by ohm meter-open voltage < 1VDC, driver current-100 mA)

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

All series for H force: No define the life cycles

All series for F force: Min. 1,000,000 operations

Others: Min. 5,000,000 operations

Mechanical Operating Frequency

120 operations per minute

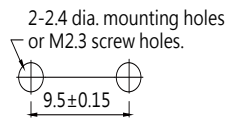
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

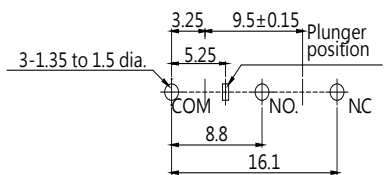
APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



CERTIFICATE INFORMATION

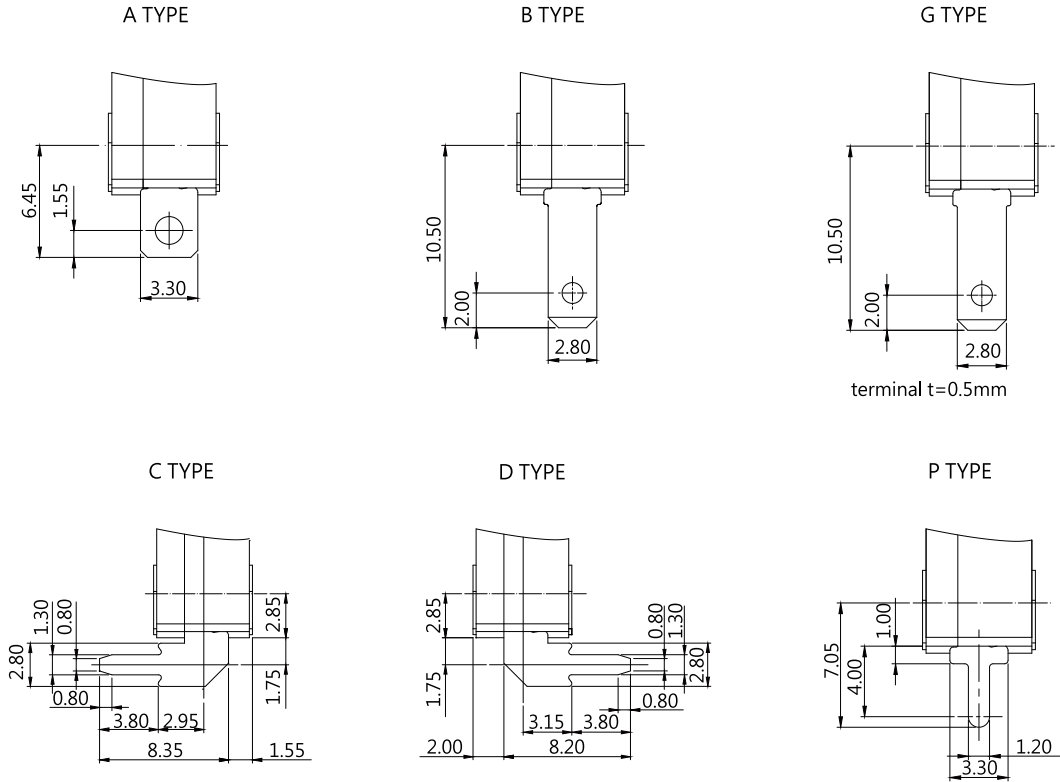
Model Name	UL, cUL	ENEC
SM1-G1 SM1-NC1 SM1-GC1	0.1RA 125/250VAC μ T125 1E4 0.1RA 30VDC μ T125 1E4	0.1A 125/250VAC μ T125 1E4 0.1A 30VDC μ T125 1E4
SM1-N3 SM1-G3 SM1-NC3 SM1-GC3	3RA 125/250VAC μ T125 1E4 3RA 30VDC μ T125 1E4	3A 125/250VAC μ T125 1E4 3A 30VDC μ T125 1E4
SM1-N6 SM1-G6	6RA 125/250VAC μ T125 1E4 6GPA 125/250VAC μ T85 1E4 5RA 30VDC μ T125 1E4	6A 125/250VAC μ T125 1E4 5A 30VDC μ T125 1E4 6(3)A 125/250VAC μ T85 1E4 (S,F, H force only)

THE SELECTION OF RATING & FORCE

Model Name	Rating	D	L	S	F	H
SM1-G1 SM1-NC1 or SM1-GC1	0.1A	*	*	*	*	*
SM1-N3 or SM1-G3	3A	*	*	*	*	*
SM1-NC3 or SM1-GC3	3A		*	*	*	*
SM1-N6 or SM1-G6	6A	*	*	*	*	*
SM1-N6S, N6F, N6H	6(3)A			*	*	*

NOTE : The Symbol " * " to represent the result is accepted for AC

TERMINAL TYPES (The thickness of terminal is 0.6 mm, beside G type terminal)



ORDERING INFORMATION

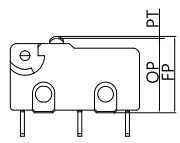
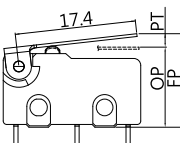
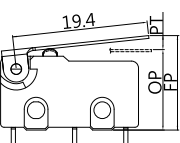
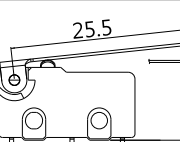
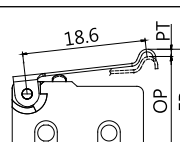
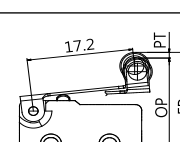
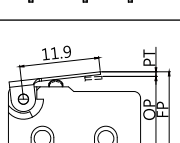
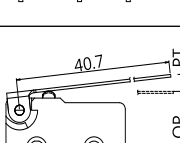
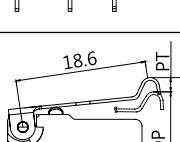
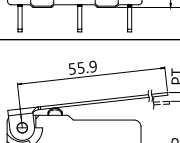
S M 1		N 6		S		INTERNAL SNAP-FIT LEVER OR EXTERNAL SNAP-FIT LEVER		A		0		Z			
SERIES PREFIX		RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		ACTUATOR TYPE		TERMINAL TYPE		CONTACT ARRANGEMENT		ROHS CODE	
G1 NC1 GC1		0.1A 125/250VAC 0.1A 30VDC		S STANDARD L LIGHT D SLIGHT F HEAVY H HEAVIER		00 01 02 03 04 05 06 07 08 09		00 01 02 03 04 05 06 07 08 09		A B C D P G		0 1 2			
N3 G3 NC3 GC3		3A 125/250VAC 3A 30VDC													
N6 G6		6A 125/250VAC 5A 30VDC													

NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	CODE:G1	ALL
2	CODE:N3/G3	ALL
3	CODE:N6/G6	ALL
4	CODE:NC1/GC1	ALL
5	CODE:NC3/GC3	L,S,F,H

OPERATING CHARACTERISTICS (SM1 series - internal snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	F						
SM1- □□□□ -00 □□ -Z		H	355	11.4±0.3	1.1	0.4	0.2	12.2	100
		F	280						50
		S	150						25
		L	95						10
SM1- □□□□ -01 □□ -Z		H	118	11.4±1.1	4.63	0.53	1.45	14.6	20
		F	90	11.8±0.8	3.6	0.6	0.8		9
		S	50						6
		L	28						1
SM1- □□□□ -02 □□ -Z		H	107	11.4±1.3	5.29	0.48	1.67	14.94	17
		F	82	11.8±0.9	4.03	0.67	0.9		8
		S	45						5
		L	25						1
SM1- □□□□ -03 □□ -Z		H	87	11.0±1.8	7.47	0.18	2.40	15.96	11
		F	70	11.8±1.5	5.35	0.89	1.19		5
		S	34						2
		L	20						1
SM1- □□□□ -04 □□ -Z		H	111	13.3±1.2	5.02	0.51	1.58	16.66	19
		F	85	13.7±0.9	3.86	0.64	0.86		8
		S	47						5
		L	26						1
SM1- □□□□ -05 □□ -Z		H	117	17.1±1.1	4.60	0.55	1.44	20.5	21
		F	90	17.5±0.8	3.8	0.6	0.8		9
		S	50						6
		L	28						1
SM1- □□□□ -06 □□ -Z		H	97	18.0±1.5	6.12	0.4	1.95	23.2	15
		F	75	19.0±1.5	5.7	1.0	1.0		7
		S	42						2
		L	23						1
SM1- □□□□ -07 □□ -Z		H	55	9.9±2.7	11.20	0.5	4.1	18.4	8
		F	53	11.8±2.0	8.6	1.5	1.8		3
		S	25						1
		L	16						1
SM1- □□□□ -08 □□ -Z		F	58	-2.3±3.0	6.0	X	1.9	5.4	3
		S	25						1
		L	17						1
SM1- □□□□ -09 □□ -Z		F	38	11.8±3.0	13.3	1.0	2.9	22.1	2
		S	15						2
		L	12						1

OPERATING CHARACTERISTICS (SM1 series - external snap-fit lever)

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	F						
SM1- □□□ -500 □□ -Z		H	355	11.4±0.3	1.1	0.4	0.2	12.2	100
		F	280						50
		S	150						25
		L	95						10
SM1- □□□ -501 □□ -Z		H	145	11.8±1.10	4.6	0.9	0.8	15.3	15
		F	105						12
		S	50						6
		L	40						1
SM1- □□□ -502 □□ -Z		H	135	11.8±1.20	5.1	0.7	0.8	15.70	10
		F	100						8
		S	50						5
		L	40						--
SM1- □□□ -503 □□ -Z		H	110	11.8±1.60	6.90	0.9	1.10	17.10	10
		F	80						7
		S	45						4
		L	35						--
SM1- □□□ -504 □□ -Z		H	140	13.7±1.1	4.80	1.50	0.8	17.40	15
		F	100						11
		S	50						6
		L	40						1
SM1- □□□ -505 □□ -Z		H	145	17.9±1.0	4.05	0.55	0.9	21.00	15
		F	110						12
		S	55						6
		L	40						1
SM1- □□□ -506 □□ -Z		H	195	11.8±0.8	3.2	0.6	0.6	14.2	25
		F	145						19
		S	70						10
		L	50						2
SM1- □□□ -507 □□ -Z		H	85	11.8±2.6	10.8	1.2	1.9	20.0	5
		F	60						3
		S	35						1
		L	30						---
SM1- □□□ -508 □□ -Z		H	140	14.9±1.1	4.10	1.0	0.8	17.95	40
		F	100						11
		S	50						3
		L	40						1
SM1- □□□ -509 □□ -Z		H	65	11.8±3.5	14.8	2.8	2.6	23.1	1
		F	50						1
		S	30						1
		L	25						---

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.(Figure -2)
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。(圖-2)

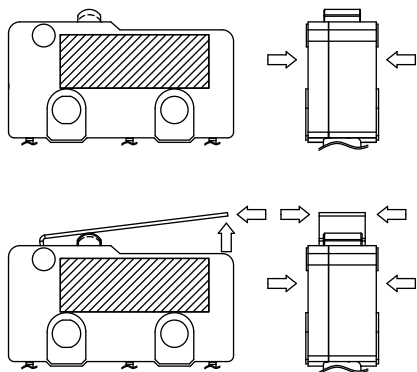


Figure-1

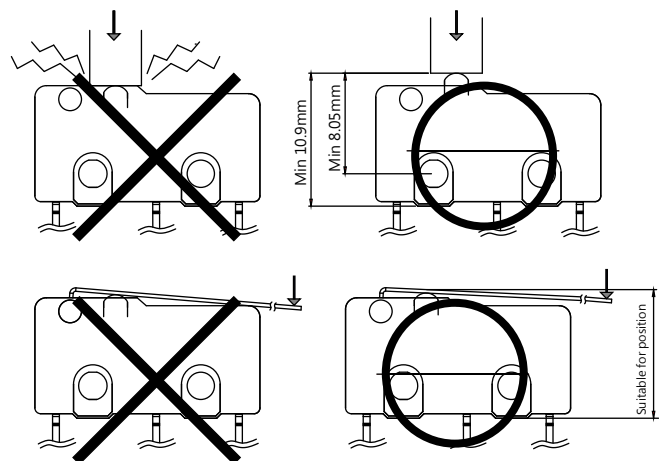


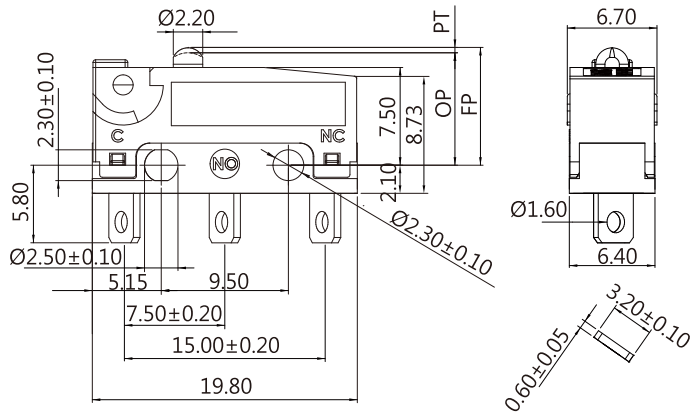
Figure-2

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SW2 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 300m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 2,000,000 operations

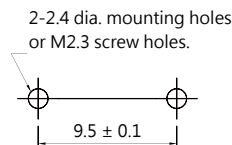
Mechanical Operating Frequency

120 operations per minute

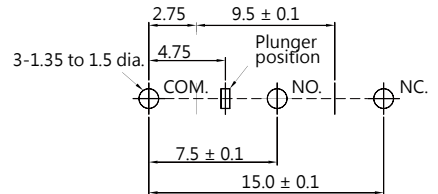
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

MOUNTING HOLES



MOUNTING HOLES FOR PCB TERMINAL



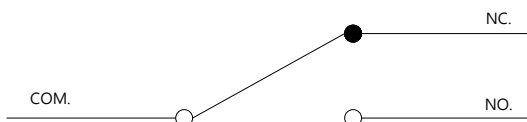
CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
SW2-P1	0.1RA 125/250VAC uT125 1E4	0.1A 125/250VAC uT125 1E4
SW2-03	3GPA 125/250VAC uT125 1E4	3A 125/250VAC uT125 1E4
SW2-06	5RA 30VDC uT125 1E4 6GPA 125/250VAC uT125 1E4	5A 30VDC uT125 1E4 6A 125/250VAC uT125 1E4
SW2-10	5RA 30VDC uT125 1E4 10RA125/250VAC uT125 1E4 10GPA 125/250VAC uT125 1E4	5A 30VDC uT125 1E4 10(2)A 125/250VAC uT125 1E4
SW2-H10	5RA 30VDC uT125 1E4 10RA125/250VAC uT125 1E4 10GPA 125/250VAC uT125 1E4 1/4HP 125/250VAC uT125 1E4	5A 30VDC uT125 1E4 10(2)A 125/250VAC uT125 1E4

APPLICATIONS

Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

CONTACT CONFIGURATION

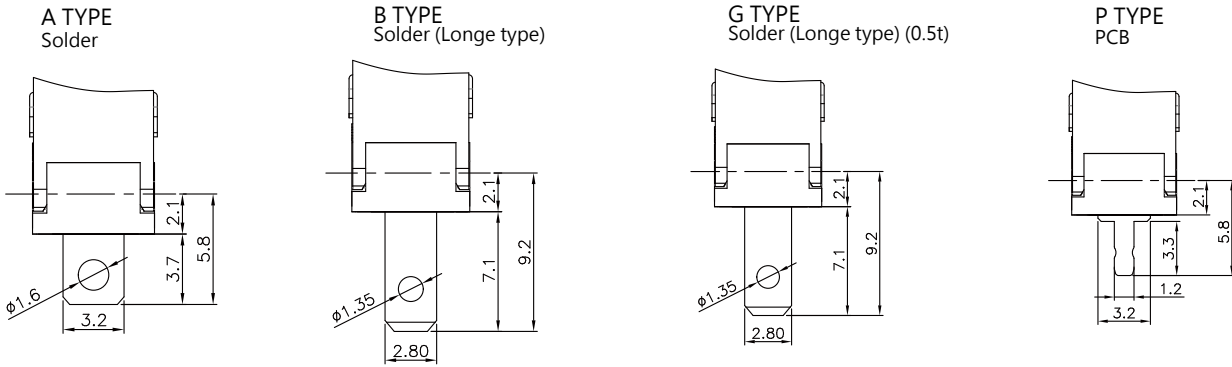


THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S	H
SW2	0.1A	*	*	*
	3A	*	*	*
	6A	*	*	*
	10A 10(2)A		*	*
	1/4 hp 10A 10(2)A		*	*

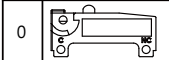





















NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES (THE thickness of each terminal is 0.6 mm)



Terminal t=0.5mm

ORDERING INFORMATION

S	W	2	—	0	6	S	0	—	0	0	A	0	—	Z				
SERIES PREFIX				RATING CURRENT		OPERATING FORCE			COVER TYPE		ACTUATOR TYPE		TERMINAL TYPE		CIRCUIT ARRANGEMENT		ROHS CODE	
				P1 0.1A 125/250 VAC		H HEAVIER				00 		A 		0 S.P.D.T				
				03 3A 125/250 VAC		S STANDARD				01 				B 				1 S.P.S.T NO
				06 6A 125/250 VAC		L LIGHT		02 		03 		P 		2 S.P.S.T NC				
				10 10A 125/250 VAC				03 		04 		G 						
				10(2)A 125/250 VAC				04 		05 								
				H10 10A 125/250 VAC				05 		06 								
				10(2)A 125/250 VAC				06 		07 								
				1/4 hp 125/250 VAC				07 		08 								
								08 		09 								
								09 										

#NOTE		
	RATING CURRENT	OPERATING FORCE
1	Code:P1	L, S, H
	Code:03	L, S, H
	Code:06	L, S, H
	Code: 10	S, H
	Code:H10	S, H

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)	
		H	S						H	S
SW2- □□□□ -00 □□ -Z		H	300	8.4 ± 0.3	1.2	0.4	0.2	9.9	H	70
		S	203						S	50
		L	150						L	30
SW2- □□□□ -01 □□ -Z		H	121	8.8 ± 1.1	4.3	0.6	0.6	1.2	H	17
		S	82						S	16
		L	73						L	14
SW2- □□□□ -02 □□ -Z		H	105	8.8 ± 1.2	4.8	0.67	0.7	12.4	H	14
		S	66						S	13
		L	55						L	11
SW2- □□□□ -03 □□ -Z		H	72	8.8 ± 1.6	6.3	0.89	0.9	13.5	H	12
		S	54						S	11
		L	29						L	6
SW2- □□□□ -04 □□ -Z		H	106	10.7 ± 1.2	4.6	0.64	0.75	14.3	H	15
		S	68						S	14
		L	42						L	7
SW2- □□□□ -05 □□ -Z		H	100	14.5 ± 1.1	4.3	0.6	0.6	17.7	H	16
		S	72						S	15
		L	54						L	4
SW2- □□□□ -06 □□ -Z		H	165	8.8 ± 0.9	3.2	1.0	0.5	11.1	H	23
		S	98						S	21
		L	66						L	10
SW2- □□□□ -07 □□ -Z		H	65	8.8 ± 2.6	10.1	1.5	2.3	16.3	H	8
		S	39						S	4
		L	33						L	1
SW2- □□□□ -08 □□ -Z		H	106	11.3 ± 1.3	4.9	0.6	0.8	14.9	H	14
		S	68						S	13
		L	42						L	6
SW2- □□□□ -09 □□ -Z		H	50	8.8 ± 3.5	13.8	1.0	3.6	19.1	H	7
		S	33						S	3
		L	23						L	1

CAUTIONS:

注意事項

1. To secure the switch, please use an M2.3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.26 N•m.
若使用定位孔型式，請使用M2.3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.26 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。
3. Do not exceed the end position (EP) and over travel (OT). This could cause operation failure.
圖示設計按壓位置，請勿超過開關下死點及超出行程，以避免開關失效。

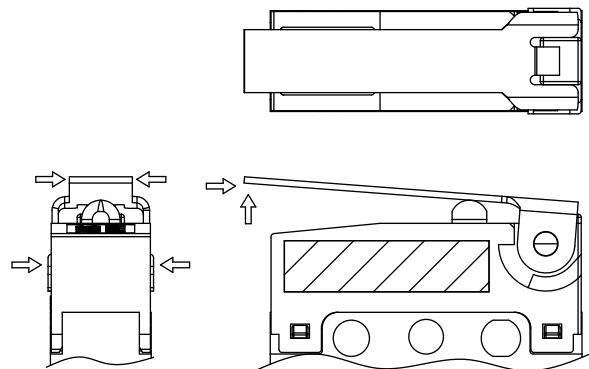


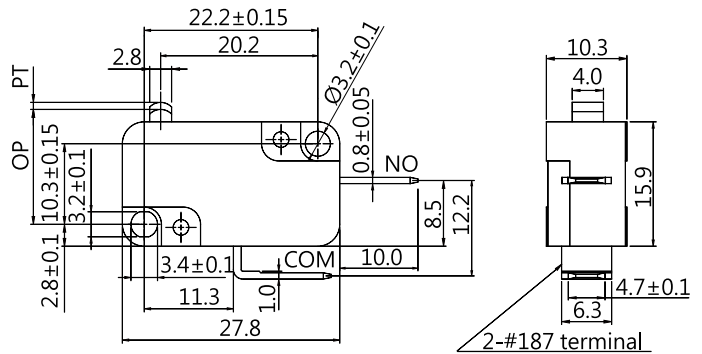
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



V3 SERIES

(Full-Disconnection – Gap > 3mm)

SPECIFICATIONS

Contact Resistance(initial)

Max. 30 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

All rating - Min. 10,000 operations

Electrical Operating Frequency

All rating 10~30 operations per minute

Mechanical Service Life

Min. 500,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

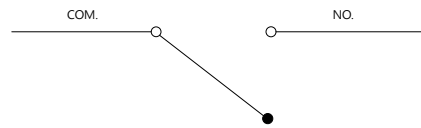
Joystick, TV game, Time recorder, Air conditioner, Food processor, Juice maker, Alarm, Mixer, Shredder machine.

THE SELECTION OF RATING & FORCE

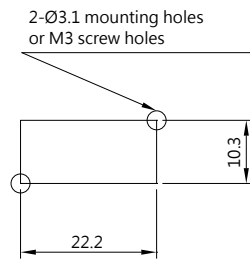
MODEL	Rating	L K	S R	H G
V3	10A, 10(4) A	*	*	*
	16A, 16(4) A	*	*	*
	20.1 A	*	*	*
	25 A	*	*	*
	10.1(8)A	*	*	*

NOTE : The Symbol " * " to represent the result is accepted

CONTACT CONFIGURATION



MOUNTING HOLES



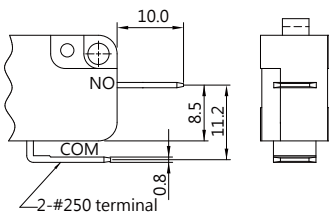
CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
V3-10	10.1A 125/250VAC 1/2 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	10(4)A 125/250VAC T100 1E4
V3-16	16A 125/250VAC 1/2 HP 125/250 VAC (Temp:125°C) Min. 6,000 operations	16(4)A 125/250VAC T125 1E4
V3-20	20.1A 125/250VAC 1 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	20.1A 125/250VAC T125 1E4 10.1(8)A 125/250VAC T125 1E4
V3-25	25A 125/250VAC 1 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	25.1A 125/250VAC T125 1E4 10.1(8)A 125/250VAC T125 1E4

TERMINAL TYPES

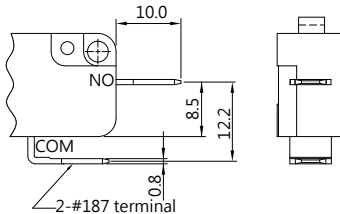
C TYPE

250 Series, Straight (0.8t)



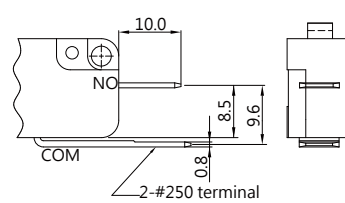
D TYPE

187 Series, Straight (0.8t)












G TYPE

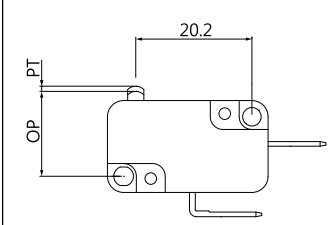
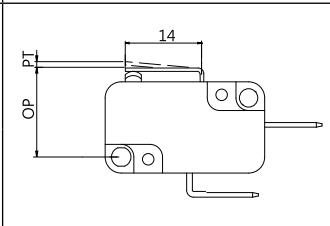
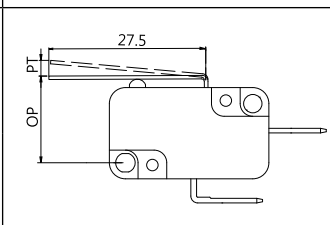
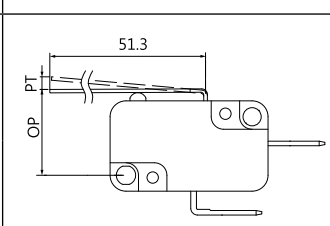
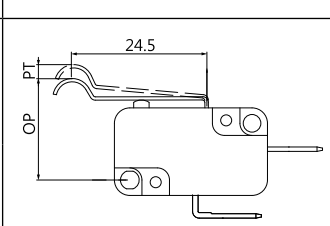
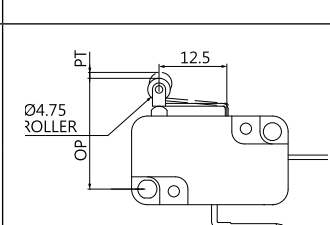
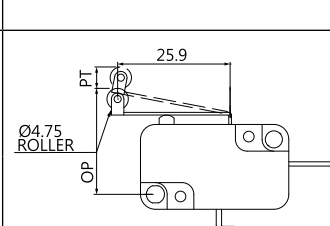
250 Series, PAST 5 Type (0.8t)



ORDERING INFORMATION

V	3	—	2	5	S	—	0	1	D	1	—	Z
SERIES PREFIX		RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		ACTUATOR TYPE		CIRCUIT ARRANGEMENT		ROHS CODE
		10	10.1A 125/250VAC	L		00		C	250 SERIES(C)	1	S.P.S.T. NO	
		16	16A 125/250VAC	S		01		D	187 SERIES(D)			
		20	20.1A 125/250VAC	H		02		G	250 SERIES(G)			
		25	25A 125/250VAC	K		03						
				R		04						
				G		05						
						06						

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)			OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		L	S	H				
		K	R	G				
V3- □□□□ -00 □□ -Z		190	510	842	14.4± 0.5	1.90	0.70	1.20
		-	-	-	-	-	-	-
V3- □□□□ -01 □□ -Z		190	510	753	15.0± 0.8	2.40	0.50	1.40
		135	295	400	15.0± 1.2	4.10	0.90	1.70
V3- □□□□ -02 □□ -Z		100	260	374	15.0± 1.5	4.80	1.00	2.70
		80	150	200	15.0± 2.3	8.0	1.70	3.30
V3- □□□□ -03 □□ -Z		52	140	215	15.0± 2.8	8.9	1.80	5.10
		46	80	115	15.0± 4.7	15.0	3.10	7.00
V3- □□□□ -04 □□ -Z		108	290	439	18.4± 1.3	4.30	0.90	2.40
		88	170	235	18.4± 2.0	7.20	1.50	2.90
V3- □□□□ -05 □□ -Z		190	510	842	20.4± 0.7	2.20	0.40	1.20
		145	330	535	20.4± 1.0	3.70	0.80	1.50
V3- □□□□ -06 □□ -Z		102	275	395	20.4± 1.4	4.50	0.90	2.60
		84	160	220	20.4± 2.2	7.60	1.60	3.10

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

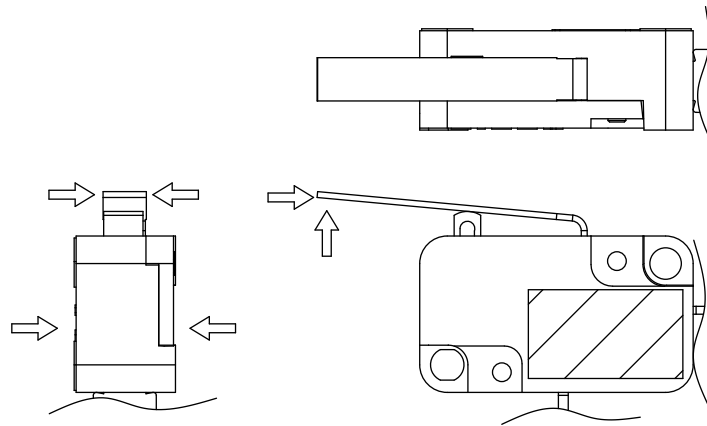


Figure-1

MICRO SWITCHES



V3 SERIES

(Micro-Disconnection-Gap < 3mm)

SPECIFICATIONS

Contact Resistance(initial)

Max. 30 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

All rating - Min. 10,000 operations

Electrical Operating Frequency

All rating 10~30 operations per minute

Mechanical Service Life

Min. 5,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

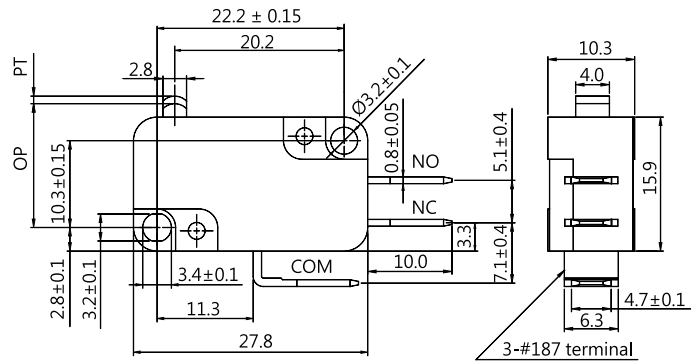
Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

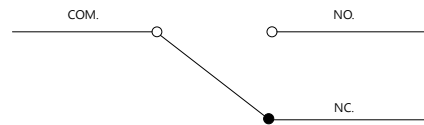
Joystick, TV game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine, Power Tool..

DIMENSIONS

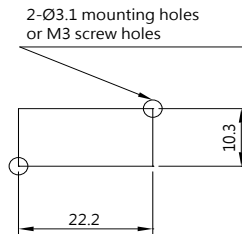
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL · cUL	ENEC
V3-10	10.1A 125/250VAC 1/2 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	10(4)A 125/250VAC μT100 1E4
V3-16	16A 125/250VAC 1/2 HP 125/250 VAC (Temp:125°C) Min. 6,000 operations	16(4)A 125/250VAC μT125 1E4
V3-20	20.1A 125/250VAC 1 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	20.1A 125/250VACc μT125 1E4 10.1(8)A 125/250VAC μT125 1E4
V3-25	25A 125/250VAC 1 HP 125/250 VAC (Temp:100°C), Min. 6,000 operations	25.1A 125/250VAC μT125 1E4 10.1(8)A 125/250VAC μT125 1E4

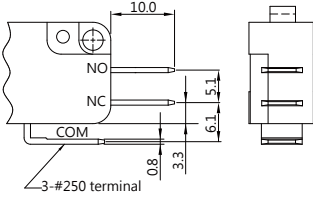
THE SELECTION OF RATING & FORCE

MODEL	Rating	L K	S R	H G
V3	10A, 10(4) A	*	*	*
	16A, 16(4) A	*	*	*
	20.1 A	*	*	*
	25 A	*	*	*
	10.1(8)A	*	*	*

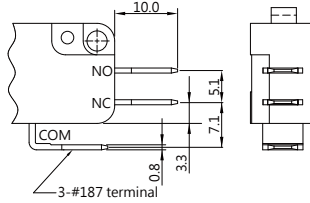
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

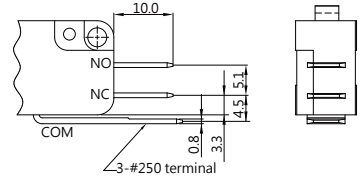
C TYPE
250 Series, Straight (0.8t)



D TYPE
187 Series, Straight (0.8t)



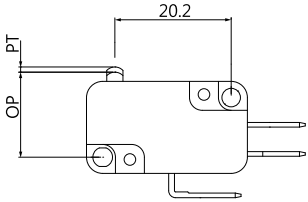
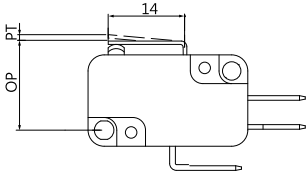
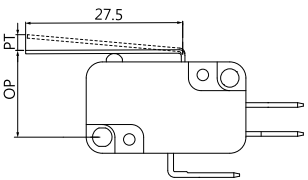
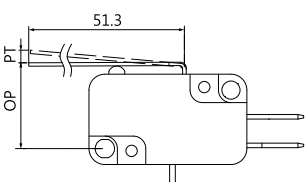
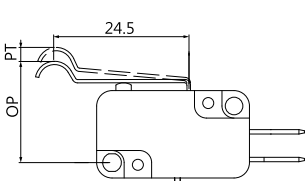
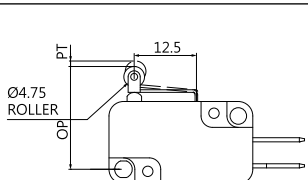
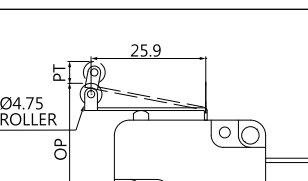
G TYPE
250 Series, PAST 5 Type (0.8t)



ORDERING INFORMATION

V	3	—	2	5	S	—	0	1	D	3	—	Z
SERIES PREFIX			RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		ACTUATOR TYPE	CIRCUIT ARRANGEMENT		ROHS CODE
			10 10.1A 125/250VAC		L 8.2		00		C 250 SERIES(C)	3 S.P.D.T.		
			16 16A 125/250VAC		S		01		D 187 SERIES(D)	4 S.P.S.T. NO		
			20 20.1A 125/250VAC		H		02		G 250 SERIES(G)	5 S.P.S.T. NC		
			25 25A 125/250VAC		K		03					
					R		04					
					G		05					
							06					

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)			OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		L	S	H				
		K	R	G				
V3- □□□□ -00 □□ -Z		150	373	505	14.7±0.5	1.3	1.3	0.12
		-	-	-	-	-	-	-
V3- □□□□ -01 □□ -Z		145	316	435	15.4±0.8	2.0	0.70	0.2
		75	158	270	15.6±1.5	6.6	1.40	2.70
V3- □□□□ -02 □□ -Z		75	188	240	15.8±1.5	3.5	1.5	0.3
		45	82	130	16.6±2.3	6.0	3.0	0.6
V3- □□□□ -03 □□ -Z		40	98	135	16.0±2.82	7.5	4.0	1.0
		25	50	80	18.0±4.32	12.0	6.0	1.2
V3- □□□□ -04 □□ -Z		80	176	270	19.0±1.3	3.0	1.5	0.3
		50	115	145	19.9±2.0	5.5	3.5	0.5
V3- □□□□ -05 □□ -Z		160	358	505	20.7±0.7	1.5	1.0	0.15
		95	187	358	21.2±1.0	2.5	2.0	0.2
V3- □□□□ -06 □□ -Z		80	160	255	21.0±1.2	3.0	1.7	0.25
		50	87	140	21.9±2.2	5.0	4.5	0.35

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

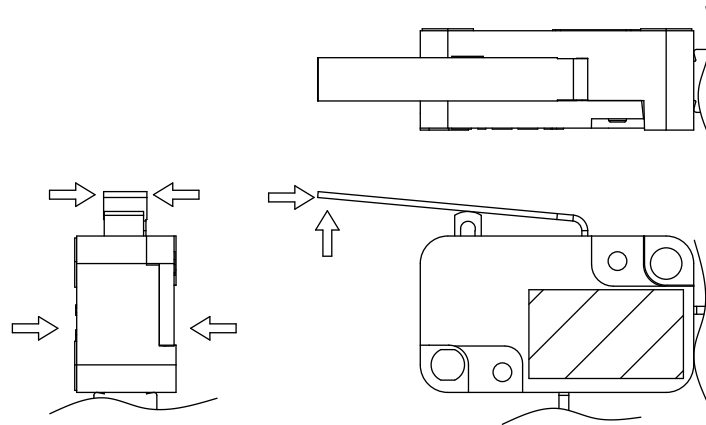


Figure-1

MICRO SWITCHES



V3 SERIES

(Full-Disconnection – Gap > 3mm)

SPECIFICATIONS

Contact Resistance(initial)

Max. 30 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

All rating - Min. 10,000 operations

Electrical Operating Frequency

All rating 10~30 operations per minute

Mechanical Service Life

Min. 5,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

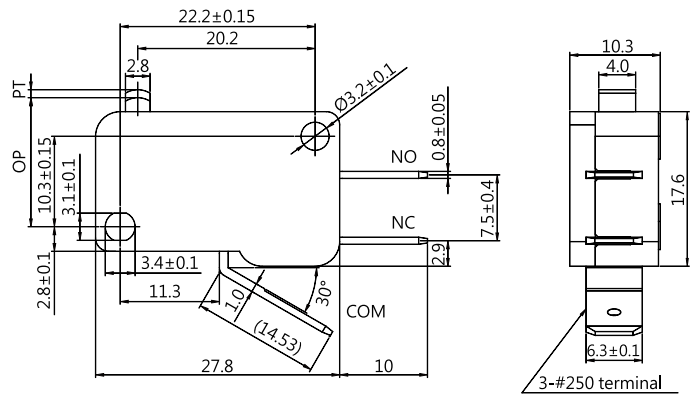
Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

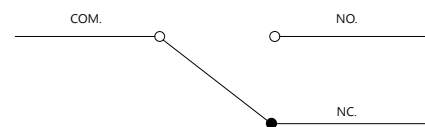
Joystick, TV Game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine, Power Tool

DIMENSIONS

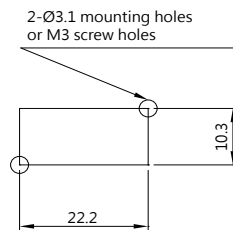
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
V3-10	10RA 125/250 VAC T125 1E4	10(4)A 125/250VAC T125 1E4
V3-16	16RA 125/250 VAC T125 1E4	16(4)A 125/250VAC T125 1E4
V3-20	20RA 125/250 VAC T125 1E4	20.1A 125/250VAC T125 1E4 10.1(8)A 125/250VAC T125 1E4
V3-25	25.1RA 125/250 VAC T125 1E4	25.1A 125/250VAC T125 1E4 10.1(8)A 125/250VAC T125 1E4

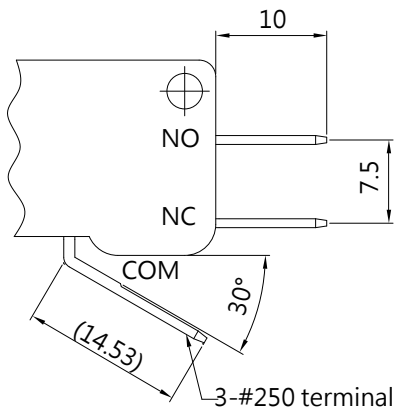
THE SELECTION OF RATING & FORCE

MODEL	Rating	L K	S R	H G
V3	10A, 10(4)A	*	*	*
	16A, 16(4)A	*	*	*
	20A, 20.1A	*	*	*
	25 A, 25.1A	*	*	*
	10.1(8)A	*	*	*

NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

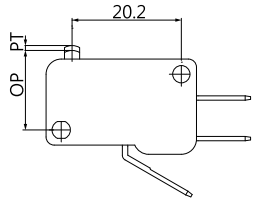
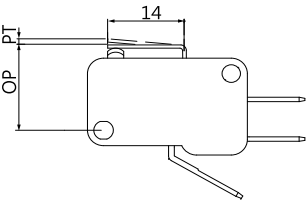
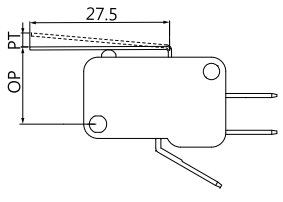
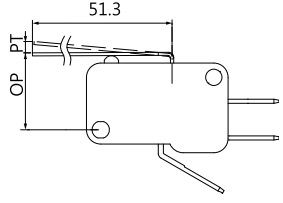
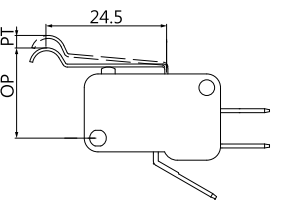
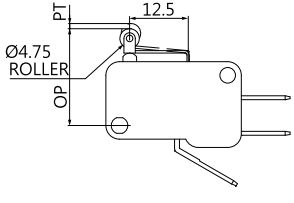
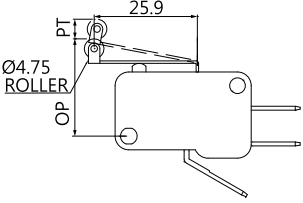
K TYPE



ORDERING INFORMATION

V	3	—	1	0	—	H	—	0	1	—	K	—	C	—	Z
SERIES PREFIX			RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE			TERMINAL TYPE		CIRCUIT ARRANGEMENT		ROHS CODE
			10	10A 125/250VAC		L		00			K	250 SERIES(K)	C	S.P.D.T.	
			16	16A 125/250VAC		S		01					D	S.P.S.T. NO	
			20	20A 125/250VAC		H		02					E	S.P.S.T. NC	
			25	25.1A 125/250VAC		K		03							
						R		04							
						G		05							
								06							

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)			OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		L	S	H				
		K	R	G				
V3- □□□ -00 □□ -Z		190	510	842	14.4± 0.5	1.90	0.70	1.20
		-	-	-	-	-	-	-
V3- □□□ -01 □□ -Z		190	510	753	15.0± 0.8	2.40	0.50	1.40
		135	295	400	15.0± 1.2	4.10	0.90	1.70
V3- □□□ -02 □□ -Z		100	260	374	15.0± 1.5	4.80	1.00	2.70
		80	150	200	15.0± 2.3	8.0	1.70	3.30
V3- □□□ -03 □□ -Z		52	140	215	15.0± 2.8	8.9	1.80	5.10
		46	80	115	15.0± 4.7	15.0	3.10	7.00
V3- □□□ -04 □□ -Z		108	290	439	18.4± 1.3	4.30	0.90	2.40
		88	170	235	18.4± 2.0	7.20	1.50	2.90
V3- □□□ -05 □□ -Z		190	510	842	20.4± 0.7	2.20	0.40	1.20
		145	330	535	20.4± 1.0	3.70	0.80	1.50
V3- □□□ -06 □□ -Z		102	275	395	20.4± 1.4	4.50	0.90	2.60
		84	160	220	20.4± 2.2	7.60	1.60	3.10

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

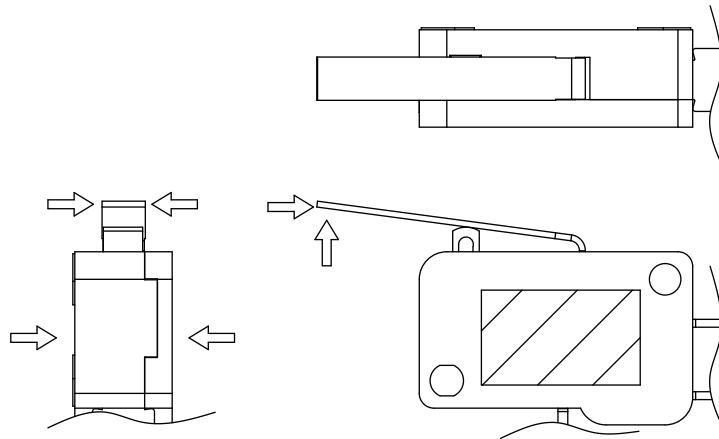


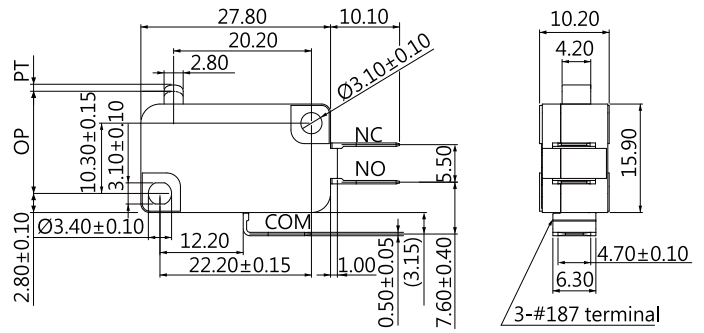
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



VA1 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 300 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

others Rating - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

Mechanical Operating Frequency

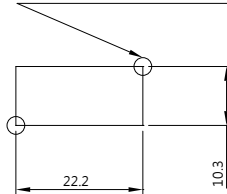
120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

MOUNTING HOLES

2- $\varnothing 3.1$ mounting holes
or M3 screw holes



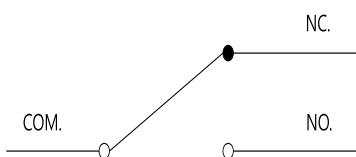
CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
VA1-P1	0.1RA 125/250VAC μ T85 5E4	0.1A 125/250VAC, μ 40T125 1E4
VA1-03	3RA 125/250VAC μ T85 5E4	3A 125/250VAC, μ 40T125 1E4
VA1-06	6RA 125/250VAC μ T85 5E4	6.1(2.5)A 125/250VAC, μ 40T125 1E4
VA1-10	10RA 125/250VAC μ T85 5E4	10(4)A 125/250VAC, μ 40T125 1E4
VA1-16	16RA 125/250VAC μ T85 5E4	16(4)A 125/250VAC, μ 40T125 1E4
VA1-20H	20RA 125/250VAC μ T85 2E4	20(4)A 125/250VAC, μ 40T125 1E4
VA1-26Q	Non	26A 125/250VAC, μ T85 1E4

APPLICATIONS

Joystick, TV Game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine, Power Tool

CONTACT CONFIGURATION



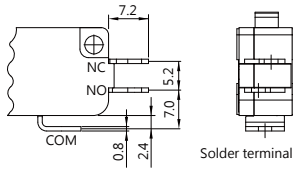
THE SELECTION OF RATING & FORCE

MODEL	Rating	D	J	L	S	H	Q
VA1	0.1A	*	*	*	*	*	*
	3A	*	*	*	*	*	*
	6A	*	*	*	*	*	*
	6.1(2.5)A						
	10A		*	*	*	*	*
	10(4)A						
	16A		*	*	*	*	*
16(4)A							
20A						*	*
26A							*

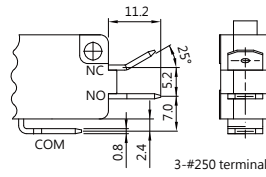
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

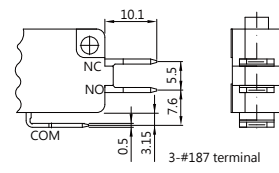
A TYPE
Through-hole Soldering



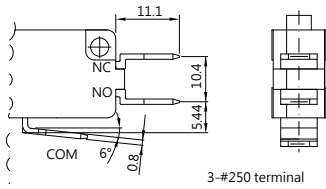
C TYPE
250 Series (0.8t)



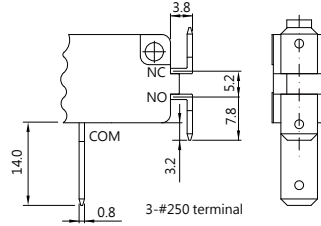
D TYPE
187 Series, Straight (0.5t)



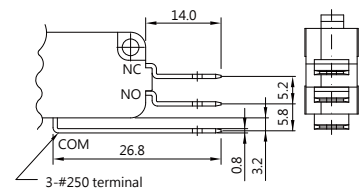
E TYPE
250 Series, Dog-leg (0.8t)



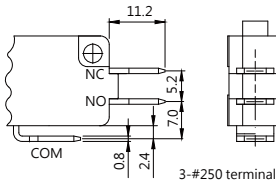
F TYPE
250 Series, 90 degree (0.8t)



G TYPE
250 Series, RAST 5 Type (0.8t)



R TYPE



ORDERING INFORMATION

V	A	1	-	0	6	H	0	-	0	1	D	0	-	Z
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR LEVER FIXED	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE	
	P1	0.1A 125/250VAC	Q	HEAVIER	0		00		C	250 SERIES	0	S.P.D.T		
	03	3A 125/250VAC	H	HEAVY	1		01		D	187 SERIES	1	S.P.S.T. NO		
	06	6A 125/250VAC 6.1(2.5)A 125/250VAC	S	STANDARD	2		02		E	250 SERIES	2	S.P.S.T. NC		
	10	10A 125/250VAC 10(4)A 125/250VAC	L	LIGHT			03		F	250 SERIES				
	16	16.1A 125/250VAC 16(4)A 125/250VAC	J	SLIGHT			04		G	250 SERIES				
	20	20A 125/250VAC 20(4)A 125/250VAC	D	LIGHTNESS			05		R	250 SERIES				
	26	26A 125/250VAC					06							

#NOTE		
1	RATING CURRENT	OPERATING FORCE
	Code:P1	Q,H,S,L,J,D
	Code:03	Q,H,S,L,J,D
	Code:06	Q,H,S,L,J,D
	Code:10	Q,H,S,L,J
	Code:16	Q,H,S,L,J
	Code:20	Q,H
Code:26	Q	

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)						OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		D	J	L	S	H	Q				
VA1- □□□ 0-00D0-Z		50	100	150	200	300	350	14.7±0.5	1.9	1.0	0.4
VA1- □□□ 1-01D0-Z		60	110	150	190	290	340	15.3±0.5	2.8	1.0	0.5
VA1- □□□ 2-01D0-Z		40	60	90	120	160	190	15.3±1.1	5.2	0.6	0.9
VA1- □□□ 1-02D0-Z		35	55	90	110	160	185	15.3±1.1	5.9	1.2	1.0
VA1- □□□ 2-02D0-Z		20	35	50	65	95	110	15.3±2.1	9.7	3.4	2.2
VA1- □□□ 1-03D0-Z		20	35	50	65	95	110	15.3±2.4	9.3	-	2.1
VA1- □□□ 2-03D0-Z		15	25	35	40	60	75	15.3±4.1	16.2	-	3.5
VA1- □□□ 1-04D0-Z		35	65	90	120	175	205	18.7±1.3	5.5	1.9	1.1
VA1- □□□ 2-04D0-Z		20	40	55	70	100	120	18.7±2.0	8.7	3.2	1.7
VA1- □□□ 1-05D0-Z		60	110	170	220	310	375	20.7±0.6	2.7	1.1	0.45
VA1- □□□ 2-05D0-Z		35	65	95	120	180	210	20.7±1.0	4.65	0.8	0.8
VA1- □□□ 1-06D0-Z		30	60	120	125	165	200	20.45±1.6	3.8	1.6	1.25
VA1- □□□ 2-06D0-Z		20	35	55	65	100	115	20.45±2.1	9.3	3.3	1.8

* There is another series of VA1 with MD reduced to 63%.

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

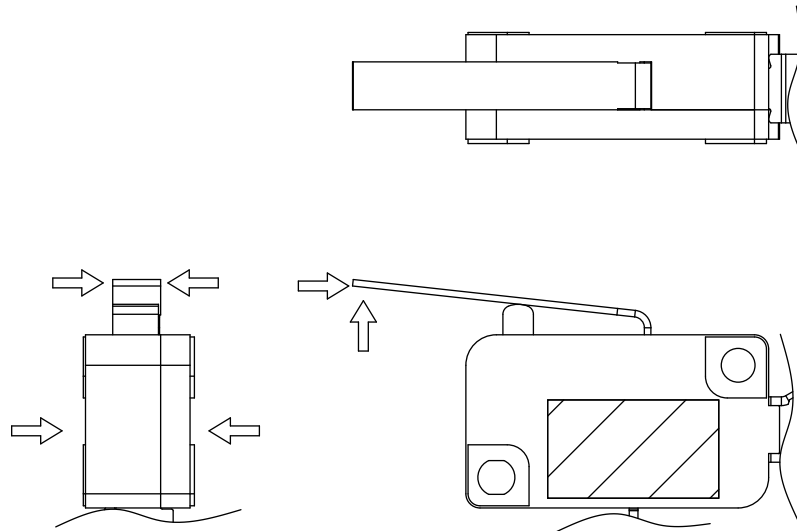


Figure-1

MICRO SWITCHES



VA2 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 500VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

Joystick, TV Game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine

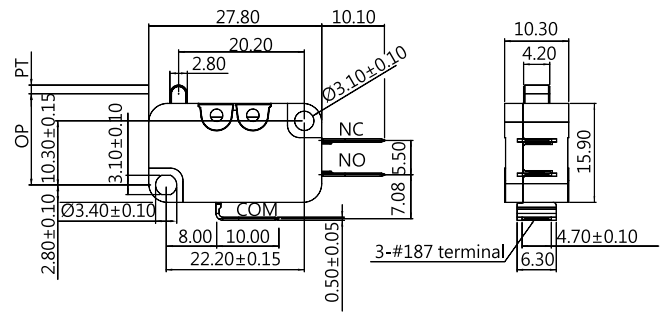
THE SELECTION OF RATING & FORCE

MODEL	Rating	B	D	N	L	S	H	Q
VA2	0.1A	*	*	*	*	*	*	*
	3A	*	*	*	*	*	*	*
	6A		*	*	*	*	*	*
	10A 10(4)A				*	*	*	*
	16A 16(4)A				*	*	*	*
	20A					*	*	*
	26A						*	*
6A T200						*	*	*

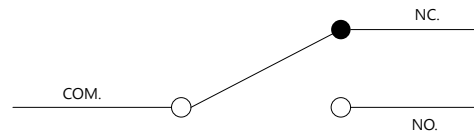
NOTE : The Symbol " * " to represent the result is accepted

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.

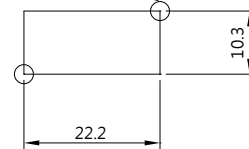


CONTACT CONFIGURATION



MOUNTING HOLES

2-Ø3.1 mounting holes
or M3 screw holes

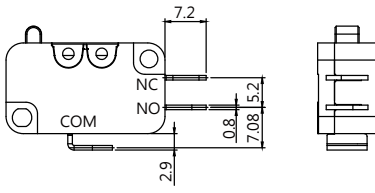


CERTIFICATE INFORMATION

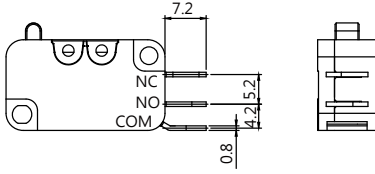
Model Name	UL · cUL	ENEC
VA2-P1	0.1RA 125/250VAC μT125 1E4	0.1A 125/250VAC μT125 1E4
VA2-03	3RA 125/250VAC μT125 1E4	3A 125/250VAC μT125 1E4
VA2-06	6RA 125/250VAC μT125 1E4	6A 125/250VAC μT125 1E4
VA2-10	10RA 125/250VAC μT125 1E4	10(4)A 125/250VAC μT125 1E4
VA2-16	16RA 16GPA 125/250VAC μT125 1E4 1/2HP 125/250VAC μT55 1E4	16(4)A 125/250VAC μT125 1E4
VA2-20	20RA 125/250VAC μT125 1E4 1/2HP 125/250VAC μT55 1E4	20A 125/250VAC μT125 1E4
VA2-26	26RA 125/250VAC μT55 1E4	26A 125/250VAC μT55 1E4
VA2-A03	3GPA 125/250VAC μT85 1E4	3A 125/250VAC μT85 1E4
VA2-A06	6GPA 125/250VAC μT85 1E4	6A 125/250VAC μT85 1E4
VA2-T6	6RA 125/250VAC μT200 1E4	6A 125/250VAC μT200 1E4

TERMINAL TYPES

A TYPE

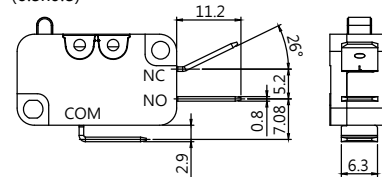


STANDARD

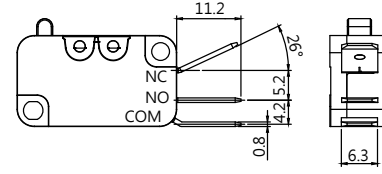


SIDE OUT

C TYPE
250 terminal
(6.3x0.8)

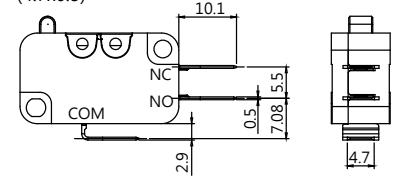


STANDARD

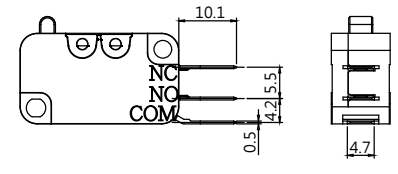


SIDE OUT

D TYPE
187 terminal
(4.7x0.5)

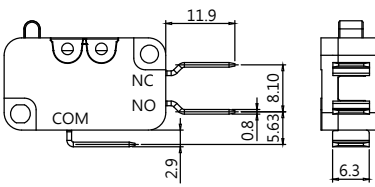


STANDARD



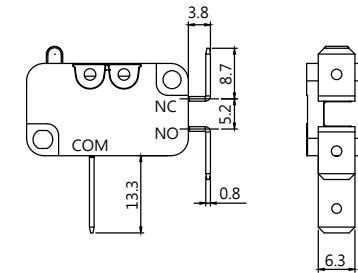
SIDE OUT

E TYPE
250 terminal
(6.3x0.8)



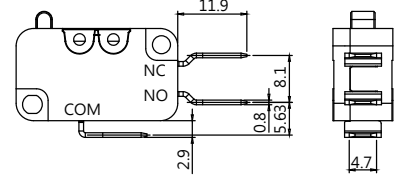
STANDARD

F TYPE
250 terminal
(6.3x0.8)



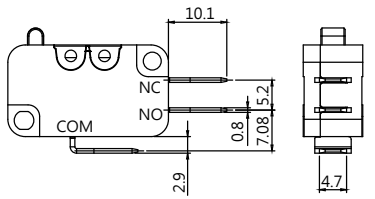
STANDARD

I TYPE
187 terminal
(4.7x0.8)



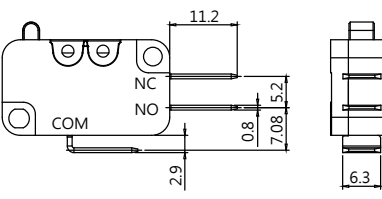
STANDARD

H TYPE
187 terminal
(4.7x0.8)



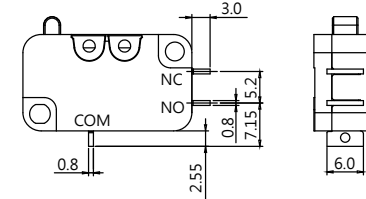
STANDARD

R TYPE
250 terminal
(6.3x0.8)

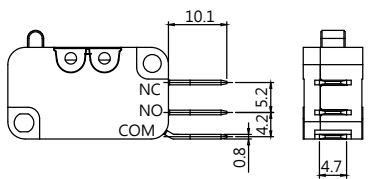


STANDARD

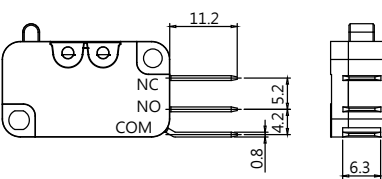
J TYPE
250 terminal
(6.0x0.8)



STANDARD

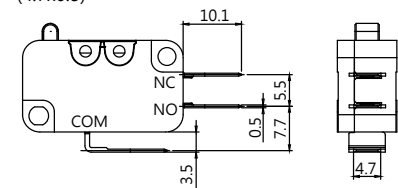


SIDE OUT



SIDE OUT

L TYPE
187 terminal
(4.7x0.5)



STANDARD

ORDERING INFORMATION



SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	EXTERIOR TYPE	CODE	MOUNTING HOLES TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE	
	P1	0.1A 125/250VAC T125	Q	HEAVIER	0	STANDARD TERMINAL NO ACTUATOR		MOUNTING HOLES 03.1		00	No Lever	A	STANDARD	187 series (4.7x0.8)	0	S.P.D.T
	03	3A 125/250VAC T125	H	HEAVY	1	STANDARD TERMINAL ACTUATOR AWAY BUTTON	A	MOUNTING HOLES 02.9		01		H	STANDARD	STANDARD	1	S.P.S.T NO
	06	6A 125/250VAC T125	S	STANDARD	2	STANDARD TERMINAL ACTUATOR NEAR BUTTON				02		C	SIDE OUT	SIDE OUT	2	S.P.S.T NC
	10	10A 10(4)A 125/250VAC T125	L	LIGHT	3	STANDARD TERMINAL ACTUATOR NEAR BUTTON				03		I	STANDARD	187 series (4.7x0.8)		
	16	16A 16(4)A 125/250VAC T125	N	SLIGHT	4	SIDE OUT TERMINAL NO ACTUATOR				04		J	STANDARD	250 series (6.0x0.8)		
	20	20A 125/250VAC T125	D	LIGHTNESS	5	SIDE OUT TERMINAL ACTUATOR AWAY BUTTON						L	STANDARD	187 series (4.7x0.5)		
	26	26A 125/250VAC T55	B	EXTREMELY LIGHTNESS	6	SIDE OUT TERMINAL ACTUATOR NEAR BUTTON						R	STANDARD	250 series (6.3x0.8)		
	A03	3A 125/250VAC T85			7	SPECIAL TERMINAL NO ACTUATOR						E	STANDARD	250 series (6.3x0.8)		
	A06	6A 125/250VAC T85			8	SPECIAL TERMINAL ACTUATOR AWAY BUTTON						F	STANDARD	250 series (6.3x0.8)		
	T6	6A 125/250VAC T200				SPECIAL TERMINAL ACTUATOR NEAR BUTTON										

NOTE

ITEM	RATING CURRENT	OPERATING FORCE
1	Code:P1	ALL
2	Code:03	ALL
3	Code:06	D,N,L,S,H,Q
4	Code:10	L,S,H,Q
5	Code:16	L,S,H,Q
6	Code:20	S,H,Q
7	Code:26	Q
8	Code:A03	ALL
9	Code:A06	D,N,L,S,H,Q
10	Code:T6	S,H,Q

MICRO SWITCHES

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	D	N	L	S	H	Q				
VA2- □□□ 0-00D0-Z		25	45	75	110	170	230	330	14.7±0.5	1.72	0.8	0.4
VA2- □□□ 1-01D0-Z		25	45	75	110	170	230	330	15.3±0.5	2.8	0.6	0.5
VA2- □□□ 2-01D0-Z		15	27	43	50	85	120	175	15.3±1.1	5.2	1.55	0.9
VA2- □□□ 1-02D0-Z		14	22	37	50	86	125	180	15.3±1.5	5.9	1.6	1.0
VA2- □□□ 2-02D0-Z		10	16	25	30	51	65	90	15.3±2.3	9.7	3.1	2.2
VA2- □□□ 1-03D0-Z		10	13	25	30	49	70	120	15.3±2.5	9.3	-	2.1
VA2- □□□ 2-03D0-Z		7	8	15	20	30	35	50	15.3±4.3	16.2	-	3.5
VA2- □□□ 1-04D0-Z		17	28	43	65	110	140	205	18.7±1.5	5.5	1.4	1.1
VA2- □□□ 2-04D0-Z		11	16	24	35	56	70	100	18.7±2.1	8.7	3.2	1.7
VA2- □□□ 1-05D0-Z		30	55	80	110	170	230	330	20.7±0.8	2.7	0.6	0.45
VA2- □□□ 2-05D0-Z		18	35	55	70	100	120	175	20.7±1.1	4.65	1.4	0.8
VA2- □□□ 1-06D0-Z		16	30	45	65	100	125	180	20.7±1.5	4.2	1.6	1.25
VA2- □□□ 2-06D0-Z		10	20	30	40	51	65	90	20.7±2.2	9.3	2.8	1.8

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

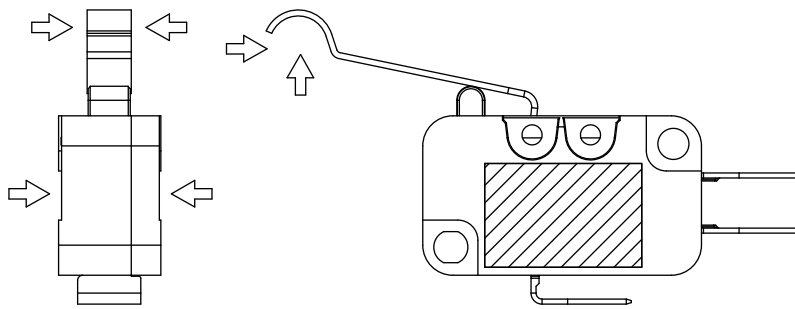


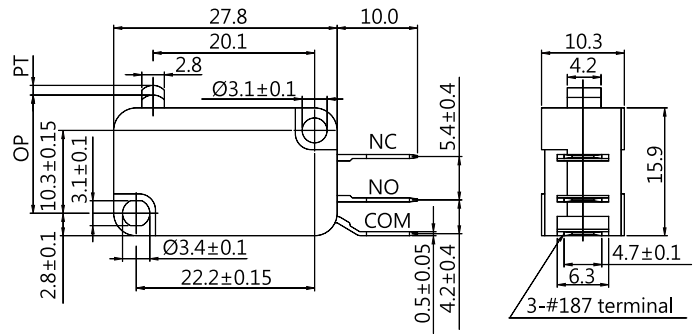
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



VK SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

Other ratings - Min. 6,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

Mechanical Operating Frequency

120 operations per minute

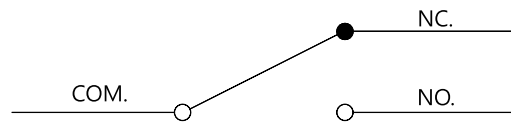
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

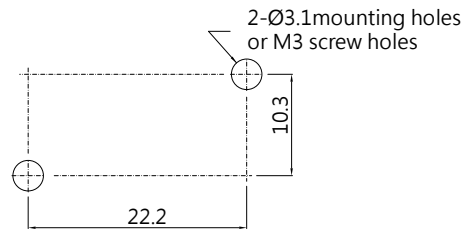
APPLICATIONS

Joystick, TV game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine.

CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL, cUL
VK-P1	0.1A 30VDC (Temp:120°C) 0.1A 125/250 VAC (Temp:120°C) Min. 6,000 operations
VK-03	3A 125/250 VAC (Temp:120°C) Min. 6,000 operations
VK-06	6A 125/250 VAC (Temp:120°C) Min. 6,000 operations
VK-10	10A 125/250 VAC (Temp:120°C) Min. 6,000 operations
VK-15	15A 125/250 VAC (Temp:120°C) Min. 6,000 operations

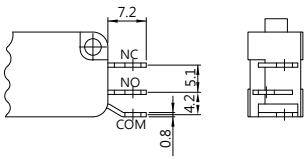
THE SELECTION OF RATING & FORCE

MODEL	Rating	B A	D C	N M	L K	S R	H G	SPECIFY H & G
VK	0.1A	*	*	*	*	*	*	
	3A		*	*	*	*	*	
	6A			*	*	*	*	
	10A				*	*	*	
	15A					*	*	*

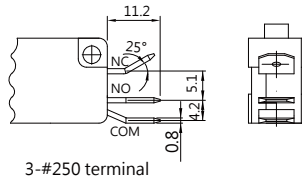
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

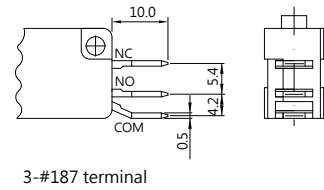
A TYPE
Through-hole Soldering



C TYPE
250 Series (0.8t)



D TYPE
187 Series, Straight (0.5t)

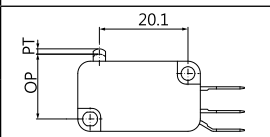
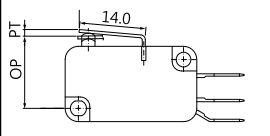
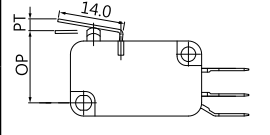
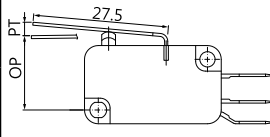
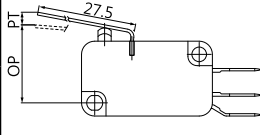
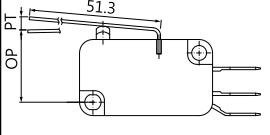
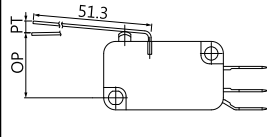
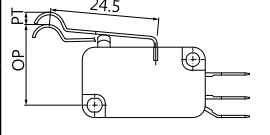
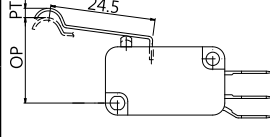
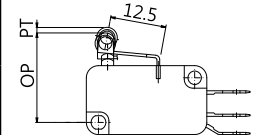
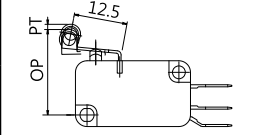
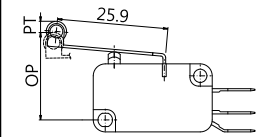
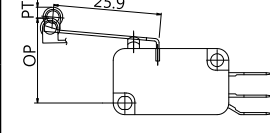


ORDERING INFORMATION

V	K	P	1	H	0	3	D	0	Z			
SERIES PREFIX	C O D E	CURRENT RATING	C O D E	OPERATING FORCE	C O D E	ACTUATOR TYPE	C O D E	TERMINAL TYPE	C O D E	CIRCUIT ARRANGEMENT	ROHS CODE	
	P1	0.1A 125/250 VAC		B		00		A		0	S.P.D.T	
	03	3A 125/250 VAC		D	8.4	01		C		1	S.P.S.T. NO	
	06	6A 125/250 VAC		N		02				2	S.P.S.T. NC	
	10	10A 125/250 VAC		L		03						
	15	15A 125/250 VAC		S		04		D				
				H								
				A								
				C								
				M	14.2							
				K								
				R								
				G								

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code : P1	ALL
2	Code : 03	D, N, L, S, H, C, M, K, R, G,
3	Code : 06	N, L, S, H, M, K, R, G
4	Code : 10	L, S, H, K, R, G
5	Code : 15	S, H, R, G, SPECIFY H&G

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	D	N	L	S	H	SPECIFY H				
VK- □□□□ -00 □□ -Z		B	D	N	L	S	H	SPECIFY H	14.7±0.5	1.72	0.8	0.25
		18	45	75	110	170	230	330				
VK- □□□□ -01 □□ -Z		B	D	N	L	S	H	SPECIFY H	15.3±0.5	1.57	0.6	0.41
		18	45	75	110	170	230	330				
		A	C	M	K	R	G	SPECIFY G	15.3±1.1	2.85	1.55	0.5
		8	27	43	50	85	120	175				
VK- □□□□ -02 □□ -Z		B	D	N	L	S	H	SPECIFY H	15.3±1.5	3.18	1.60	0.76
		8	22	37	50	86	125	180				
		A	C	M	K	R	G	SPECIFY G	15.3±2.3	5.60	3.10	1.02
		5	16	22	30	51	65	90				
VK- □□□□ -03 □□ -Z		B	D	N	L	S	H	SPECIFY H	15.3±2.5	7.60	3.00	1.20
		6	13	25	30	49	70	120				
		A	C	M	K	R	G	SPECIFY G	15.3±4.3	10.0	5.00	1.70
		-	8	15	20	30	35	50				
VK- □□□□ -04 □□ -Z		B	D	N	L	S	H	SPECIFY H	18.7±1.5	3.18	1.40	0.76
		10	28	43	65	110	140	205				
		A	C	M	K	R	G	SPECIFY G	18.7±2.1	5.60	2.55	1.02
		7	16	24	35	56	70	100				
VK- □□□□ -05 □□ -Z		B	D	N	L	S	H	SPECIFY H	20.7±0.8	1.72	0.60	0.25
		20	55	80	110	170	230	330				
		A	C	M	K	R	G	SPECIFY G	20.7±1.1	2.50	1.40	0.40
		8	35	55	70	100	120	175				
VK- □□□□ -06 □□ -Z		B	D	N	L	S	H	SPECIFY H	20.7±1.5	3.18	1.60	0.76
		8	30	50	65	100	125	180				
		A	C	M	K	R	G	SPECIFY G	20.7±2.2	5.08	2.80	1.02
		7	20	30	40	51	65	90				

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

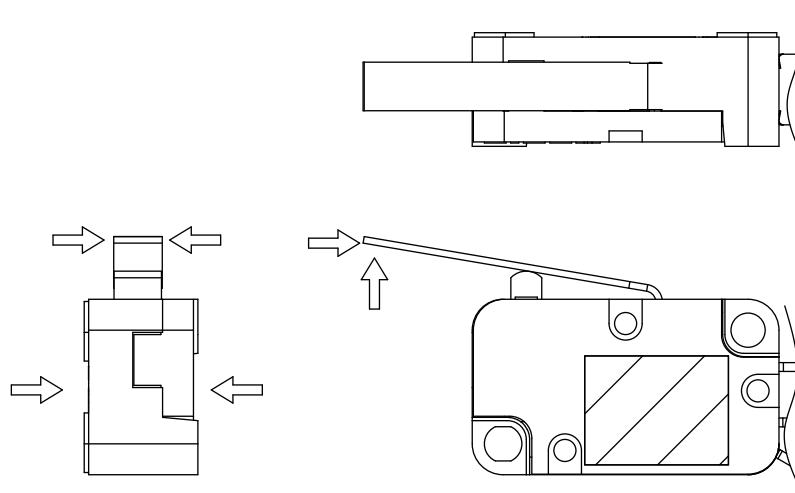


Figure-1



VM SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

5A - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

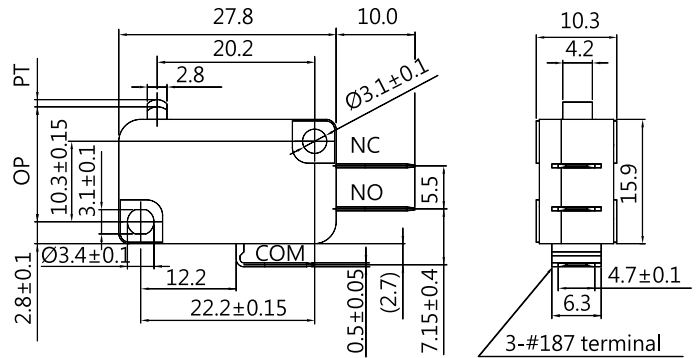
Set the switch pushing distance from 60% to 90% of the specified OT value

APPLICATIONS

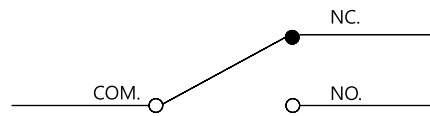
Joystick, TV Game, Time Recorder, Gaming device, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine

DIMENSIONS

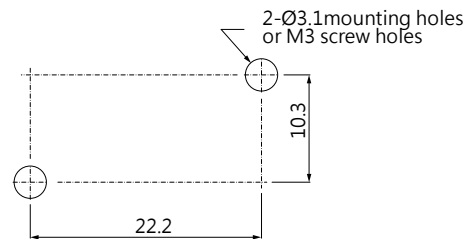
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL, cUL
VM-05	5A 125/250 VAC (Temp:85°C) Min. 10,000 operations

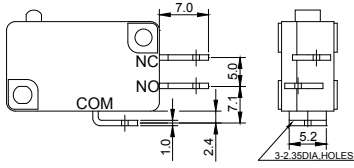
THE SELECTION OF RATING & FORCE

MODEL	Rating	B A	L K	D C	F E	S R	Q P	H G
VM	0.1A	*	*	*	*	*	*	*
	5A				*	*	*	*

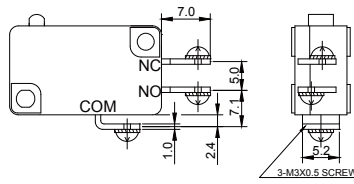
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

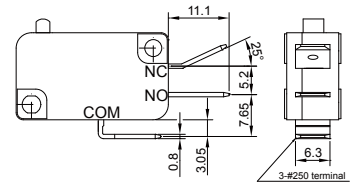
Solder terminal A TYPE



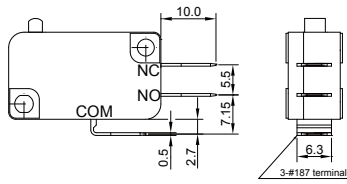
Screw terminal B TYPE



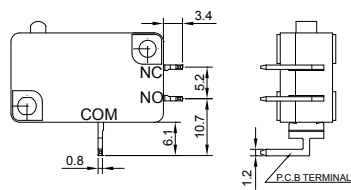
Terminal 250 Series C TYPE



Terminal 187 Series D TYPE



PCB terminal P TYPE

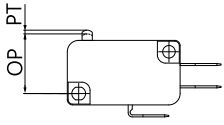
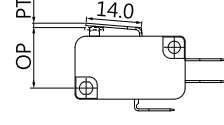
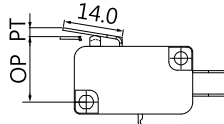
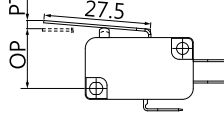
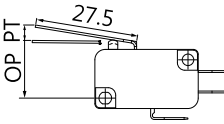
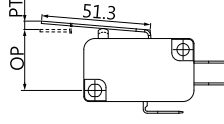
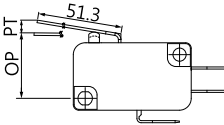
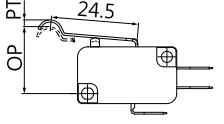
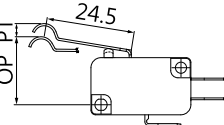
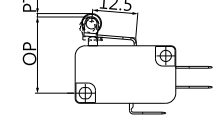
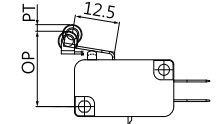
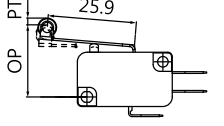
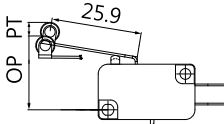


ORDERING INFORMATION

V M	P 1	L	0 3	D	0	Z
SERIES PREFIX	RATING CURRENT	OPERATING FORCE	ACTUATOR TYPE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	ROHS CODE
	P1 0.1A 125/250 VAC	B L D F S Q H A K C E R P G	00 No Lever 01 02 03 04	A SOLDER TERMINAL B SCREW TERMINAL C 250 SERIES D 187 SERIES P PCB SERIES	0 S.P.D.T 1 S.P.ST. NO 2 S.P.ST. NC	

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code : P1	ALL
2	Code : 05	F, S, Q, H, E, R, P, G

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	L	D	F	S	Q	H				
VM-□□□□-00□□-Z		B	L	D	F	S	Q	H	14.7±0.5	1.3	0.8	0.4
	20	50	100	150	200	330	400					
VM-□□□□-01□□-Z		B	L	D	F	S	Q	H	15.3±0.5	1.6	0.6	0.5
	20	50	100	150	200	330	400					
		A	K	C	E	R	P	G	15.3±1.1	2.80	1.75	0.75
	13	28	54	77	120	151	200					
VM-□□□□-02□□-Z		B	L	D	F	S	Q	H	15.3±1.5	3.3	1.6	1.2
	9	30	44	66	120	160	220					
		A	K	C	E	R	P	G	15.3±2.3	5.75	3.1	1.6
	5	17	22	41	51	95	115					
VM-□□□□-03□□-Z		B	L	D	F	S	Q	H	15.3±2.5	7.6	3.0	2.2
	5	15	24	35	60	100	120					
		A	K	C	E	R	P	G	15.3±4.3	11.1	5.0	3.0
	-	8	20	21	38	60	75					
VM-□□□□-04□□-Z		B	L	D	F	S	Q	H	18.7±1.5	3.4	1.6	1.2
	10	30	60	74	120	180	220					
		A	K	C	E	R	P	G	18.7±2.1	5.3	2.55	1.4
	10	19	34	46	57	100	125					
VM-□□□□-05□□-Z		B	L	D	F	S	Q	H	20.7±0.8	1.5	0.6	0.5
	20	50	97	145	200	320	400					
		A	K	C	E	R	P	G	20.7±1.1	2.9	1.4	0.7
	14	31	59	85	115	180	220					
VM-□□□□-06□□-Z		B	L	D	F	S	Q	H	20.7±1.5	3.4	1.6	1.2
	10	30	47	70	120	170	220					
		A	K	C	E	R	P	G	20.7±2.2	5.5	2.8	1.5
	9	18	24	46	47	100	120					

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

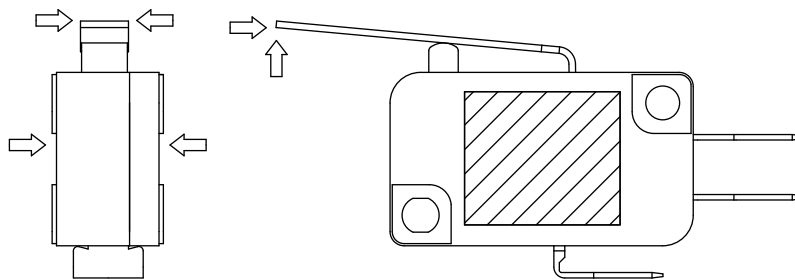


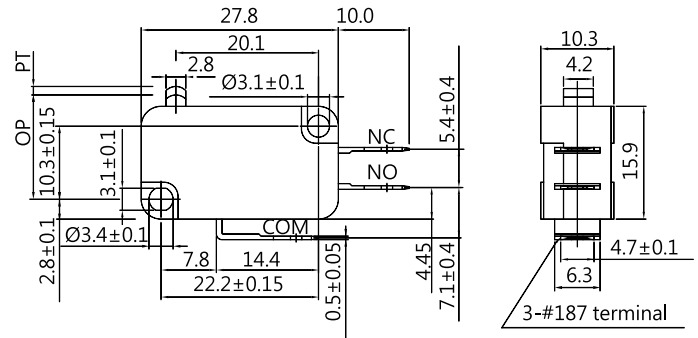
Figure-1

MICRO SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



VMN SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

0.1A - Min. 1,000,000 operations

Other ratings - Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

Mechanical Operating Frequency

120 operations per minute

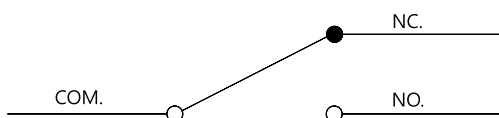
Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

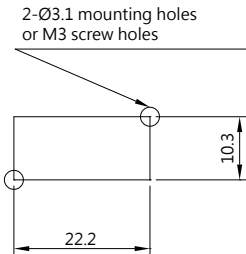
APPLICATIONS

Joystick, TV game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine.

CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL、cUL	ENEC
VMN-P1	0.1A 30VDC (Temp:120°C) 0.1A 125/250 VAC (Temp:120°C) Min. 6,000 operations	0.1A 125/250VAC $\mu 40T125 1E4$
VMN-03	3A 125/250 VAC (Temp:120°C) Min. 6,000 operations	3A 125/250VAC $\mu 40T125 1E4$
VMN-06	6A 125/250 VAC (Temp:120°C) Min. 6,000 operations	6A 125/250VAC $\mu 40T125 1E4$
VMN-T6S	6A 125/250 VAC (Temp:200°C) Min. 6,000 operations	Non
VMN-10	10A 125/250 VAC (Temp:120°C) Min. 6,000 operations	10A 125/250VAC $\mu 40T125 1E4$
VMN-15	15A 1/2HP 125/250 VAC (Temp:120°C) Min. 6,000 operations	15A 16(4)A 125/250VAC $\mu 40T125 1E4$

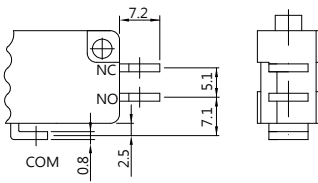
THE SELECTION OF RATING & FORCE

MODEL	Rating	B A	D C	N M	L K	S R	H G	SPECIFY H & G
VMN	0.1A	*	*	*	*	*	*	*
	3A		*	*	*	*	*	*
	6A			*	*	*	*	*
	10A				*	*	*	*
	15A					*	*	*
	16(4)A							*

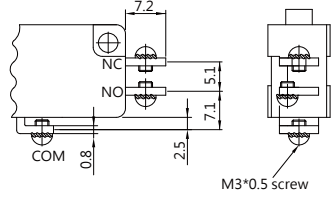
NOTE : The Symbol " * " to represent the result is accepted

TERMINAL TYPES

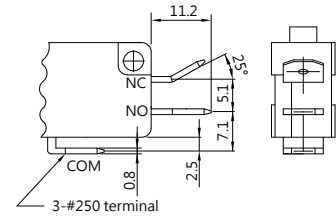
A TYPE
Through-hole Soldering



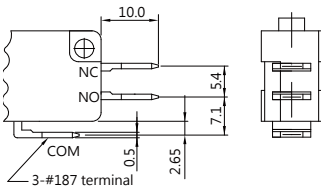
B TYPE
Screw



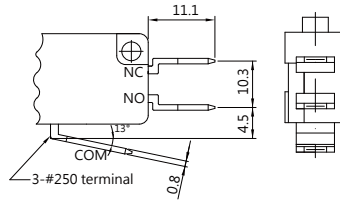
C TYPE
250 Series (0.8t)



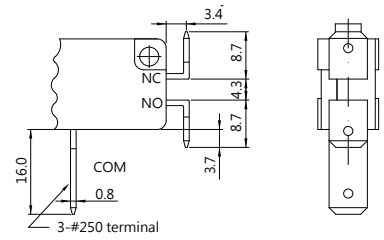
D TYPE
187 Series, Straight (0.8t)



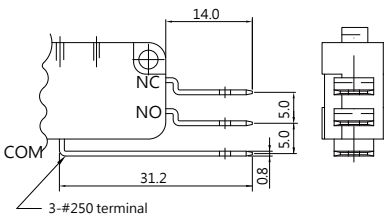
E TYPE
250 Series, Dog-leg (0.8t)



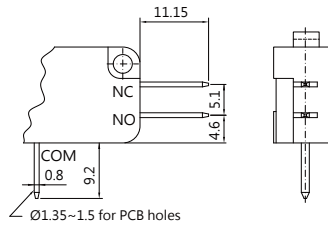
F TYPE
250 Series, 90 degree (0.8t)



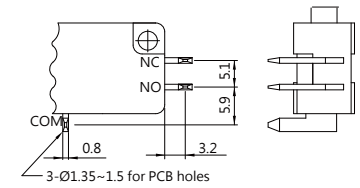
G TYPE
250 Series, RAST 5 Type (0.8t)



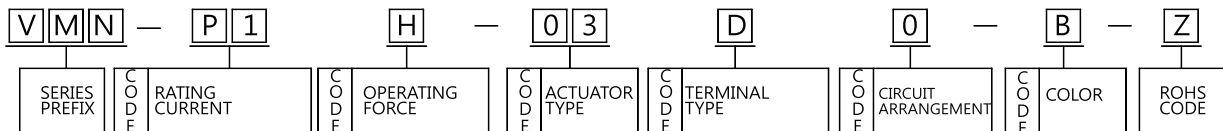
K TYPE
PCB terminal, 250 Series (0.8t)



P TYPE
PCB



ORDERING INFORMATION



SERIES PREFIX	C O D E	RATING CURRENT	C O D E	OPERATING FORCE	C O D E	ACTUATOR TYPE	C O D E	TERMINAL TYPE	C O D E	CIRCUIT ARRANGEMENT	C O D E	COLOR	ROHS CODE
	P1	0.1A 125/250 VAC	B		00	No Lever	A	SOLDER TERMINAL	0	S.P.D.T	B	BLACK	
	03	3A 125/250 VAC	D		01		02		SCREW TERMINAL	1	S.P.ST. NO		
	06	6A 125/250 VAC	N		03		C	250 SERIES		2	S.P.ST. NC		
	10	10A 125/250 VAC	S	04	D		187 SERIES						
	15	15A 125/250 VAC 16(4) 125/250 VAC	A		E		250 SERIES						
			H		F	250 SERIES							
			C		P	PCB TERMINAL							
			M		G	250 SERIES							
			K		K	PCB SERIES							
			R										
			G										

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	0.1A	ALL
2	3A	D, N, L, S, H, C, M, K, R, G, SPECIFY H&G
3	6A	N, L, S, H, M, K, R, G, SPECIFY H&G
4	10A	L, S, H, K, R, G, SPECIFY H&G
5	15A	S, H, R, G, SPECIFY H&G
6	16(4)A	SPECIFY H&G

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	D	N	L	S	H	SPECIFY H				
VMN- □□□ -00 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	14.7±0.5	1.72	0.8	0.25
	18	45	75	110	170	230	330					
VMN- □□□ -01 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	15.3±0.5	1.57	0.6	0.41
	18	45	75	110	170	230	330					
		A	C	M	K	R	G	SPECIFY G	15.3±1.1	2.85	1.55	0.5
	8	27	43	50	85	120	175					
VMN- □□□ -02 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	15.3±1.5	3.18	1.60	0.76
	8	22	37	50	86	125	180					
		A	C	M	K	R	G	SPECIFY G	15.3±2.3	5.60	3.10	1.02
	5	16	22	30	51	65	90					
VMN- □□□ -03 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	15.3±2.5	7.60	3.00	1.2
	6	13	25	30	49	70	120					
		A	C	M	K	R	G	SPECIFY G	15.3±4.3	10.0	5.00	1.70
	6	8	15	20	30	35	50					
VMN- □□□ -04 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	18.7±1.5	3.18	1.40	0.76
	10	28	43	65	110	140	205					
		A	C	M	K	R	G	SPECIFY G	18.7±2.1	5.60	2.55	1.02
	7	16	24	35	56	70	100					
VMN- □□□ -05 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	20.7±0.8	1.72	0.60	0.25
	20	55	80	110	170	230	330					
		A	C	M	K	R	G	SPECIFY G	20.7±1.1	2.50	1.40	0.40
	8	35	55	70	100	120	175					
VMN- □□□ -06 □□ -B-Z		B	D	N	L	S	H	SPECIFY H	20.7±1.5	3.18	1.60	0.76
	8	30	50	65	100	125	180					
		A	C	M	K	R	G	SPECIFY G	20.7±2.2	5.08	2.80	1.02
	7	20	30	40	51	65	90					

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

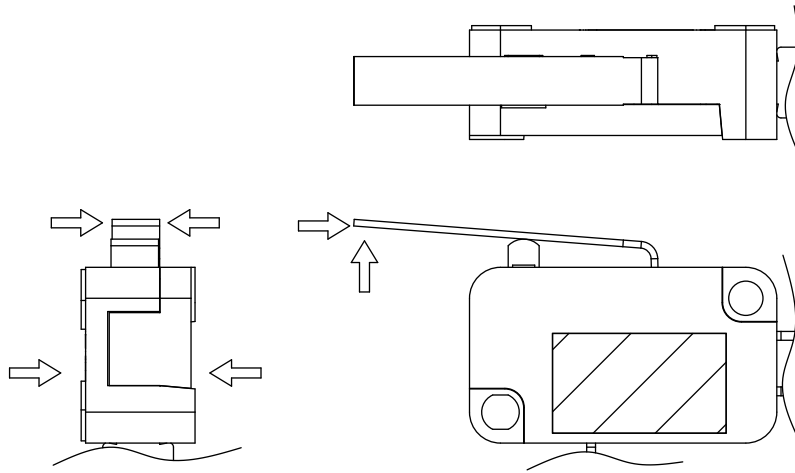


Figure-1

ROTARY SWITCHES



AN SERIES

SPECIFICATIONS

Operating Force

Rotation - Max.50 gf-cm
 Push - 220 ± 40 gf

Contact Resistance (initial)

Max. 300 mΩ
 Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 100 VDC/min.)

Min. 100 MΩ

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation - Min. 200,000 operations
 C.W. 100,000 & C.C.W 100,000 operations
 Push - Min. 1,000,000 operations

Electrical Operating Frequency

Rotation - 30 operations per minute
 Push - 120 operations per minute

RATING

1mA 10VDC

APPLICATIONS

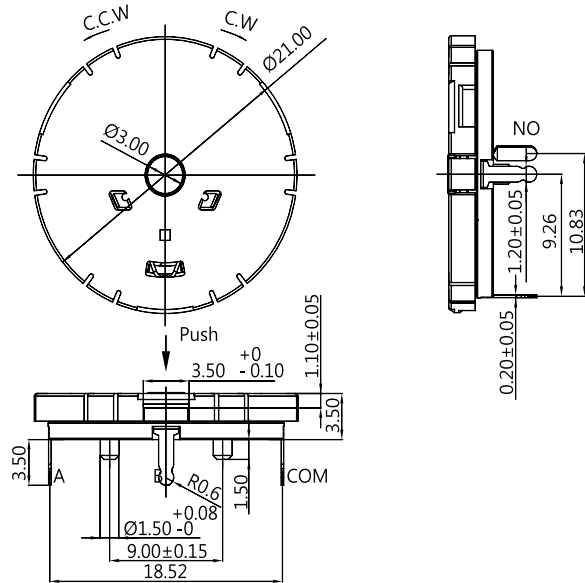
Remote control, Tablet, Keyboard, Audio, Mp3 player, Notebook,
 Mobile phone, Mobility TV, Home appliances

ORDERING INFORMATION

A	N	P	1	S	2	S	P	Z			
SERIES PREFIX	COD E	RATING CURRENT	COD E	OPERATING TORQUE	COD E	TYPE	COD E	OPERATING FORCE	COD E	TERMINAL TYPE	ROHS CODE
	P1	1mA 10VDC	S	Rotation Max.50gf-cm	2	COVER IS NOT THROUGH Rotation Life :200,000 operations (C.W. 100,000 & C.C.W 100,000operations)	S	Push 220±40gf	P	PCB TERMINAL	
			H	Rotation Max.60gf-cm	3	COVER IS NOT THROUGH Rotation Life :2,000,000 operations (C.W. 1,000,000 & C.C.W 1,000,000operations)					

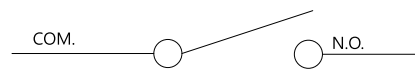
DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION

Push



Rotation

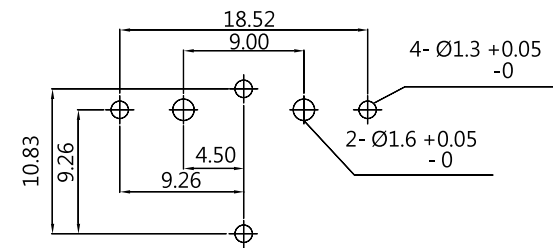
ANGLE NO.	ANGLE						
	-90°	-60°	-30°	0°	30°	60°	90°
A-A-C	ON	ON	ON	ON	ON	ON	ON
	OFF	OFF	OFF	OFF	OFF	OFF	OFF
B-B-C	ON	ON	ON	ON	ON	ON	ON
	OFF	OFF	OFF	OFF	OFF	OFF	OFF

CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

MOUNTING HOLES



ROTARY SWITCHES



ANL SERIES

SPECIFICATIONS

Operating Force

Rotation – Max. 50gf-cm

Push - 220 ± 40 gf

Contact Resistance (initial)

Max. 300mΩ

Measured by ohm meter –Open Voltage <1VDC, Driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation – Min. 200,000 operations

C.W. 100,000 & C.C.W 100,000operations

Push – Min. 1,000,000 operations

Electrical Operating Frequency

Rotation – 30 operations per minute

Push – 120 operations per minute

RATING

1mA 10VDC

APPLICATIONS

Remote control, Tablet, Keyboard, Audio, Mp3 player, Notebook,

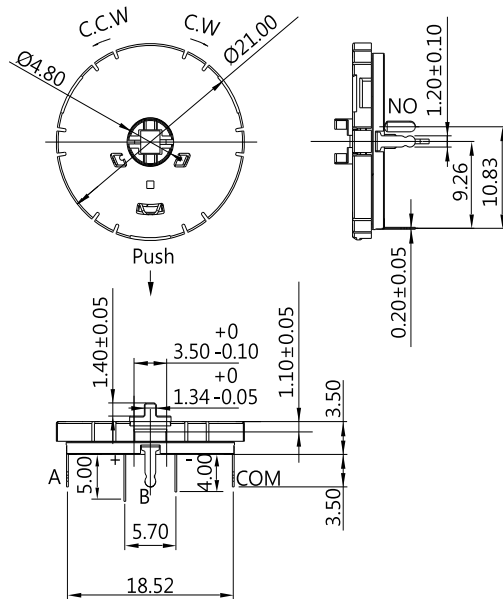
Mobile phone, Mobility TV, Home appliances

ORDERING INFORMATION

A	N	L	P	1	S	2	S	P	B	Z
SERIES PREFIX	C O D E RATING CURRENT	C O D E OPERATING TORQUE	C O D E OPERATING FORCE	C O D E TERMINAL TYPE	C O D E LED COLOR	ROHS CODE				
	P1 1mA 10VDC	S Rotation Max.50gf-cm	S Push 220 ± 40gf	P PCB TERMINAL	B BLUE W WHITE R RED G GREEN					
C O D E TYPE										
2 COVER IS NOT THROUGH Rotation Life :200,000 operations (C.W. 100,000 & C.C.W 100,000operations)										

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.

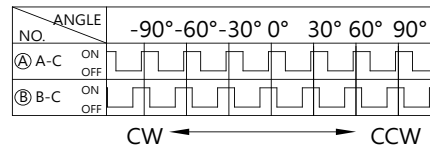


CONTACT CONFIGURATION

PUSH



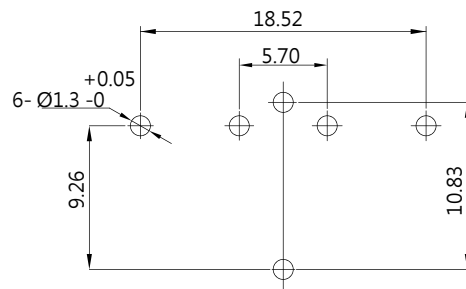
Rotation



NUMBERS OF DETENT : 24

PULSE/ROTATION : 12 PULSE/360°

MOUNTING HOLES

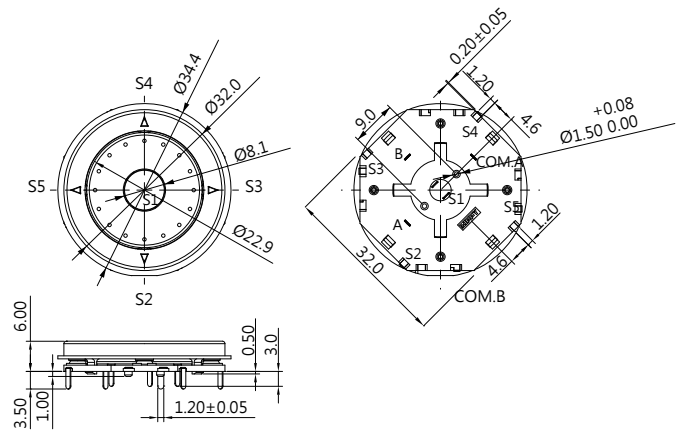


ROTARY SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



ANO SERIES

SPECIFICATIONS

Operating Force

Rotation-Max. 60 gf-cm

5 way switch-Max. 300 gf

Contact Resistance(initial)

Max. 300 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance(at 100 VDC/ minute)

Min. 100 M Ω

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation-Min. 200,000 operations

(C.W. 100,000 & C.C.W. 100,000 operations)

Push-Min. 1,000,000 operations

Electrical Operating Frequency

Rotation-30 operations per minute

Push-120 operations per minute

RATING

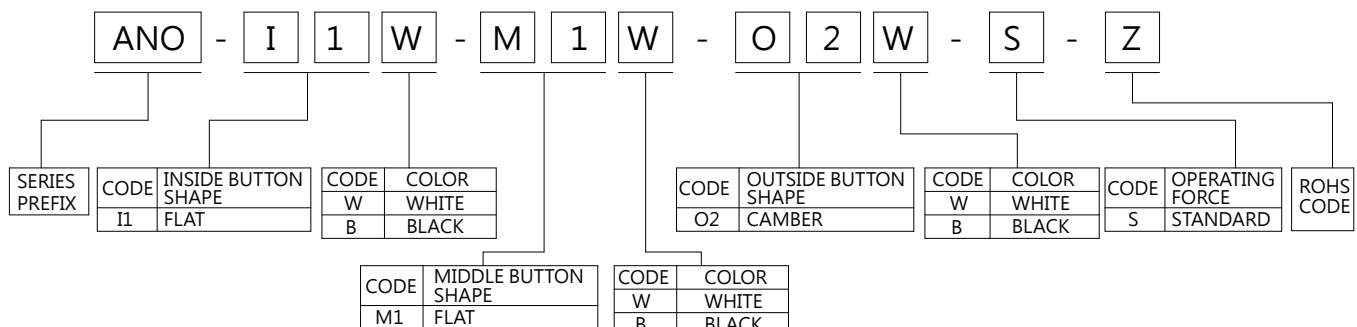
1mA 10VDC

APPLICATIONS

Remote control, Tablet, Keyboard, Audio, Mp3 player, Notebook,

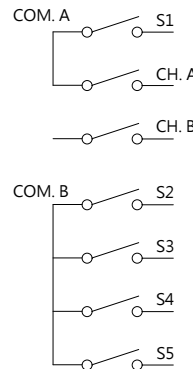
Mobile phone

ORDERING INFORMATION

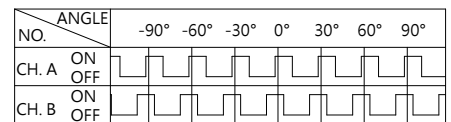


CONTACT CONFIGURATION

Functional Block Diagram



Rotational Output Waveform

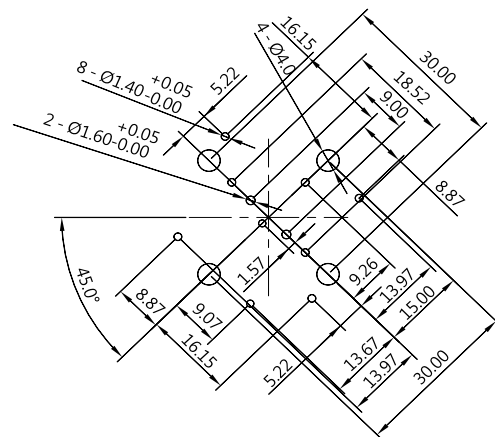


CW ← → CCW

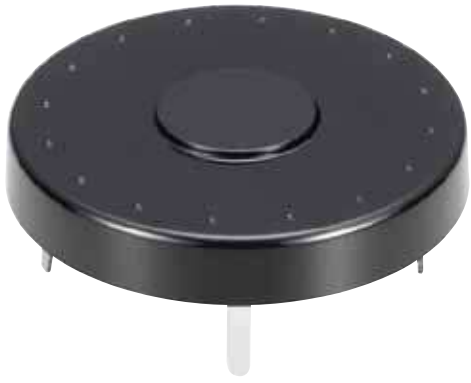
Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

MOUNTING HOLES



ROTARY SWITCHES



ANM SERIES

SPECIFICATIONS

Operating Force

Rotation - Max.60 gf-cm

Push - Max. 300 gf

Contact Resistance (initial)

Max. 300mΩ

Measured by ohm meter - open voltage <1VDC, Driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation – Min. 200,000 operations

C.W. 100,000 & C.C.W 100,000operations

Push – Min. 1,000,000 operations

Electrical Operating Frequency

Rotation – 30 operations per minute

Push – 120 operations per minute

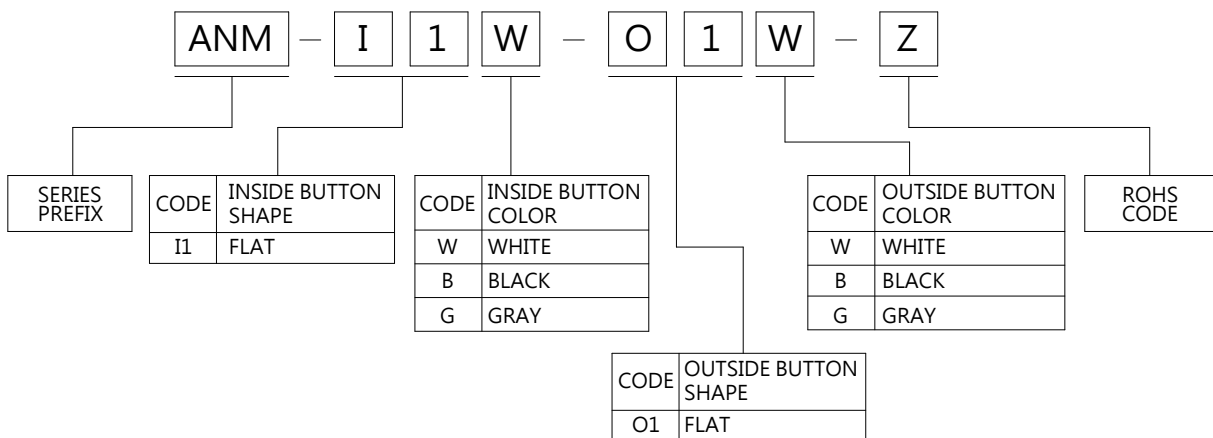
RATING

1mA 10VDC

APPLICATIONS

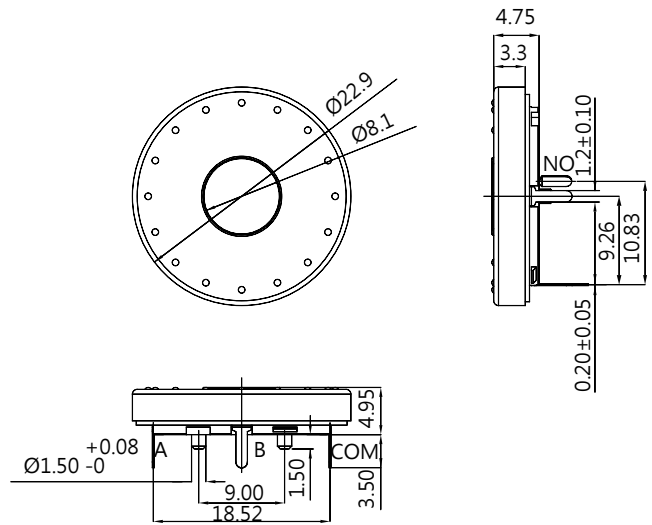
Remote control, Tablet, Keyboard, Audio, Mp3, NB, Mobile Phone

ORDERING INFORMATION



DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION

Push



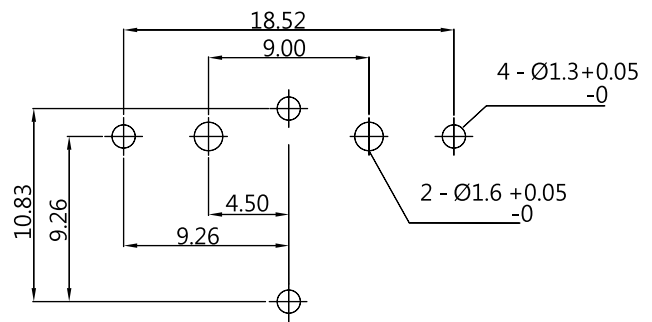
Rotation

NO.	ANGLE	ANGLE					
		-90°	-60°	-30°	0°	30°	60°
A-A-C	ON	ON	ON	ON	ON	ON	ON
	OFF	OFF	OFF	OFF	OFF	OFF	OFF
B-B-C	ON	OFF	ON	ON	ON	ON	ON
	OFF	ON	OFF	OFF	OFF	OFF	OFF

CW ← → CCW

Numbers of detent : 24
Pulse/Rotation : 12 pulse/360°

MOUNTING HOLES

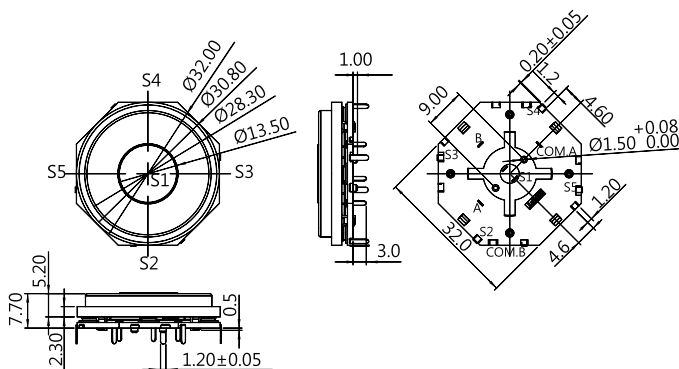


ROTARY SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



ANQ SERIES

SPECIFICATIONS

Operating Force

- Rotation - Max. 60 gf-cm
- 5 way switch - Max. 300 gf

Contact Resistance (initial)

- Max. 300m Ω
- Measured by ohm meter - open voltage < 1VDC, Driver current - 100mA

Insulation Resistance (at 100VDC/minute)

- Min. 100M Ω

Operating Temperature Range

- 0°C to 40°C (with no icing)

Vibration

- 10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

- Rotation - Min. 200,000 operations
- C.W. 100,000 & C.C.W 100,000 operations
- Push - Min. 200,000 operations

Electrical Operating Frequency

- Rotation - 30 operations per minute
- Push - 120 operations per minute

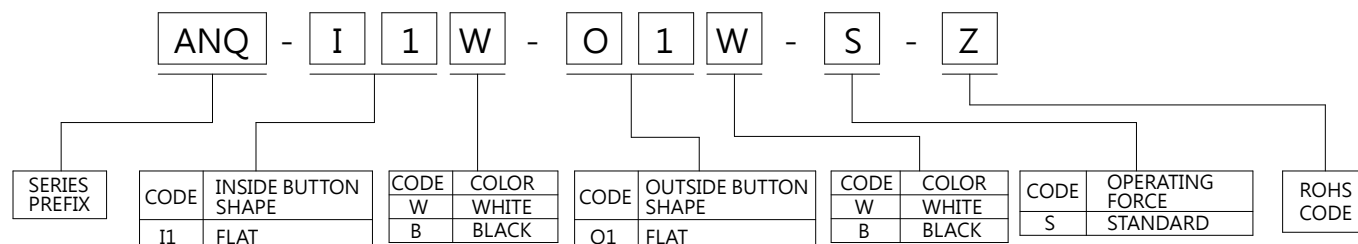
RATING

- 1mA 10VDC

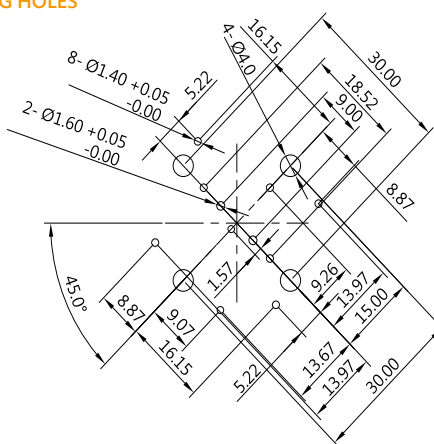
APPLICATIONS

- Remote control, Tablets, Keyboard, Audio, Mp3 player, Notebook, Mobile phone, Control Panel

ORDERING INFORMATION

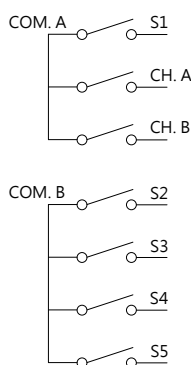


MOUNTING HOLES

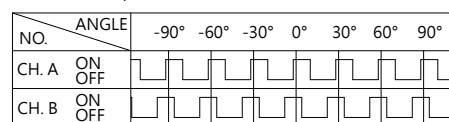


CONTACT CONFIGURATION

Functional Block Diagram



Rotational Output Waveform



CW ← → CCW
 Numbers of detent : 24
 Pulse/Rotation : 12 pulse/360°

ROTARY SWITCHES



KC SERIES

SPECIFICATIONS

Operating Force

Rotation - Max.60 gf-cm
 Push - Max. 300 gf

Contact Resistance (initial)

Max. 300mΩ
 Measured by ohm meter - open voltage <1VDC, Driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation - Min. 200,000 operations
 C.W. 100,000 & C.C.W 100,000 operations
 Push - Min. 1,000,000 operations

Electrical Operating Frequency

Rotation - 30 operations per minute
 Push - 120 operations per minute

RATING

1mA 10VDC

APPLICATIONS

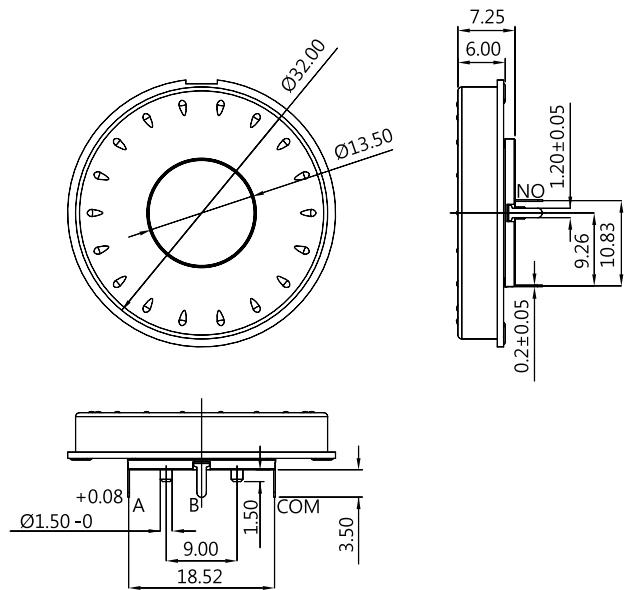
Remote control, Tablet, Keyboard, Audio, Mp3, NB, Mobile Phone

ORDERING INFORMATION

K	C	-	I	1	B	-	O	1	G	-	Z
SERIES PREFIX		CODE	INSIDE BUTTON SHAPE	CODE	INSIDE BUTTON COLOR	CODE	OUTSIDE BUTTON SHAPE	CODE	OUTSIDE BUTTON COLOR	ROHS CODE	
		I1	FLAT	B	BLACK	O1	FLAT	G	GRAY		
				G	GRAY			B	BLACK		
				A	IRON GARY			A	IRON GARY		

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.

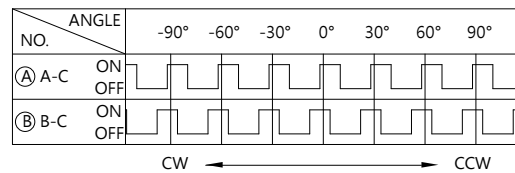


CONTACT CONFIGURATION

Push



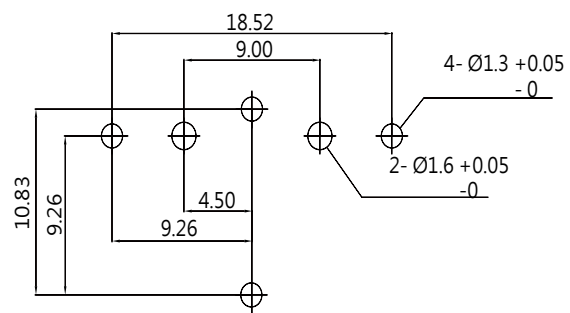
Rotation



Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

P.C.B MOUNTING HOLES



ROTARY SWITCHES



KCL SERIES

SPECIFICATIONS

Operating Force

Rotation – Max. 60gf-cm

Push – Max. 300 gf

Contact Resistance (initial)

Max. 300mΩ

Measured by ohm meter –Open Voltage<1VDC, Driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature Range

0°C to 40°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Rotation – Min. 200,000 operations

C.W. 100,000 & C.C.W 100,000operations

Push – Min. 1,000,000 operations

Electrical Operating Frequency

Rotation – 30 operations per minute

Push – 120 operations per minute

RATING

1mA 10VDC

APPLICATIONS

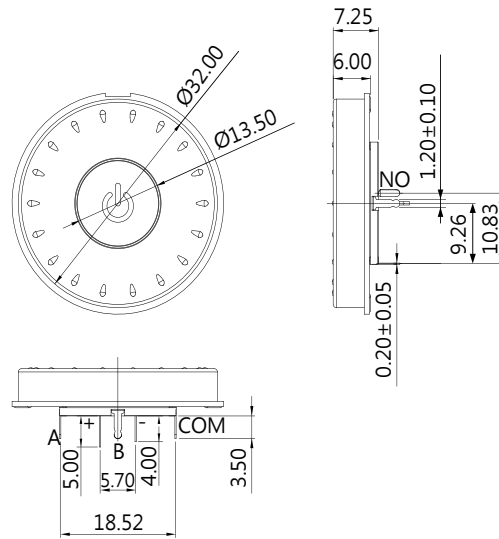
Remote control , Tablet , Keyboard , Audio , Mp3, NB, Mobile Phone

ORDERING INFORMATION

K	C	L	—	I	B	1	B	—	O	1	G	—	Z	
SERIES PREFIX				INSIDE BUTTON COLOR		INSIDE BUTTON MARKING		LED COLOR		OUTSIDE BUTTON SHAPE		OUTSIDE BUTTON COLOR		ROHS CODE
				IB	BLACK	1		B	BULE	O1	FLAT	G	GRAY	
							W	WHITE						
							R	RED						
							G	GREEN						

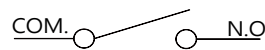
DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions

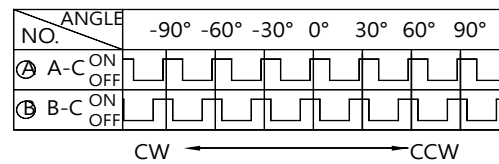


CONTACT CONFIGURATION

Push

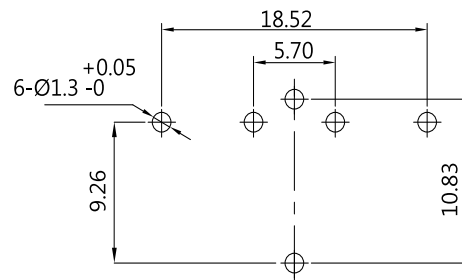


Rotation



Numbers of detent : 24
Pulse/Rotation : 12
pulse/360°

MOUNTING HOLES

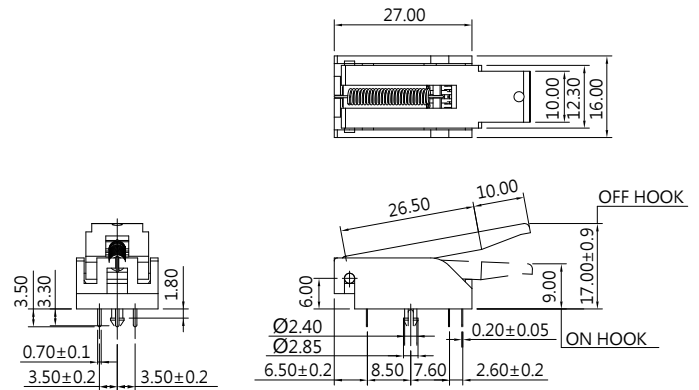


HOOK SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



HK01 SERIES

SPECIFICATIONS

Operating Force

Max. 110 gf at point P

Return Force

Min. 20gf at point P

Contact Resistance (initial)

Max. 100m Ω

Measured by ohm meter -Open Voltage <1VDC, Driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Operating Temperature Range

0°C to 55°C

Vibration

10 ~ 55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 500,000 operations

Electrical Operating Frequency

30 operations per minute

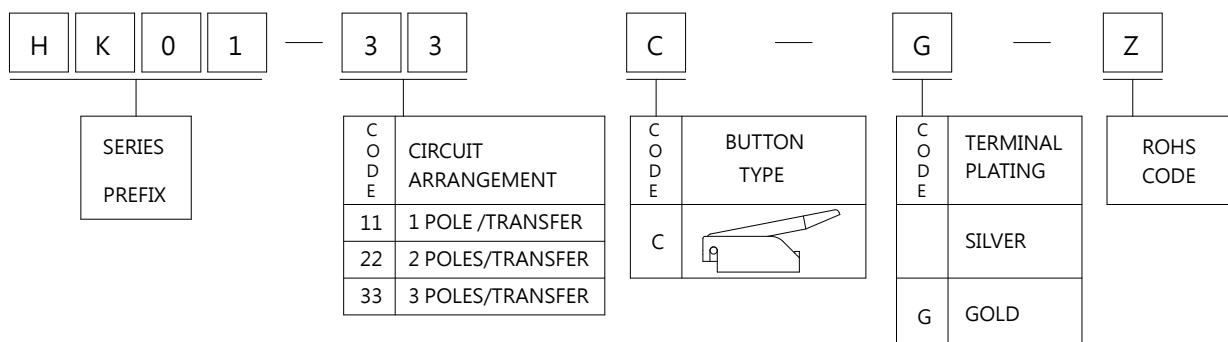
RATING

0.1A 48VDC

APPLICATIONS

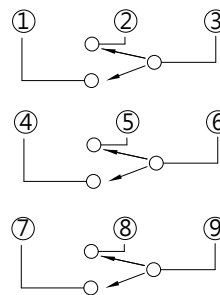
Various telephone sets, telephone-related equipment and other communication systems using telephone circuits

ORDERING INFORMATION

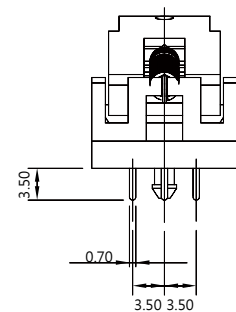


CONTACT CONFIGURATION

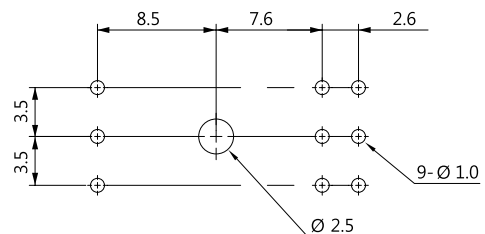
Seen from the Direction A



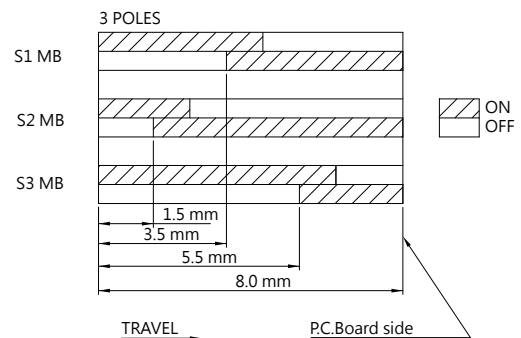
TERMINAL TYPES



MOUNTING HOLES



SWITCH SEQUENCE





HM2 SERIES

SPECIFICATIONS

Contact Resistance(Initial)

Max. 100mΩ

Measured by ohm meter -open voltage<1VDC, driver current -100mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1250VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

0°C to 65°C

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

1A - Min. 6,000 operations

Other ratings - Min. 500,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min.1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

Set the switch pushing distance from 60% to 90% of the specified OT value

RATING

0.1A 60VDC, 0.2A 60VDC

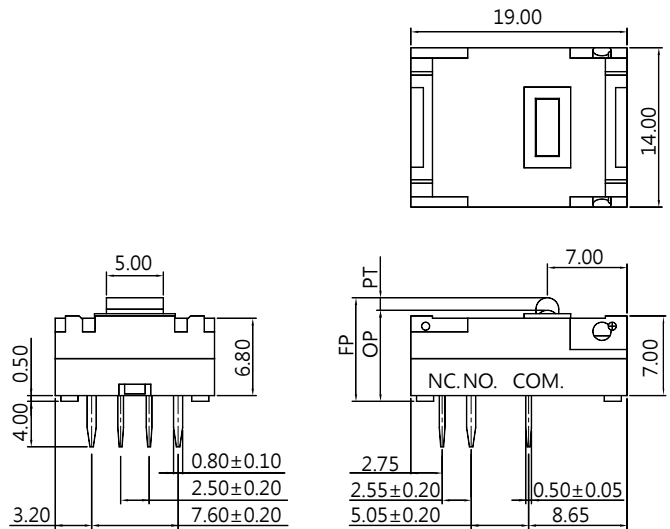
0.2A 125 VAC, 1A 125VAC

APPLICATIONS

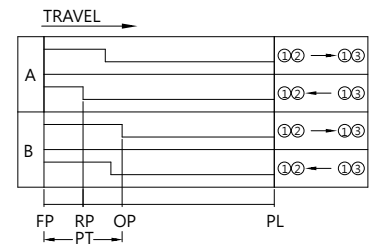
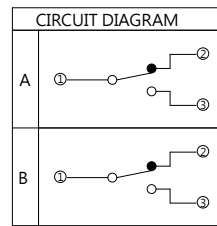
Telephone, Magnetic card reader

DIMENSIONS

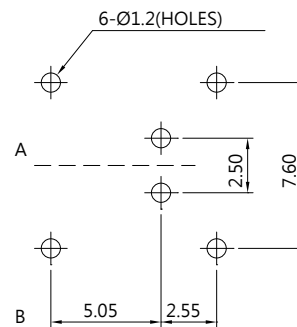
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES



THE SELECTION OF RATING & FORCE

MODEL	Rating	L	S	H
HM2	0.1A	*	*	*
	0.2A	*	*	*
	1A		*	*

NOTE : The Symbol " * " to represent the result is accepted

ORDERING INFORMATION

H M 2	0 1	S	0 0	0	Z
SERIES PREFIX	RATING CURRENT	OPERATING FORCE	ACTUATOR TYPE	CIRCUIT ARRANGEMENT	ROHS CODE
	01 1A 125VAC	L LIGHT	00	0 D.P.D.T.	
	P1 0.1A 60VDC	S STANDARD	01 L=17.5	3 S.P.D.T.	
	P2 0.1A 60VDC	H HEAVY	02 L=24.5		
	0.2A 60VDC		03 L=32		
	0.2A 125VAC		04 L=27.4		

#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code:01	S,H
2	Code:P1	L,S,H
3	Code:P2	L,S,H

OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF - Max (gf)			OP Min. (mm)	PT Max. (mm)	OT Min. (mm)	RP Max. (mm)	RF - Min (gf)	
		2 Ways	1 Way	DPDT					SPDT	
HM2- □□□ -00 □ -Z		H	215	165	7.9	1.3	0.4	8.9	40	20
		S	155	135					25	14
		L	108	90					15	8
HM2- □□□ -01 □ -Z		H	73	55	8.5	3.6	1.1	11.6	10	7
		S	60	45					7	5
		L	40	30					4	3
HM2- □□□ -02 □ -Z		H	54	40	8.6	5.1	1.1	13.1	7	4
		S	42	32					5	3
		L	26	22					3	2
HM2- □□□ -03 □ -Z		H	40	31	8.8	6.7	1.1	14.6	5	3.5
		S	30	25					3	2.5
		L	20	17					2	1.5
HM2- □□□ -04 □ -Z		H	47	35	2.4	6.1	1.1	8.1	6	4
		S	36	28					4	3
		L	23	19					2	1.5

SLIDE SWITCHES



B5 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 500 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance(at 100 VDC / minute)

Min. 100 MΩ

Operating Temperature Range

-10°C to 60°C (with no icing)

Vibration

10~55Hz, displacement 0.75mm(p-p)

Electrical Service Life

Min. 100,000 operations

Electrical Operating Frequency

20 operations per minute

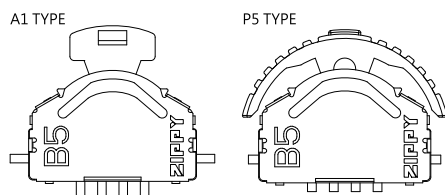
RATING

10mA, 5VDC

APPLICATIONS

PDA, MP3 player, Mobile phone

ACTUATOR TYPES

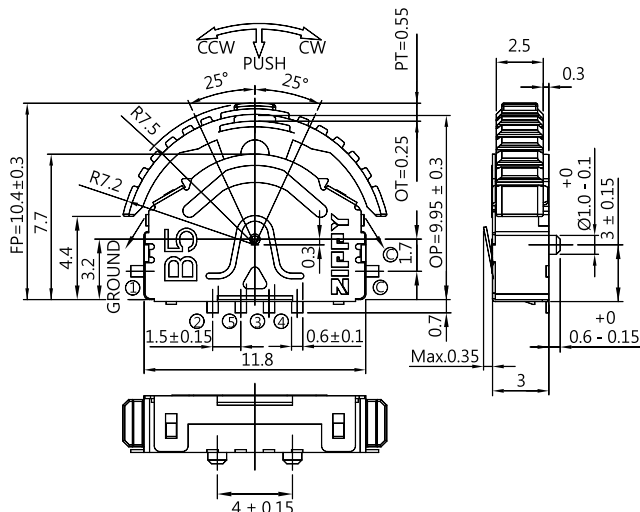


ORDERING INFORMATION

B	5	—	P	5	—	S	—	0	D	—	Z
S E R I E S P R E F I X	C O D E	A C T U A T O R T Y P E	C O D E	O P E R A T I N G F O R C E	C O D E	F E E L I N G T Y P E	C O D E	T E R M I N A L T Y P E	R O H S C O D E		
	P5	S T A N D A R D	L	150±80gf	0	C L I C K	D	S M T T E R M I N A L S P 5 T			
	A1	C H A N G E A C T U A T O R	S	200±100gf	1	N O N C L I C K	F	S M T T E R M I N A L S P 3 T			
			H	250±100gf							
			Q	300±150gf							

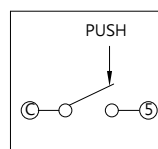
DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION

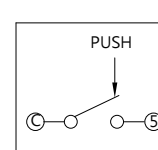
D TYPE



NO.	25°		0°		25°	
	(14°)	(5°)	(5°)	(14°)		
①	[Bar]					
②	[Bar]					
③	[Bar]					
④	[Bar]					
⑤	[Bar]					

CCW ← → CW

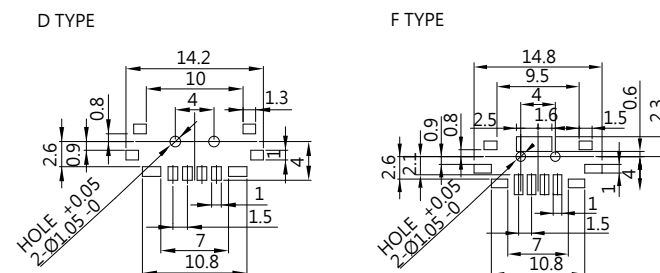
F TYPE



NO.	25°		0°		25°	
	(5°)	(5°)				
①	[Bar]					
②	GROUND					
③	GROUND					
④	[Bar]					
⑤	[Bar]					

CCW ← → CW

MOUNTING HOLES



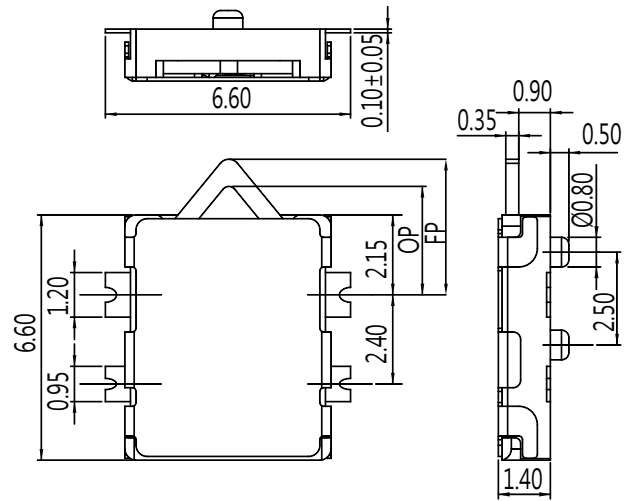
SLIDE SWITCHES



D4 SERIES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SPECIFICATIONS

Contact Resistance (Initial)

Max. 2 Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (At 100VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 100 VAC(50-60HZ)/minute between Live-parts and dead metal parts

Operating Temperature Range

-10°C to 60°C (With no icing)

Vibration

10 ~ 55 Hz, displacement 0.75 mm (p-p)

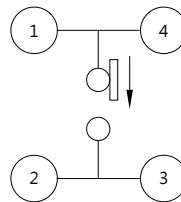
Electrical Service Life

Min. 50,000 operations

Electrical Operating Frequency

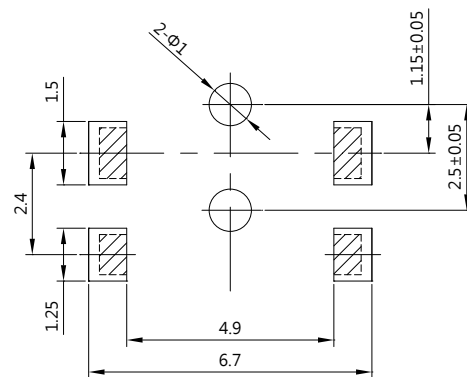
Max.20 operations per minute

CONTACT CONFIGURATION



TERMINAL	DEFINE
1	NO
2	COMMON
3	COMMON
4	NO

P.C.B MOUNTING HOLES



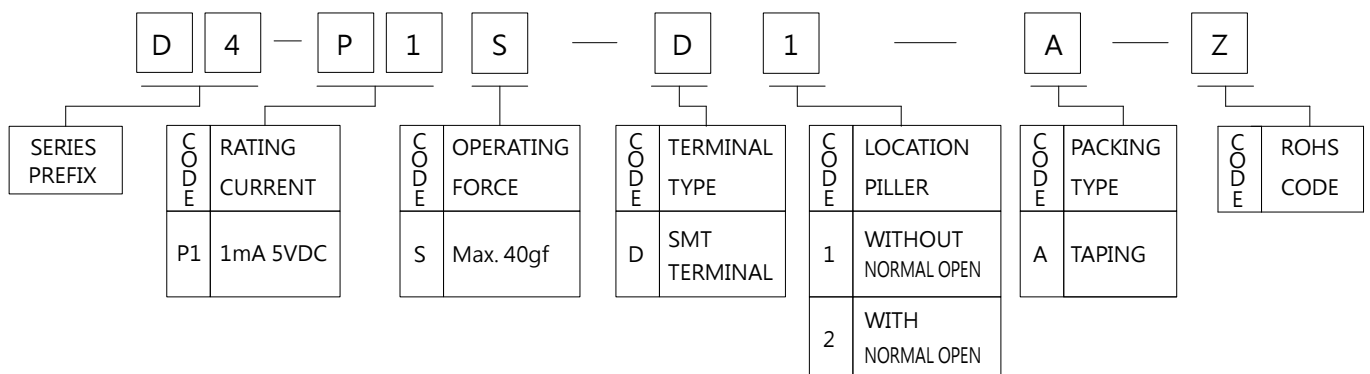
RATING

1mA 5 VDC

APPLICATIONS

CD-ROM device, Mouse, PDA

ORDERING INFORMATION



SIDE MINI SWITCHES



BS SERIES

SPECIFICATIONS

Contact Resistance(Initial)

Max. 3Ω

Measured by ohm meter -open voltage<1VDC, driver current -100mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature range

0°C to 55°C

Vibration

10~55Hz, displacement 0.75mm(p-p)

Electrical Service Life

Min. 200,000 operations.

Electrical Operating Frequency

30 operations per minute

RATING

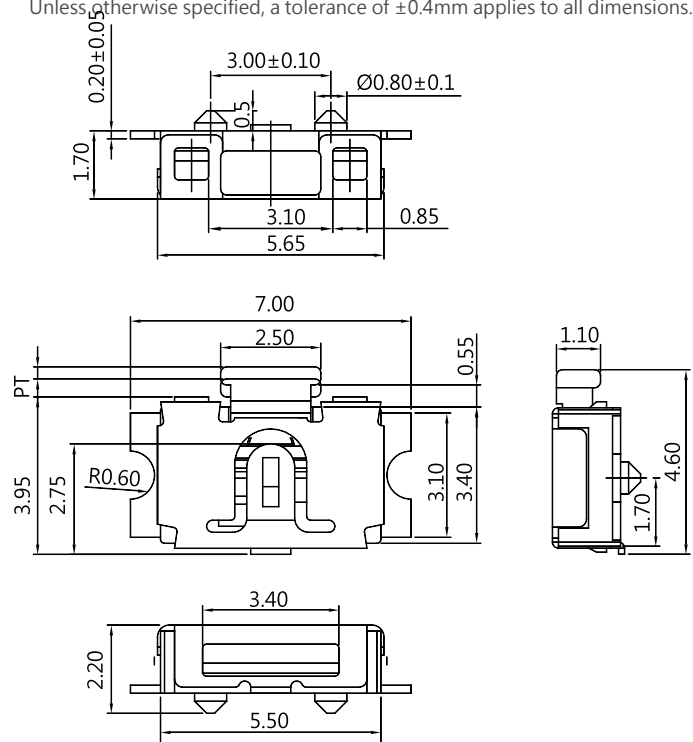
50mA 30VDC

APPLICATIONS

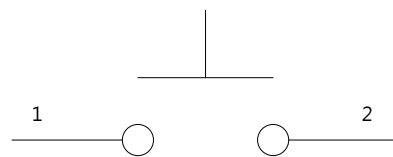
Mp3 Player, PDA, Digital Camera, Mobile Phone

DIMENSIONS

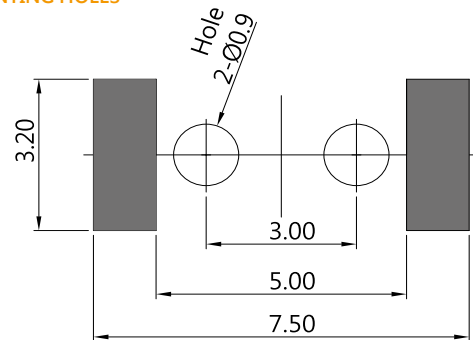
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION

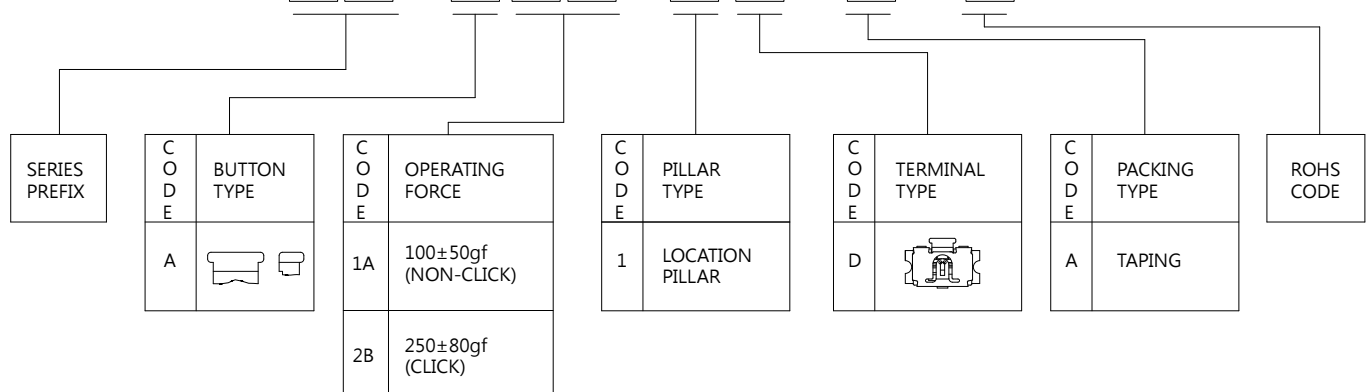


MOUNTING HOLES



ORDERING INFORMATION

B S - A 2 B - 1 D - A - Z



PUSH SWITCHES



P1 SERIES

SPECIFICATIONS

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Operating Temperature Range

0°C to 55°C

Vibration

10 ~ 55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10 operations per minute

Mechanical Service Life

Min. 100,000 operations

Mechanical Operating Frequency

30 operations per minute

Travel

Pre travel Max.1.5mm,

Total travel 2.5±0.5mm

RATING

0.1A 30VDC

APPLICATIONS

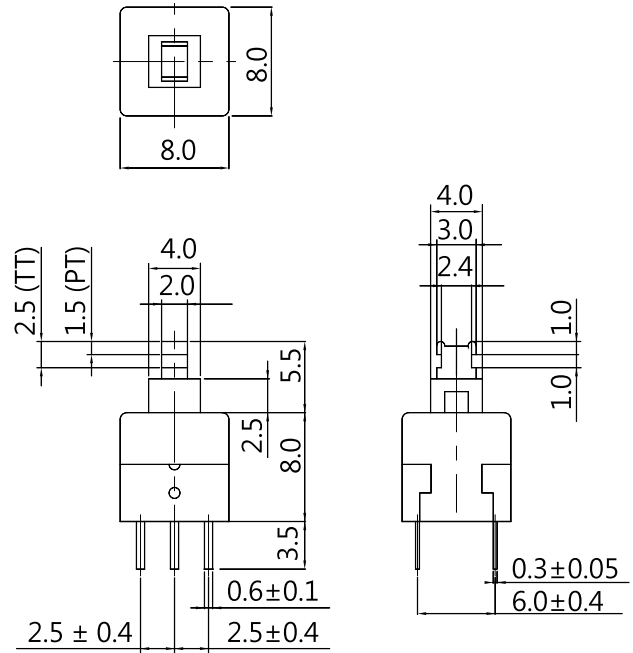
Telephone, Computer, Tester, Automotive, Apparatus

ORDERING INFORMATION

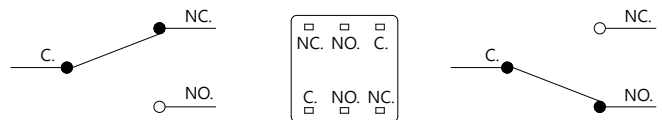
P	1	1	S	—	Z	NO-TOP BUTTON					
P	1	1	S	—	1	L	—	Z			
SERIES PREFIX		CODE	TYPE	CODE	OPERATING FORCE	CODE	TOP BUTTON TYPE	CODE	TOP BUTTON COLOR	ROHS CODE	
		0	NON LOCK	L	LIGHT	1	7 x 7 x 8 mm	R	RED	W	WHITE
		1	LOCK	S	STANDARD	3	∅7 x 8 mm	L	BLUE	E	GREEN
		2	NON LOCK CLICK					B	BLACK	Y	YELLOW

DIMENSIONS

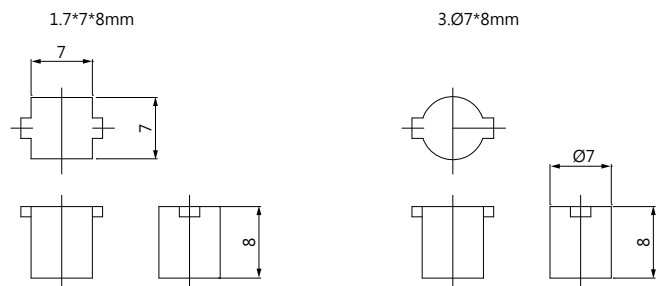
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



TOP BUTTON DIMENSIONS



OPERATING FORCE

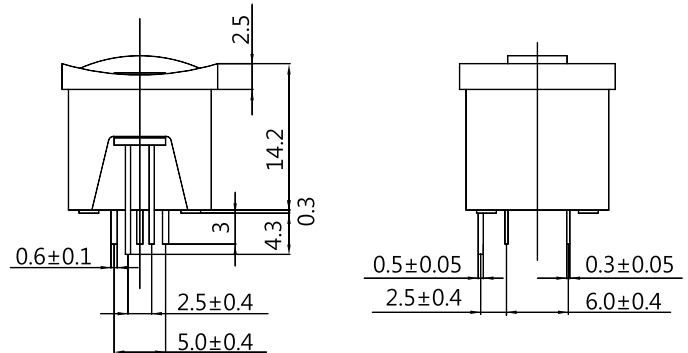
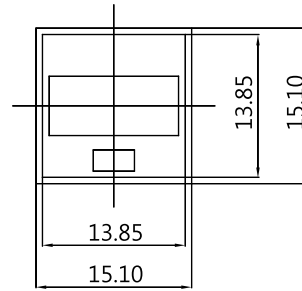
FORCE/TYPE	NON LOCK	LOCK
L	90 ± 30 gf	130 ± 50 gf
S	150 ± 50 gf	180 ± 50 gf

PUSH SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.



P2 SERIES

SPECIFICATIONS

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Operating Temperature Range

0°C to 55°C

Vibration

10 ~ 55 Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations.

Electrical Operating Frequency

10 operations per minute

LED Rating

Max. 20mA

Mechanical Service Life

Min. 100,000 operations.

Mechanical Operating Frequency

30 operations per minute

Travel

Pre travel Max. 1.5mm

Total travel 2.5 ± 0.5 mm

RATING

0.1A 30VDC

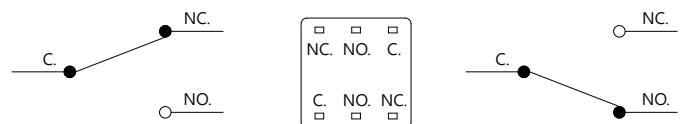
APPLICATIONS

Computer, Alarm, Coin-op phone, Auto garage door

ORDERING INFORMATION

P	2	—	0	S	—	L	—	G	—	R	—	Z
SERIES PREFIX			CODE	CODE		CODE		CODE		CODE		ROHS CODE
			TYPE	OPERATING FORCE		TOP BUTTON COLOR		CASE COLOR		LED COLOR		
			0 NON LOCK	NON LOCK 150 \pm 50g	R RED	G GRAY	R RED					
			1 LOCK	LOCK 180 \pm 50g	L BLUE	B BLACK	E GREEN					
			2 NON LOCK CLICK		E GREEN							
					Y YELLOW							
					N BROWN							
					O ORANGE							
					B BLACK							
					G GRAY							

CONTACT CONFIGURATION



PUSH SWITCHES



P3 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 300mΩ

Measured by ohm meter –open voltage <1VDC, driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Dielectric Strength

Min. 1,500VAC(50-60HZ)/minute between Live parts.

Min. 3,000VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 125°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

8(8)A - Min. 50,000 operations

Other ratings - Min. 10,000 operations

Electrical Operating Frequency

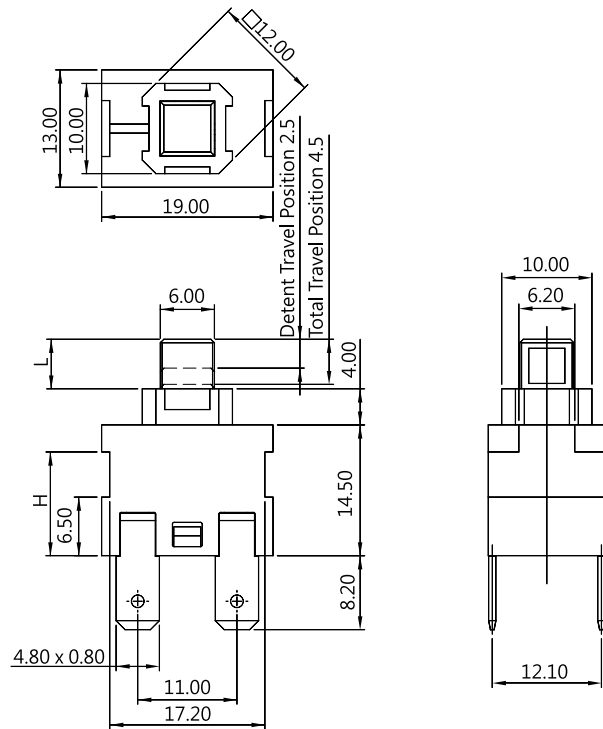
10~30 operations per minute

APPLICATIONS

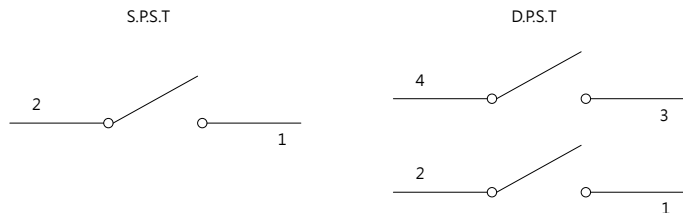
Vacuum Cleaner, Refrigerator, Espresso Machine

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



CERTIFICATE INFORMATION

Model Name	UL,cUL	ENEC
P3-10	10A 125/250 VAC T125 1E4 1/2HP 125/250 VAC T55 1E4	10(4)A 125/250 VAC T125 1E4
P3-16	16A 125/250 VAC T125 1E4 3/4HP 125/250 VAC T85 1E4	16.1(4)A 125/250VAC T125 1E4 8(8)A 125/250VAC T125 5E4

ORDERING INFORMATION

SERIES PREFIX	RATING CURRENT	OPERATING FORCE	CIRCUIT ARRANGEMENT	BUTTON TYPE	COVER TYPE	TERMINAL TYPE	ROHS CODE
P3	10 10A 1/2HP 125/250VAC 10(4)A 125/250VAC	S1	S.P.S.T. OF: Max. 1100gf	A L=5.5mm+LOCK	1 H=11.50mm	#187 TERMINAL	Z
	B L=5.5mm+NON LOCK						
16	16A 3/4HP 125/250VAC 16.1(4)A 125/250VAC 8(8)A 125/250VAC	S2	D.P.S.T. OF: Max. 1600gf	C L=8.0mm+LOCK	2 H=12.25mm	#187 TERMINAL	Z
	D L=8.0mm+NON LOCK						
		L1	S.P.S.T. OF: Max. 600gf				

PUSH SWITCHES



P8 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 50mΩ

Measured by ohm meter –open voltage <1VDC, driver current -100mA

Insulation Resistance (at 500VDC/minute)

Min. 100MΩ

Dielectric Strength

Min. 1,000VAC(50-60HZ)/minute between Live parts.

Min. 3,000VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55HZ, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

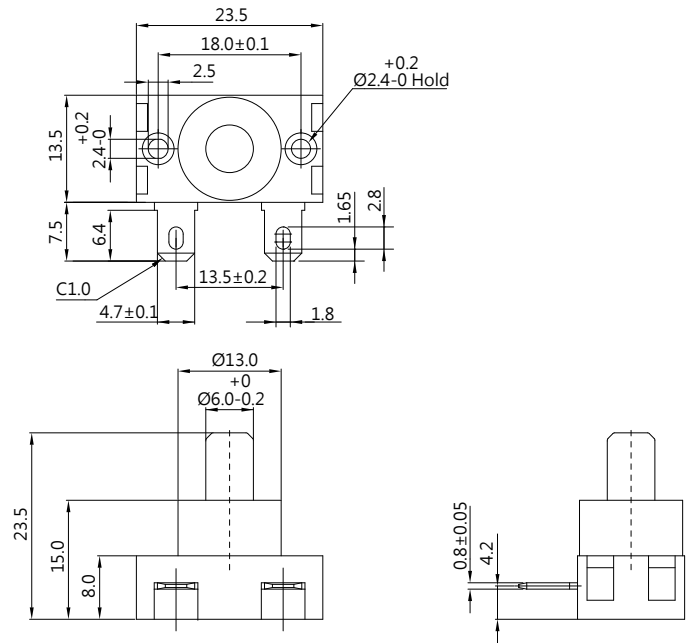
10~30 operations per minute

APPLICATIONS

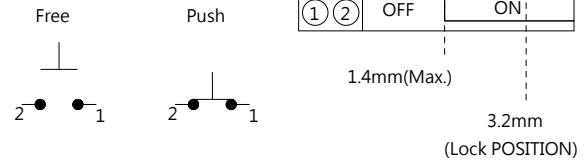
Juice Maker, Blender, Food processor

DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION

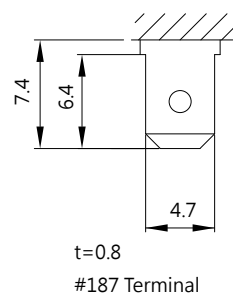


CERTIFICATE INFORMATION

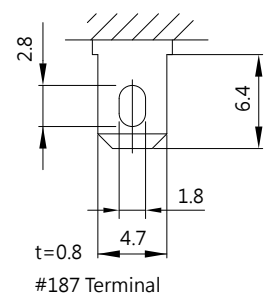
Model Name	UL, cUL	ENEC
P8-10S	6A 250VAC 10A 125VAC (Temp85°C) Min. 6,000 operations	7(4)A 250VAC,μT85/551E4

TERMINAL TYPES

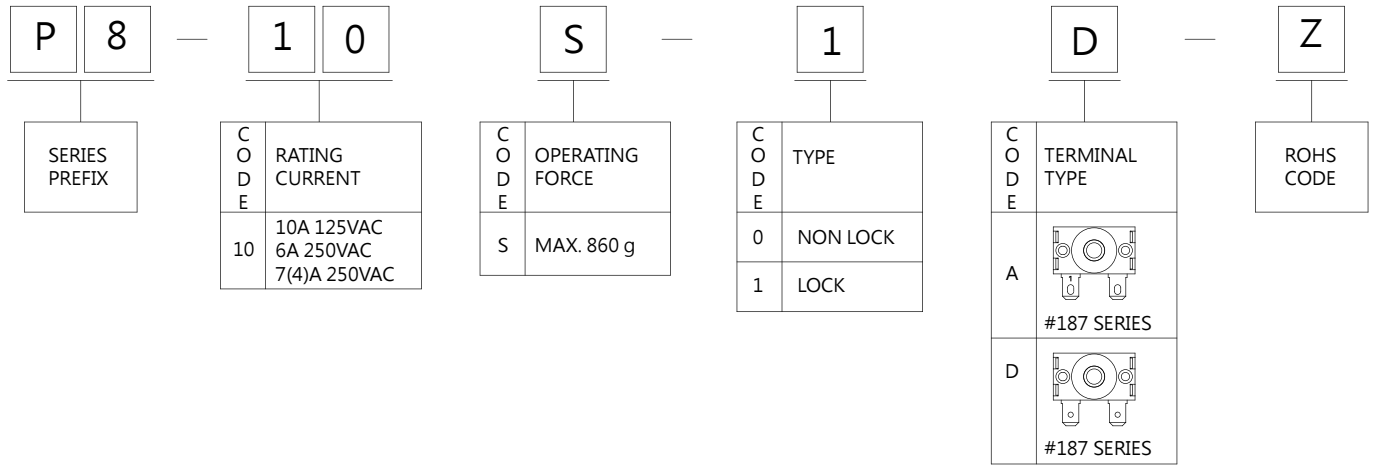
D TYPE



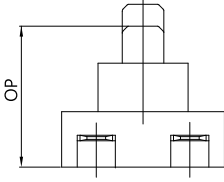
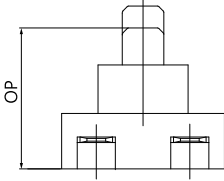
A TYPE



ORDERING INFORMATION



OPERATING CHARACTERISTICS

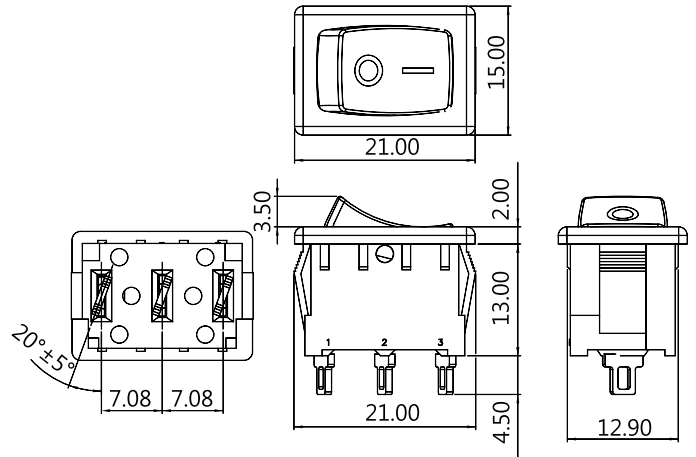
SWITCH TYPE	PART SUFFIX	OF Max (gf)	FULL TRAVEL (mm)	LOCK TRAVEL (mm)
P8-10S-0 □ -Z		860gf	4.0±0.5mm	---
P8-10S-1 □ -Z		860gf	4.0±0.5mm	2.0±0.5mm

ROCKER SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



RE SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 50 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

Min. 1,000VAC(50-60HZ)/minute between Live parts.

Min. 3,000VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 55°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm(p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

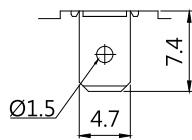
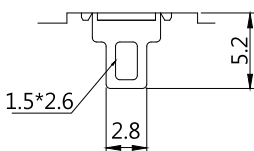
APPLICATIONS

Juice Maker, Blender, Food Processor

TERMINAL TYPES

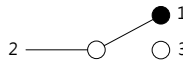
A TYPE (t=0.8mm)

D TYPE (t=0.8mm)

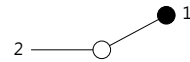


CONTACT CONFIGURATION

SPDT



SPST



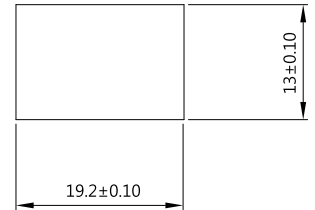
TERMINAL TYPES

MOUNTING HOLES

t=0.8mm

t=1.0mm



t=1.2mm



CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
RE-06S	3A 250 VAC 6A 125 VAC (Temp:55°C) Min. 6,000 operations	Non
RE-12S	12A 125/250 VAC (Temp:55°C) Min. 6,000 operations	12A 125/250VAC μ T85/55 1E4

ORDERING INFORMATION

Series Prefix	Rating Current	Operating Force	Terminal Type	Type	Actuator Color	Circuit Arrangement	Actuator Marking	ROHS Code
RE	06 6A 125VAC	S Max. 700gf	A  D 	2 Twist	B BLACK	A SPST B SPDT	0 1 I, O 2 • 3 L, H 4 I, Φ 5 ON, OFF 6 -, O	Z

187 series

ROCKER SWITCHES



RF SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 50 mΩ

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 3000VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm(p-p)

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

APPLICATIONS

Juice Maker, Blender, Food Processor

CERTIFICATE INFORMATION

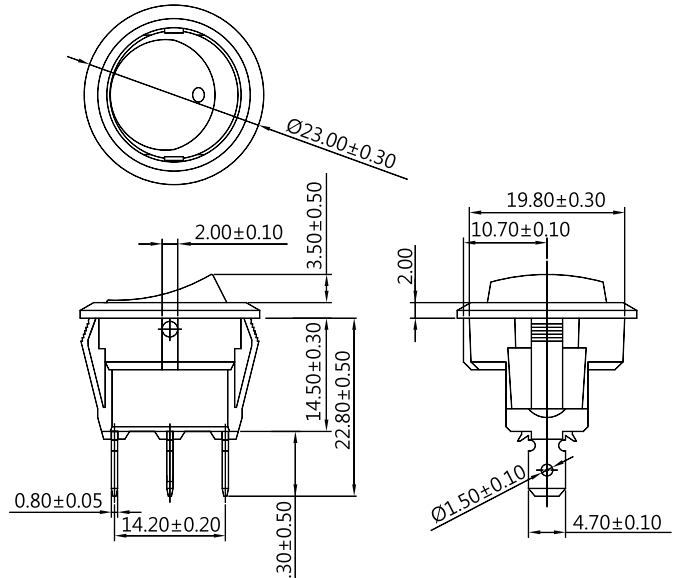
Model Name	UL, cUL	ENEC
RF-12S	12A 125/250 VAC (Temp:55°C) Min. 6,000 operations	12(4)A 250 VAC. μ T85/55, 1E4

ORDERING INFORMATION

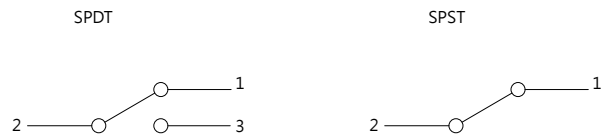
R	F	-	1	2	S	-	D	B	R	2	-	0	-	Z	
SERIES PREFIX	C O D E	RATING CURRENT	C O D E	OPERATING FORCE	C O D E	TERMINAL TYPE	C O D E	CASE COLOR	C O D E	ACTUATOR COLOR	C O D E	CIRCUIT ARRANGEMENT	C O D E	ACTUATOR MARKING	ROHS CODE
	12	12A 125/250VAC 12(4)A 250VAC	S	Max.700gf	A	SOLDER TERMINAL	B	BLACK	B	BLACK	1	SPST	0	NO MARKING	
					D	187 SERIES	W	WHITE	R	RED	2	SPDT	1	•	
									P	PURPLE	3	SPST 250VAC WITH NEON LAMP (ONLY FOR RED ACTUATOR)	2	•	
											4	SPST 125VAC WITH NEON LAMP (ONLY FOR RED ACTUATOR)	3	L H	
													4	ON OFF	

DIMENSIONS

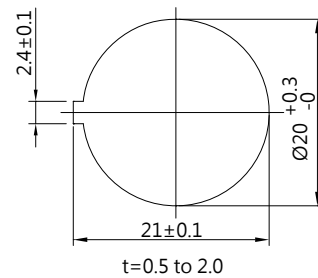
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



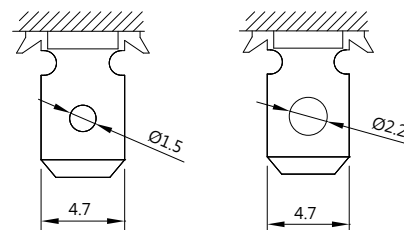
MOUNTING HOLES



TERMINAL TYPES

D TYPE
t=0.8
#187 Terminal

A TYPE
t=0.8
Solder Terminal



DETECT SWITCHES



B8 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 200 mΩ

Measured by ohm meter –open voltage < 1 VDC, driver current -100 mA

Insulation Resistance (at 100VDC/minute)

Min. 100MΩ

Operating Temperature range

0°C to 55°C (with no icing)

Vibration

10~55Hz, displacement 0.75mm(p-p)

Electrical Service Life

Min. 200,000 operations.

Electrical Operating Frequency

120 operations per minute

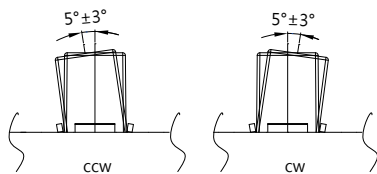
RATING

50mA 24VDC

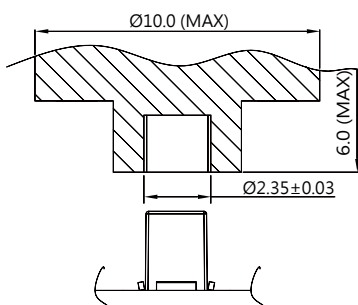
APPLICATIONS

Digital Camera · Mobile Phone

DIMENSION OF BUTTON MOVING ANGLE

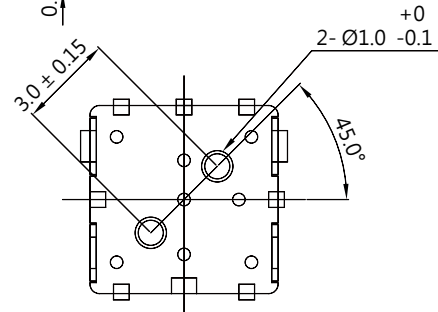
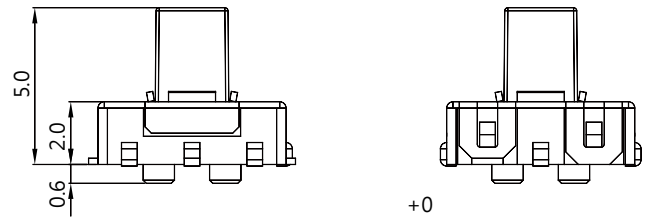
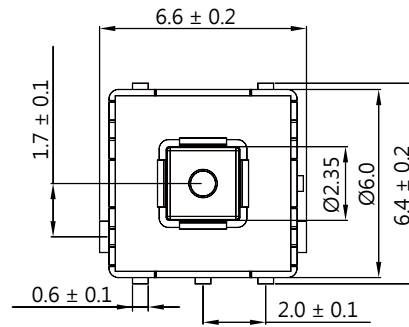


DIMENSION OF ASSEMBLY PART



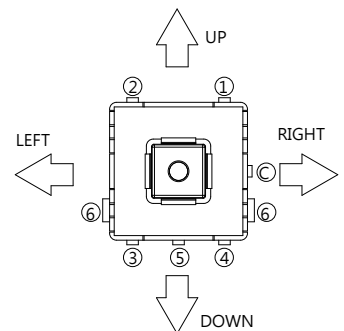
DIMENSIONS

Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.

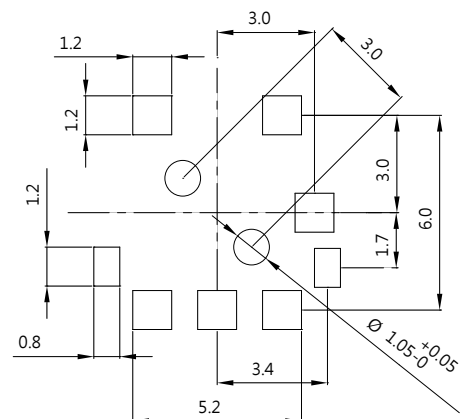


CONTACT CONFIGURATION

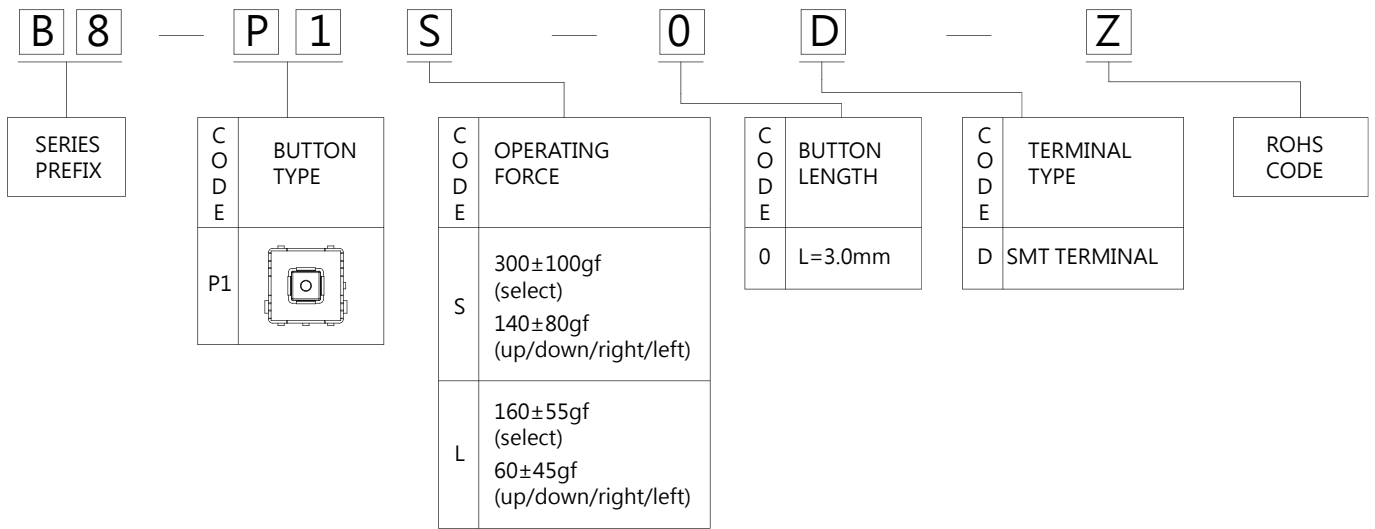
DIRECTION	①	②	③	④	⑤	⑥	C
UP	○	○					○
DOWN			○	○	○	○	○
LEFT			○	○			○
RIGHT					○	○	○
SELECT					○	○	○



MOUNTING HOLES



ORDERING INFORMATION



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF(gf)		RF Min. (gf)	OF(UP/DOWN/R/L) (gf)	RF(UP/DOWN/R/L) Min.(gf)
B8-P1 □ -0D-Z		L	160±55gf	25gf	60±45gf	5gf
		S	300±100gf	55gf	140±80gf	10gf

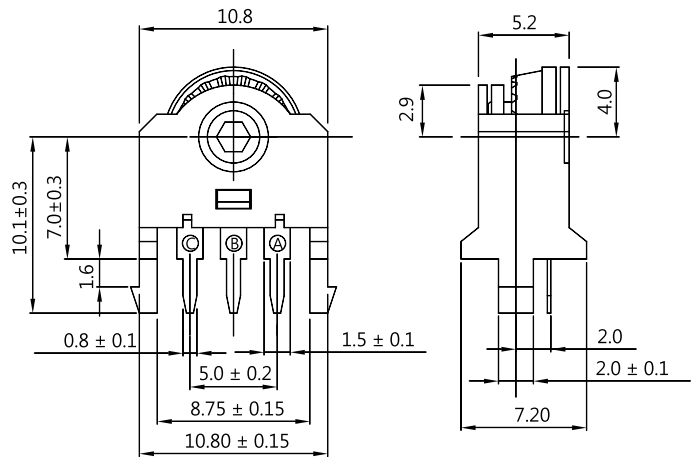
ENCODER SWITCHES



RP SERIES

DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



SPECIFICATIONS

Contact Resistance (initial)

Max. 100 m Ω

Measured by ohm meter - open voltage < 1VDC, driver current -100 mA

Insulation Resistance (at 50VDC/minute)

Min. 10M Ω

Operating Temperature range

-10°C to 65°C (with no icing)

Vibration

10~55Hz, displacement 0.75 mm (p-p)

Electrical Service Life

Min. 200,000 operations

C.W. 100,000 & C.C.W 100,000 operations

Electrical Operating Frequency

Max.18 operations per minute

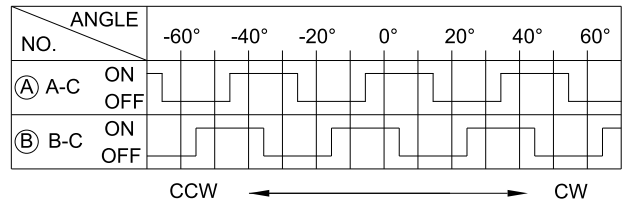
RATING

1mA 5VDC

APPLICATIONS

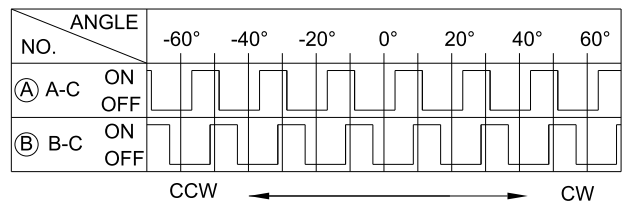
Mouse, Keyboard, Fax machine, Remote control, LCD monitor, Set top box, Browser

CONTACT CONFIGURATION



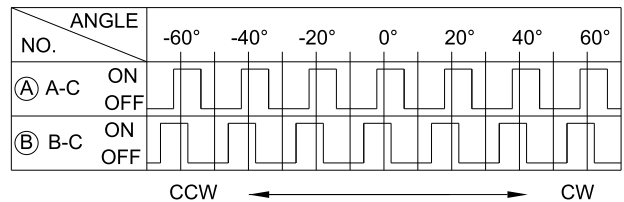
Numbers of detent : 18

Pulse / Rotation: 9 Pulse /360°



Numbers of detent : 18

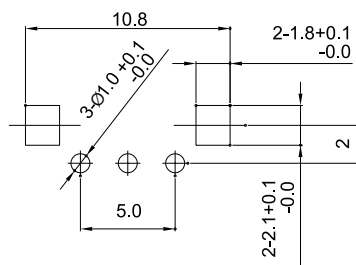
Pulse / Rotation:18 Pulse /360°



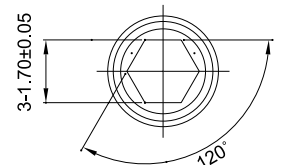
Numbers of detent : 18

Pulse / Rotation:18 Pulse /360°(reverse)

MOUNTING HOLES

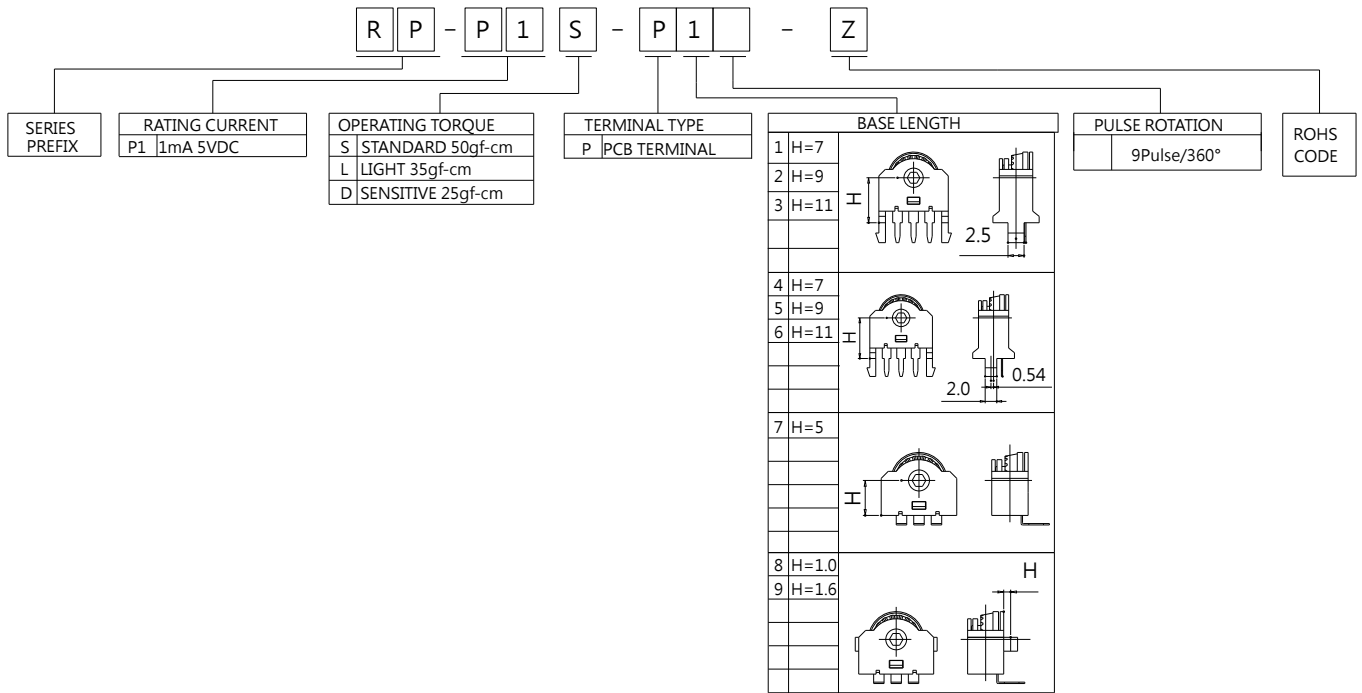


HEXAGONAL HOLE

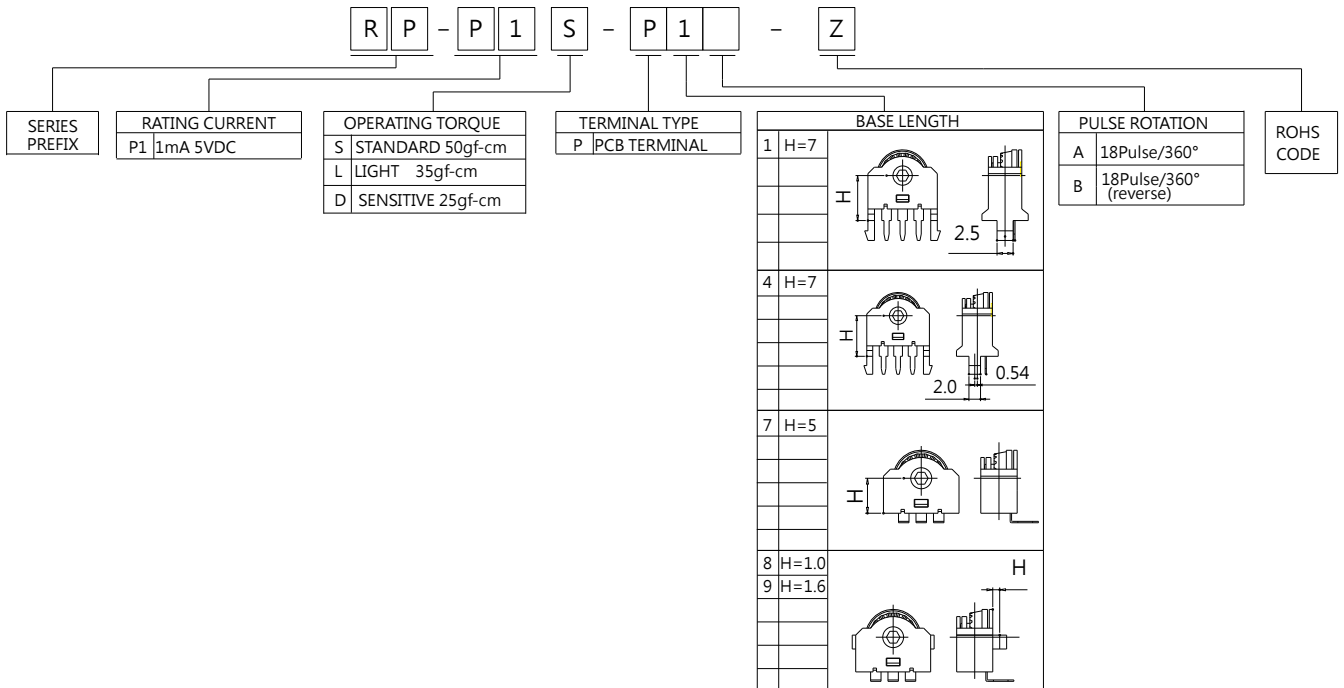


ORDERING INFORMATION

Pulse / Rotation : 9Pulses/360°



Pulse / Rotation : 18Pulses/360°

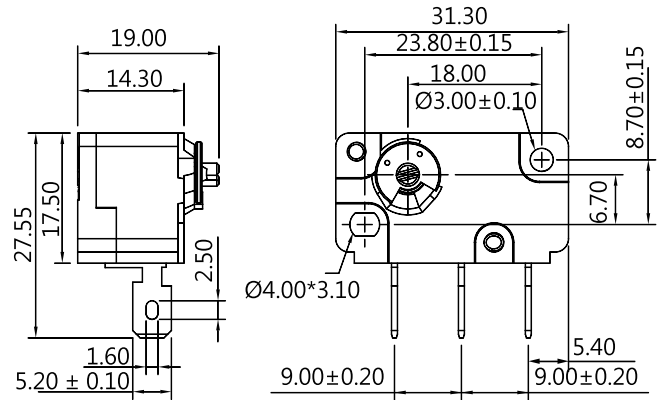


LOW TORQUE SWITCHES



DIMENSIONS

Unless otherwise specified, a tolerance of $\pm 0.4\text{mm}$ applies to all dimensions.



CNR SERIES

SPECIFICATIONS

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

Min. 1000VAC(50-60HZ)/minute between Live parts.

Min. 1500VAC(50-60HZ)/minute between Live parts and dead metal parts

Operating Temperature Range

05 series -40°C to 65°C (with no icing)

P1 series -40°C to 85°C (with no icing)

Vibration

10~55 Hz, displacement 0.75 mm(p-p)

Electrical Service Life

Min. 6,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

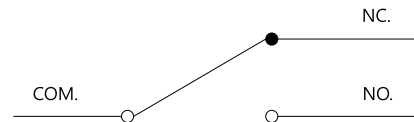
Mechanical Operating Frequency

120 operations per minute

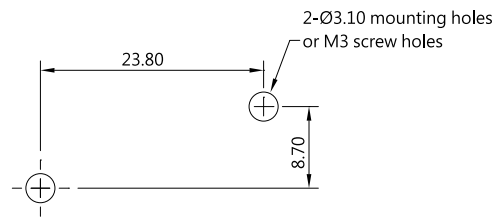
APPLICATIONS

TV Game, Vending Machine, Coin-op Phone, Pin-Ball Game

CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

Model Name	UL, cUL
CNR-P1 CNR-05	0.1A 30VDC 1A 125/250 VAC 5A 125/250VAC Temp:85°C Min. 6,000 operations

OPERATING CHARACTERISTICS

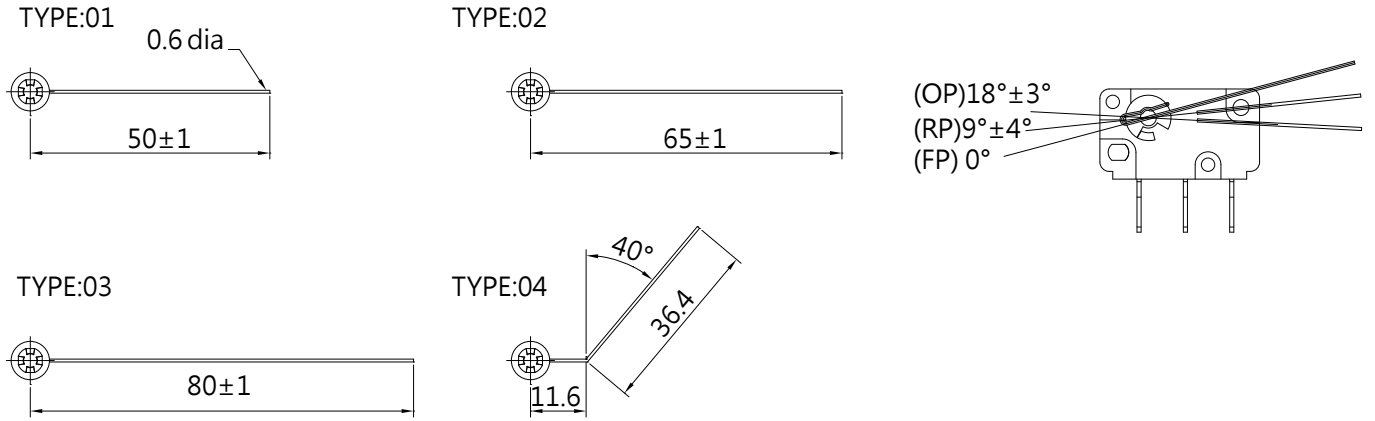
Type	L	S	H
Operating Force(OF)Max	5.1 gf	7.6 gf	10.2 gf
Releasing Force(RF)Min.	0.6 gf	0.9 gf	1.3 gf
Operating Position(OP)	18 \pm 3°		
Releasing Position(RP)	9 \pm 4°		

THE SELECTION OF RATING & FORCE

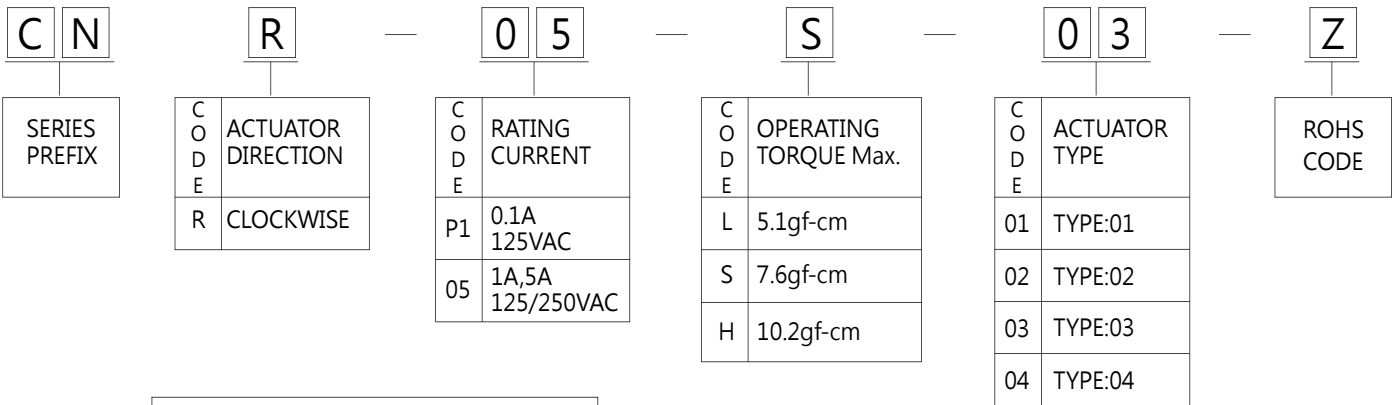
MODEL	Rating	L	S	H
CNR	0.1A	*	*	*
	1A	*	*	*
	5A	*	*	*

NOTE : The Symbol " * " to represent the result is accepted

ACTUATOR TYPES



ORDERING INFORMATION



#NOTE		
ITEM	RATING CURRENT	OPERATING FORCE
1	Code:P1	L,S,H
2	Code:05	L,S,H

CAUTIONS:

注意事項

1. To secure the switch, please use an M3 small screw on a flat surface and tighten with plane washers or spring washers to securely mount the switch, using a maximum torque of 0.59 N•m.
若使用定位孔型式，請使用M3小型螺絲固定在平面上，並使用平墊圈或者彈性墊圈以便安全的鎖固開關，鎖固扭力請勿超過0.59 N•m.
2. To ensure the best performance of the switch, when handling/installing the switch, please do not apply uneven pressure to the direction indicated by the arrow in (Figure -1). Any uneven pressure or pressure direction other than the operating direction might be harmful or damage the switch performance.
為確保開關正常運作，安裝及取用開關時，請勿直接施加壓力在(圖-1)中箭所指示的方向。如圖所示，任何不對稱的壓力或作動方向以外的壓力都不適在開關按柄上。

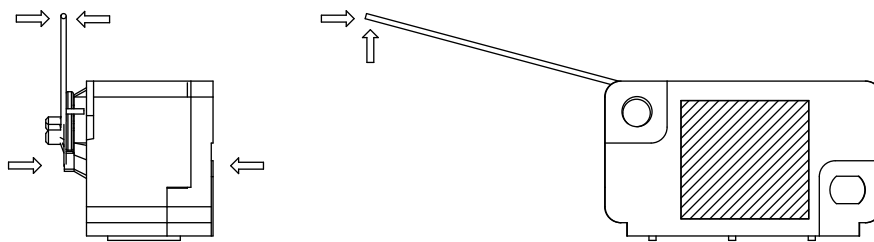


Figure-1



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