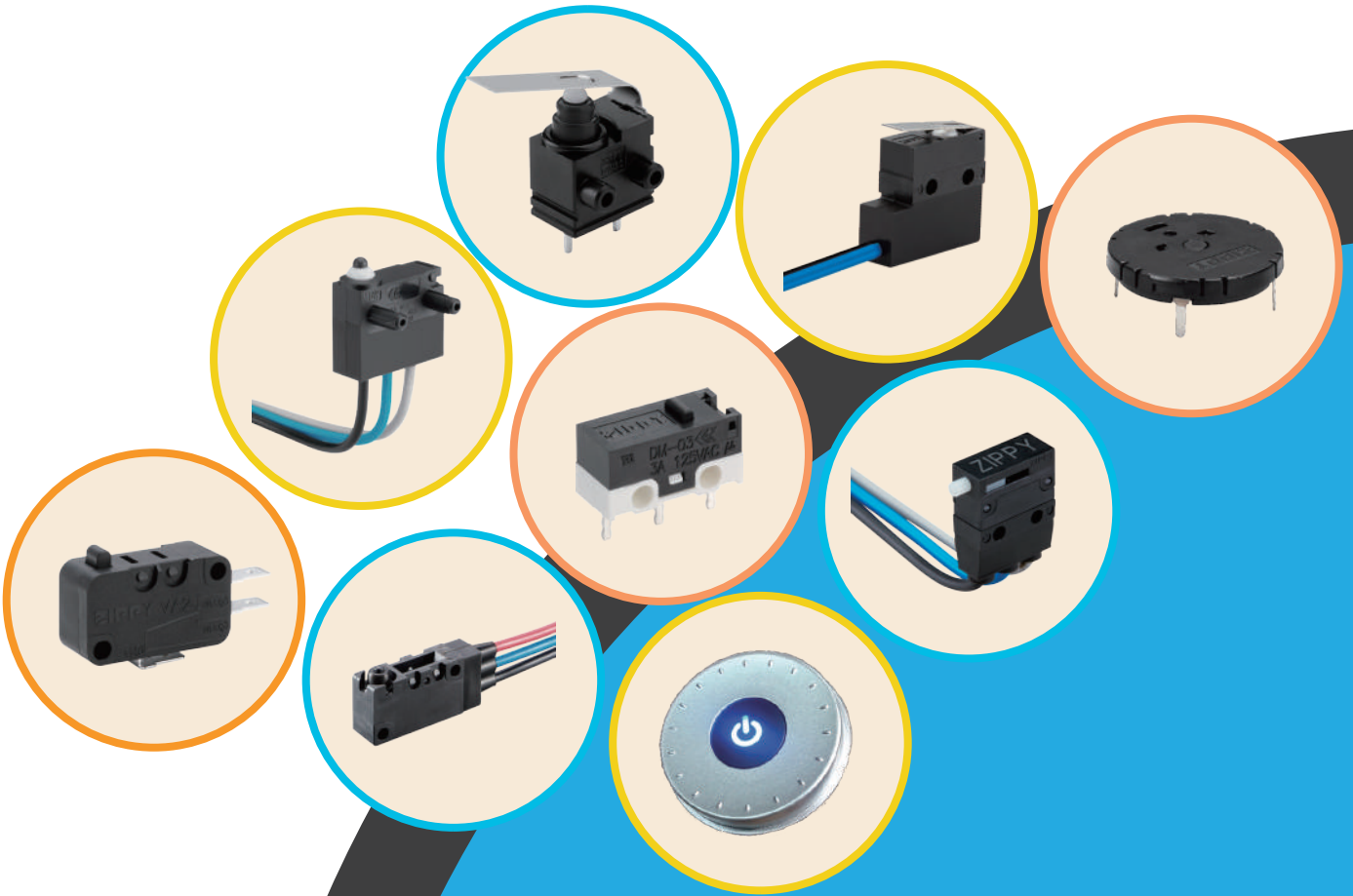




Let you secure and at ease

# PRODUCT CATALOG



# About US



## ZIPPY Technology

### QUALITY SWITCH SOLUTIONS SINCE 1983

ZIPPY is a well-established manufacturer of power supplies, snap action and other electromechanical switches & sub-assemblies, widely used in Automotive, Industrial, Medical, HEVAC and Home Appliance market sectors. ZIPPY owns more than 1000 patents worldwide, over 341 of which are associated with the switch division that is supported by a dedicated in-house R&D team and well-equipped laboratory.

As a market leader, ZIPPY produces switches of the highest quality, precision, and reliability, intended for use in demanding applications. ZIPPY products are suitable for worldwide use and certified according to international safety and quality standards, including ISO 9001 and IATF 16949. Factories in Taiwan and mainland China provide ZIPPY with the manufacturing footprint to serve both domestic and overseas markets, with a team dedicated to providing best-in-class support and customer service.

### Environmental, Social & Governance (ESG) factors

In line with wider company objectives and corporate values, sustainable development is an important initiative that is continuously monitored and reviewed. ZIPPY continues to make improvements to make manufacturing process improvements relating to efficiency and waste reduction waste, with year-on-year carbon emissions targets achieved and exceeded. ZIPPY products are compliant with RoHS and REACH directives.

### EXPLANATORY NOTES

#### OPERATING CHARACTERISTICS

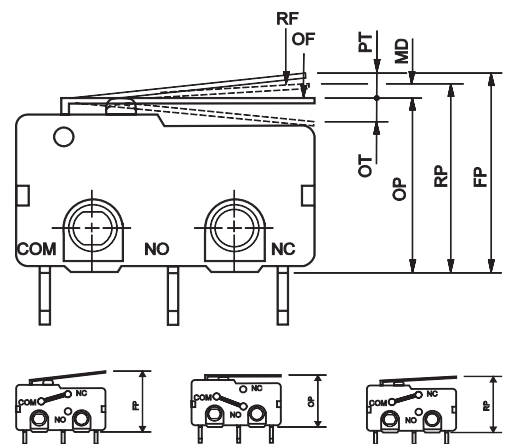
OPERATING APPLICATION OF THE SWITCH: Set the switch pushing distance from 60% to 90% of the specified OT value

- |                       |                          |
|-----------------------|--------------------------|
| 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.



## WATER PROOF SWITCHES DW36 SERIES



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## WATER PROOF SWITCHES DW36(IP67) SERIES



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## WATER PROOF SWITCHES DW32 SERIES



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## WATER PROOF SWITCHES DW32(IP67) SERIES



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## WATER PROOF SWITCHES DW33 SERIES



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## WATER PROOF SWITCHES DW33(IP67) SERIES



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## WATER PROOF SWITCHES DFW SERIES



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## WATER PROOF SWITCHES DFW(IP67) SERIES



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## WATER PROOF SWITCHES DFW(IP67) SERIES Resistor(s) installed type



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## WATER PROOF SWITCHES MDU-DFW SERIES



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## WATER PROOF SWITCHES MDU-DFW(IP67) SERIES



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## WATER PROOF SWITCHES DW SERIES



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## WATER PROOF SWITCHES DW(IP67) SERIES



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## WATER PROOF SWITCHES DW(IP67) SERIES Resistor(s) installed type



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## WATER PROOF SWITCHES DW2 SERIES



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## WATER PROOF SWITCHES DW2(IP67) SERIES



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## WATER PROOF SWITCHES DW2(IP67) SERIES Resistor(s) installed type



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051

## WATER PROOF SWITCHES 撥接開關 DW3 SERIES



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053

## WATER PROOF SWITCHES DW3(IP67) SERIES



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## WATER PROOF SWITCHES DW51 SERIES



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## WATER PROOF SWITCHES DW51(IP67) SERIES



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## WATER PROOF SWITCHES DW52 SERIES



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## WATER PROOF SWITCHES DW52(IP67) SERIES



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065

## WATER PROOF SWITCHES SW SERIES

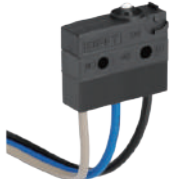


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067



## WATER PROOF SWITCHES SW(IP67) SERIES



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070

## WATER PROOF SWITCHES SW(P67)SERIES Resistor(s) installed type



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## WATER PROOF SWITCHES SW1 SERIES



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## WATER PROOF SWITCHES SW1(IP67) SERIES



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## WATER PROOF SWITCHES SW2 SERIES



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## WATER PROOF SWITCHES SW2(IP67) SERIES



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082

## WATER PROOF SWITCHES SW2(IP67) SERIES Resistor(s) installed type



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## WATER PROOF SWITCHES VW1 SERIES



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## WATER PROOF SWITCHES VW1(IP67) SERIES



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## MICRO SWITCHES DF-M SERIES



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## MICRO SWITCHES SM1-N & SM1-G SERIES



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## MICRO SWITCHES SW2 SERIES



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## MICRO SWITCHES V3 SERIES ( Full-Disconnection – Gap > 3mm )



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## MICRO SWITCHES V3 SERIES ( Micro-Disconnection-Gap < 3mm )



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## MICRO SWITCHES V3 SERIES ( Full-Disconnection – Gap > 3mm )



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## MICRO SWITCHES VA1 SERIES



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## MICRO SWITCHES VA2 SERIES



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## MICRO SWITCHES VK SERIES



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## MICRO SWITCHES VM SERIES



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## MICRO SWITCHES VMN SERIES



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## ROCKER SWITCHES RE SERIES



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## ROCKER SWITCHES RF SERIES



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## ROTARY SWITCHES AN SERIES



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## ROTARY SWITCHES ANL SERIES



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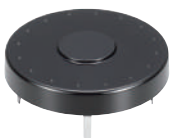
## ROTARY SWITCHES ANO SERIES



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## ROTARY SWITCHES ANM SERIES



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157

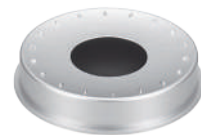
## ROTARY SWITCHES ANQ SERIES



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## ROTARY SWITCHES KC SERIES



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## ROTARY SWITCHES KCL SERIES



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## HOOK SWITCHES HK01 SERIES



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## PUSH SWITCHES P1 SERIES



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## PUSH SWITCHES P2 SERIES



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## PUSH SWITCHES P3 SERIES



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## PUSH SWITCHES P8 SERIES



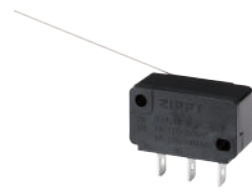
Go to  
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167

## ENCODER SWITCHES RP SERIES



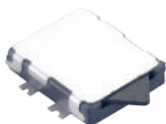
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## LOW TORQUE SWITCHES CNR SERIES



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## SLIDE SWITCHES D4 SERIES

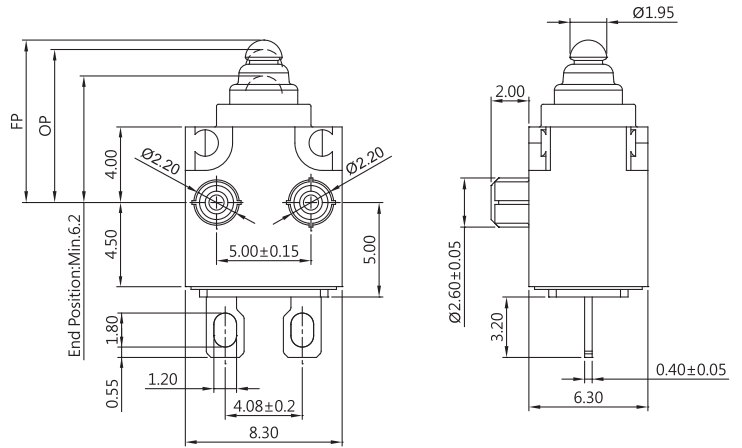


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# WATER PROOF SWITCHES

## DIMENSIONS

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



## DW36 SERIES

### SPECIFICATIONS

#### Contact Resistance ( initial )

Max. 100m $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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)

#### Rating

5A 12/24VDC

3A 12/24VDC

#### 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.)

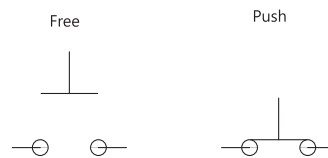
### CAUTIONS



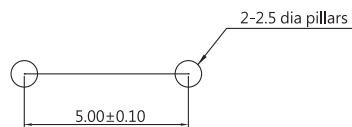
Scan the QR code or download

[https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)

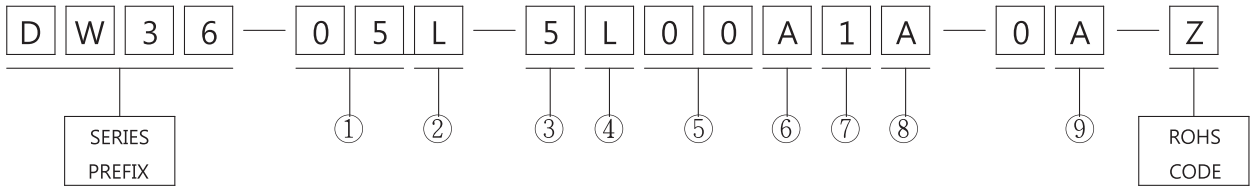
### CONTACT CONFIGURATION



### PILLAR PITCH



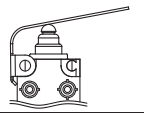
ORDERING INFORMATION


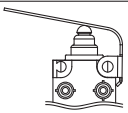


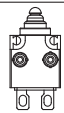
①	RATING	
	05	5A 12/24VDC ; 3A 12/24VDC

②	OPERATING FORCE	
	S	Standard
	L	Light

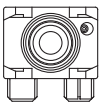
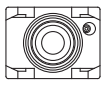
③	EXTERNAL SNAP-FIT LEVER	
	5	EXTERNAL

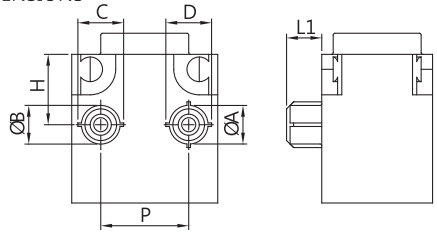
④	DIRECTION OF LEVER	
		L
		R
	NO LEVER	

⑤	ACTUATOR TYPE	
	00	02
		

⑥	TERMINAL TYPE	
	A	
		

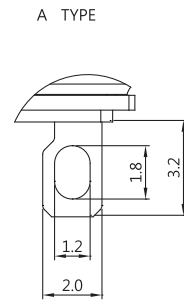
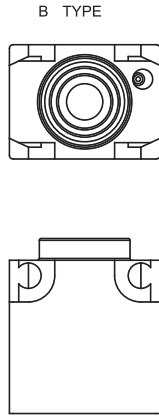
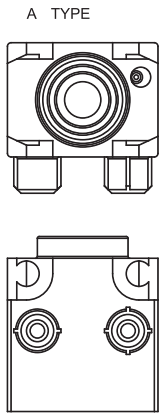
⑦	CIRCUIT ARRANGEMENT	
	1	S.P.T. - NO.

⑧	PILLAR TYPE	
	A	B
		

⑨	DIMENSIONS							
								
	CODE	L1	H	ØA	ØB	C	D	P
	A	2.0	4.0	2.2	2.2	2.6	2.6	5.0

COVER TYPES ( PILLAR & TRAVEL TYPES )

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



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF Max(gf)		OP (mm)	FP Max (mm)	OT Ref.(mm)
		S	L			
DW36-05S-500 □□ -Z		S	122	8.0±0.2	8.7	6.2
		L	95			
		S	122	4.0±0.2	4.7	2.2
		L	95			
DW36-05S-5R02 □□ -Z		S	35	9.5±1.00	12.5	5.25
		L	32			
		S	35	5.5±1.00	8.5	1.25
		L	32			

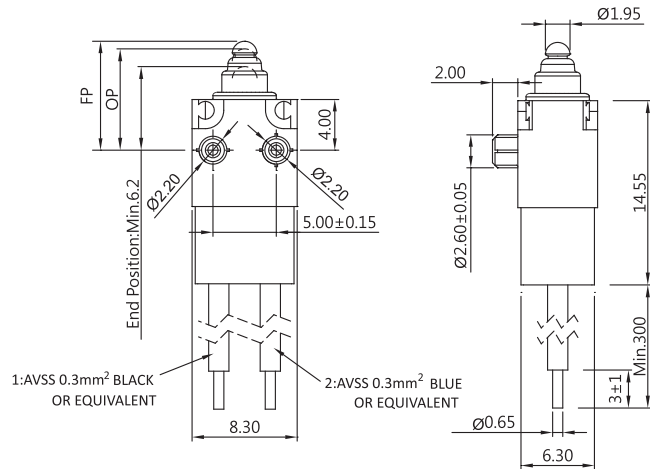


# WATER PROOF SWITCHES



## DIMENSIONS

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



## DW36(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.)

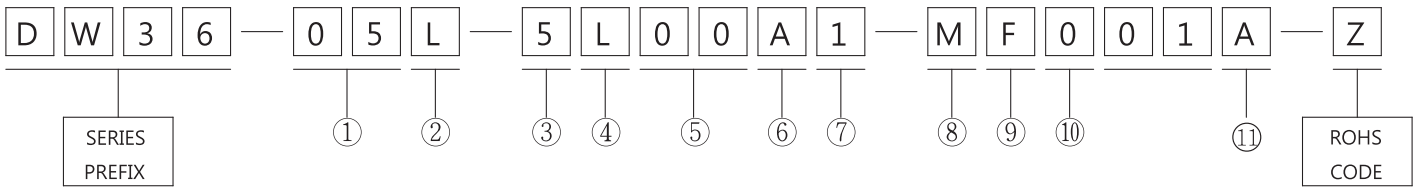
※ For the specification, please refer to DW36 SERIES. ※

### CAUTIONS



Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)

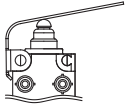
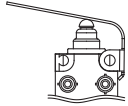
ORDERING INFORMATION


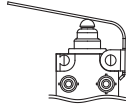


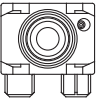
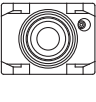
①	RATING	
	05	5A 12/24VDC ; 3A 12/24VDC

②	OPERATING FORCE	
	S	Standard
	L	Light

③	EXTERNAL SNAP-FIT LEVER	
	5	EXTERNAL

④	DIRECTION OF LEVER		
		L	R
	NO LEVER		

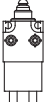
⑤	ACTUATOR TYPE	
	00	02
		

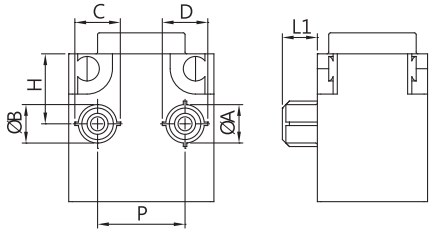
⑥	PILLAR TYPE	
	A	B
		

⑦	CIRCUIT ARRANGEMENT	
	1	S.P.T. - NO.

⑧	AWG TYPE	
	M	G
	0.3mm <sup>2</sup>	24AWG

⑨	UL NUMBER	
	F	A
	AVSS	UL 1007

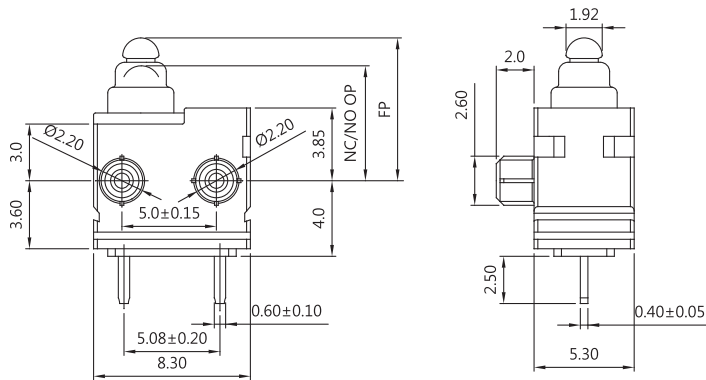
⑩	WIRE LEADS	
	0	
		

⑪	DIMENSIONS						
							
	CODE	L1	H	ØA	ØB	C	D
A	2.0	4.0	2.2	2.2	2.6	2.6	5.0

# 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.  $500\text{m}\Omega$

Measured by ohm meter –Open Voltage  $< 1\text{VDC}$ , Driver current  $-100\text{mA}$

#### Insulation Resistance ( at 500VDC/minute )

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

#### Dielectric Strength

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

#### Operating Temperature Range

$-40^\circ\text{C}$  to  $85^\circ\text{C}$  ( with no icing )

#### Vibration

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

#### Electrical Service Life

$50\text{mA}$   $16\text{VDC}$ - Min.  $150,000$  operations

$100\text{mA}$   $12\text{VDC}$ - Min.  $300,000$  operations

$1\text{mA}$   $5\text{VDC}$ - 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

$\text{IP67}$  (excluding the terminals on terminal models)

### APPLICATION

Automobiles

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

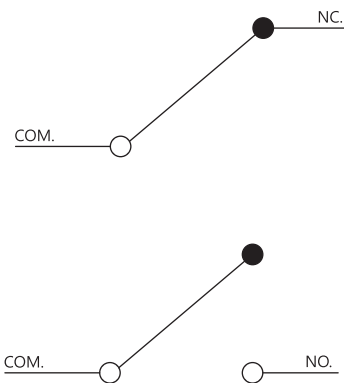
Household appliances

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

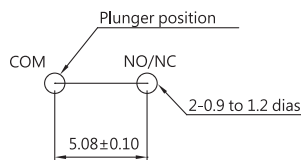
### ORDERING INFORMATION

D	W	3	2	—	P	1	H	—	0	0	Y	C	1	A	0	A	—	Z		
SERIES PREFIX				RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE			TERMINAL TYPE		CIRCUIT ARRANGEMENT		PILLAR TYPE		SPECIAL CODE		ROHS CODE
P1				100mA 12VDC 50mA 16VDC 1mA 5VDC Contact Plated Silver			H Standard		00 01 02			A P EC ED YC YD		1 2		A B C D				

### CONTACT CONFIGURATION



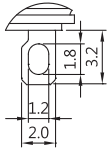
### MOUNTING HOLES FOR PCB TERMINAL



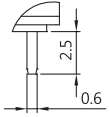
DIMENSIONS							
CODE	L1	H	ØA	ØB	C	D	P
A	2.0	3.85	2.2	2.2	2.6	2.6	5.0

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

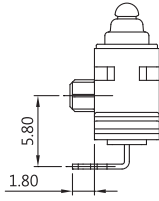
A TYPE



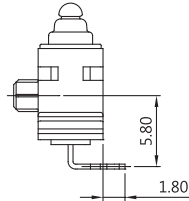
P TYPE



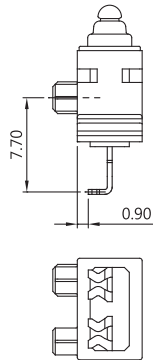
E TERMINAL C-TYPE



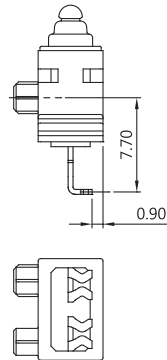
E TERMINAL D-TYPE



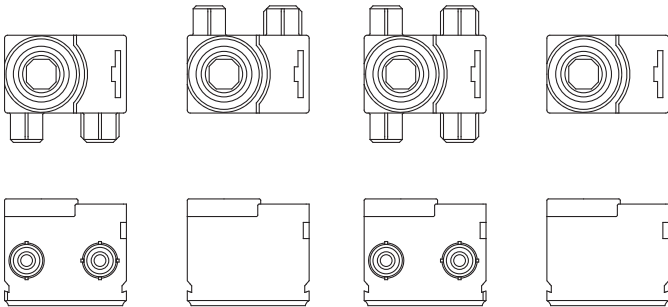
Y TERMINAL C-TYPE



Y TERMINAL D-TYPE



**COVER TYPES ( PILLAR & TRAVEL TYPES )**



A TYPE

B TYPE

C TYPE

D TYPE

**CAUTIONS**



Scan the QR code or download

[https://www.zipy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zipy.com/ecmodelcautions/slide_switch_cautions.pdf)

**OPERATING CHARACTERISTICS**

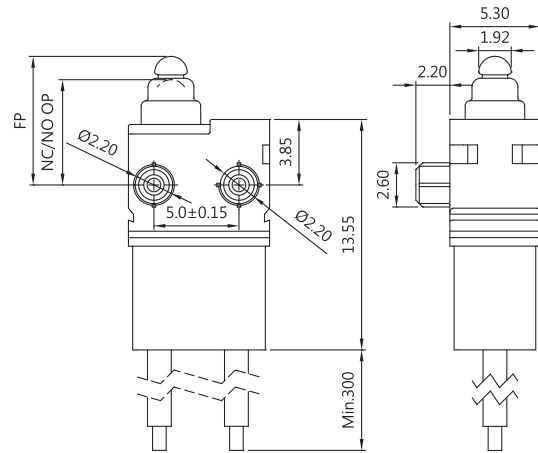
SWITCH TYPE	PART SUFFIX	OF		FP Max (mm)	NC/NO-OP (mm)	NC/NO-OT Min.(mm)
		H	Max (gf)			
DW32- □□ -00 □□ -Z		H	160	7.7	7.1±0.25	1.75
DW32- □□ -01 □□ -Z		H	150	12.0	8.3±1.25	-
DW32- □□ -02 □□ -Z		H	153	13.4	10.75±0.6	2.25

# WATER PROOF SWITCHES



## DIMENSIONS

Unless otherwise specified, a tolerance of  $\pm 0.4\text{mm}$  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.)

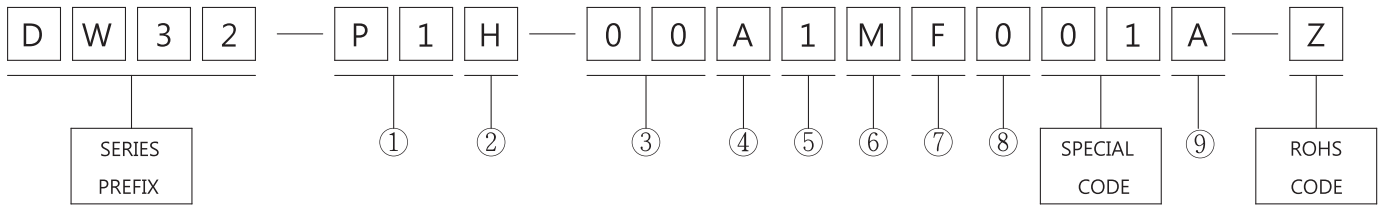
※ For the specification, please refer to DW32 SERIES. ※

### CAUTIONS





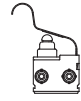
Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)



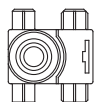

ORDERING INFORMATION



①	RATING CURRENT	
	P1	50mA 16VDC 100mA 12VDC 1mA 5VDC Contact Plated Silver

②	OPERATING FORCE	
	H	STANDARD


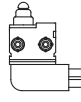
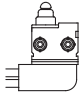
③	ACTUATOR TYPE		
	00	01	02
			

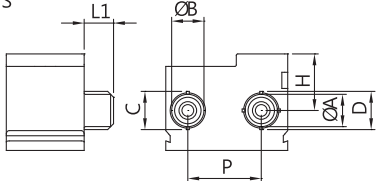
④	PILLAR TYPE			
	A	B	C *	D *
				

⑤	CIRCUIT ARRANGEMENT	
	1	S.P.S.T NO
	2	S.P.S.T NC

⑥	AWG TYPE	
	M	G
	0.3mm <sup>2</sup>	24AWG

⑦	UL NUMBER	
	F	A
	AVSS	UL 1007

⑧	SERIAL CODE		
	0	R	L
			

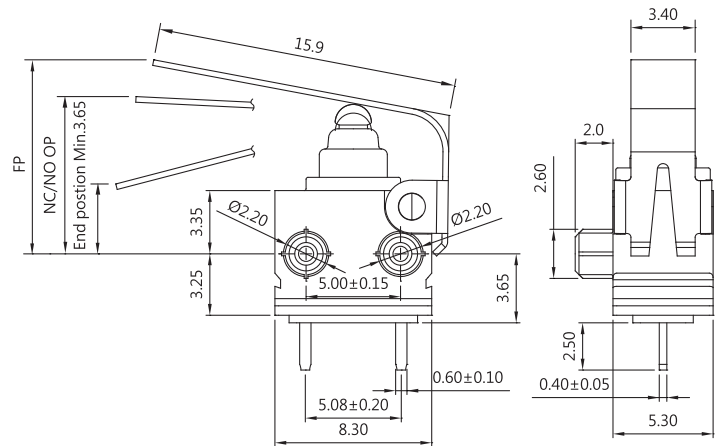
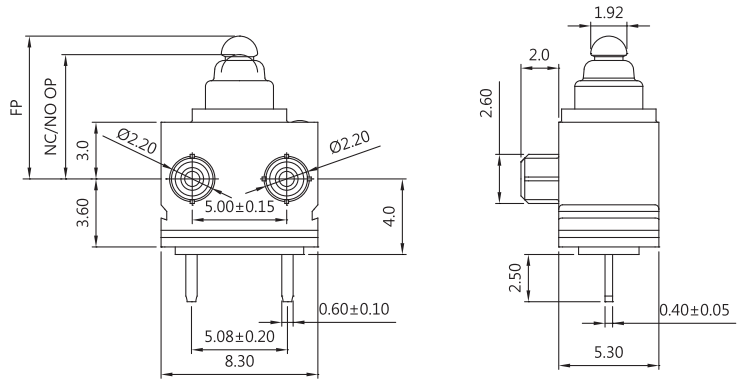
⑨	PILLAR TYPE							
	DIMENSIONS							
								
	CODE	L1	H	A	B	C	D	P
	A	2.0	3.85	Ø2.2	Ø2.2	2.6	2.6	5.0

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

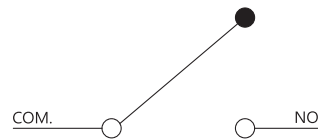
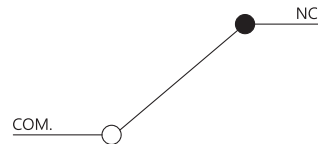
Automobiles

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

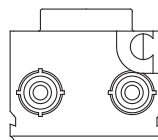
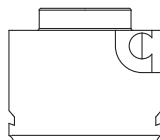
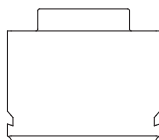
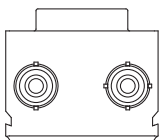
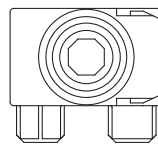
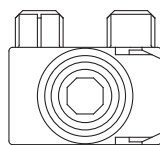
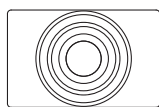
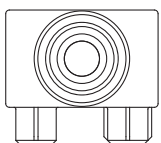
Household appliances

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

### CONTACT CONFIGURATION



### COVER TYPES ( PILLAR & TRAVEL TYPES )



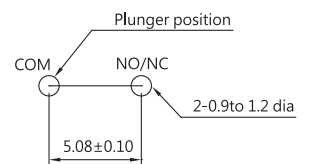
A TYPE

B TYPE

A TYPE  
(with actuator)

B TYPE  
(with actuator)

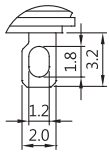
### MOUNTING HOLES FOR PCB TERMINAL



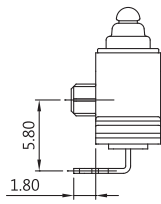


TERMINAL TYPES( THE thickness of each terminal is 0.4 mm )

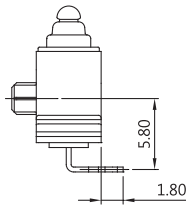
A TYPE



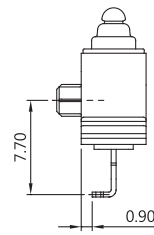
E TERMINAL C-TYPE



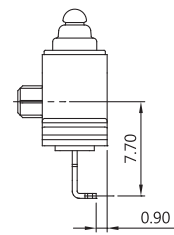
E TERMINAL D-TYPE



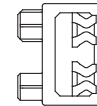
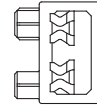
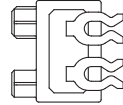
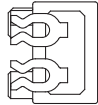
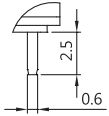
Y TERMINAL C-TYPE



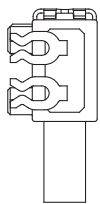
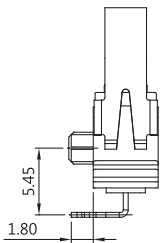
Y TERMINAL D-TYPE



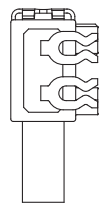
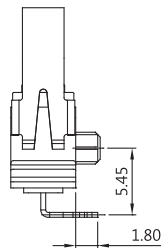
P TYPE



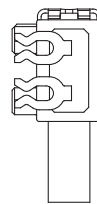
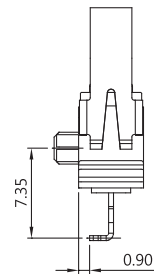
E TERMINAL C-TYPE



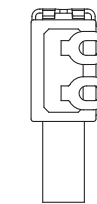
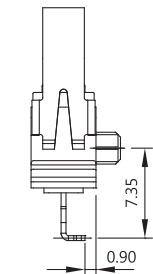
E TERMINAL D-TYPE



Y TERMINAL C-TYPE



Y TERMINAL D-TYPE



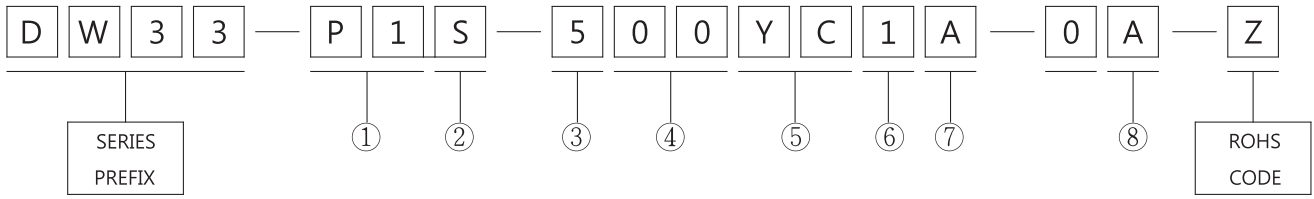
ORDERING INFORMATION

DW33	P1	S	YC	1	A	0A	Z
SERIES PREFIX	RATING CURRENT	OPERATING FORCE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	PILLAR TYPE	SPECIAL CODE	ROHS CODE
	100mA 12VDC 50mA 16VDC 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		

	L1	H	ØA	ØB	C	D	P
A	2.0	3.0	2.2	2.2	2.6	2.6	5.0


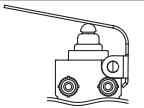
ORDERING INFORMATION (with actuator)



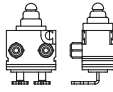
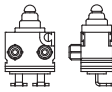
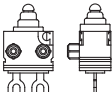
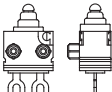


①	RATING	
	P1	100mA 12VDC 50mA 16VDC 1mA 5VDC Contact Plated Silver



②	OPERATING FORCE	
	S	Standard

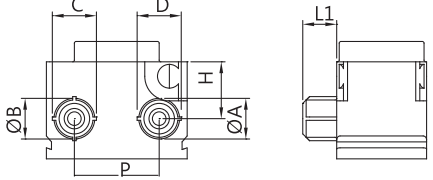
③	EXTERNAL SNAP-FIT LEVER	
	5	EXTERNAL

④	ACTUATOR TYPE	
	* 00	* 02
		

⑤	TERMINAL TYPE					
	A	P	EC	ED	YC	YD
						

⑥	CIRCUIT ARRANGEMENT	
	* 1	S.P.S.T. - NO.
	* 2	S.P.S.T. - NC.

⑦	PILLAR TYPE	
	A	B
		

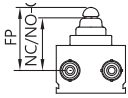
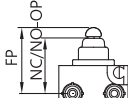
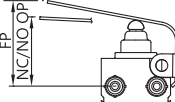
⑧	DIMENSIONS							
								
	CODE	L1	H	ØA	ØB	C	D	P
A	2.0	3.35	2.2	2.2	2.6	2.6	5.0	

CAUTIONS



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)

OPERATING CHARACTERISTICS

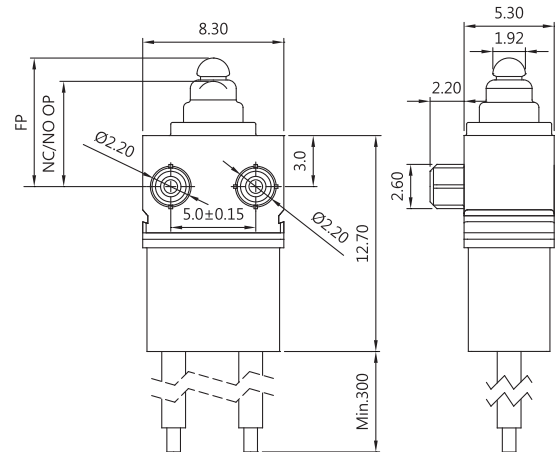
SWITCH TYPE	PART SUFFIX	OF Max ( mm )	FP Max ( mm )	NC/NO-OP ( mm )	NC/NO-OT Min.( mm )
DW33-P1S- □□ -Z		122	7.7	7.1±0.25	1.75
DW33-P1S-500 □□ -Z		122	8.05	7.45±0.25	1.75
DW33-P1S-502 □□ -Z		35	12.0	9.75±1.35	1.75

# WATER PROOF SWITCHES



## DIMENSIONS

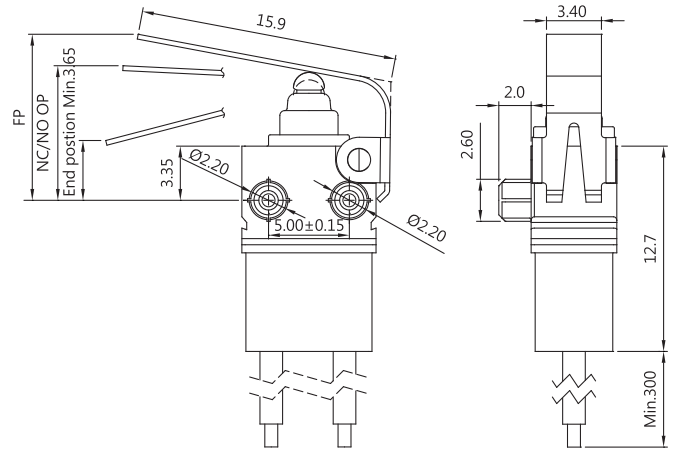
Unless otherwise specified, a tolerance of  $\pm 0.4\text{mm}$  applies to all dimensions.



## DW33(IP67) SERIES

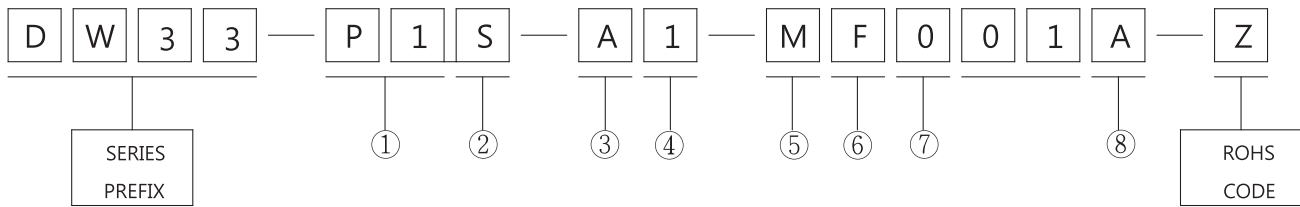
### APPLICATIONS

- 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



①	RATING	
	P1	100mA 12VDC 50mA 16VDC 1mA 5VDC Contact Plated Silver

②	OPERATING FORCE	
	S	Standard

③	PILLAR TYPE	
	A	B

④	CIRCUIT ARRANGEMENT	
	* 1	S.P.S.T.-NO.
	2	S.P.S.T.-NC

⑤	AWG TYPE	
	M	G
	0.3mm <sup>2</sup>	24AWG

⑥	UL NUMBER	
	F	A
	AVSS	UL 1007

⑦	WIRE SIDE		
	0	R	L

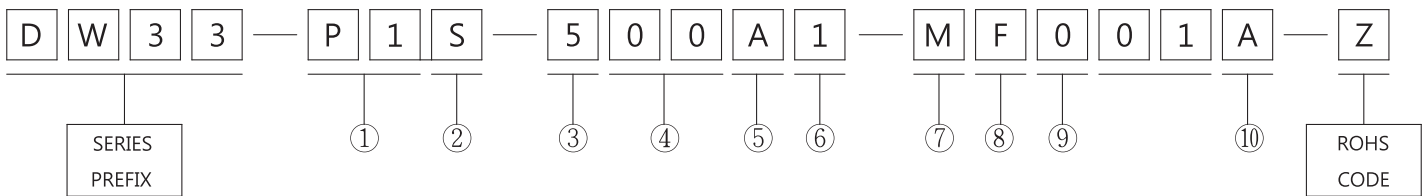
⑧	PILLAR TYPE							
	CODE	L1	H	ØA	ØB	C	D	P
	A	2.0	3.0	2.2	2.2	2.6	2.6	5.0

CAUTIONS



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)


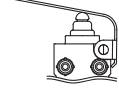
ORDERING INFORMATION (with actuator)





①	RATING	
	P1	100mA 12VDC 50mA 16VDC 1mA 5VDC Contact Plated Silver

②	OPERATING FORCE	
	S	Standard

③	EXTERNAL SNAP-FIT LEVER	
	5	EXTERNAL

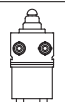
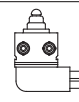
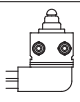
④	ACTUATOR TYPE	
	* 00	* 02
		

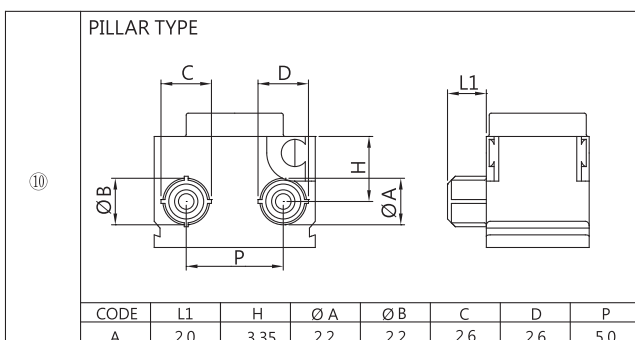
⑤	PILLAR TYPE	
	A	B
		

⑥	CIRCUIT ARRANGEMENT	
	* 1	S.P.S.T. - NO.
	2	S.P.S.T. - NC.

⑦	AWG TYPE	
	M	G
	0.3mm <sup>2</sup>	24AWG

⑧	UL NUMBER	
	F	A
	AVSS	UL 1007

⑨	WIRE LEADS		
	0	R	L
			

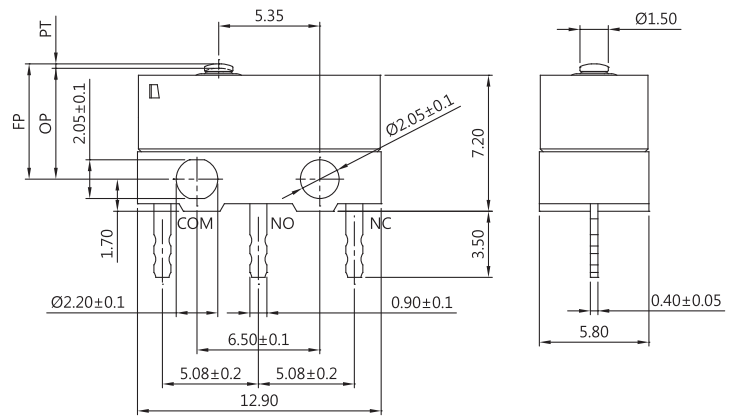


# WATER PROOF SWITCHES



## DIMENSIONS

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



## DFW SERIES

### SPECIFICATIONS

#### Contact Resistance ( initial )

Max. 100m $\Omega$

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

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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

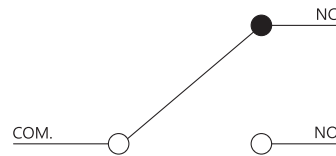
IP67 (excluding the terminals on terminal models)

### APPLICATIONS

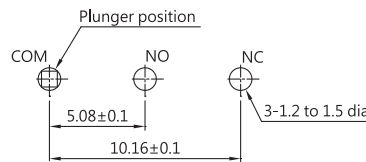
Automotive (Operation system, Engine area Interior)

Air conditioner, communication, Electric tooth brush, Toy

### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



### THE SELECTION OF RATING & FORCE

Model	Rating	L	S
DFW	P1	*	*
	G1		
	O3	*	*
	G3		
	O5	*	*

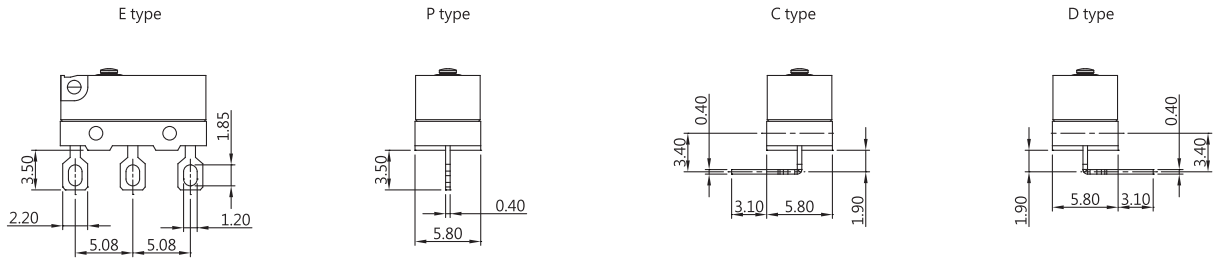
NOTE : The Symbol " \* " to represent the result is accepted

### CERTIFICATE INFORMATION

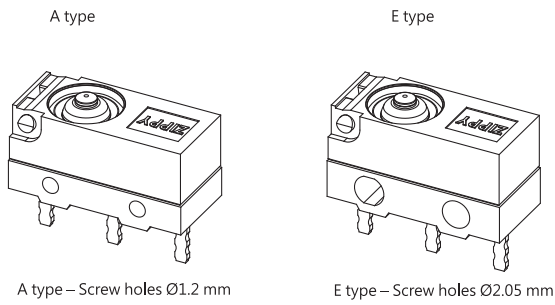
Model Name	UL, cUL	ENEC
DFW-P1	0.1RA 125/250VAC $\mu$ T85 1E4	0.1A 125/250VAC $\mu$ T85 1E4
DFW-G1	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4
DFW-O3	3RA 125/250VAC $\mu$ T85 1E4	3A 125/250VAC $\mu$ T85 1E4
DFW-G3	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4
DFW-O5	5RA 125/250VAC $\mu$ T85 1E4	5A 125/250VAC $\mu$ T85 1E4
	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4



## TERMINAL TYPES



## CASE TYPES



## ORDERING INFORMATION

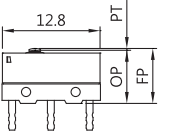
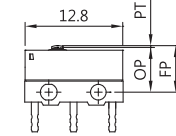
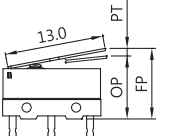
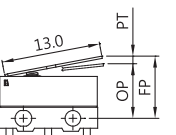
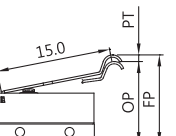
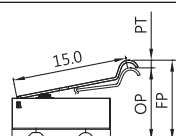
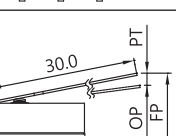
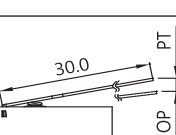
<b>D</b>	<b>F</b>	<b>W</b>	—	<b>0</b>	<b>5</b>	<b>S</b>	—	<b>B</b>	<b>0</b>	<b>1</b>	<b>P</b>	<b>0</b>	<b>A</b>	—	<b>Z</b>
SERIES PREFIX				RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE			TERMINAL TYPE	CIRCUIT ARRANGEMENT		CASE TYPE	ROHS CODE
				0.1A 125/250VAC		S STANDARD		A00				0 S.P.T		A	
				3A 125/250VAC		L LIGHT		A01				1 S.P.S.T NO		E	
				5A 125/250VAC				A02				2 S.P.S.T NC			
								B00							
								B01							
								B02							

## CAUTIONS

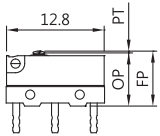
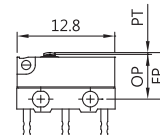
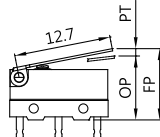
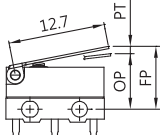
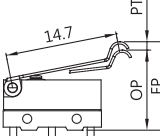
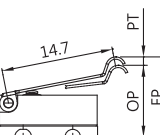
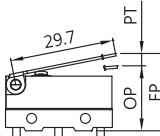
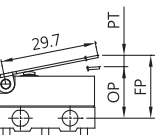


Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

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

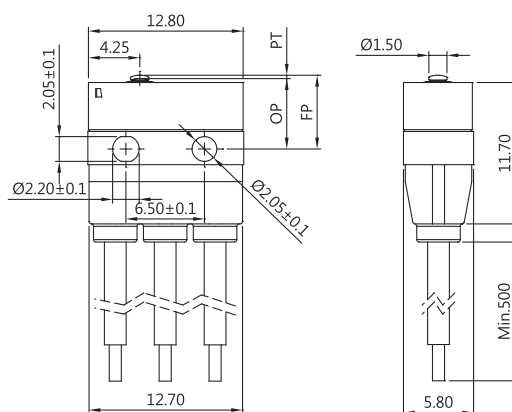
OPERATING CHARACTERISTICS ( External snap-fit lever )

SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
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

# WATER PROOF SWITCHES

## DIMENSIONS

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



## DFW (IP67) SERIES

### APPLICATIONS

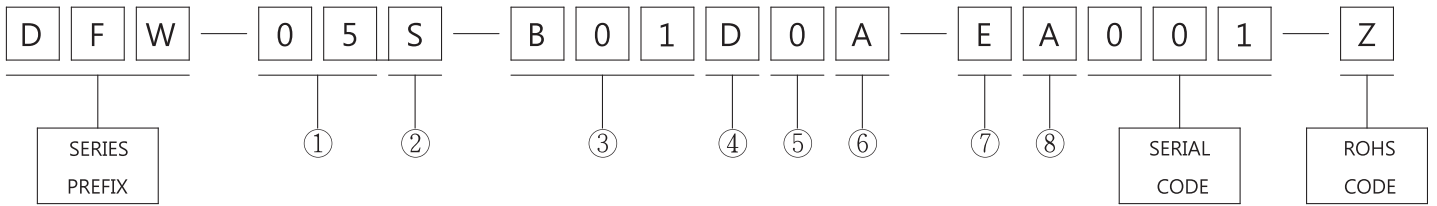
Automotive (Operation system, Engine area Interior)  
Air conditioner, communication, Electric tooth brush, toys

### 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


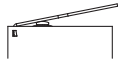
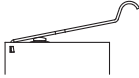


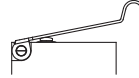
※ For the specification, please refer to DFW SERIES. ※


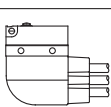
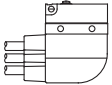
ORDERING INFORMATION



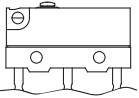
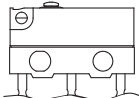
①	RATING CURRENT	
	P1 * G1	0.1A 125/250VAC
	03 * G3	3A 125/250VAC
	05	5A 125/250VAC

②	OPERATING FORCE	
	S	STANDARD
L	LIGHT	

③	ACTUATOR TYPE					
	A00	A01	A02	B00	B01	B02
						

④	WIRE TYPE		
	D	R	L
			

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
2	S.P.S.T NC	

⑥	CASE TYPE	
	A	E
		

⑦	AWG TYPE		
	E	F	G
	20	22	24

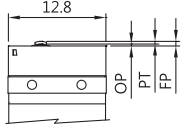
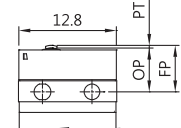
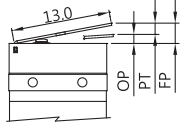
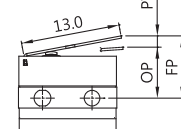
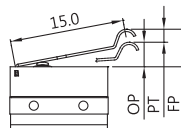
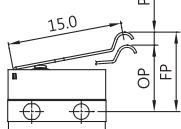
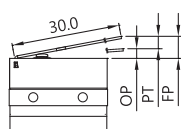
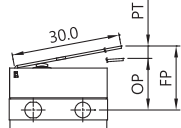
⑧	UL NUMBER		
	A	C	D
	UL 1007	UL 1430	UL 1061

CAUTIONS

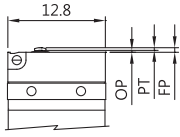
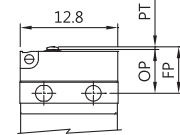
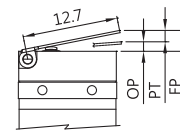
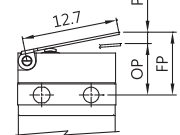
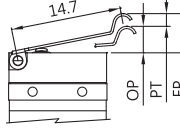
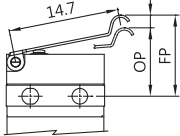
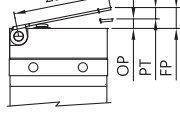
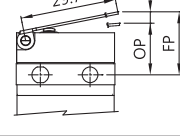


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OPERATING CHARACTERISTICS ( Internal snap-fit lever )

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 )

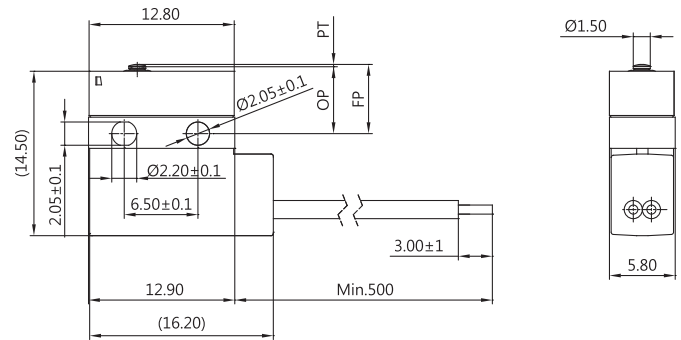
SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DFW- □□□ -B00 □ -Z		L	100	0.4 ± 0.2	0.5	0.2	0.12	0.9	21
		S	170						35
		L	100	5.9 ± 0.2	0.5	0.2	0.12	6.4	21
		S	170						35
DFW- □□□ -B01 □ -Z		L	32	1.6 ± 0.8	3.4	0.6	0.8	3.5	5
		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



# WATER PROOF SWITCHES

## DIMENSIONS

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



## DFW (IP67) SERIES Resistor(s) installed type

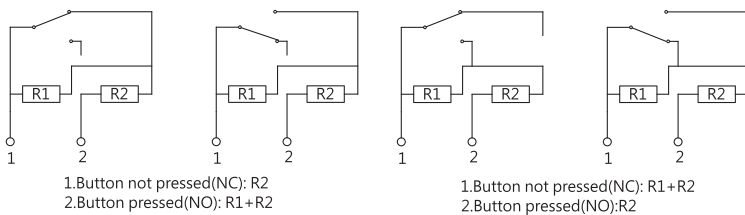
### CHARACTERISTICS

Current Load	Resistive Load
Service Life& Operating Frequency	Min 300,000operations (10~30 operations per minute)
Operating Temperature	-40° C~85° C(with no icing)
Vibration Resistance	10~55Hz, displacement 0.75mm(p-p)
Shock Resistance	Destruction:1,000m/s <sup>2</sup> Approx. 100G max.
	Malfunction:300 m/s <sup>2</sup> {approx. 30G} max.
Protection	IP67

### APPLICATIONS

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

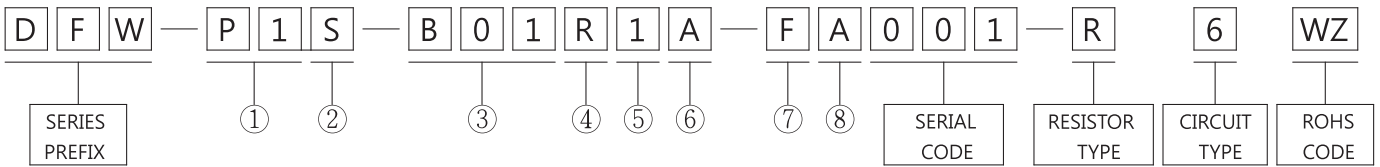
### ELECTRIC CHARACTERISTICS



The resistance value and power rating of R1 and R2 in the circuit can be changed. Please make a contact with our sales office for detail information:

E-mail: [switchsales@zippy.com.tw](mailto:switchsales@zippy.com.tw)

ORDERING INFORMATION



①	PLATING	
	P1	Contact plating silver
	G1	Contact plating gold

②	OPERATING FORCE	
	S	STANDARD
	L	LIGHT

③	ACTUATOR TYPE					
	A00	A01	A02	B00	B01	B02

④	WIRE TYPE	
	R	L

⑤	CIRCUIT ARRANGEMENT	
	1	S.P.S.T

⑥	CASE TYPE	
	A	E

⑦	AWG TYPE	
	F	G
	22	24

⑧	UL NUMBER
	A
	UL 1007

CAUTIONS



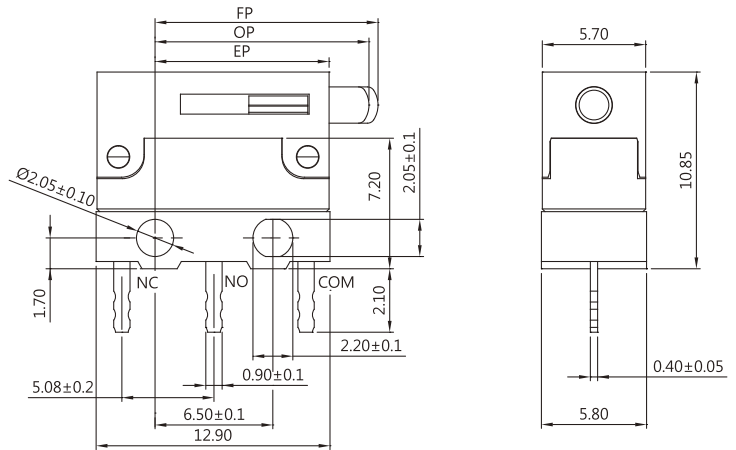
Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

# 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. 100m $\Omega$

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

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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

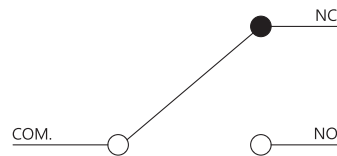
#### Operating application of the switch

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

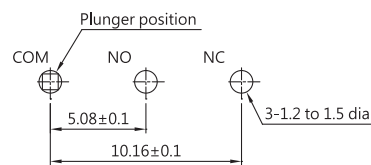
#### Degree of Protection

IP67 (excluding the terminals on terminal models)

### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



### APPLICATIONS

Automotive (Operation system, Engine area Interior)

Air conditioner, communication, Electric tooth brush, Toy

### THE SELECTION OF RATING & FORCE

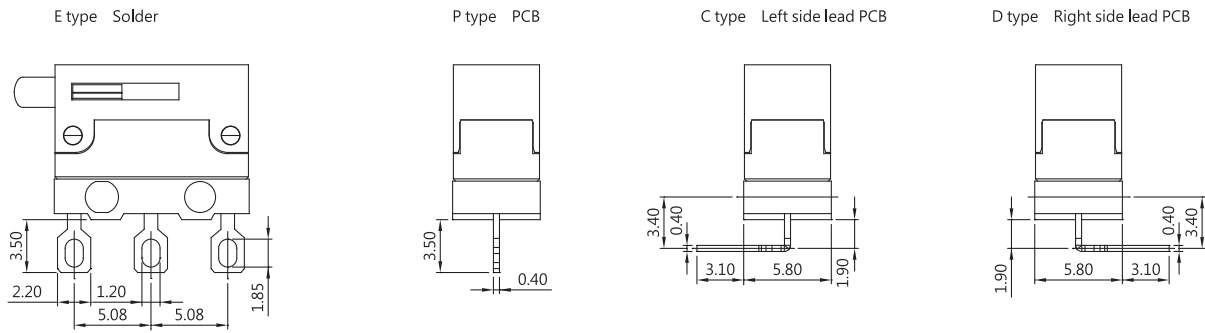
Model	Rating	L
MDU-DFW	P1	*
	G1	*
	G3	*
	O5	*

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

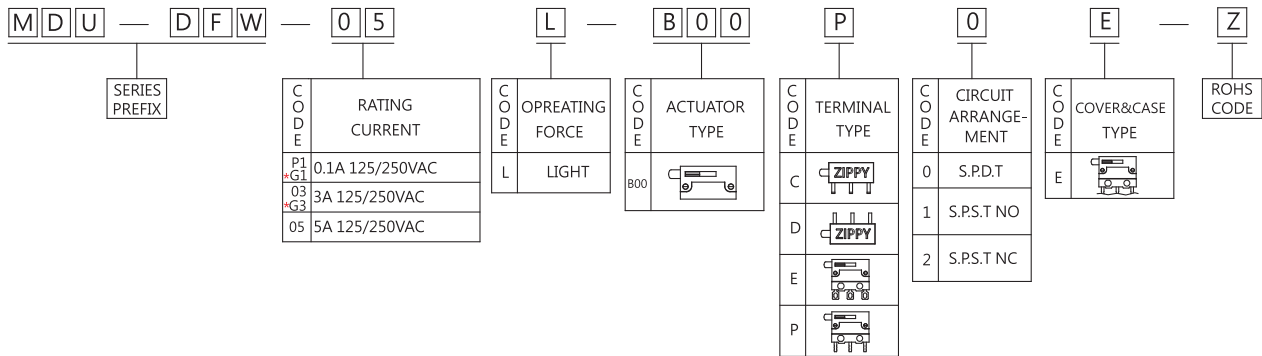
### CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
MDU-DFW-P1	0.1RA 125/250VAC $\mu$ T85 1E4	0.1A 125/250VAC $\mu$ T85 1E4
MDU-DFW-G1	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4
MDU-DFW-O3	3RA 125/250VAC $\mu$ T85 1E4	3A 125/250VAC $\mu$ T85 1E4
MDU-DFW-G3	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4
MDU-DFW-O5	5RA 125/250VAC $\mu$ T85 1E4	5A 125/250VAC $\mu$ T85 1E4
	3RA 24VDC $\mu$ T85 1E4	3A 24VDC $\mu$ T85 1E4

## 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

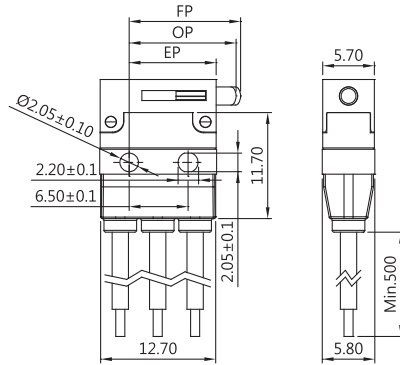


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# WATER PROOF SWITCHES

## DIMENSIONS

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



## MDU-DFW(IP67) SERIES

### APPLICATIONS

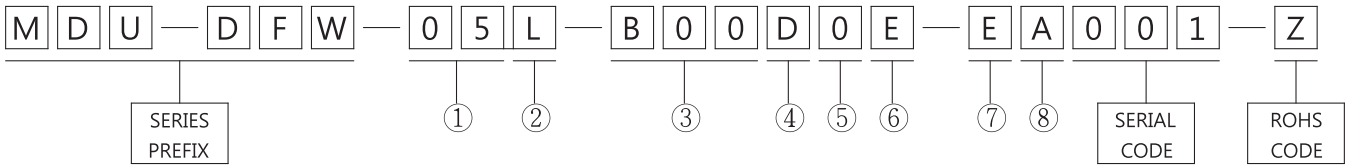
Automotive (Operation system, Engine area Interior)  
Air conditioner, communication, Electric tooth brush, toys

### 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. ※

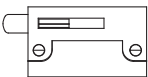
ORDERING INFORMATION



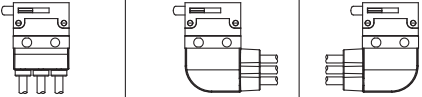
①	RATING CURRENT	
	P1 * G1	0.1A 125/250VAC
	03 * G3	3A 125/250VAC
	05	5A 125/250VAC

②	OPERATING FORCE	
	L	LIGHT

③	ACTUATOR TYPE
	B00

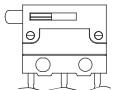


④	WIRE TYPE		
	D	R	L



⑤	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
2	S.P.S.T NC	

⑥	CASE TYPE
	E



⑦	AWG TYPE		
	E	F	G
	20	22	24

⑧	UL NUMBER		
	A	C	D
	UL 1007	UL 1430	UL 1061

CAUTIONS



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# WATER PROOF SWITCHES



## DW 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. 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

SEE CERTIFICATE INFORMATION

#### 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

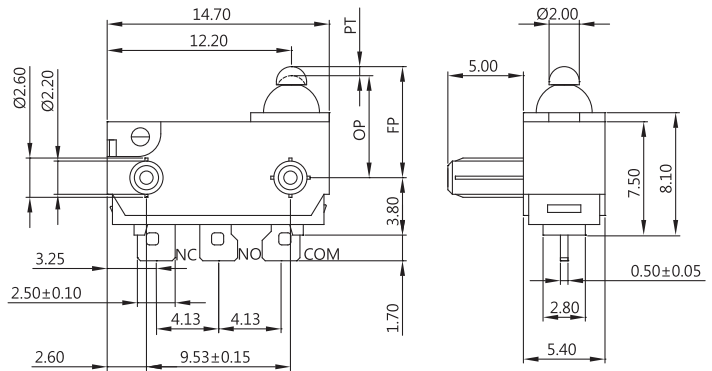
IP67 (excluding the terminals on terminal models)

### APPLICATIONS

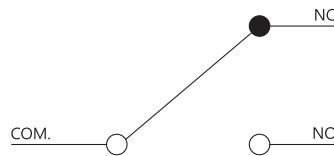
Automotive (Seat Belt, Door Latch, Engine Hood, Door Trunk), Air Conditioner, Communication, Security System, Electric Tooth Brush, Toy

### DIMENSIONS

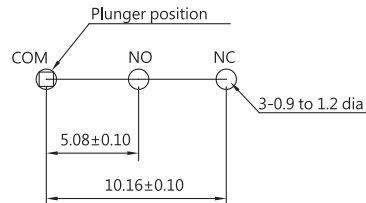
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



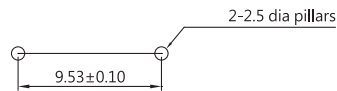
### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



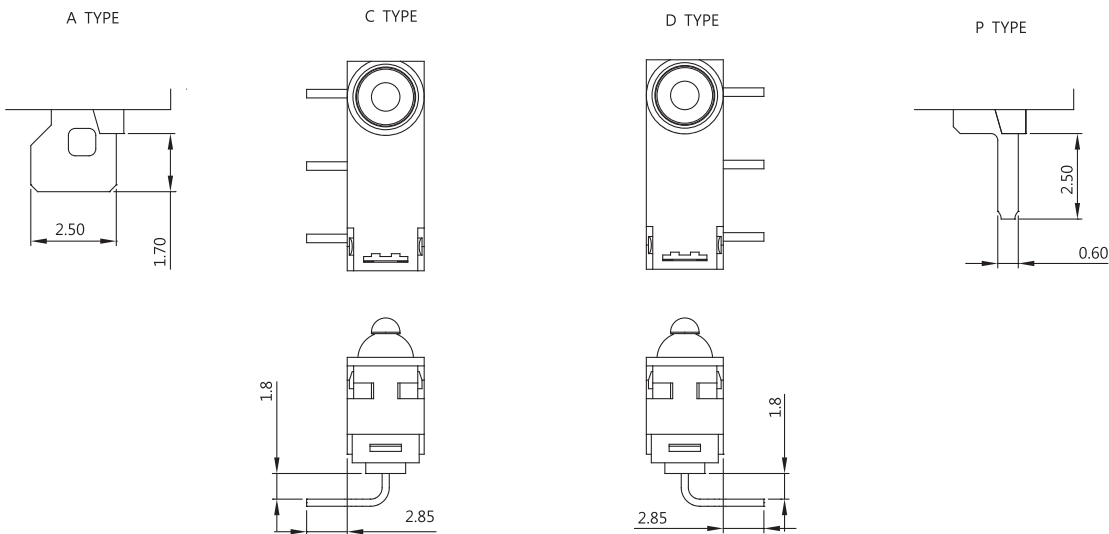
### PILLAR PITCH



### CERTIFICATE INFORMATION

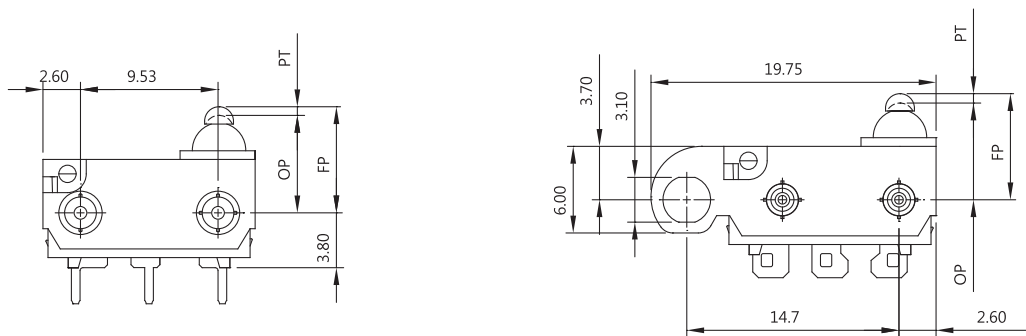
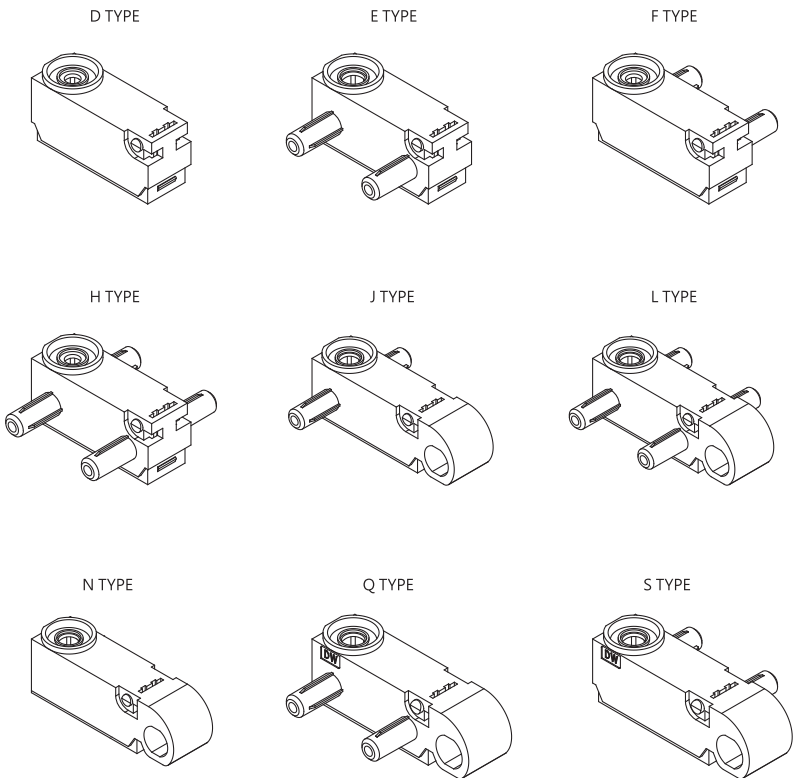
Model Name	UL, cUL	ENEC
DW-N2S	10 mA 12 VDC (Temp65°C), Min. 10,000 operations	10 mA 12 VDC, μ T55 5E5
DW-N3S	3 A 12 VDC (Temp65°C) Min. 100,000 operations 3 A 125 VAC (Temp65°C) Min. 6,000 operations 3A 24VDC (temp85°C) Min.10,000 operations	3 A 12 VDC, μ T55 1E5 3A 125VAC, μ T55 1E4

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



















COVER TYPES ( PILLAR & TRAVEL TYPES )

LONG TRAVEL

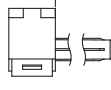





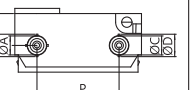




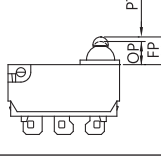
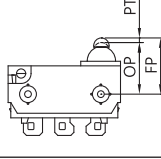
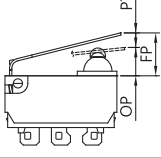
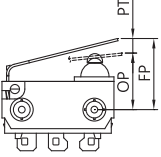
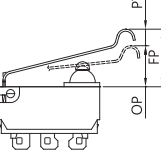
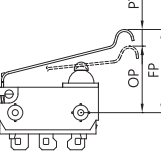
## ORDERING INFORMATION

<b>D W</b>	<b>N 2</b>	<b>S</b>	<b>0 1</b>	<b>A</b>	<b>0</b>	<b>A</b>	<b>0 A</b>	<b>Z</b>
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 TYPE	SPECIAL CODE	ROHS CODE
	N2 10mA 12VDC (Contact Plated Gold) N3 3A 12VDC	S STANDARD	00  01  04 	A  C  D  P 	0 S.P.D.T 1 S.P.S.T NO 2 S.P.S.T NC	D  E  F  H  J  *L  *N  *Q  *S 		

DIMENSIONS							
							
CODE	L1	H	ØA	ØB	ØC	ØD	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
*C	3.5	3.7	2.2	2.6	2.2	2.6	9.53
D	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
*I	2.8	3.7	2.2	2.6	2.2	2.6	9.53

## 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



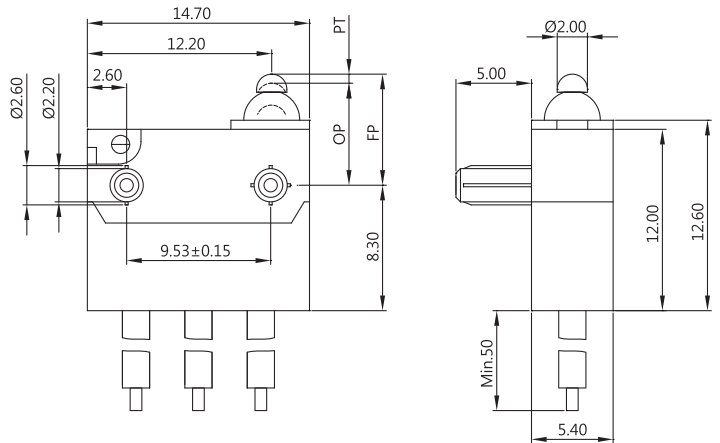
Scan the QR code or download [https://www.zippy.com/ecodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecodelcautions/micro_switch_cautions.pdf)

# WATER PROOF SWITCHES



## DIMENSIONS

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



## DW (IP67)SERIES

### APPLICATIONS

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

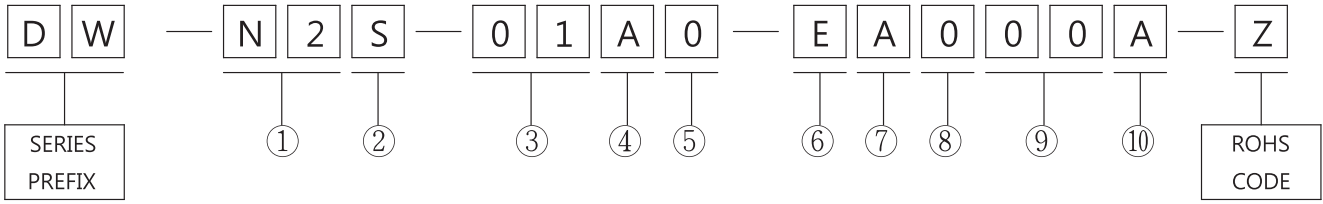
※ For the specification, please refer to DW SERIES. ※

### CAUTIONS



Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

ORDERING INFORMATION



①	RATING	
	N2	10mA 12VDC (Contact Plated Gold)
	N3	3A 12VDC

②	OPERATING FORCE	
	S	Standard

③	ACTUATOR TYPE		
	00	01	A01

④	PILLAR TYPE								
	D	E	F	H	J	*L	*N	*Q	*S

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
	2	S.P.S.T NC

⑥	AWG TYPE		
	E	F	G
	20	22	24

⑦	UL NUMBER		
	A	C	D
	UL 1007	UL 1430	UL 1061

⑧	WIRE LEADS		
	0	R	L

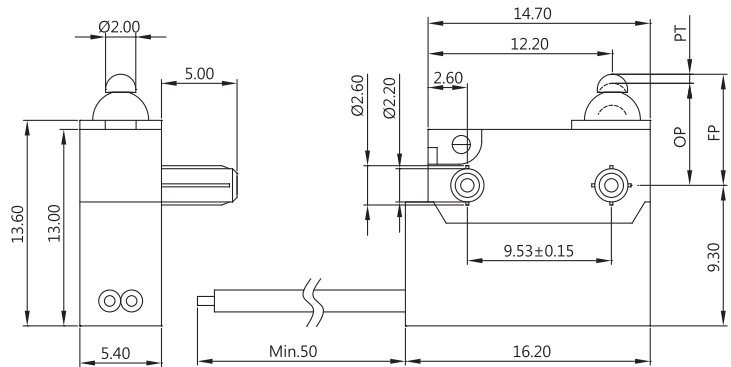
⑨	SERIAL CODE
---	-------------

⑩	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
	*I	2.8	3.7	2.2	2.6	2.2	2.6	9.53

# WATER PROOF SWITCHES

## DIMENSIONS

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



## DW (IP67)SERIES Resistor(s) installed type

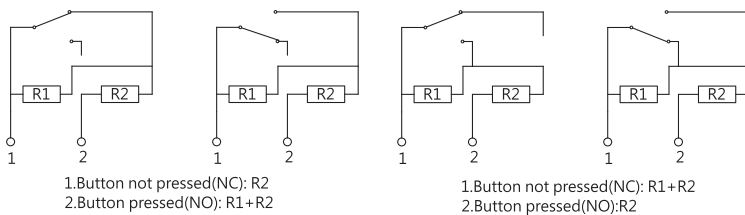
### CHARACTERISTICS

Current Load	Resistive Load
Service Life& Operating Frequency	Min 300,000operations (10~30 operations per minute)
Operating Temperature	-40° C~85° C(with no icing)
Vibration Resistance	10~55Hz, displacement 0.75mm(p-p)
Shock Resistance	Destruction:1,000m/s2 Approx. 100G max.
	Malfuction:300 m/s2 {approx. 30G} max.
Protection	IP67

### APPLICATIONS

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

### ELECTRIC CHARACTERISTICS



The resistance value and power rating of R1 and R2 in the circuit can be changed. Please make a contact with our sales office for detail information:

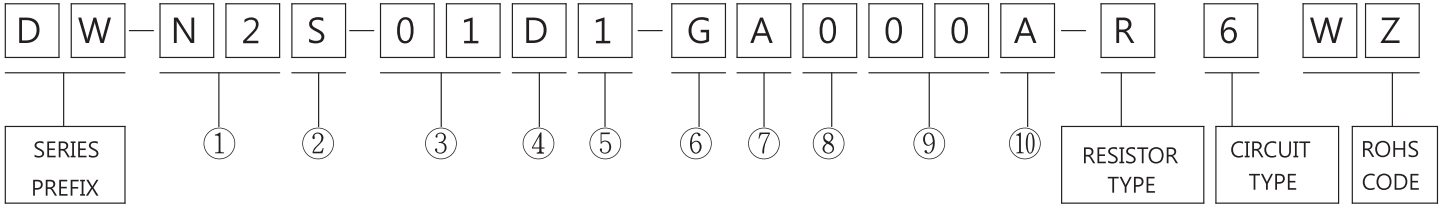
E-mail: [switchsales@zippy.com.tw](mailto:switchsales@zippy.com.tw)

### CAUTIONS



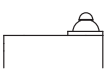
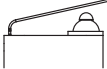
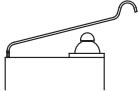
Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

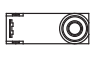
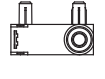
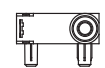
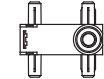
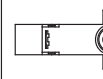
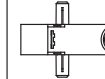

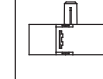
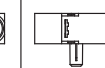
ORDERING INFORMATION



①	PLATING	
	N2	Contact plating gold
	N3	Contact plating silver

②	OPERATING FORCE	
	S	Standard

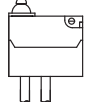
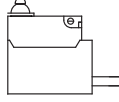
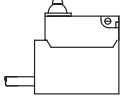
③	ACTUATOR TYPE		
	00	01	A01
			

④	PILLAR TYPE								
	D	E	F	H	J	*L	*N	*Q	*S
									

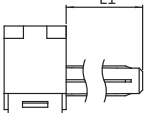
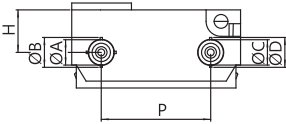
⑤	CIRCUIT ARRANGEMENT	
	1	S.P.S.T

⑥	AWG TYPE
	G
	24

⑦	UL NUMBER
	A
	UL 1007

⑧	WIRE LEADS		
	0	R	L
			

⑨	SERIAL CODE
---	-------------

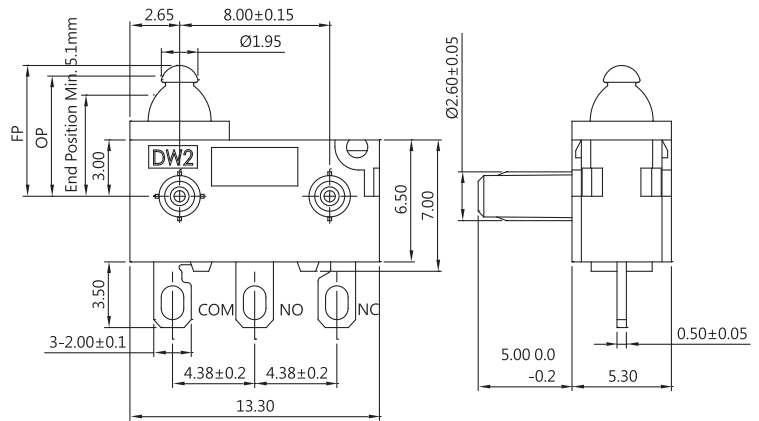
⑩	DIMENSIONS							
								
	CODE	L1	H	ØA	ØB	ØC	ØD	P
	A	2.0	3.7	2.2	2.6	2.2	2.6	9.53
	*B	3.5	3.7	2.2	2.6	2.2	2.6	9.53
	*C	2.8	3.75	2.7	3.1 (THREE RIBS)	2.2	2.6	9.53
	D	4.0	3.7	2.2	2.6	2.2	2.6	9.53
	E	0.9	3.7	2.2	N/A	2.2	N/A	9.53
	F	1.8	3.7	2.5	N/A	2.5	N/A	9.53
	*G	5.0	3.7	2.4	2.8	2.4	2.8	8.0
	*I	2.8	3.7	2.2	2.6	2.2	2.6	9.53

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

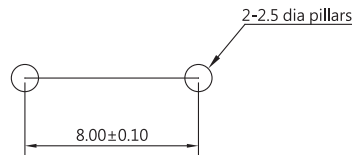
#### Mechanical Operating Frequency

120 operations per minute

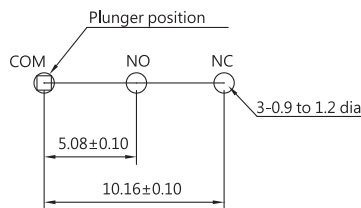
#### Degree of Protection

IP67 (excluding the terminals on terminal models)

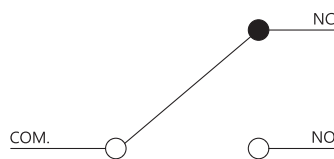
### PILLAR PITCH



### MOUNTING HOLES FOR PCB TERMINAL



### CONTACT CONFIGURATION



### APPLICATIONS

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

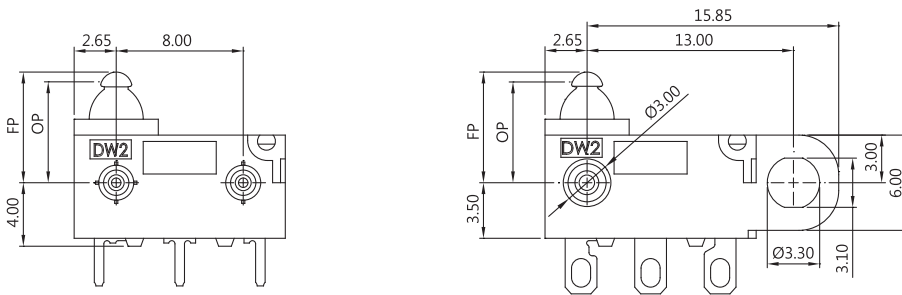
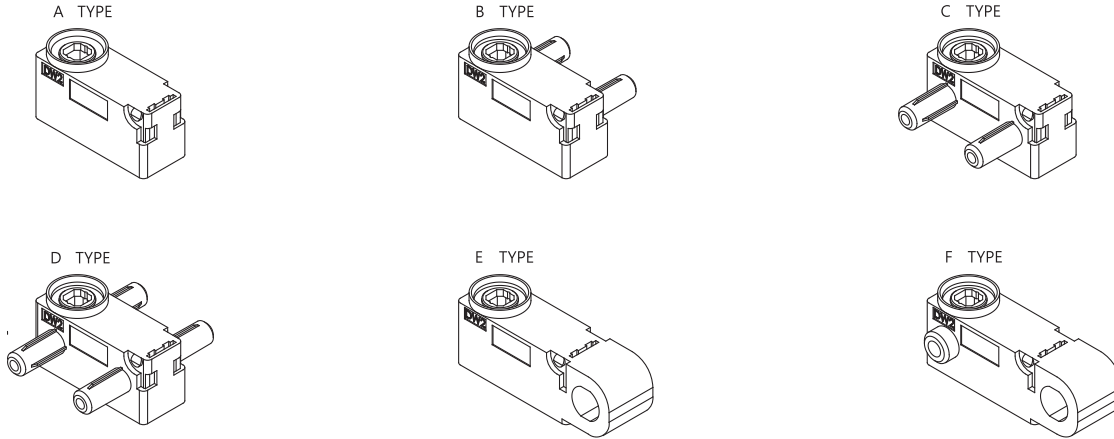
Air Conditioner, Communication, Security System,

Electric tooth brush, Toy

### CERTIFICATE INFORMATION

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

COVER TYPES ( PILLAR & TRAVEL TYPES )



ORDERING INFORMATION

D	W	2	—	0	3	H	—	0	1	A	0	A	A	—	Z					
SERIES PREFIX		CODE	RATING CURRENT		CODE	OPERATING FORCE		CODE	ACTUATOR TYPE		CODE	CIRCUIT ARRANGEMENT		CODE	PILLAR TYPE		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						
											**			D						
														E						
														F						

CODE	L1	H	ØA	ØB	ØC	ØD	P
A	5.0	3.0	2.2	2.6	2.2	2.6	8.00
B	4.0	3.0	2.2	2.6	2.2	2.6	8.00
C	0.7	3.0	2.5	N/A	2.5	N/A	8.00

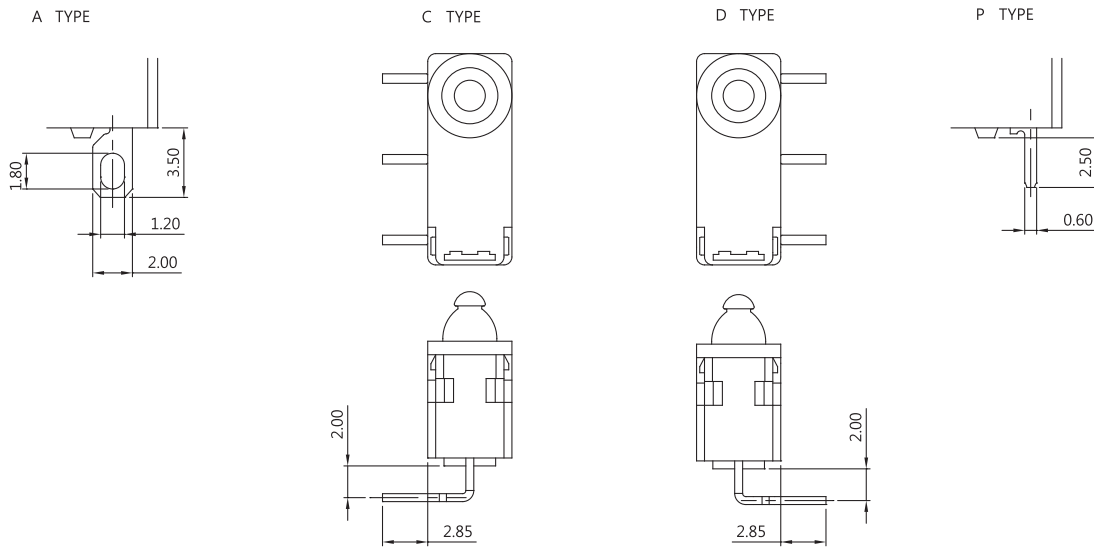
CODE	L1	H1	H2	ØA	ØB	P
	1.5	3.0	3.1	3.0	3.3	13.00

CAUTIONS



Scan the QR code or download [https://www.ziply.com/ecodelcautions/micro\\_switch\\_cautions.pdf](https://www.ziply.com/ecodelcautions/micro_switch_cautions.pdf)

**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

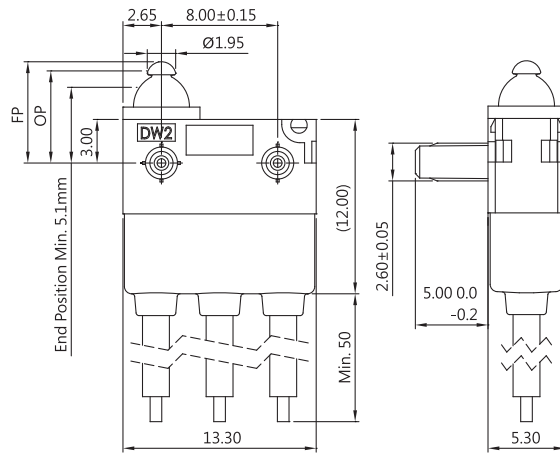


# WATER PROOF SWITCHES



## 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 3A 12VDC
	3RA 24VDC	3A 24VDC
	0.1A 3RA 125/250VAC	0.1A 3A 125/250VAC
DW2-G3	0.1RA 3RA 12VDC	0.1A 3A 12VDC
	3RA 24VDC	3A 24VDC
	0.1RA 3RA 125/250VAC	0.1A 3A 125/250VAC

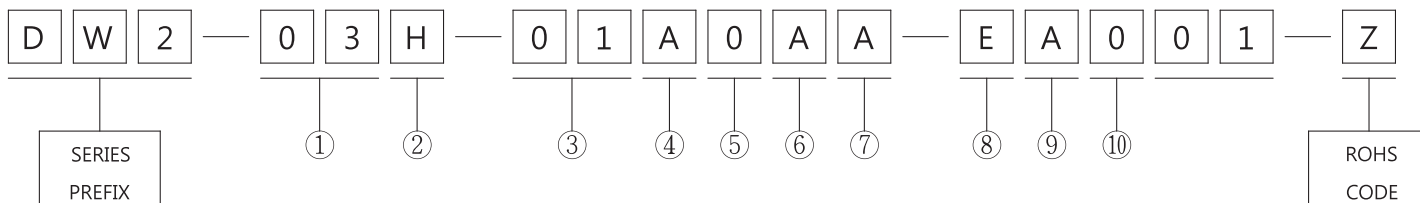
※ For the specification, please refer to DW2 SERIES. ※

### CAUTIONS



Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

ORDERING INFORMATION



RATING	
①	G3 3A 125/250VAC (Contact Plated Gold)
	03 3A 125/250VAC

OPERATING FORCE	
②	S Standard
	H Heavy

ACTUATOR TYPE			
③	00	01	A01

TERMINAL TYPE	
④	A

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

PILLAR TYPE						
⑥	A	B	C	* D	E	F

PILLAR TYPE / FOR TYPE B/C/D								PILLAR TYPE / FOR TYPE F							
⑦															
	CODE	L1	H	ØA	ØB	ØC	ØD	P	CODE	L1	H1	H2	ØA	ØB	P
	A	2.0	3.0	2.2	2.6	2.2	2.6	8.00		1.5	3.0	3.1	3.0	3.3	13.00
	B	4.0	3.0	2.2	2.6	2.2	2.6	8.00							
	C	0.7	3.0	2.5	N/A	2.5	N/A	8.00							

AWG TYPE				
⑧	E	F	G	H
	20	22	24	26

UL NUMBER			
⑨	A	C	D
	UL 1007	UL 1430	UL 1061

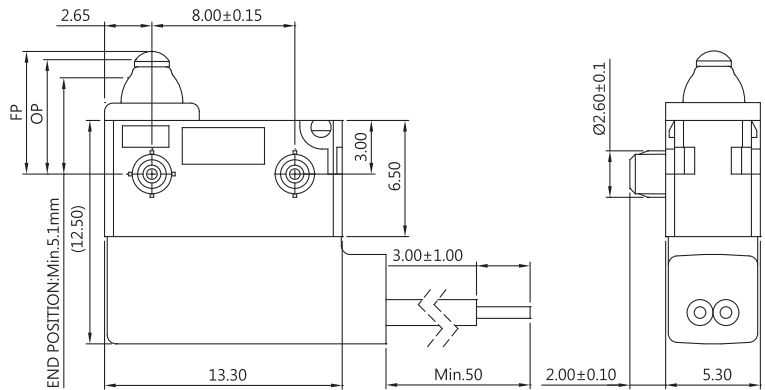
WIRE LEADS			
⑩	0	R	L

WATER PROOF SWITCHES

# WATER PROOF SWITCHES

## DIMENSIONS

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



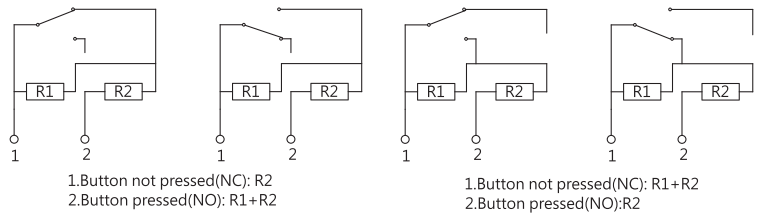
## DW2 (IP67) SERIES

Resistor(s) installed type

### CHARACTERISTICS

Current Load	Resistive Load
Service Life& Operating Frequency	Min 300,000operations (10~30 operations per minute)
Operating Temperature	-40° C~85° C(with no icing)
Vibration Resistance	10~55Hz, displacement 0.75mm(p-p)
Shock Resistance	Destruction:1,000m/s <sup>2</sup> Approx. 100G max.
	Malfunction:300 m/s <sup>2</sup> {approx. 30G} max.
Protection	IP67

### ELECTRIC CHARACTERISTICS



The resistance value and power rating of R1 and R2 in the circuit can be changed. Please make a contact with our sales office for detail information:

E-mail: [switchsales@zippy.com.tw](mailto:switchsales@zippy.com.tw)

### APPLICATIONS

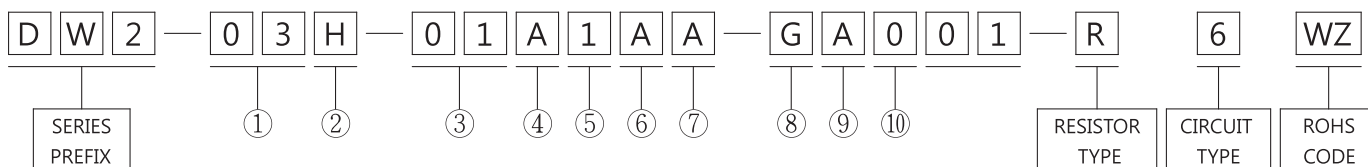
Automotive (Operation system, Engine area Interior)  
Air conditioner, communication, Electric tooth brush, toys

### CAUTIONS



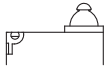
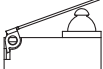
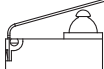
Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

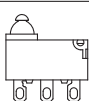
ORDERING INFORMATION







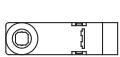
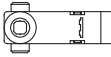
①	PLATING	
	03	Contact plating silver
	G3	Contact plating gold

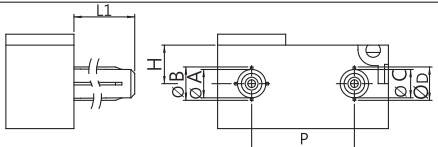
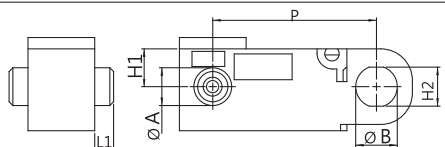
②	OPERATING FORCE	
	S	Standard
	H	Heavy

③	ACTUATOR TYPE		
	00	01	A01
			

④	TERMINAL
	A
	

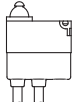
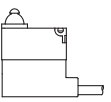
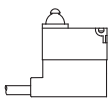
⑤	CIRCUIT ARRANGEMENT	
	1	S.P.S.T

⑥	PILLAR TYPE					
	A	B	C	* D	E	F
						

⑦	PILLAR TYPE / FOR TYPE B/C/D								PILLAR TYPE / FOR TYPE F						
															
	CODE	L1	H	ØA	ØB	ØC	ØD	P	CODE	L1	H1	H2	ØA	ØB	P
	A	5.0	3.0	2.2	2.6	2.2	2.6	8.00		1.5	3.0	3.1	3.0	3.3	13.0
	B	2.0	3.0	2.2	2.6	2.2	2.6	8.00							
C	4.0	3.0	2.2	2.6	2.2	2.6	8.00								
	0.7	3.0	2.5	N/A	2.5	N/A	8.00								

⑧	AWG
	G
	24

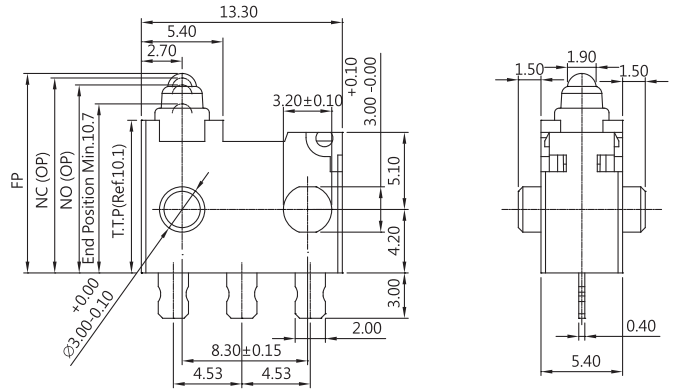
⑨	UL NUMBER
	A
	UL 1007

⑩	WIRE LEADS		
	0	R	L
			

# 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.  $1\Omega$

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

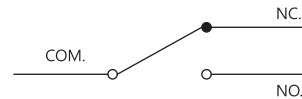
#### Electrical Operating Frequency

Max. 120 operations per minute

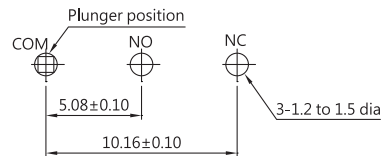
#### Degree of Protection

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

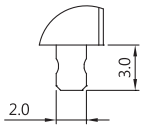
D	W	3	—	G	1		S	—	0	0		A		0		A	—	0	A	—	Z
SERIES PREFIX				RATING CURRENT			OPERATING FORCE		ACTUATOR TYPE			TERMINAL TYPE		CIRCUIT ARRANGEMENT		PILLAR TYPE		SPECIAL CODE		ROHS CODE	
P1				0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Silver			STANDARD		00			A		0	A					Z	
G1				0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Gold					A01			B			D						
												C									
												D									
												*P									

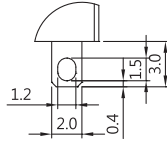
CODE	L1	H	ØA	ØB	ØC	ØD	P
A	1.5	5.9	3.0	HOLE 3.2	HOLE 3.0	N/A	8.3
C	1.5	5.9	3.0	3.0	N/A	N/A	8.3

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

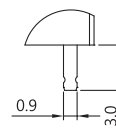
A TYPE Solder



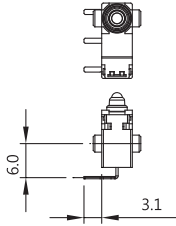
B TYPE Solder with hole



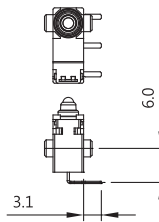
P TYPE PCB



C TYPE Left side lead PCB



D TYPE Right side lead PCB



**COVER TYPES ( PILLAR & TRAVEL TYPES )**



A TYPE

D TYPE

**CAUTIONS**



Scan the QR code or download [https://www.zipy.com/ecmodelcautions/slide\\_switch\\_caution.pdf](https://www.zipy.com/ecmodelcautions/slide_switch_caution.pdf)

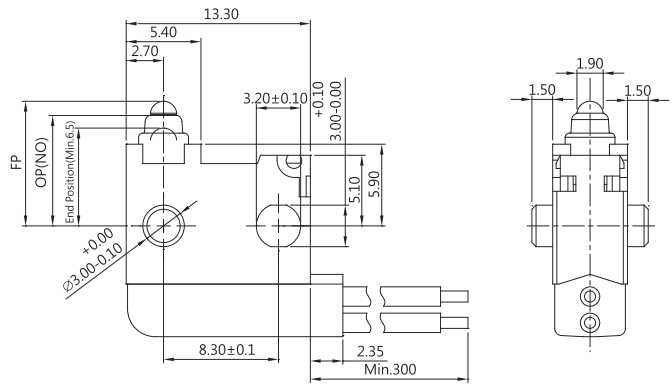
**OPERATING CHARACTERISTICS**

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	2.5	2.2
				9.2	8.7±0.3		
DW3- □□ -A01A0-Z		S	185	15.7	14.0±0.6	3.0	2.45
				11.5	9.8±0.6		

# WATER PROOF SWITCHES

## DIMENSIONS

Unless otherwise specified, a tolerance of  $\pm 0.4\text{mm}$  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. ※

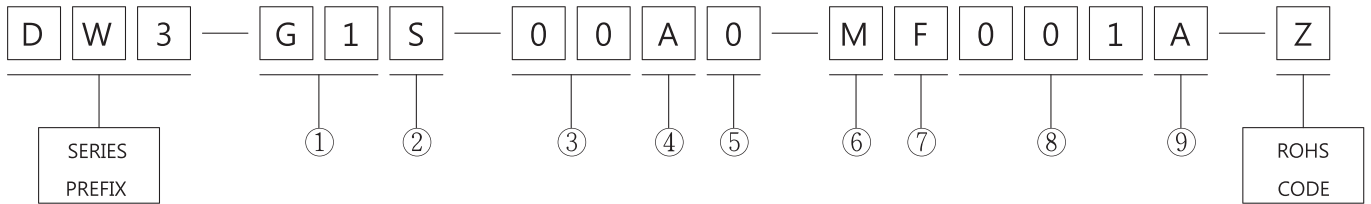
### CAUTIONS



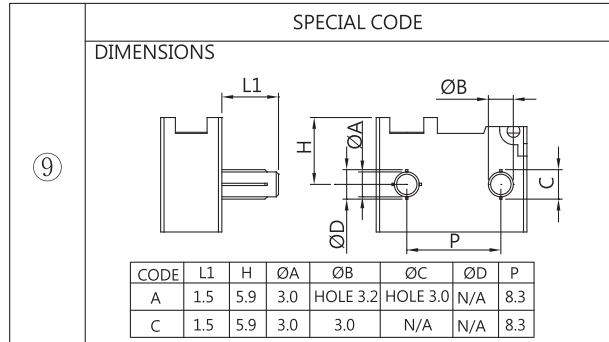
Scan the QR code or download

[https://www.zippy.com/ecmodelcautions/slide\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/slide_switch_cautions.pdf)

ORDERING INFORMATION



①	RATING CURRENT	
	P1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Silver
G1	0.1A 30VDC 0.05A 16VDC 0.001A 5VDC Contact Plated Gold	



②	OPERATING FORCE	
	S	STANDARD

③	ACTUATOR TYPE	
	00	A01

④	PILLAR TYPE	
	A	D

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
2	S.P.S.T NC	

⑥	AWG TYPE	
	M	0.3mm <sup>2</sup>
	G	24 AWG

⑦	UL NUMBER	
	F	AVSS
	A	UL1007

⑧	SERIAL CODE		
	0	R	L

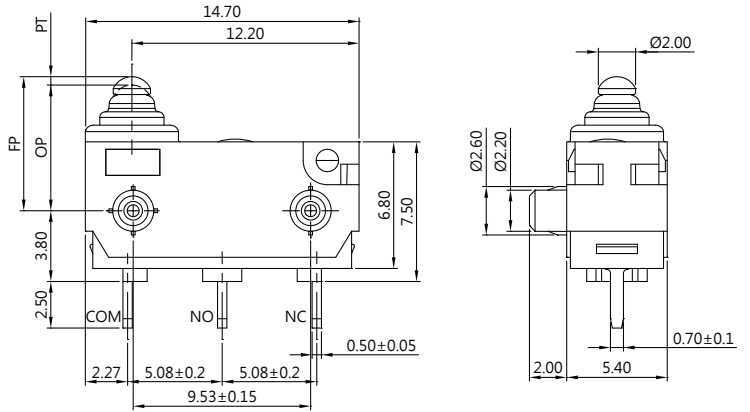


# WATER PROOF SWITCHES



## 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

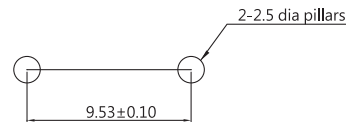
#### Degree of Protection

IP67 (excluding the terminals on terminal models)

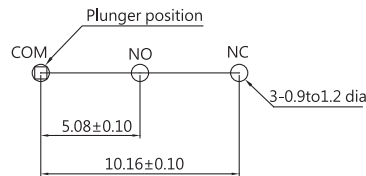
### APPLICATIONS

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

### PILLAR PITCH



### MOUNTING HOLES FOR PCB TERMINAL



### CONTACT CONFIGURATION

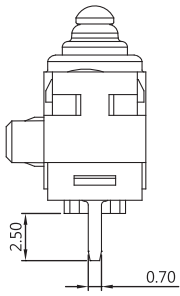


### CERTIFICATE INFORMATION

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

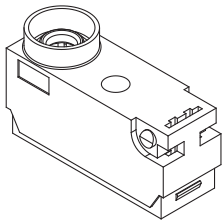
**TERMINAL TYPES (THE thickness of each terminal is 0.5mm)**

P TYPE

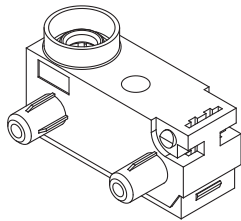


**COVER TYPES ( PILLAR & TRAVEL TYPES )**

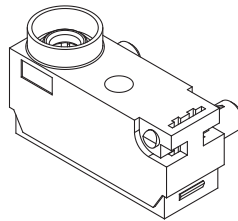
A TYPE



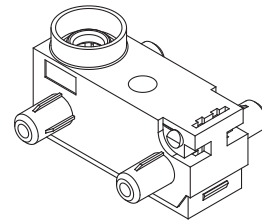
B TYPE



C TYPE



D TYPE



**ORDERING INFORMATION**

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

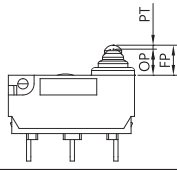
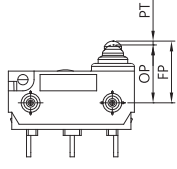
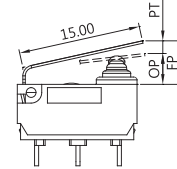
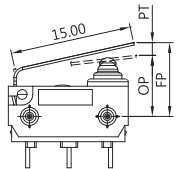
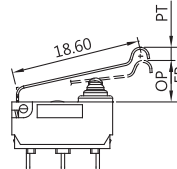
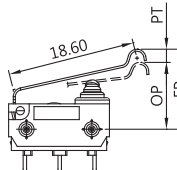
CODE	L1	H	ØA	ØB	ØC	ØD	P
A	5.0	3.7	2.2	2.6	2.2	2.6	9.53
B	2.0	3.7	2.2	2.6	2.2	2.6	9.53
B	3.5	3.7	2.2	2.6	2.2	2.6	9.53

**CAUTIONS**



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

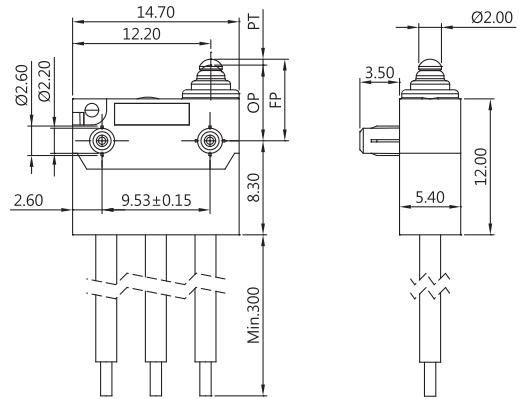
OPERATING CHARACTERISTICS

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

# 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

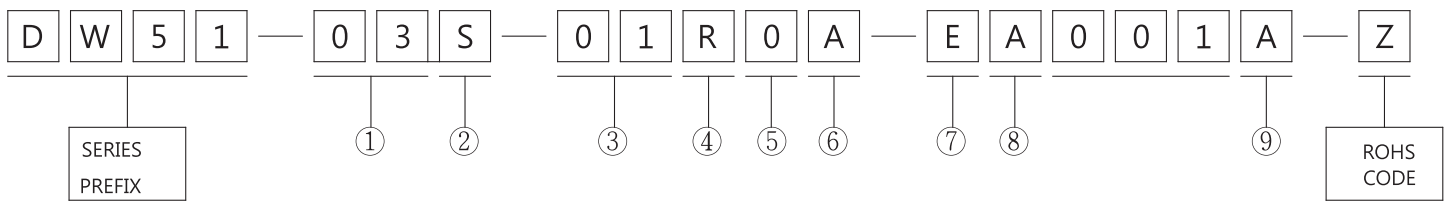
※ For the specification, please refer to DW51 SERIES. ※

### CAUTIONS



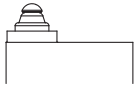
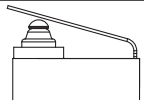
Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

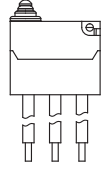
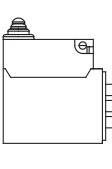
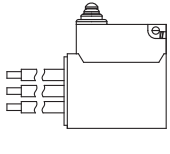
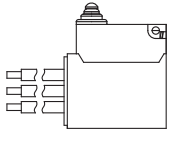
ORDERING INFORMATION




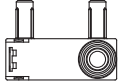
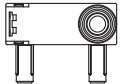
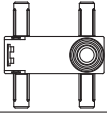
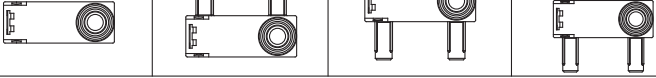
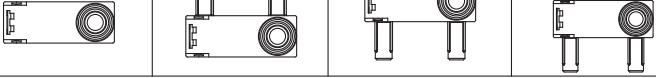
①	RATING	
	G1	0.1A 125VAC Contact plated gold
	P1	0.1A 125VAC
	G3	3A 125VAC Contact plated gold
	03	3A 125VAC

②	OPERATING FORCE	
	S	Standard

③	ACTUATOR TYPE	
	00	01
		

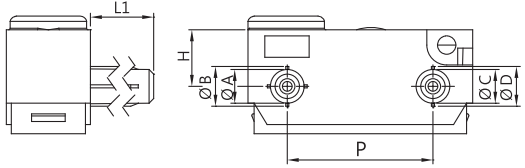
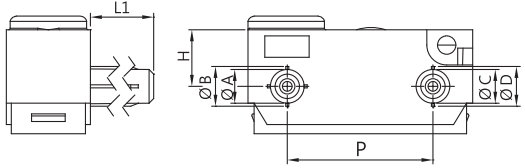
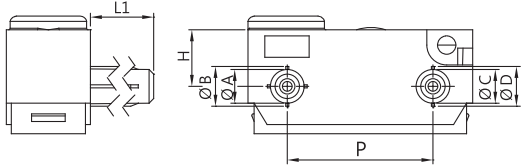
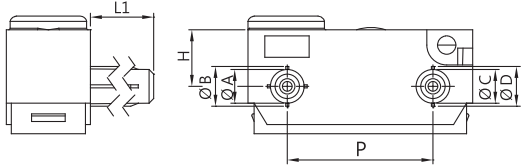
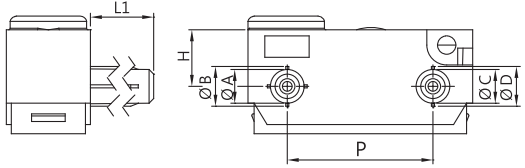
④	WIRE SIDE		
	0	R	L
			
			

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.D.T.
	1	S.P.S.T.-NO.
	2	S.P.S.T.-NC

⑥	PILLAR TYPE			
	A	B	C	D
				
				
				

⑦	AWG TYPE			
	E	F	G	H
	20AWG	22AWG	24AWG	26AWG

⑧	UL NUMBER		
	A	C	D
	UL 1007	UL 1430	UL 1061

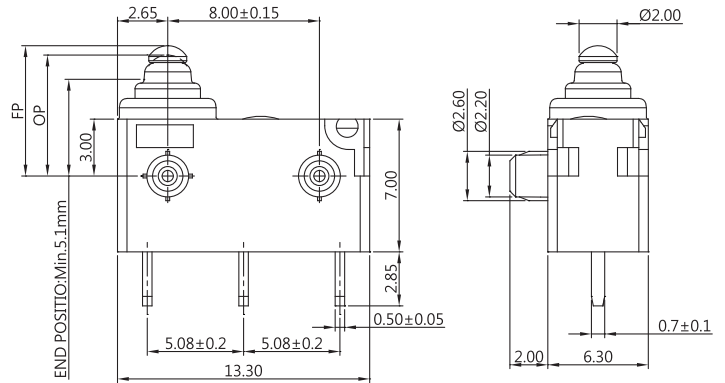
⑨	DIMENSIONS							
								
	CODE	L1	H	ØA	ØB	ØC	ØD	P
		5.0	3.7	2.2	2.6	2.2	2.6	9.53
	A	2.0	3.7	2.2	2.6	2.2	2.6	9.53
	B	3.5	3.7	2.2	2.6	2.2	2.6	9.53
								
								
								
								

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

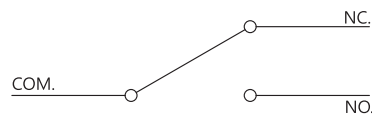
#### Degree of Protection

IP67 (excluding the terminals on terminal models)

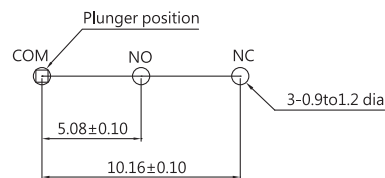
### APPLICATIONS

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

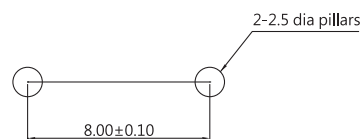
### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



### PILLAR PITCH

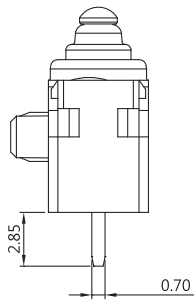


### CERTIFICATE INFORMATION

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

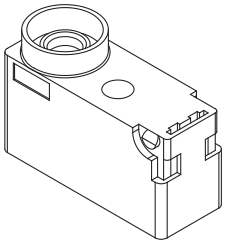
**TERMINAL TYPES (THE thickness of each terminal is 0.5mm)**

P TYPE

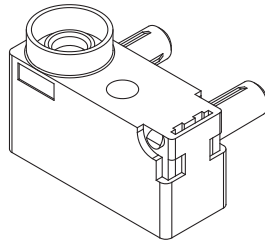


**COVER TYPES ( PILLAR & TRAVEL TYPES )**

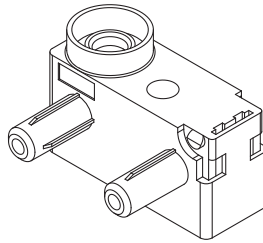
A TYPE



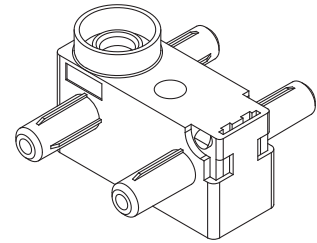
B TYPE



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		TERMINAL TYPE		CIRCUIT ARRANGEMENT		PILLAR TYPE		SERIAL CODE		ROHS CODE
					G1	0.1A 125VAC Contact plated gold	S STANDARD		00		P		0	S.P.D.T	A				
					P1	0.1A 125VAC			01				1	S.P.S.T NO	B				
					G3	3A 125VAC Contact plated gold			A01				2	S.P.S.T NC	C				
					03	3A 125VAC									D				

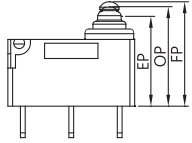
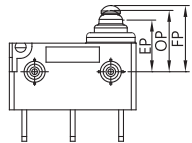
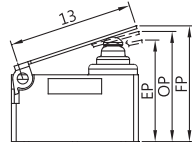
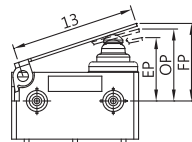
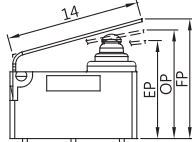
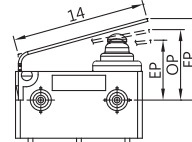
DIMENSIONS								
	CODE	L1	H	ØA	ØB	ØC	ØD	P
	A	2.0	3.0	2.2	2.6	2.2	2.6	8.00

**CAUTIONS**



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_caution.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_caution.pdf)

OPERATING CHARACTERISTICS

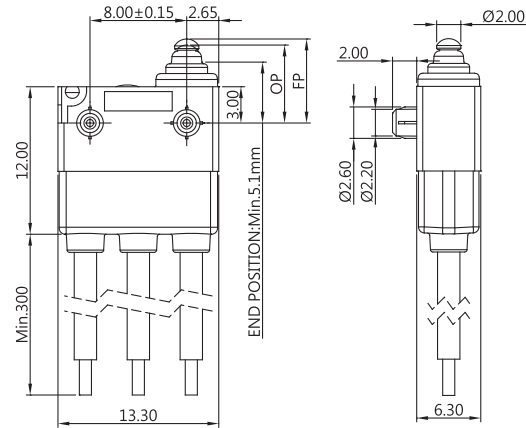
SWITCH TYPE	PART SUFFIX	OF		OP (mm)	EP Min (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
		Max (gf)							
DW52- □□ S-00 □□ -Z		S	130	10.4±0.2	9.1	1.1	0.25	11.2	30
				6.4±0.2	5.1			7.2	
DW52- □□ S-01 □□ -Z		S	110	11.5±0.5	10	1.0	0.5	12.8	15
				7.5±0.5	6			8.8	
DW52- □□ S-A01 □□ -Z		S	200	11.4±0.5	9.8	1.1	0.5	13.3	60
				7.4±0.5	5.8			9.3	



# WATER PROOF SWITCHES

## DIMENSIONS

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



## 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. ※

### CERTIFICATE INFORMATION

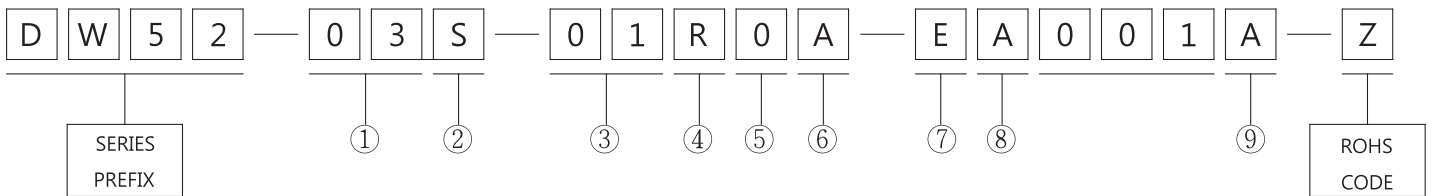
Model Name	UL, cUL	ENEC
DW52-P1 or G1	0.1RA 12 VDC 0.1RA 125 VAC	0.1A 12 VDC 0.1A 125 VAC
DW52-03 or G3	3RA 12 VDC 3GPA 125 VAC	3A 12 VDC 3A 125 VAC

### CAUTIONS



Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

ORDERING INFORMATION



①	RATING	
	G1	0.1A 125VAC Contact plated gold
	P1	0.1A 125VAC
	G3	3A 125VAC Contact plated gold
	03	3A 125VAC

②	OPERATING FORCE	
	S	Standard

③	ACTUATOR TYPE		
	00	01	A01

④	WIRE SIDE		
	0	R	L

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.T.
	1	S.P.S.T.-NO.
	2	S.P.S.T.-NC

⑥	PILLAR TYPE			
	A	B	C	D

⑦	AWG TYPE			
	E	F	G	H
	20AWG	22AWG	24AWG	26AWG

⑧	UL NUMBER		
	A	C	D
	UL 1007	UL 1430	UL 1061

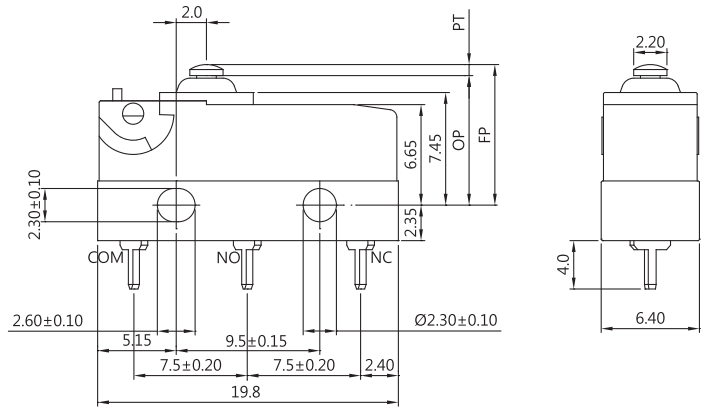
⑨	DIMENSIONS								
	CODE	L1	H	ØA	ØB	ØC	ØD	P	
A	2.0	3.0	2.2	2.6	2.2	2.6	8.0		

# 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 $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

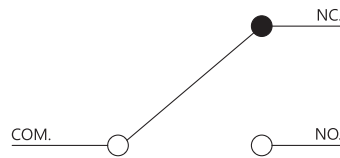
#### Operating application of the switch

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

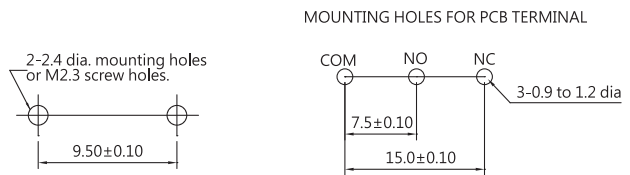
### APPLICATIONS

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



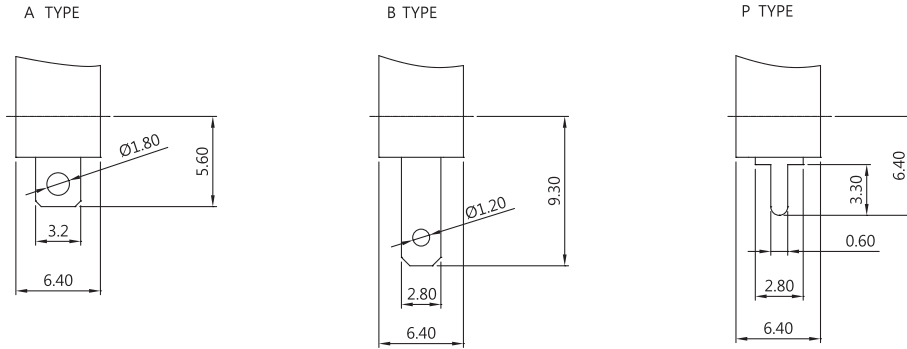
### MOUNTING HOLES



### CERTIFICATE INFORMATION

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

## TERMINAL TYPES



## ORDERING INFORMATION

<b>S</b>	<b>W</b>	<b>0</b>	<b>5</b>	<b>S</b>	<b>0</b>	<b>0</b>	<b>A</b>	<b>0</b>	<b>Z</b>		
SERIES PREFIX	CODE	RATING CURRENT		CODE	OPERATING FORCE		CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE
	05	5A 125/250 VAC 6A 125/250 VAC		S	STANDARD		00	A	0	S.P.D.T	
							01	B	1	S.P.S.T NO	
							02		2	S.P.S.T NC	
							03				
							04				
							05	P			
							06				
							07				
							08				
							09				

## CAUTIONS



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

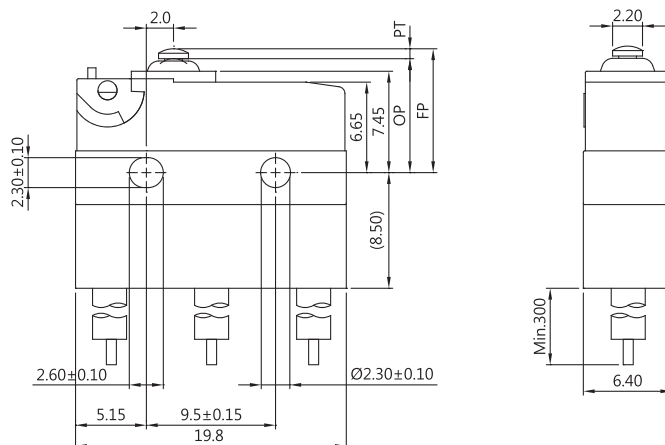
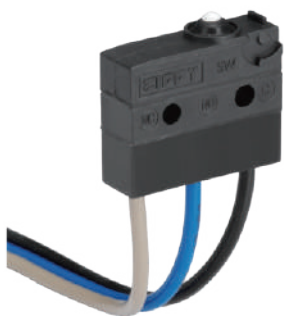
OPERATING CHARACTERISTICS

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

# WATER PROOF SWITCHES

## DIMENSIONS

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



## SW (IP67) SERIES

### APPLICATIONS

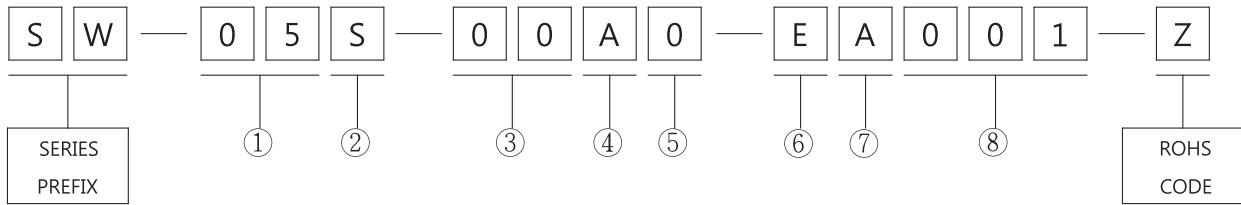
Automotive Door Latch, Coffee Machine, Steamer, Telephone, Air Conditioner, Humidifier, Alarm, Time Recorder, Security Device, Mixer & Chopper, Solder Gun, Neon Phone, Fax Machine, Joystick, Water Pump, Gas Detector, Pencil Sharpener, Money Sorter, Food Processor, Electric Knife, Toy Car, Juice Maker,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

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

### CERTIFICATE INFORMATION

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

**ORDERING INFORMATION**



①	RATING	
	05	5A;125/250 VAC 6A;125/250 VAC

②	OPERATING FORCE	
	S	Standard

Note 1: safety Leads Wire:(AWG:20~26)  
2: UL NUMBER CODE: F , AV wire (No safety)

③	ACTUATOR TYPE				
	00	01	02	03	04

④	WIRE SIDE				
	A	B	C	D	E

⑤	CIRCUIT ARRANGEMENT	
	0	S.P.T
	1	S.P.S.T NO
	2	S.P.S.T NC

⑥	AWG TYPE			
	E	F	G	H
	20	22	24	26

⑦	UL NUMBER				
	A	B	C	D	F
	UL 1007	UL 1015	UL 1430	UL 1061	AV

⑧	SERIAL CODE
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**CAUTIONS**

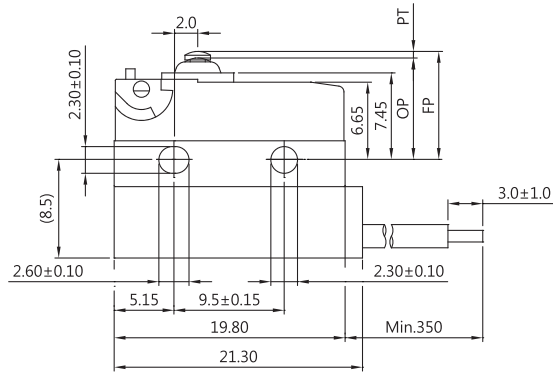


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# WATER PROOF SWITCHES

## DIMENSIONS

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



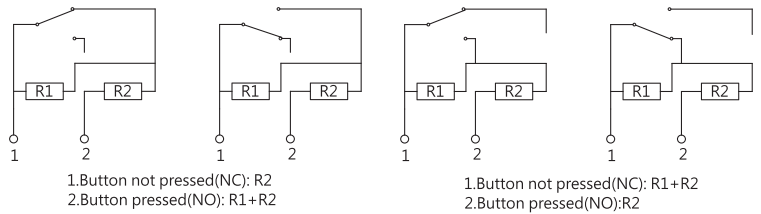
## SW (IP67) SERIES

### Resistor(s) installed type

#### CHARACTERISTICS

Current Load	Resistive Load
Service Life& Operating Frequency	Min 300,000operations (10~30 operations per minute)
Operating Temperature	-40° C~85° C(with no icing)
Vibration Resistance	10~55Hz, displacement 0.75mm(p-p)
Shock Resistance	Destruction:1,000m/s2 Approx. 100G max.
	Malfunction:300 m/s2 {approx. 30G} max.
Protection	IP67

#### ELECTRIC CHARACTERISTICS



The resistance value and power rating of R1 and R2 in the circuit can be changed. Please make a contact with our sales office for detail information:

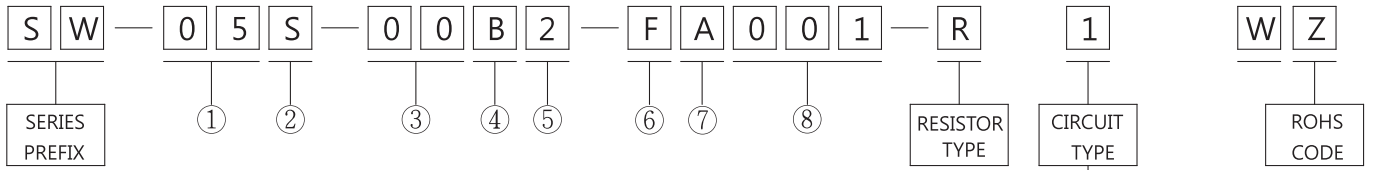
E-mail: [switchsales@zippy.com.tw](mailto:switchsales@zippy.com.tw)

#### 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.



**ORDERING INFORMATION**



SEE ELECTRIC CHARACTERISTICS

①	RATING	
	05	RATING CURRENT (Non resistor typr)

②	OPERATING FORCE	
	S	Standard

③	ACTUATOR TYPE				
	00	01	02	03	04

④	WIRE SIDE	
	B	C

⑤	CIRCUIT ARRANGEMENT	
	1	S.P.S.T NO
	2	S.P.S.T NC

⑥	AWG TYPE
	F
	22

⑦	UL NUMBER
	A
	UL 1007

⑧	SERIAL CODE
---	-------------

**CAUTIONS**



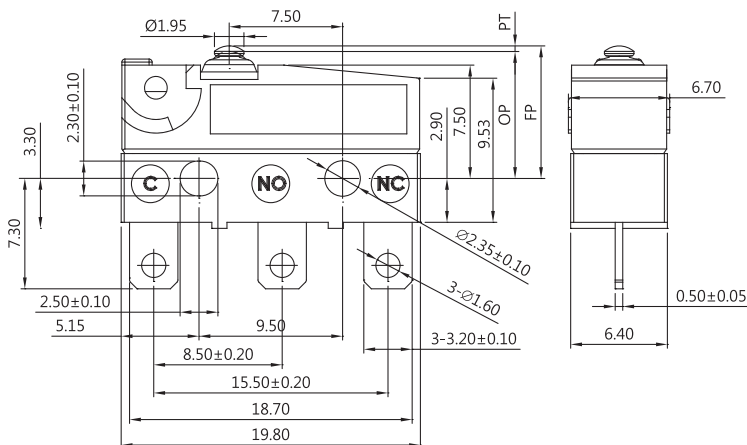
Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

# 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 $\Omega$

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

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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

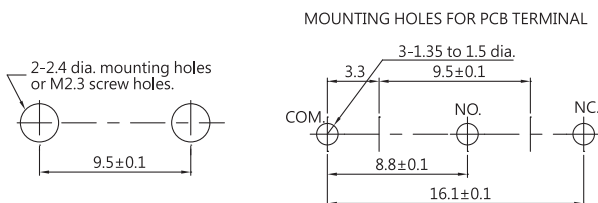
#### Degree of Protection

IP67 (excluding the terminals on terminal models)

### 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



### CONTACT CONFIGURATION



### CERTIFICATE INFORMATION

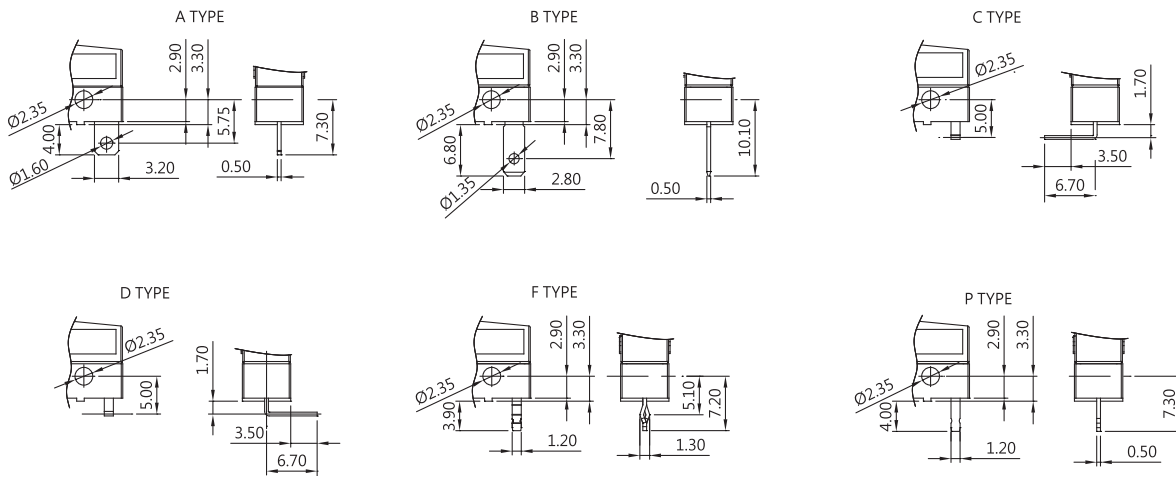
Model Name	UL · cUL	ENEC
SW1-P1	0.1RA 30VDC $\mu$ T125 1E4 0.1RA 125/250VAC $\mu$ T125 1E4	0.1A 30VDC $\mu$ T125 1E4 0.1A 125/250VAC $\mu$ T125 1E4
SW1-06	5RA 30VDC $\mu$ T125 1E4 6RA 125/250VAC $\mu$ T125 1E4	5A 30VDC $\mu$ T125 1E4 6A 125/250VAC $\mu$ T125 1E4
SW1-10	5RA 30VDC $\mu$ T125 1E4 10RA 125/250VAC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

### 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)



**ORDERING INFORMATION**

S W 1 — P 1 S 1 — 0 0 A 0 — Z

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	COVER TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE
	P1	0.1A 125/250 VAC	**H	HEAVIER	1		00		A		0	S.P.D.T	
	06	6A 125/250 VAC	S	STANDARD			01				1	S.P.S.T NO	
	*10	10A 125/250 VAC	L	LIGHT			02		B		2	S.P.S.T NC	
	*12	12A 125/250 VAC	D	SLIGHT			03		C				
							04		D				
							05		P				
							06		F				
							07						
							08						
							09						

#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

**CAUTIONS**



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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	-

# WATER PROOF SWITCHES



## SW1 (IP67) SERIES

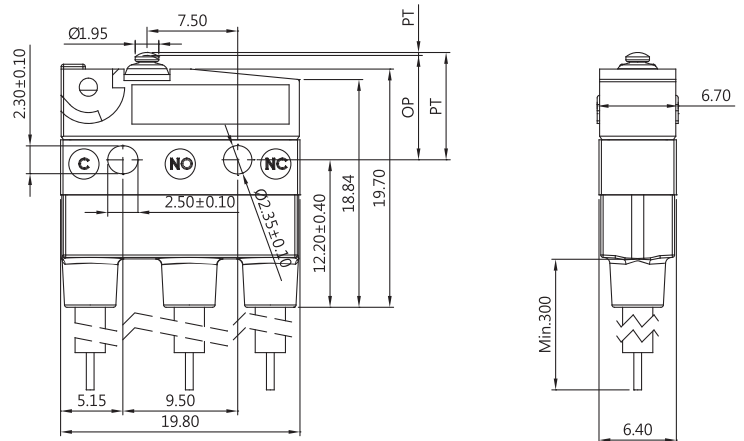
### APPLICATIONS

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.

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

### DIMENSIONS

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



### 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

### THE SELECTION OF RATING & FORCE

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

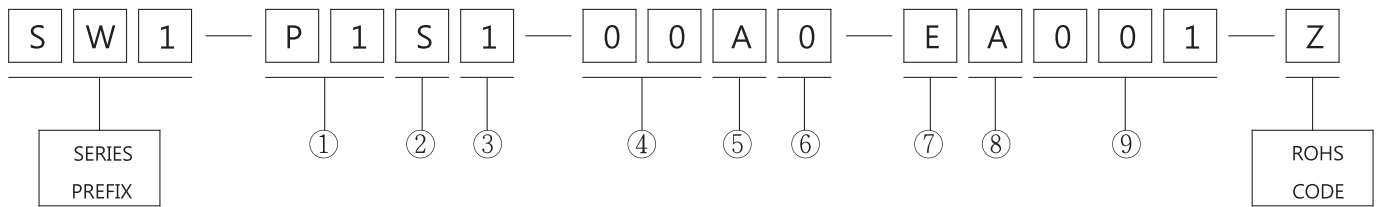
NOTE : The Symbol " \* " to represent the result is accepted

### CAUTIONS



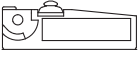
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[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)











ORDERING INFORMATION

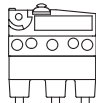
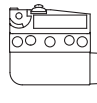
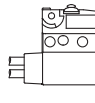
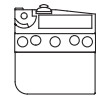
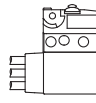


①	RATING	
	P1	0.1A 125/250 VAC
	06	6A 125/250 VAC
	* 10	10A 125/250 VAC
	* 12	12A 125/250 VAC

②	OPERATING FORCE	
	** H	HEAVIER
	S	Standard
	L	LIGHT
	D	SLIGHT

③	COVER TYPE	
	1	

④	ACTUATOR TYPE									
	00	01	02	03	04	05	06	07	08	09
										

⑤	WIRE SIDE				
	A	B	C	D	E
					

⑥	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
	2	S.P.S.T NC

⑦	AWG TYPE			
	E	F	G	H
	20	22	24	26

⑧	UL NUMBER		
	A	B	C
	UL 1007	UL 1015	UL 1430

⑨	SERIAL CODE

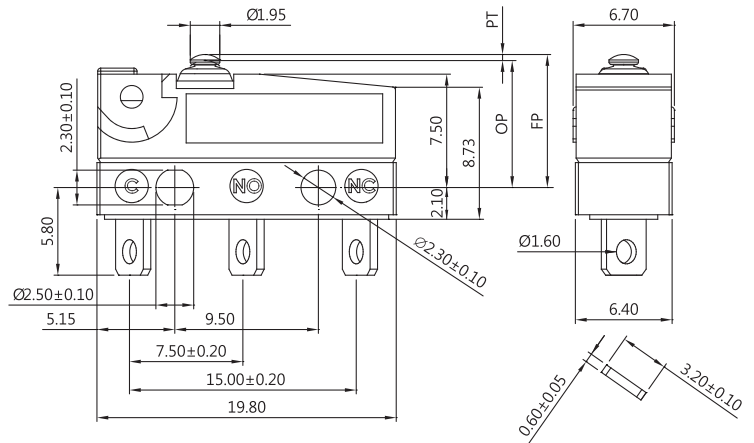
#NOTE				
ITEM	RATING CURRENT	OPERATION FORCE	AWG TYPE	LEADS WIRE
1	Code:P1	H,S,L,D	20,22,24,26	Min.30cm
2	Code:06	H,S,L	20,22	Min.30cm
3	Code:10	H,S	20,22	Min.30cm
4	Code:12	H	20	Min.30cm

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

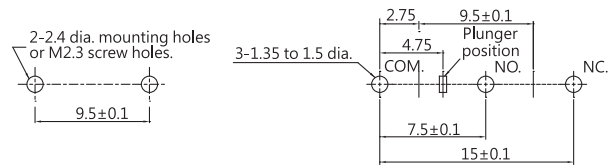
Set the switch pushing distance from 60% to 90% of the specified OT value

### APPLICATIONS

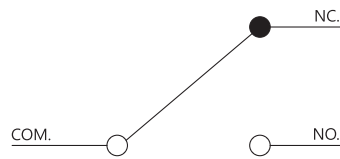
Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juice maker, Electric steak pan.

### MOUNTING HOLES

MOUNTING HOLES FOR PCB TERMINAL



### CONTACT CONFIGURATION



### CERTIFICATE INFORMATION

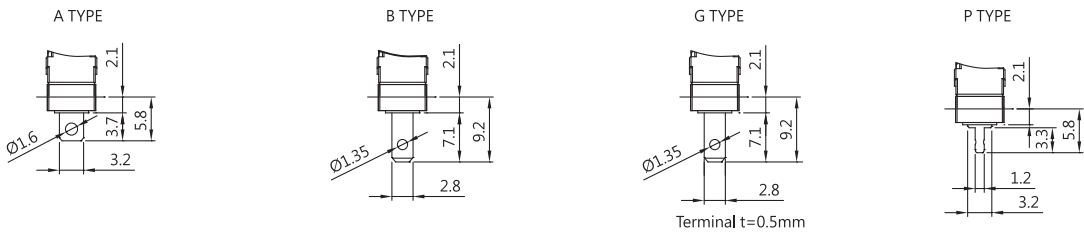
Model Name	UL · cUL	ENEC
SW2-P1	0.1RA 125/250VAC uT125 1E4	0.1A 125/250VAC uT125 1E4
SW2-03	3GPA 125/250VAC uT125 1E4	3A 125/250VAC uT125 1E4
SW2-06	5RA 30VDC uT125 1E4	5A 30VDC uT125 1E4
	6GPA 125/250VAC uT125 1E4	6A 125/250VAC uT125 1E4
SW2-10	5RA 30VDC uT125 1E4	5A 30VDC uT125 1E4
	10RA125/250VAC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

### 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	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	COVER TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	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		P				
	H10	10A 125/250 VAC					05		G	**			
		10(2)A 125/250 VAC					06						
		1/4 hp 125/250 VAC					07						
							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

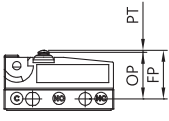
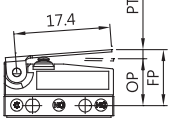
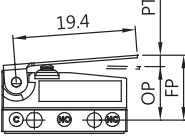
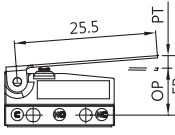
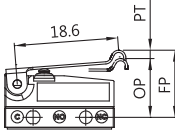
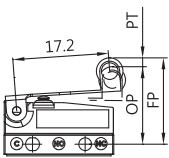
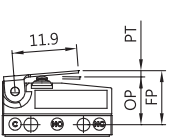
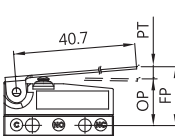
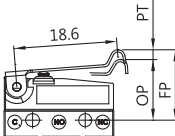
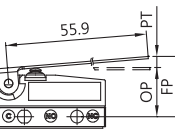
**CAUTIONS**



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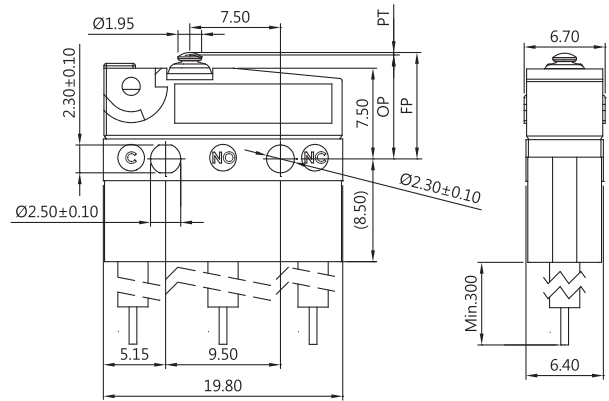
OPERATING CHARACTERISTICS

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	12.0	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

# 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

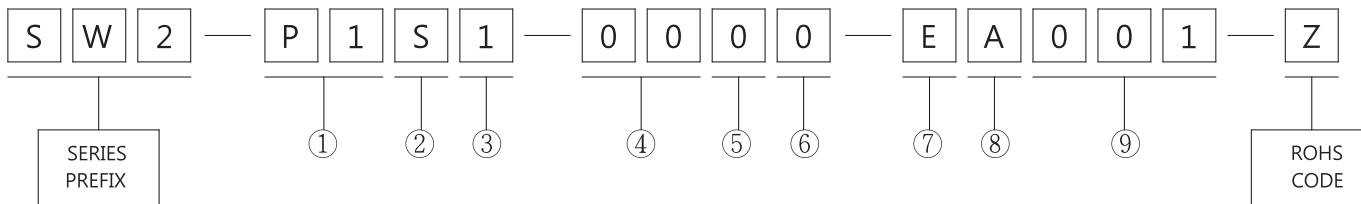
MODEL	Rating	L	S	H
SW2	0.1A	*	*	*
	3A	*	*	*
	6A	*	*	*
	10A 10(2)A		*	*
	1/4 hp 10A 10(2)A		*	*

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 1/4HP 125/250VAC	5A 30VDC 10(2)A 125/250VAC

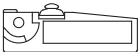
ORDERING INFORMATION







①	RATING	
	P1	0.1A 125/250 VAC
	03	3A 125/250 VAC
	06	6A 125/250 VAC
	10	10A 125/250 VAC
		10(2)A 125/250 VAC
		10A 125/250 VAC
H10	10(2)A 125/250 VAC	
	1/4hp 125/250 VAC	

#NOTE				
	RATING CURRENT	AWG TYPE	LEADS WIRE	OPERATING FORCE
1	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).			

②	OPERATING FORCE	
	H	HEAVIER
	S	Standard
	L	LIGHT

③	COVER TYPE	
	1	

④	ACTUATOR TYPE									
	00	01	02	03	04	05	06	07	08	09
										

⑤	WIRE SIDE		
	0	R	L
			

⑥	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
	2	S.P.S.T NC

⑦	AWG TYPE			
	E	F	G	H
	20	22	24	26

⑧	UL NUMBER				
	A	B	C	D	F
	UL 1007	UL 1015	UL 1430	UL 1061	AV

⑨	SERIAL CODE
---	-------------

CAUTIONS

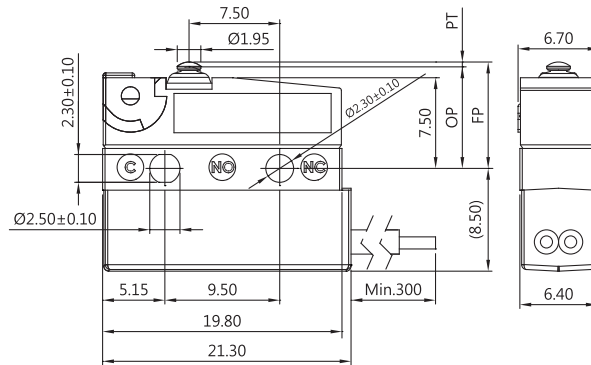


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# WATER PROOF SWITCHES

## DIMENSIONS

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



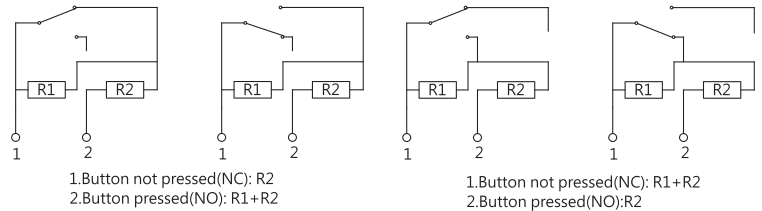
## SW2 (IP67) SERIES

Resistor(s) installed type

### CHARACTERISTICS

Current Load	Resistive Load
Service Life& Operating Frequency	Min 300,000operations (10~30 operations per minute)
Operating Temperature	-40° C~85° C(with no icing)
Vibration Resistance	10~55Hz, displacement 0.75mm(p-p)
Shock Resistance	Destruction:1,000m/s <sup>2</sup> Approx. 100G max.
	Malfunction:300 m/s <sup>2</sup> {approx. 30G} max.
Protection	IP67

### ELECTRIC CHARACTERISTICS



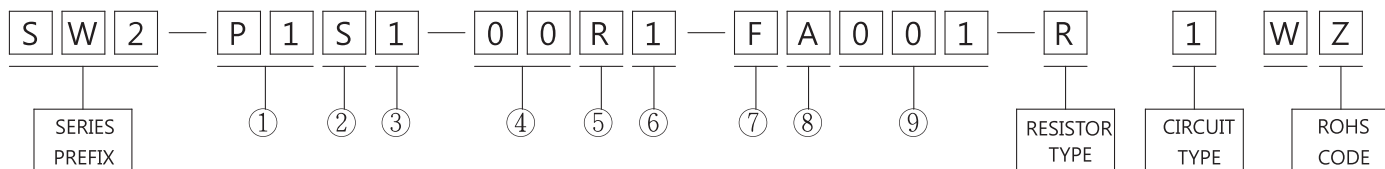
The resistance value and power rating of R1 and R2 in the circuit can be changed. Please make a contact with our sales office for detail information:

E-mail: [switchsales@zippy.com.tw](mailto:switchsales@zippy.com.tw)

### APPLICATIONS

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

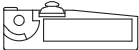
**ORDERING INFORMATION**













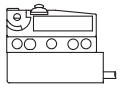
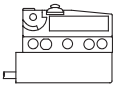
SEE ELECTRIC CHARACTERISTICS

①	P1	RATING (Non resistor type)
---	----	-------------------------------

②	OPERATING FORCE	
	H	HEAVIER
	S	Standard
	L	LIGHT

③	COVER TYPE	
	1	

④	ACTUATOR TYPE									
	00	01	02	03	04	05	06	07	08	09
										

⑤	WIRE SIDE	
	R	L
		

⑥	CIRCUIT ARRANGEMENT	
	1	S.P.S.T NO
	2	S.P.S.T NC

⑦	AWG TYPE
	F
	22

⑧	UL NUMBER
	A
	UL 1007

⑨	SERIAL CODE
---	-------------

**CAUTIONS**

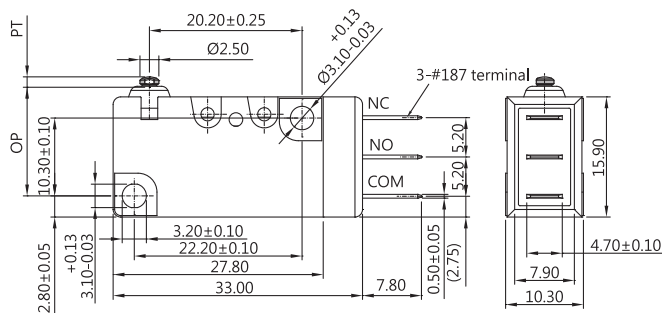


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# WATER PROOF SWITCHES

## DIMENSIONS

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



## VW1 SERIES

### SPECIFICATIONS

#### Contact Resistance (initial)

Max. 300m $\Omega$

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

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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

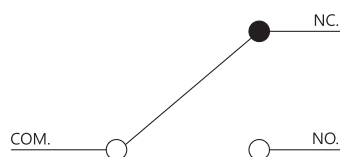
Alarm device, Home security, Time recorder, Air conditioner, Food processor, Juice maker, Lawnmower, Mixer, Central water heater, Industrial apparatus, Special forklifts, Special vehicles

### THE SELECTION OF RATING & FORCE

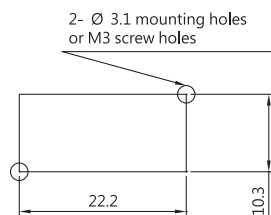
MODEL	Rating	D	J	L	S	H
VW1	0.1A	*	*	*	*	*
	3A	*	*	*	*	*
	6 A	*	*	*	*	*
	10 A				*	*

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

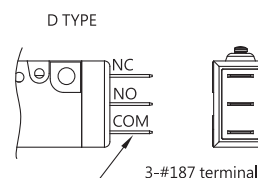
### CONTACT CONFIGURATION



### MOUNTING HOLES



### TERMINAL TYPES



### CERTIFICATE INFORMATION

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

## ORDERING INFORMATION

VW1		P1		S		0		00		D		3		Z	
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR LEVER FIXED	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE		
VW1	10	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								
#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													

## CAUTIONS



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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
VW1- □□□ 2-03 □□ -Z		15	28	40	50	70	D, J, L, S force:			
							13.4 ± 2.0	7.0	-	2.0
VW1- □□□ 1-04 □□ -Z		36	65	95	125	185	H force:			
							11.9 ± 3.3	16.5	-	3.0
VW1- □□□ 2-04 □□ -Z		20	45	60	75	110	D, J, L, S force:			
							12.9 ± 3.3	17.5	-	3.0
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

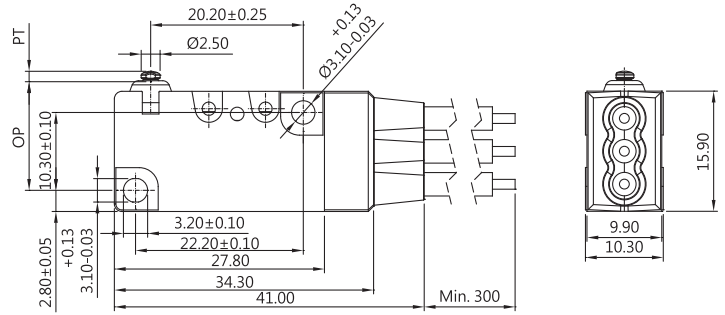
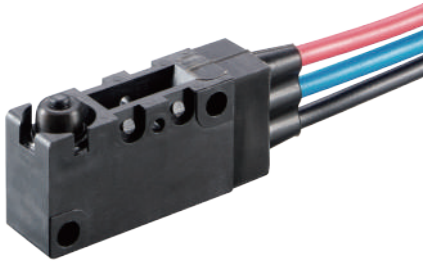
\* There is another series of VW1 with MD reduced to 63%.



# WATER PROOF SWITCHES

## DIMENSIONS

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



## VW1 (IP67) SERIES

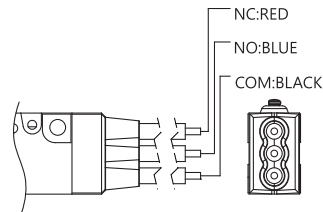
### APPLICATIONS

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

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

### TERMINAL TYPES

A TYPE



### 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

### THE SELECTION OF RATING & FORCE

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

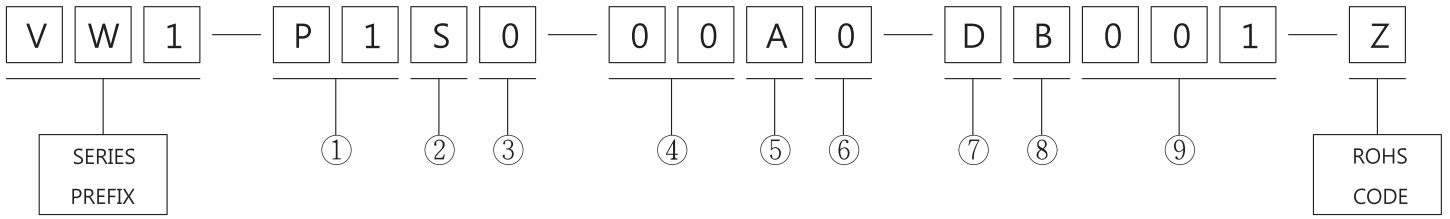
NOTE : The Symbol " \* " to represent the result is accepted

### CAUTIONS



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ORDERING INFORMATION



①	RATING CURRENT	
	10	10A 125/250VAC
	03	3A 125/250VAC
	06	6A 125/250VAC
	P1	0.1A 125/250VAC

⑥	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
	2	S.P.S.T NC

②	OPERATING FORCE	
	H	HEAVIER
	S	STANDARD
	L	LIGHT
	J	SLIGHT
	* D	LIGHTNESS

⑦	AWG TYPE	
	C	16
	D	18
	E	20
	F	22
	G	24
	H	26

③	ACTUATOR LEVER FIXED		
	0	1	2

⑧	UL NUMBER	
	B	UL1015

⑨	SERIAL CODE
---	-------------

④	ACTUATOR TYPE						
	00	01	02	03	04	05	06
	NO LEVER						

⑤	TERMINAL TYPE	
	A	

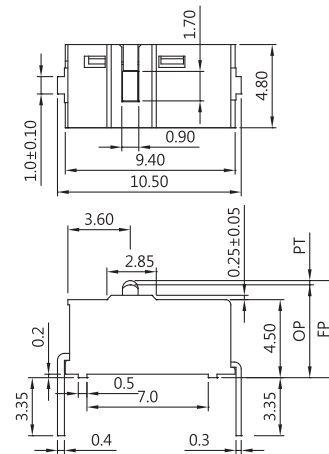
#NOTE				
ITEM	RATING CURRENT	OPERATING FORCE	AWG TYPE	LEADS WIRE
1	Code:P1	H, S, L, J, D	16, 18, 20, 22, 24, 26	Min.30 cm
2	Code:03	H, S, L, J, D	16, 18, 20	Min.30 cm
3	Code:06	H, S, L, J, D	16, 18	Min.30 cm
4	Code:10	H, S	16	Min.30 cm

# 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 $\Omega$

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

#### Insulation Resistance(at 250 VDC / minute)

Min. 100 M $\Omega$

#### 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

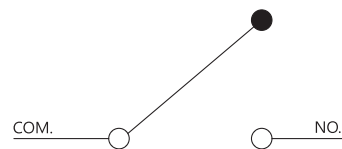
#### Mechanical Operating Frequency

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 ,

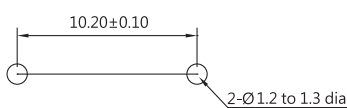
50mA 12VDC

### APPLICATIONS

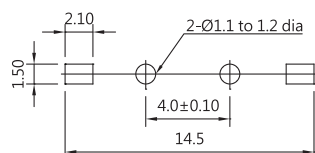
Mouse, Joystick

### MOUNTING HOLES

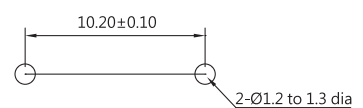
#### P type Terminal



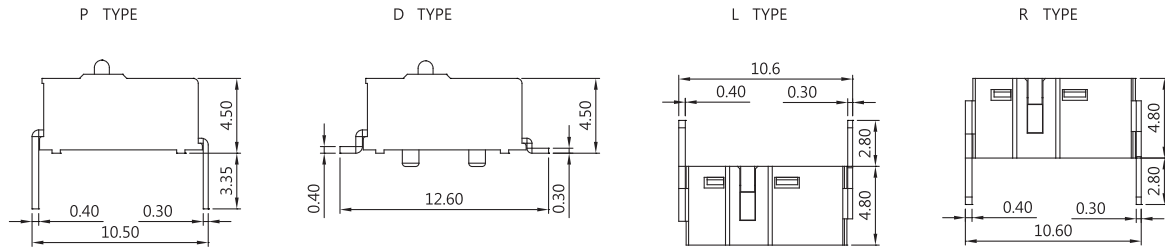
#### D type Terminal



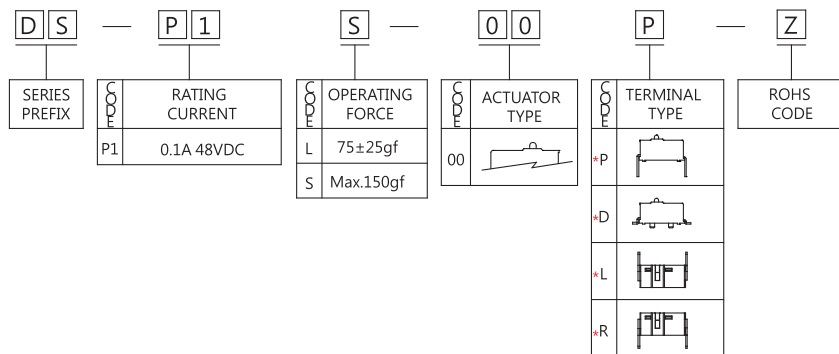
#### R · L type Terminal



## TERMINAL TYPES



## ORDERING INFORMATION



## 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	15
		S	Max.150				30

## CAUTIONS



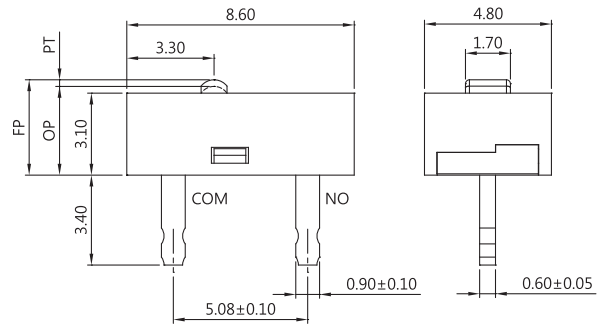
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# MICRO SWITCHES



## 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 $\Omega$

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

#### Insulation Resistance(at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

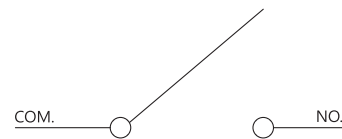
#### Electrical Operating Frequency

120 operations per minute

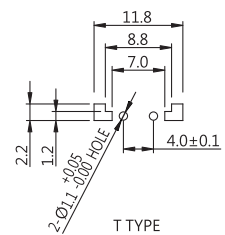
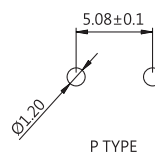
#### Operating application of the switch

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

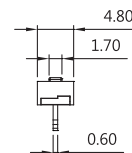
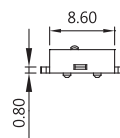
### CONTACT CONFIGURATION



### MOUNTING HOLES



### TERMINAL TYPES



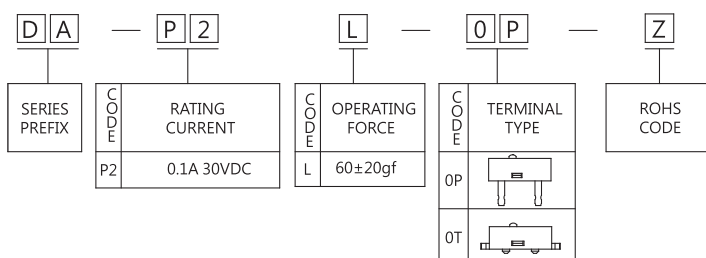
### RATING

0.1A 30VDC

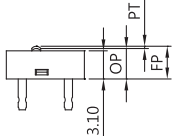
### APPLICATIONS

Mouse, Digital Pen

### 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 <sup>+0.2</sup> <sub>-0.15</sub>	0.65	0.1	3.60±0.15	0.12	20

### CAUTIONS

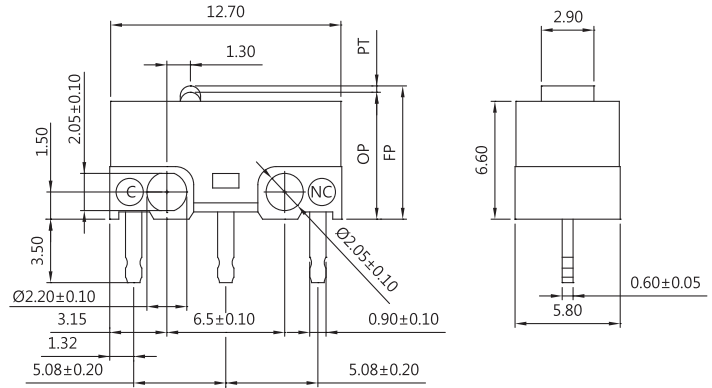


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## DIMENSIONS

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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

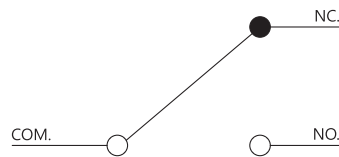
#### Mechanical Operating Frequency

120 operations per minute

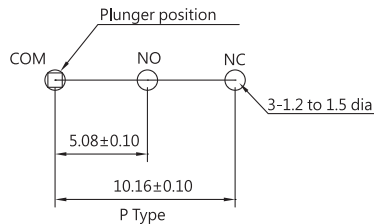
#### Operating application of the switch

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

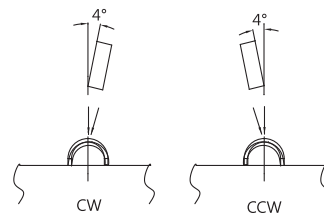
### CONTACT CONFIGURATION



### 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

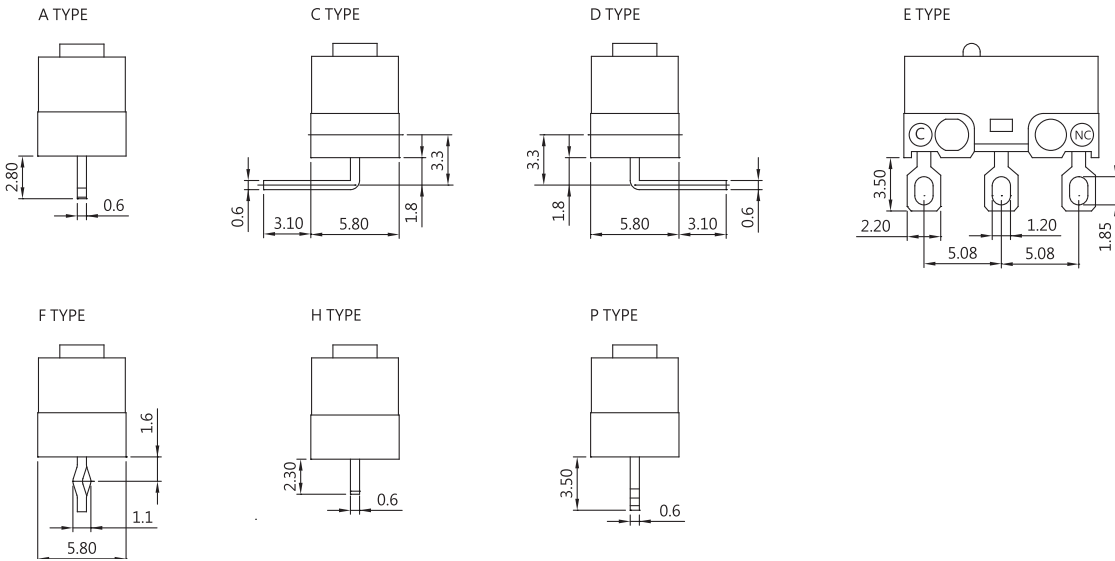
### APPLICATIONS

Mouse, Joystick, Small home appliance, Central heating control

### CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DF-01	1RA 125/250VAC $\mu$ T55 1E4 1RA 24VDC $\mu$ T55 1E4	1A 125/250VAC $\mu$ T55 1E4 1A 24VDC $\mu$ T55 1E4
DF-03	3A 125VAC (Temp:65°C) Min. 6000 operations	3A 125VAC $\mu$ 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		CODE	RATING CURRENT		CODE	OPERATING FORCE		CODE	ACTUATOR TYPE		CODE	TERMINAL TYPE		HIGH OPERATION POINT	ROHS CODE
		P1	0.1A 125VAC		L	LIGHT		0			A				
		O1	1A 125/250VAC		S	STANDARD		1			C				
		O3	3A 125VAC					2			D				
		G1	0.1A 125VAC CONTACT PLATED GOLD					3			H				
		G3	3A 125VAC CONTACT PLATED GOLD					4			F				
		*D3	3A 12VDC								P				
											E				

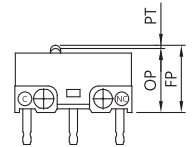
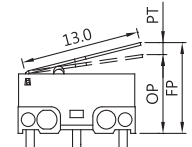
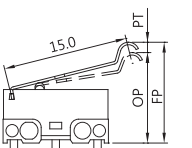
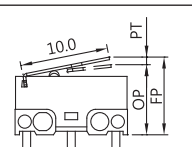
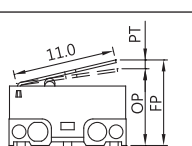
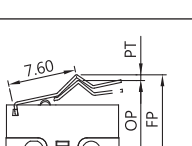
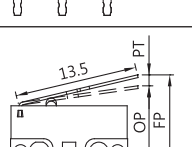
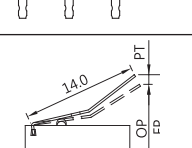
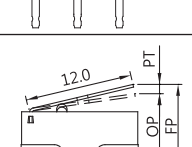
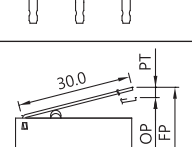
## CAUTIONS



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OPERATING CHARACTERISTICS

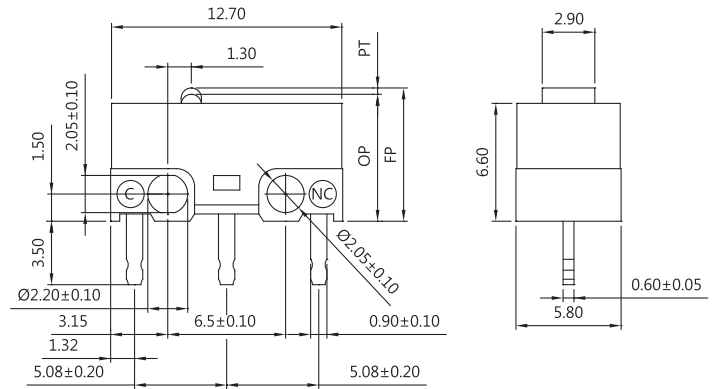
SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DF- □□□ -0 □ -M-Z		L	80	7.0±0.2	0.62	0.2	0.12	7.35	21
		S	150						35
DF- □□□ -1 □ -M-Z		L	30	8.4±0.8	3.0	0.6	0.8	10.6	5
		S	56						8
DF- □□□ -2 □ -M-Z		L	25	10.5±0.8	3.5	0.6	1.0	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

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

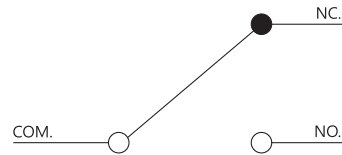
#### Mechanical Operating Frequency

120 operations per minute

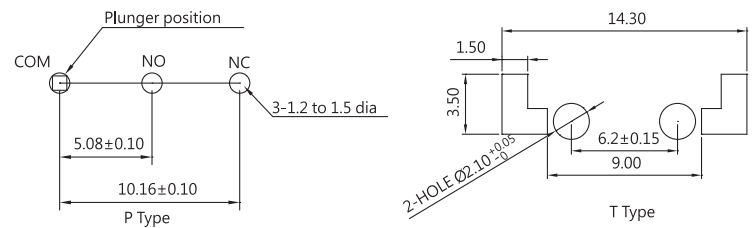
#### Operating application of the switch

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

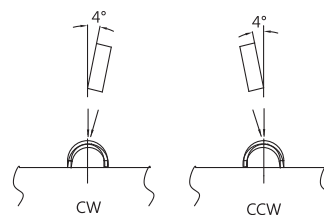
### CONTACT CONFIGURATION



### 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

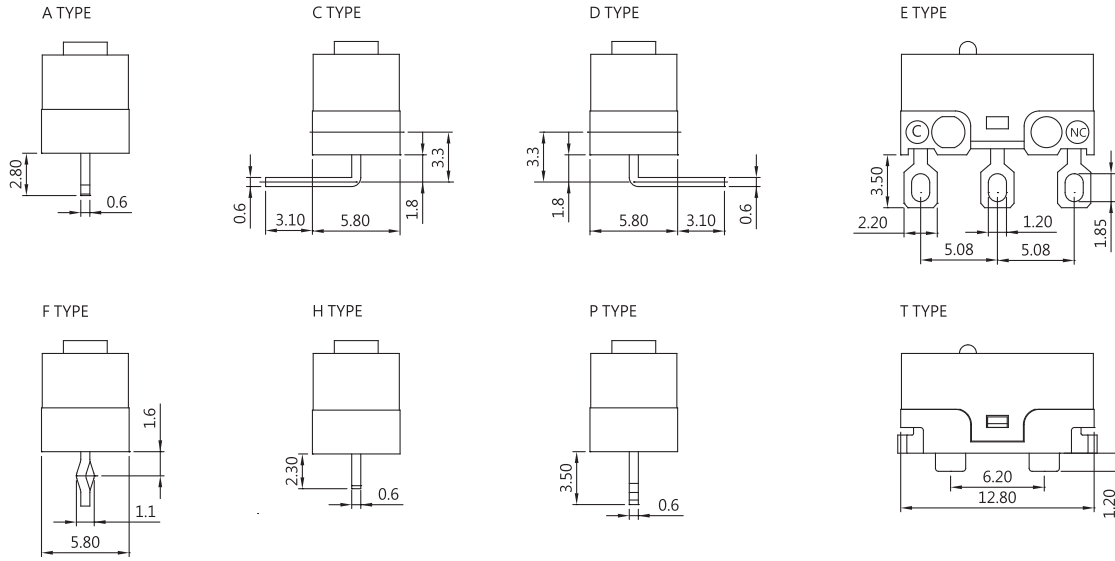
### CERTIFICATE INFORMATION

Model Name	UL, cUL	ENEC
DF-01	1RA 125/250VAC $\mu$ T55 1E4 1RA 24VDC $\mu$ T55 1E4	1A 125/250VAC $\mu$ T55 1E4 1A 24VDC $\mu$ T55 1E4
DF-03	3A 125VAC (Temp:65°C) Min. 6000 operations	3A 125VAC $\mu$ 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

### APPLICATIONS

Mouse, Joystick, Small home appliance, Central heating control

## TERMINAL TYPES



## ORDERING INFORMATION

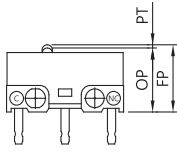
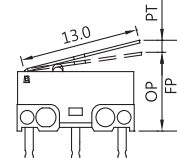
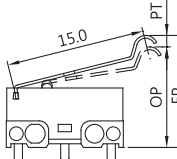
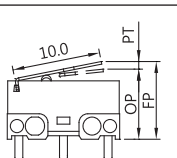
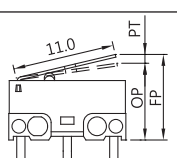
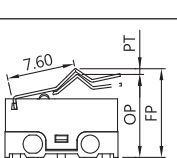
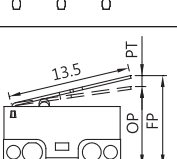
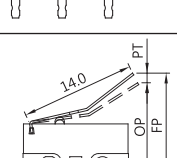
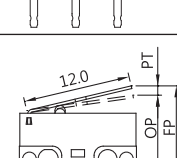
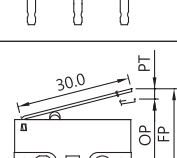
D	F	—	P	1	L	—	0	P	—	Z
SERIES PREFIX			RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE	
C O D E			C O D E		C O D E		C O D E		C O D E	
P1	0.1A 125VAC	L	L	LIGHT	0	A				
O1	1A 125/250VAC	L	S	STANDARD	1	C				
O3	3A 125VAC	L			2	D				
G1	0.1A 125VAC CONTACT PLATED GOLD	L			3	H				
G3	3A 125VAC CONTACT PLATED GOLD	L			4	F				
*D3	3A 12VDC	L				P				
		L				E				
		L				T				

## CAUTIONS



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OPERATING CHARACTERISTICS

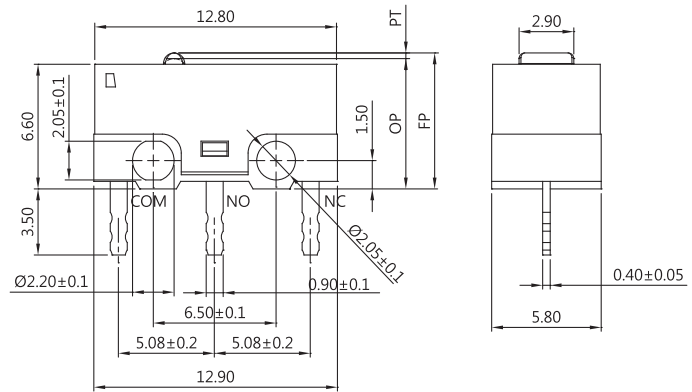
SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DF- □□□ -0 □ -Z		L	80	7.0±0.2	0.62	0.2	0.12	7.35	21
		S	150						35
DF- □□□ -1 □ -Z		L	30	7.9±0.8	3.4	0.6	0.8	10.1	5
		S	56						8
DF- □□□ -2 □ -Z		L	25	9.8±0.9	3.5	0.7	0.92	14.2	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

# 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 $\Omega$

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

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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

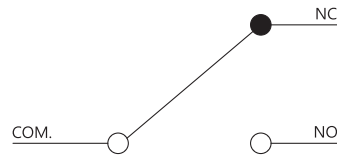
#### Mechanical Operating Frequency

120 operations per minute

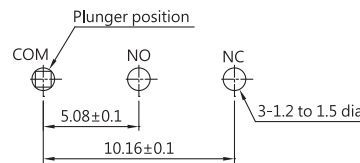
#### Operating application of the switch

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

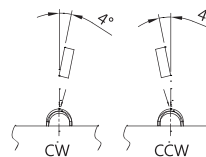
### CONTACT CONFIGURATION



### 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 DF3-G3	3RA 125/250VAC $\mu$ T55 1E4 3RA 24VDC $\mu$ T55 1E4	3A 125/250VAC $\mu$ T55 1E4 3A 24VDC $\mu$ T55 1E4
DF3-S3	3RA 125VAC $\mu$ T55 5E4 3RA 250VAC $\mu$ T55 3E4 3RA 24VDC $\mu$ T55 1E4	3A 125VAC $\mu$ T55 5E4 3A 250VAC $\mu$ T55 3E4 3A 24VDC $\mu$ T55 1E4
DF3-05	5RA 125/250VAC $\mu$ T85 1E4 3RA 24VDC $\mu$ T85 1E4	5A 125/250VAC $\mu$ T85 1E4 3A 24VDC $\mu$ T85 1E4

### THE SELECTION OF RATING & FORCE

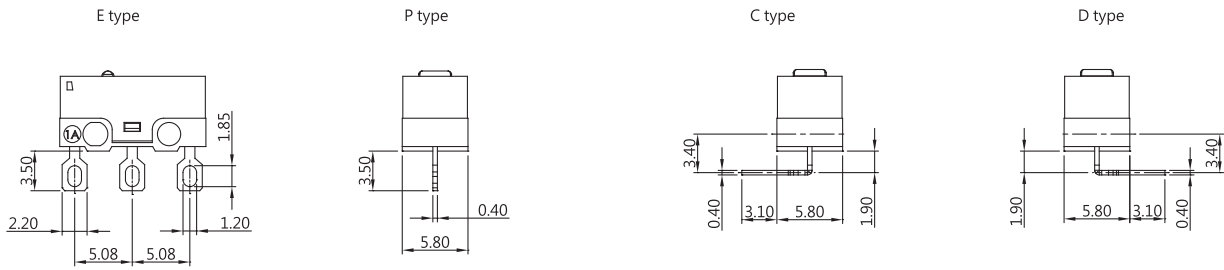
Model	Rating	L	S
DF3-03 DF3-G3	3A	*	*
DF3-S3	3A	*	*
DF3-05	5A	*	*

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

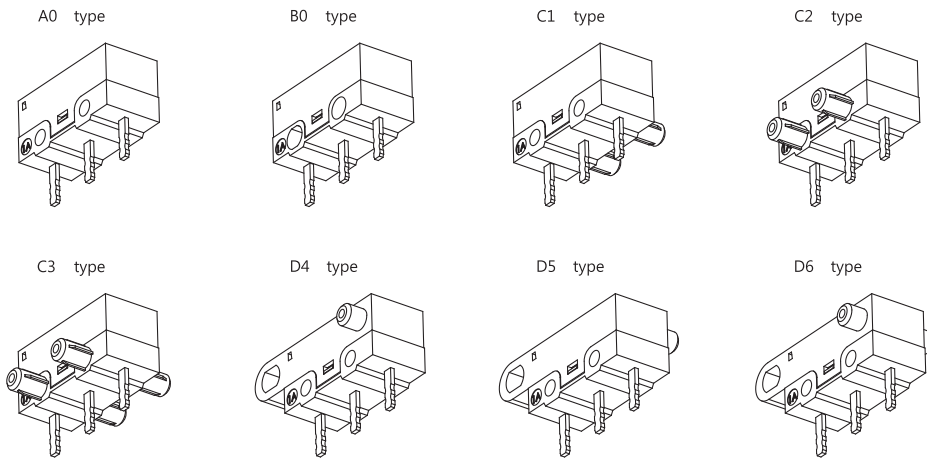
### SPECIAL APPLICATIONS FOR GAMING MOUSE

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

TERMINAL TYPES



PILLAR TYPES

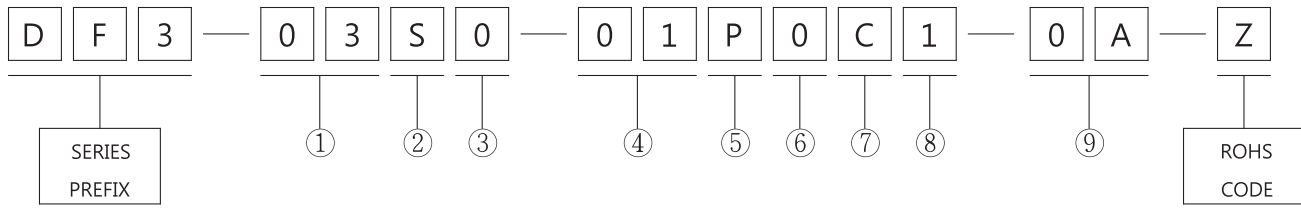


CAUTIONS



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ORDERING INFORMATION



①	RATING CURRENT	
	03	3A 125/250VAC
	* G3	3A 125/250VAC
	05	5A 125/250VAC
	S3	3A 125/250VAC (High Life)

②	OPERATING FORCE	
	S	STANDARD
	L	LIGHT

③	0	STRUCTURE TYPE
		SINGLE BLADE

④	ACTUATOR TYPE				
	00	01	02	03	04

⑤	TERMINAL TYPE			
	* C	* D	* E	P

⑥	CIRCUIT ARRANGEMENT	
	0	S.P.D.T
	1	S.P.S.T NO
	2	S.P.S.T NC

⑦	PILLAR & MOUNTING HOLES TYPE			
	A	B	* C	* D

⑧	PILLAR TYPE						
	0(FOR A/B TYPE)	1(FOR C TYPE) *	2(FOR C TYPE) *	3(FOR C TYPE) *	4(FOR D TYPE) *	5(FOR D TYPE) *	6(FOR D TYPE) *
	WITHOUT PILLAR						

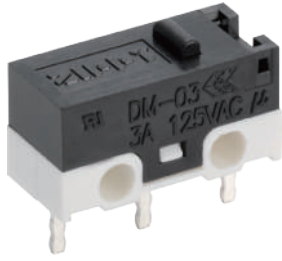
⑨	SPECIAL CODE														
	* DIMENSIONS FOR C1/C2/C3 TYPE							* DIMENSIONS FOR D4/D5/D6 TYPE							
	CODE	L1	H	ØA	ØB	ØC	ØD	P	CODE	L1	H1	H2	ØA	ØB	P
	A	3.15	5.10	2.05	2.45	2.05	2.45	6.50	A	1.95	1.85	2.05	2.05	2.60	13.05

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



# MICRO SWITCHES



## DM 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 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

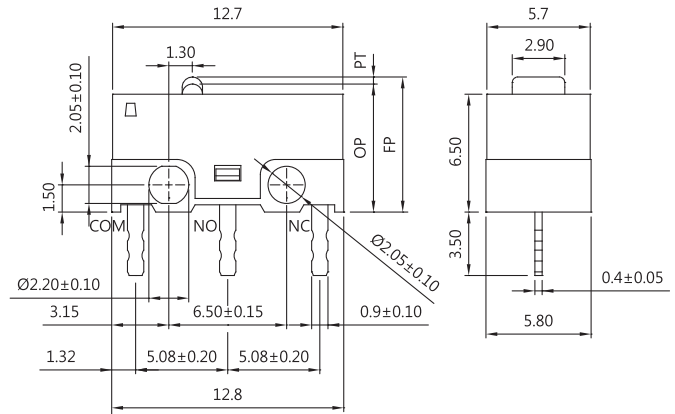
Set the switch pushing distance from 60% to 90% of the specified OT value

### APPLICATIONS

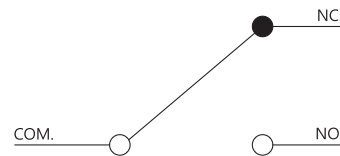
Walkie talkie, Mouse, Electric knife, Electric stapler, Telephone, Calculator, Mixer & chopper, Electric pan, Battery charger, Video cassette reminder, Cordless phone, Tester machine

### DIMENSIONS

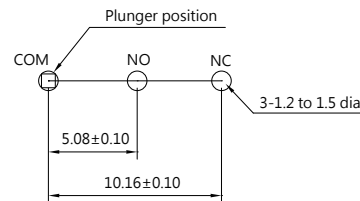
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



### CERTIFICATE INFORMATION

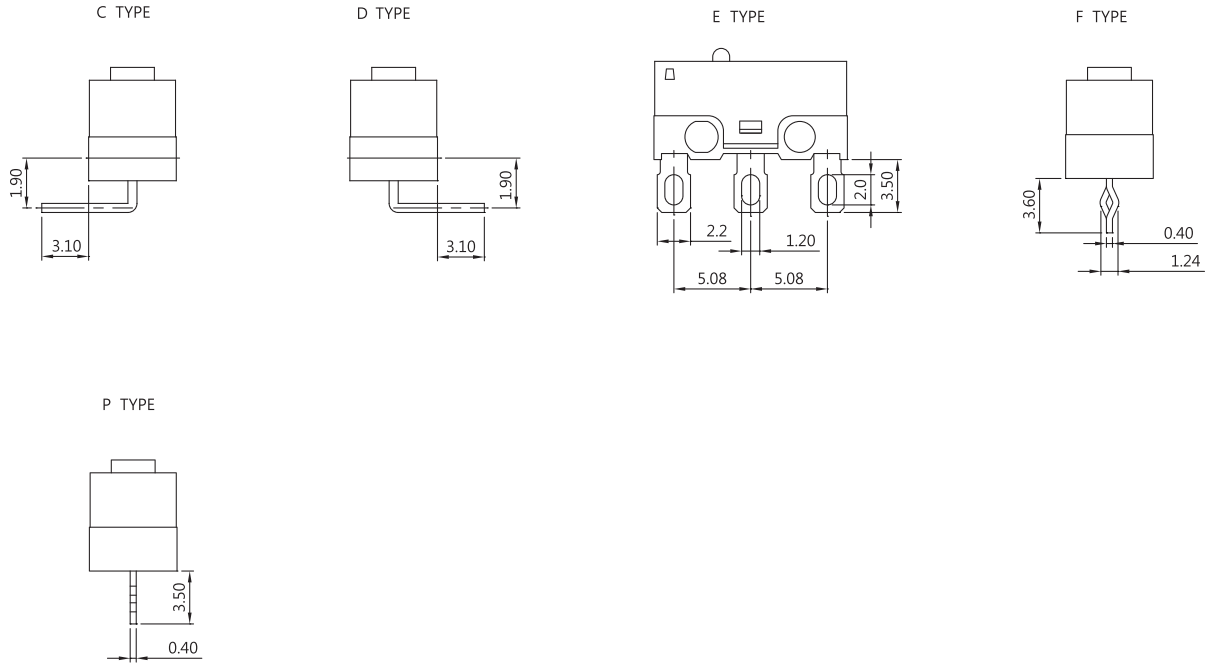
Model Name	UL, cUL	ENEC
DM-03	0.1A 48VDC 0.2A 60VDC 0.1A 125VAC 3A 125VAC (Temp:65°C) Min. 10,000 operations	3A 125VAC μ T55 1E4

### 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



## ORDERING INFORMATION

D M		0 3		S		0		P		Z	
SERIES PREFIX		RATING CURRENT		OPERATING FORCE		ACTUATOR TYPE		TERMINAL TYPE		ROHS CODE	
C	03	3A 125VAC	L	Light	0		C				
P1	0.1A 125VAC 0.1A 48VDC	L	S	Standard	1		D				
					2		E				
					3		F				
					4		P				

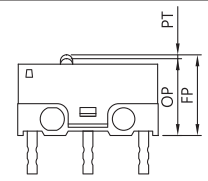
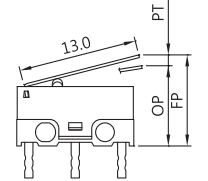
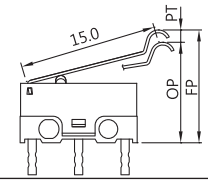
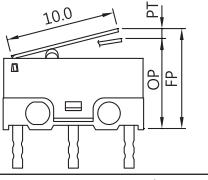
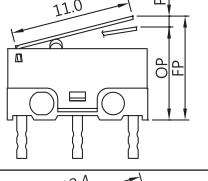
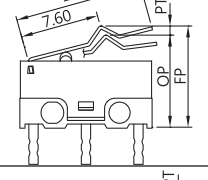
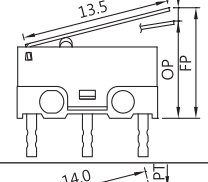
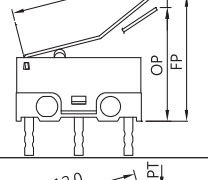
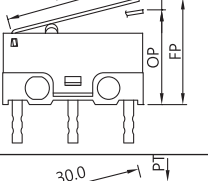
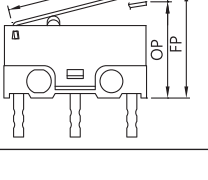
Note1.  
for special type DM-03 □ - □ □ -A gold plated contacts  
rating 0.1A 48VDC ; 0.1A 125VAC ; 0.2A 60VDC ;  
1A 125VAC ; 3A 125VAC.

## CAUTIONS



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OPERATING CHARACTERISTICS

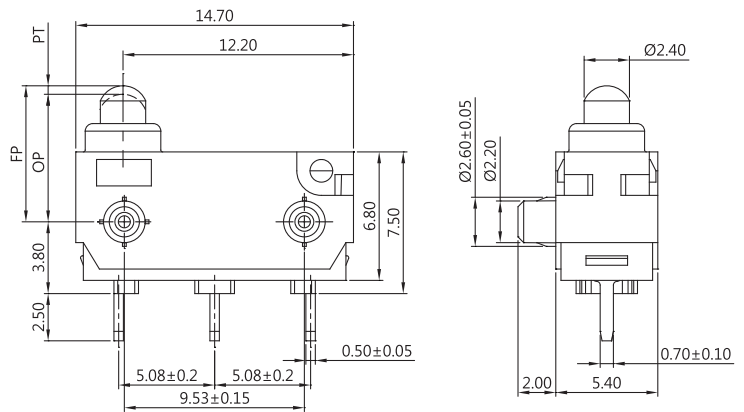
SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		L	S						
DM-03 □ -0 □ -Z		L	90	7.0±0.3	1.3	0.2	0.3	8.0	15
		S	150						20
DM-03 □ -1 □ -Z		L	30	8.4±0.8	3.4	0.6	1.3	11.0	5
		S	50						8
DM-03 □ -2 □ -Z		L	27	10.5±0.8	3.8	0.6	1.5	13.5	4
		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

# MICRO SWITCHES



## DIMENSIONS

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



## DW51 (IP50) SERIES

### SPECIFICATIONS

#### Contact Resistance(initial)

Max. 100 m $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

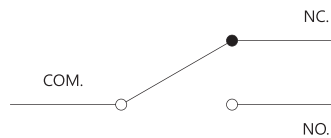
#### Operating application of the switch

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

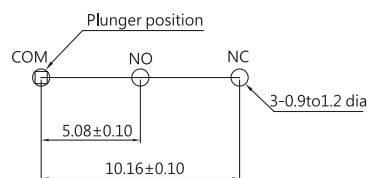
### APPLICATIONS

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

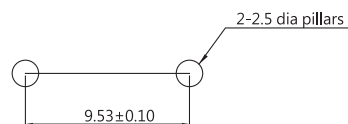
### CONTACT CONFIGURATION



### MOUNTING HOLES FOR PCB TERMINAL



### PILLAR PITCH

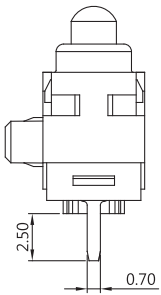


### CERTIFICATE INFORMATION

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

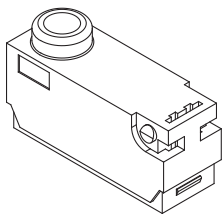
**TERMINAL TYPES (THE thickness of each terminal is 0.5mm)**

P TYPE

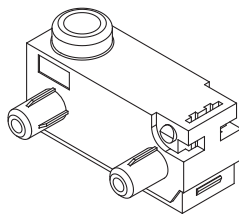


**COVER TYPES ( PILLAR & TRAVEL TYPES )**

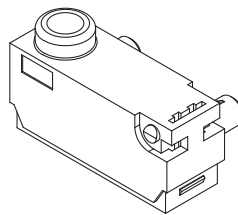
A TYPE



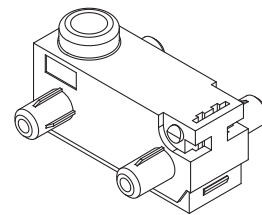
B TYPE



C TYPE



D TYPE



**ORDERING INFORMATION**

DW51	03	S	1	01	P	0	A	0A	Z
SERIES PREFIX	CODE	OPERATING FORCE	COVER & BUTTON TYPE	ACTUATOR TYPE	TERMINAL TYPE	CIRCUIT ARRANGEMENT	PILLAR TYPE	SERIAL CODE	ROHS CODE
	RATING CURRENT	S STANDARD	1	00	P	0 S.P.D.T 1 S.P.S.T NO 2 S.P.S.T NC	A B C D		
	G1 0.1A 125VAC Contact plated gold P1 0.1A 125VAC G3 3A 125VAC Contact plated gold 03 3A 125VAC								

DIMENSIONS							
	L1	H	ØA	ØB	ØC	ØD	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**



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OPERATING CHARACTERISTICS

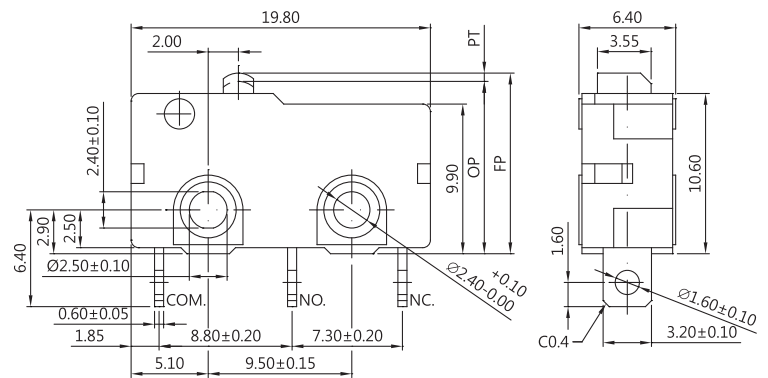
SWITCH TYPE	PART SUFFIX	OF Max (gf)	OP (mm)	PT Max (mm)	OT Min (mm)	MD Max (mm)	FP Max (mm)	RF Min (gf)
DW51- □□ S1-00 □□ -Z		S	130	3.05±0.2	0.8	0.8	0.3	3.65
								7.35
DW51- □□ S1-01 □□ -Z		S	195	3.7±0.5	3.85	1.35	0.5	7.0
								10.7
DW51- □□ S1-04 □□ -Z		S	160	6.2±0.8	4.8	1.65	0.7	10.1
								13.8

# 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 $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

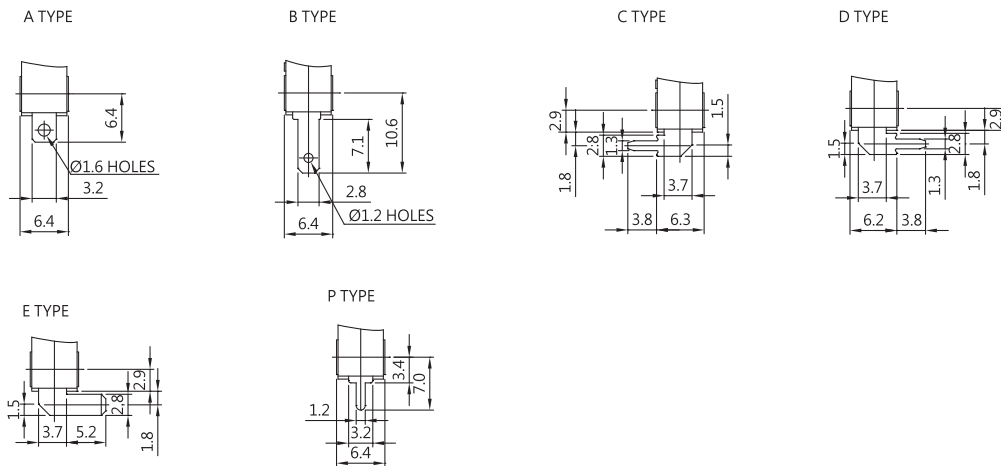
Telephone, Air conditioner, Computer, Humidifier, Alarm, Time recorder, Mixer & Chopper, Solder gun, Neon phone, Fax machine, Joystick, Water pump, Gas detector, Pencil sharpener, Money sorter, Food processor, Electric knife, Toy car, Juicer, Electric steak pan.

### THE SELECTION OF RATING & FORCE

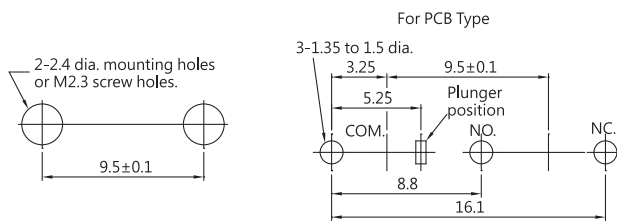
MODEL	Rating	D	L	S	H	Q	T
SM	0.1A	*	*	*	*	*	*
	5A			*	*	*	*

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

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



**MOUNTING HOLES**



**ORDERING INFORMATION**

S	M	0	5	S	0	3	P	0	Z			
SERIES PREFIX	CODE	RATING CURRENT		CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	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

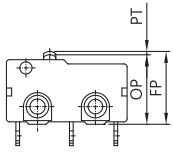
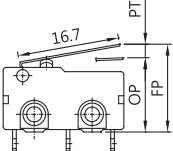
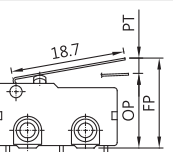
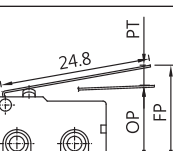
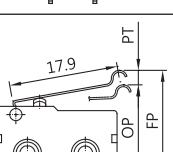
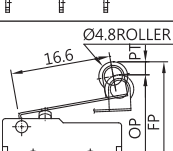
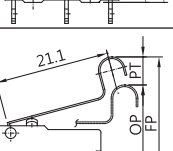
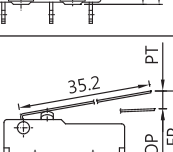
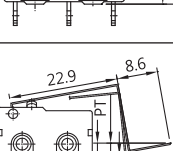
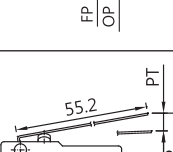
**CAUTIONS**



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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

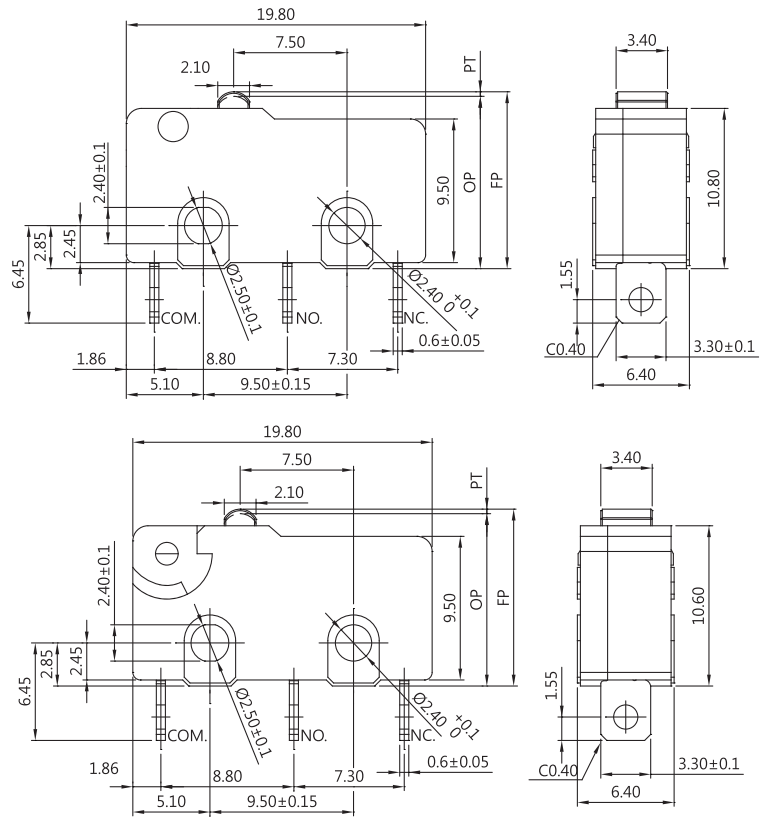
# MICRO SWITCHES



internal snap-fit lever



external snap-fit lever



## DIMENSIONS

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

## SM1 SERIES

### SPECIFICATIONS

#### Contact Resistance(initial)

Max. 300 m $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

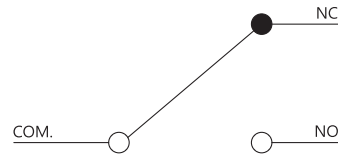
#### Operating application of the switch

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

### CONTACT CONFIGURATION



### CERTIFICATE INFORMATION

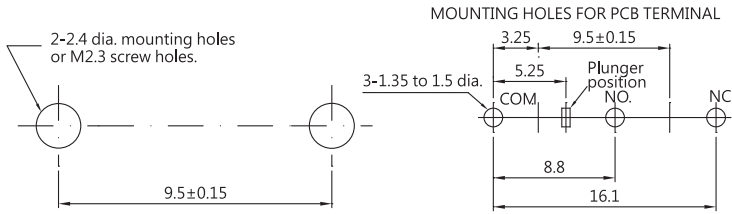
Model Name	UL, cUL	ENEC
SM1-06	6A 125/250VAC (Temp: 125°C) Min. 10,000 operations	6A 125/250VAC $\mu$ 40T125 1E4 6(2)A 125/250VAC $\mu$ 40T125 1E4
SM1-10	10.1A 125/250VAC (Temp: 125°C) Min. 10,000 operations	10.1A 125/250VAC $\mu$ 40T125 1E4 6(2)A 125/250VAC $\mu$ 40T125 1E4
SM1-16	16A 125/250VAC (Temp: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

### THE SELECTION OF RATING & FORCE

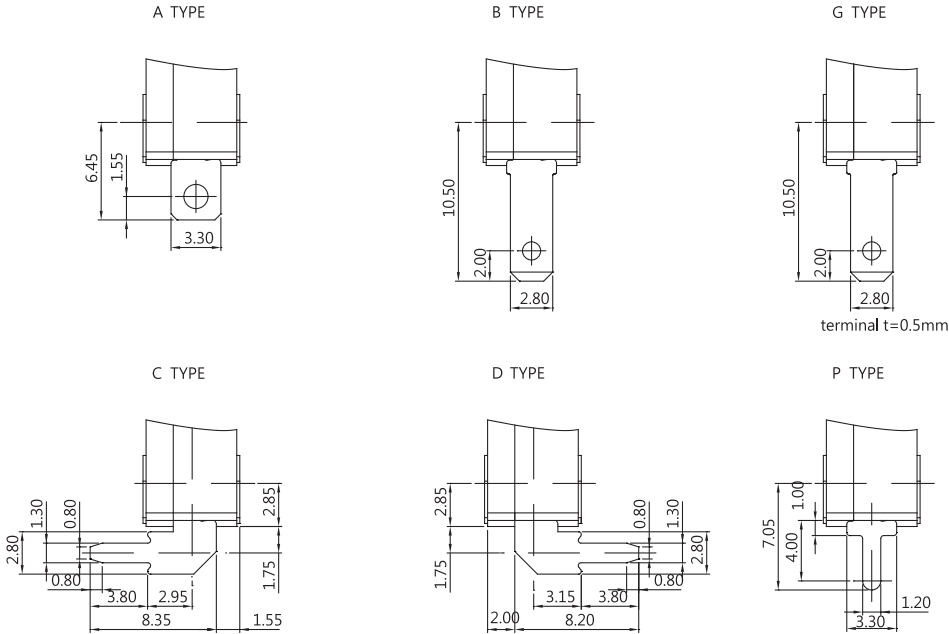
Model Name	Rating	D	L	S	F	H
SM1	5A	*	*	*	*	*
	6A	*	*	*	*	*
	10.1A			*	*	*
	16A					*

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

## MOUNTING HOLES



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



## ORDERING INFORMATION

S	M	1	0	6	S	0	0	5	0	0	A	0	Z	
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	INTERNAL SNAP-FIT LEVER OR EXTERNAL SNAP-FIT LEVER	CODE	ACTUATOR TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CONTACT ARRANGEMENT	ROHS CODE
	06	6A 125/250VAC 6(2)A 125/250VAC	H	HEAVIER	00		00		A		0	S.P.D.T		
	10	10.1A 125/250VAC 6(2)A 125/250VAC	F	HEAVY	01		01		B		1	S.P.S.T NO		
	16	16A 125/250VAC 6(3)A 125/250VAC	S	STANDARD	02		02		C		2	S.P.S.T NC		
	C1	0.1A 125/250VAC	L	LIGHT	03		03		D					
	C3	3A 125/250VAC	D	SLIGHT	04		04		P					
	C5	5A 125/250VAC			05		05		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,F,H
3	CODE:16	H
4	CODE:C1	ALL
5	CODE:C3	ALL
6	CODE:C5	ALL
7	CODE:S5	S

## CAUTIONS

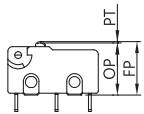
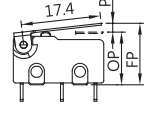
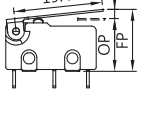
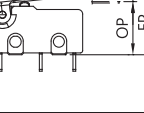
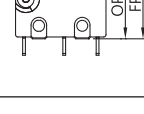
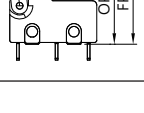
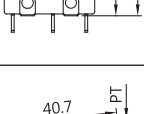
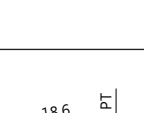
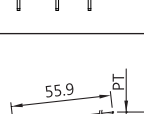



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OPERATING CHARACTERISTICS ( SM1 series - internal snap-fit lever )

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
		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
		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
		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
		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
		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
		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
		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						---

# MICRO SWITCHES



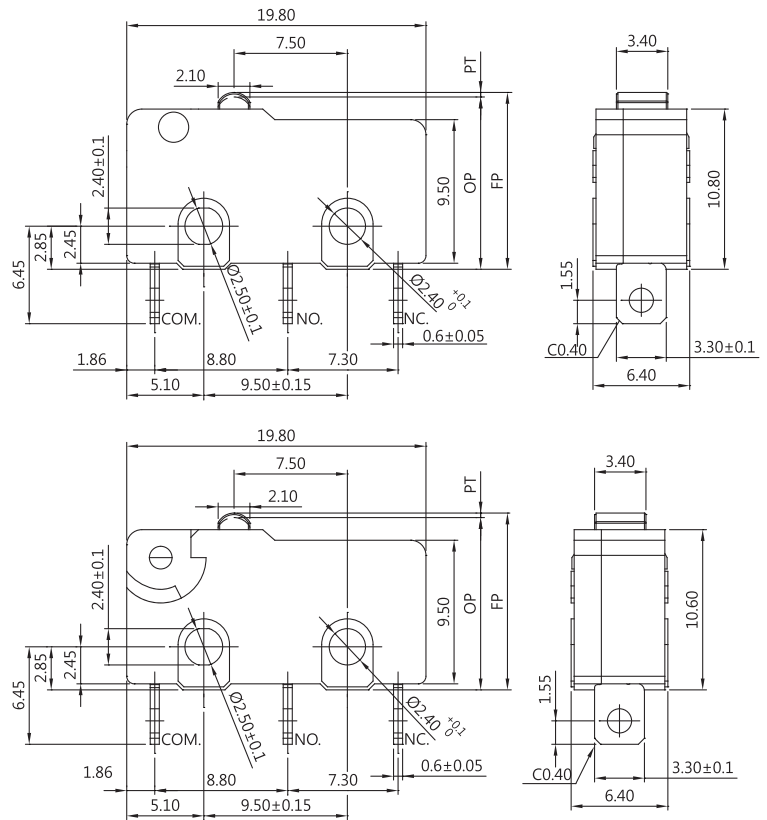
Internal snap-fit lever



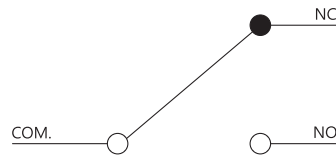
External snap-fit lever

## DIMENSIONS

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



## CONTACT CONFIGURATION



## CERTIFICATE INFORMATION

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

## SM1-N & SM1-G SERIES

### SPECIFICATIONS

#### Contact Resistance(initial)

Max. 300 m $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

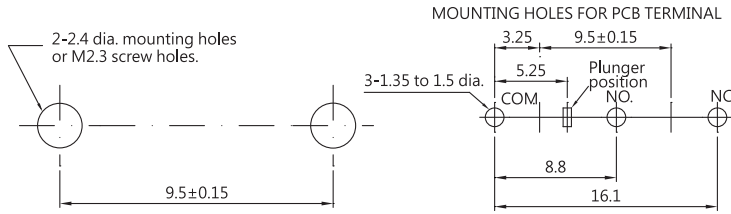
#### Operating application of the switch

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

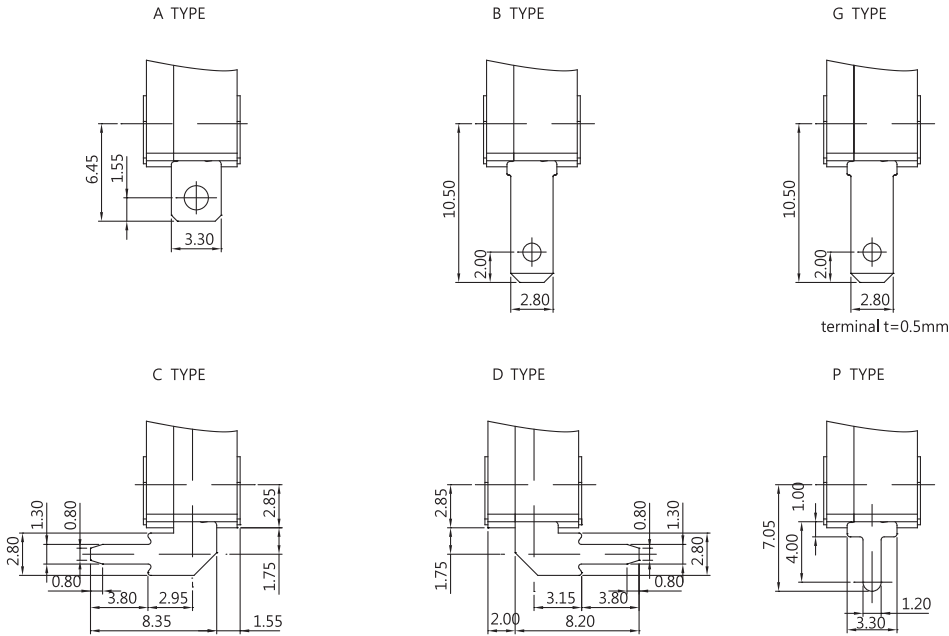
### APPLICATIONS

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**



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



**ORDERING INFORMATION**

S	M	1	N	6	S	0	0	5	0	0	A	0	Z	
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	INTERNAL SNAP-FIT LEVER	OR	EXTERNAL SNAP-FIT LEVER	CODE	ACTUATOR TYPE	CODE	ACTUATOR TYPE	CODE	CONTACT ARRANGE- MENT	ROHS CODE
	G1 NC1	0.1A 125/250VAC 0.1A 30VDC	H	HEAVIER	00		00	00		00		A	0	S.P.D.T
	N3 G3 NC3 GC3	3A 125/250VAC 3A 30VDC	F	HEAVY	01		01	01		01		B	1	S.P.S.T NO
	N6 G6	6A 125/250VAC 5A 30VDC	S	STANDARD	02		02	02		02		C	2	S.P.S.T NC
			L	LIGHT	03		03	03		03		D		
			D	SLIGHT	04		04	04		04		P		
					05		05	05		05		G		
					06		06	06		06				
					07		07	07		07				
					08		08	08		08				
					09		09	09		09				

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

**CAUTIONS**



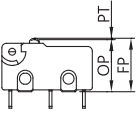
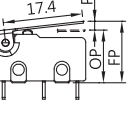
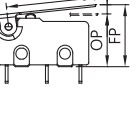
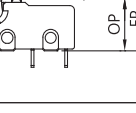
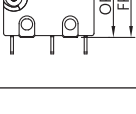
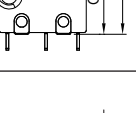
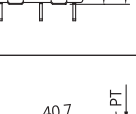
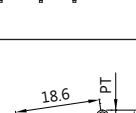
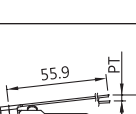

Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

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
		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
		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
		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
		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
		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
		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
		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 )

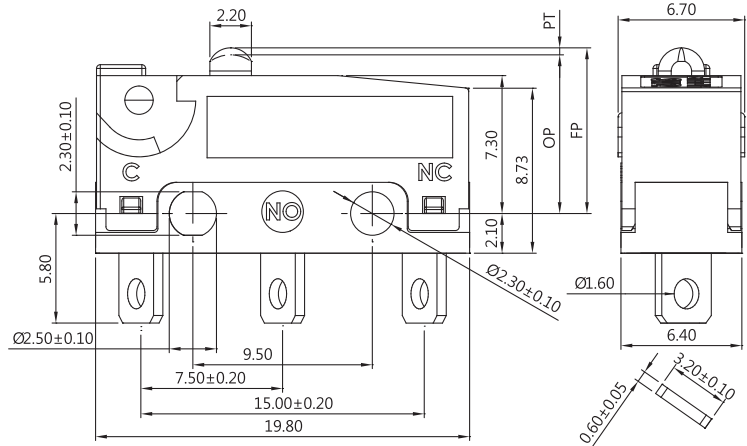
SWITCH TYPE	PART SUFFIX	OF Max. (gf)		OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)	FP Max. (mm)	RF Min. (gf)
		H	F						
SM1- □□□ -500 □□ -Z		H	355	11.4±0.3	1.1	0.4	0.2	12.2	100
		F	280						50
		S	150						25
		L	95						10
SM1- □□□ -501 □□ -Z		H	145	11.8±1.10	4.6	0.9	0.8	15.3	15
		F	105						12
		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						---

# 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### 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

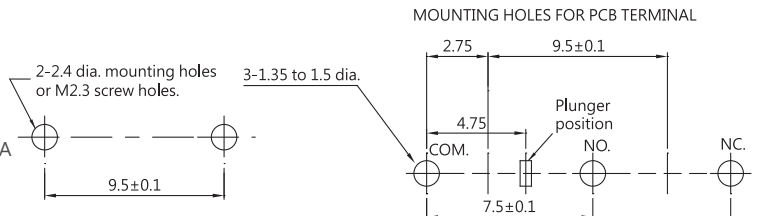
#### Mechanical Operating Frequency

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



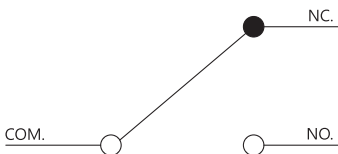
### CERTIFICATE INFORMATION

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

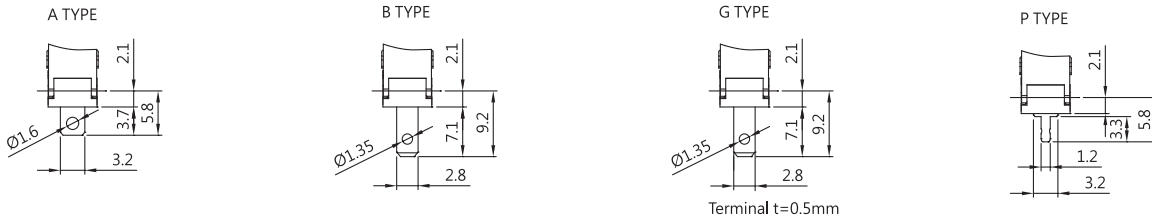


### THE SELECTION OF RATING & FORCE

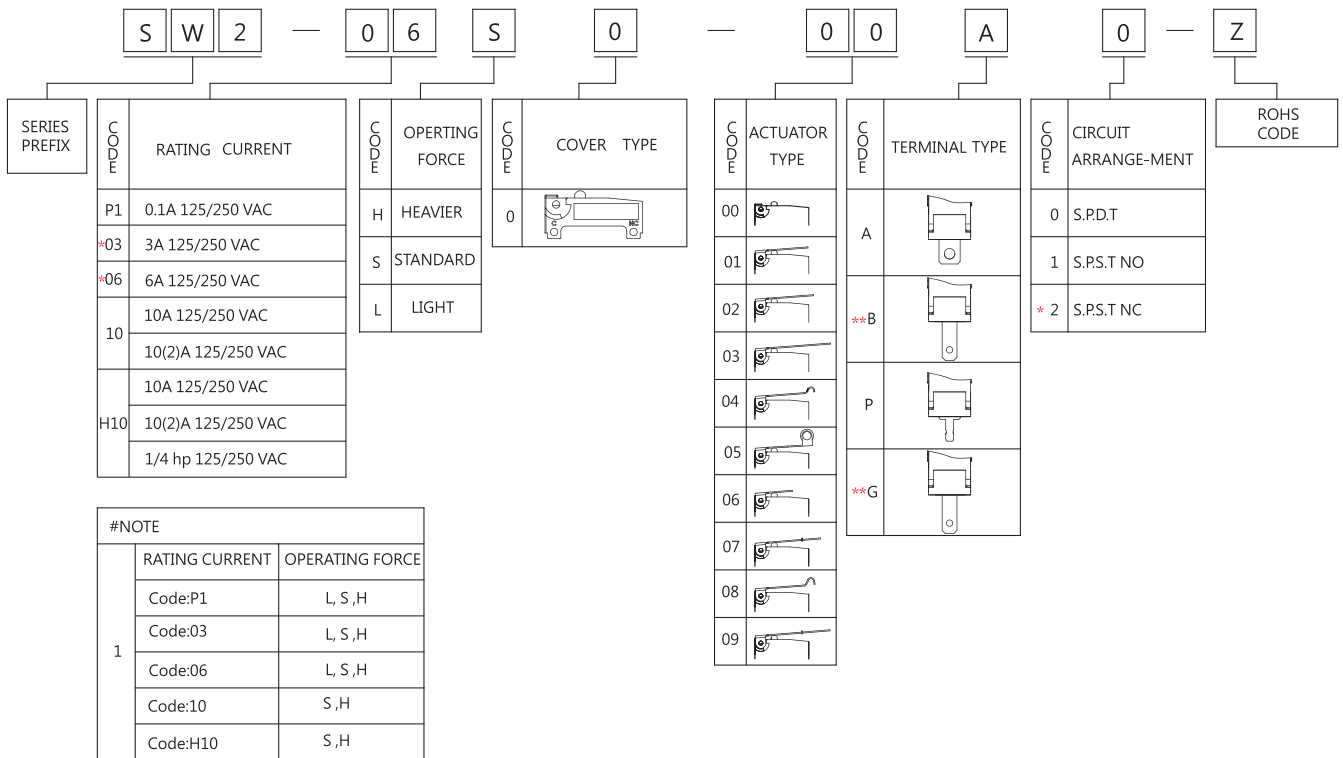
MODEL	Rating	L	S	H
SW2	0.1A	*	*	*
	3A	*	*	*
	6A	*	*	*
	10A 10(2)A		*	*
	1/4 hp 10A 10(2)A		*	*

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

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



ORDERING INFORMATION



CAUTIONS



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

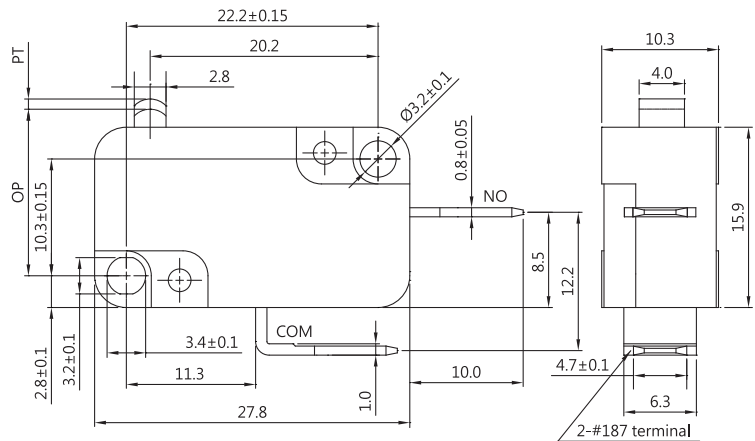
OPERATING CHARACTERISTICS

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	12.0	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



## 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 m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

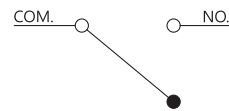
#### Mechanical Operating Frequency

120 operations per minute

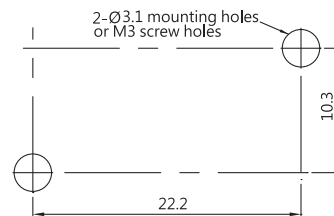
#### Operating application of the switch

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

### 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

### APPLICATIONS

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

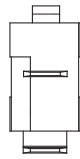
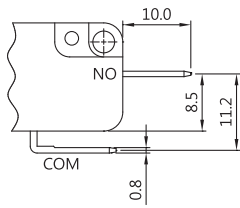
### THE SELECTION OF RATING & FORCE

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	*	*	*

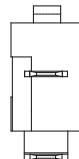
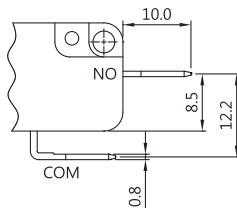
NOTE : The Symbol " \* " to represent the result is accepted

## TERMINAL TYPES

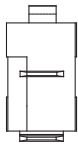
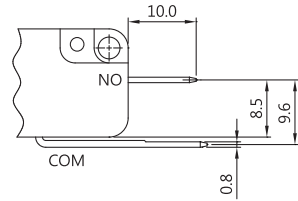
C TYPE  
250 terminal  
(6.3x0.8)



D TYPE  
187 terminal  
(4.7x0.8)



G TYPE  
250 terminal  
(6.3x0.8)



## ORDERING INFORMATION

V	3	—	1	6	S	—	0	0	D	1	—	Z
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE	
	10	10.1A 125/250VAC	L		00		C*	250 SERIES	1	S.P.S.T NO		
	16	16A 125/250VAC	S		01		D	187 SERIES				
	20	20.1A 125/250VAC	H		02		G*	250 SERIES				
	25	25A 125/250VAC	K		03							
			R		04							
			G		05							
					06							

## CAUTIONS



Micro Switch Cautions

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OPERATING CHARACTERISTICS

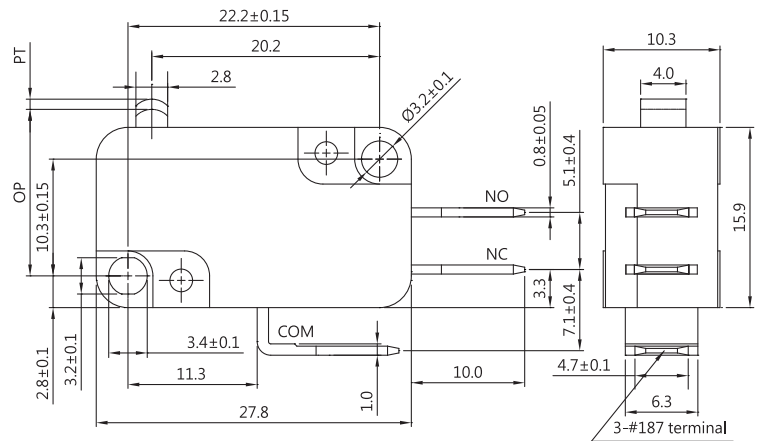
SWITCH TYPE	PART SUFFIX	OF Max. (gf)			OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		L	S	H				
		K	R	G				
V3- □□□□ -00 □□ -Z		190	510	842	14.4± 0.5	1.90	0.70	1.20
		-	-	-	-	-	-	-
V3- □□□□ -01 □□ -Z		190	510	753	15.0± 0.8	2.40	0.50	1.40
		135	295	400	15.0± 1.2	4.10	0.90	1.70
V3- □□□□ -02 □□ -Z		100	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

# MICRO SWITCHES



## DIMENSIONS

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



## V3 SERIES

(Micro-Disconnection-Gap < 3mm)

### SPECIFICATIONS

#### Contact Resistance(initial)

Max. 30 m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

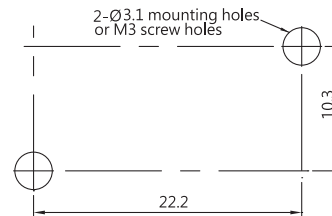
#### Operating application of the switch

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..

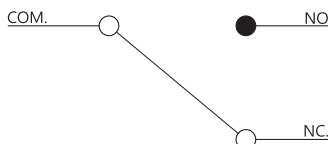
### MOUNTING HOLES



### 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 $\mu$ 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 $\mu$ T125 1E4
V3-20	20.1A 125/250VAC 1 HP 125/250 VAC (Temp:100°C) Min. 6,000 operations	20.1A 125/250VACc $\mu$ T125 1E4 10.1(8)A 125/250VAC $\mu$ T125 1E4
V3-25	25A 125/250VAC 1 HP 125/250 VAC (Temp:100°C), Min. 6,000 operations	25.1A 125/250VAC $\mu$ T125 1E4 10.1(8)A 125/250VAC $\mu$ T125 1E4

### CONTACT CONFIGURATION



### THE SELECTION OF RATING & FORCE

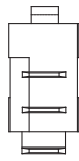
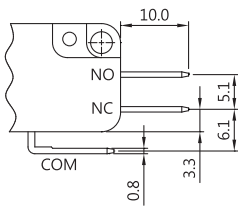
MODEL	Rating	L K	S R	H G
V3	10A, 10(4) A	*	*	*
	16A, 16(4) A	*	*	*
	20.1 A	*	*	*
	25 A	*	*	*
	10.1(8)A	*	*	*

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

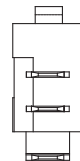
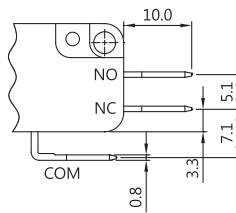


**TERMINAL TYPES**

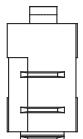
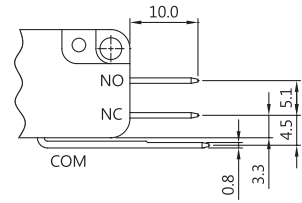
C TYPE  
250 terminal  
(6.3x0.8)



D TYPE  
187 terminal  
(4.7x0.8)



G TYPE  
250 terminal  
(6.3x0.8)



**ORDERING INFORMATION**

V	3	1	6	S	0	0	D	3	Z		
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE
	10	10.1A 125/250VAC	L		00		C*	250 SERIES	3	S.P.D.T	
	16	16A 125/250VAC	S		01		D	187 SERIES	4*	S.P.S.T NO	
	20	20.1A 125/250VAC	H		02		G*	250 SERIES	5	S.P.S.T NC	
	25	25A 125/250VAC	K		03						
			R		04						
			G		05						
					06						

**CAUTIONS**



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OPERATING CHARACTERISTICS

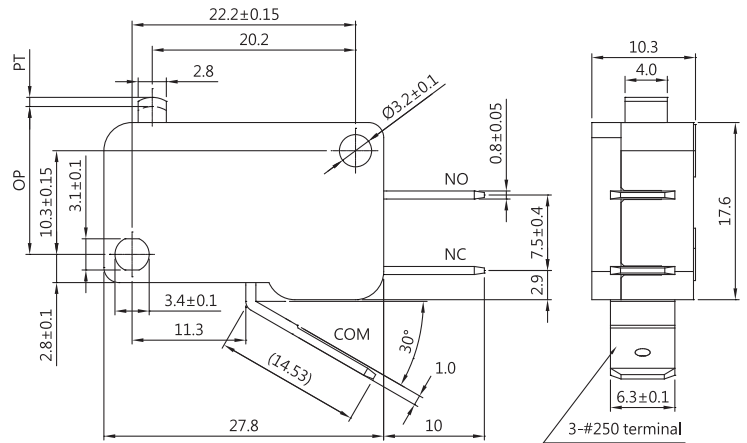
SWITCH TYPE	PART SUFFIX	OF Max. (gf)			OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		L	S	H				
		K	R	G				
V3- □□□□ -00 □□ -Z		150	373	505	14.7±0.5	1.3	1.3	0.12
		-	-	-	-	-	-	-
V3- □□□□ -01 □□ -Z		145	316	435	15.4±0.8	2.0	0.70	0.2
		75	158	270	15.6±1.5	6.6	1.40	2.70
V3- □□□□ -02 □□ -Z		75	188	240	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

# 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 m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

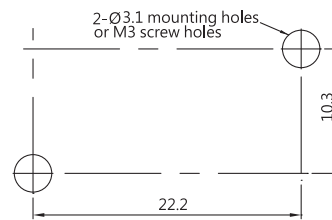
#### Mechanical Operating Frequency

120 operations per minute

#### Operating application of the switch

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

### MOUNTING HOLES



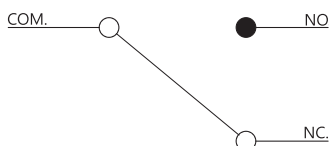
### CERTIFICATE INFORMATION

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

### APPLICATIONS

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

### CONTACT CONFIGURATION



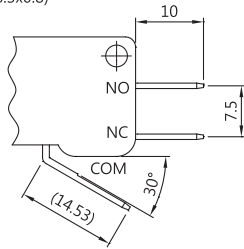
### THE SELECTION OF RATING & FORCE

MODEL	Rating	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	*	*	*

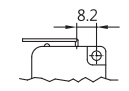
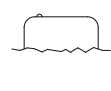
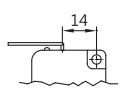

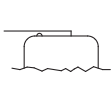
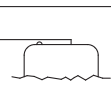
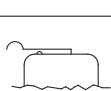
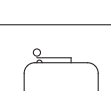
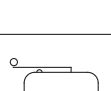
NOTE : The Symbol " \* " to represent the result is accepted

## TERMINAL TYPES

K TYPE  
250 terminal  
(6.3x0.8)



## ORDERING INFORMATION

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	ROHS CODE
V3	10	10.1A 125/250VAC	S		00		K	250 SERIES	C	S.P.D.T	Z	
	16	16A 125/250VAC	H		01				D	S.P.S.T NO		
	20	20.1A 125/250VAC	K		02				E	S.P.S.T NC		
	25	25A 125/250VAC	R		03							
			G		04							
					05							
					06							

### CAUTIONS

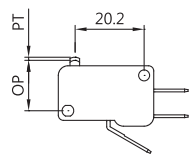
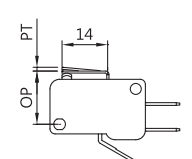
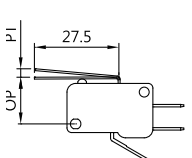
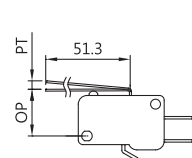
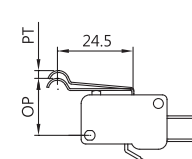
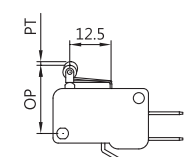
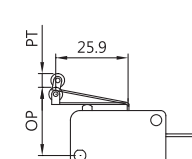


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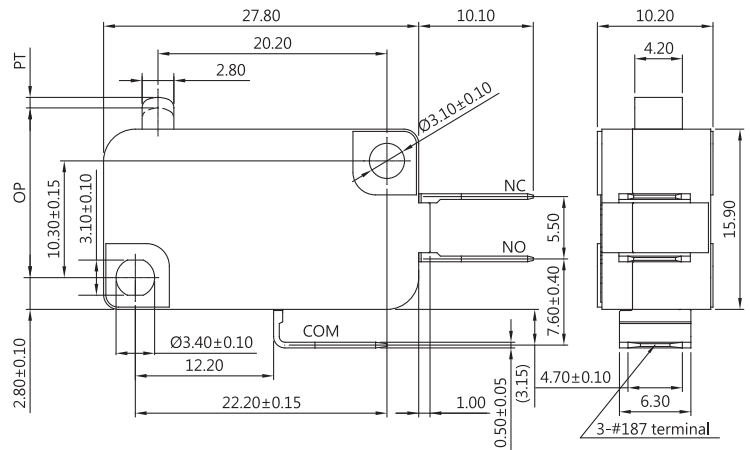
OPERATING CHARACTERISTICS

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

# 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 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

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

### CERTIFICATE INFORMATION

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

### APPLICATIONS

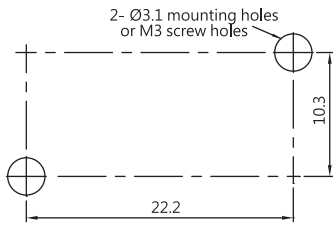
Joystick, TV Game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine, Power Tool

### THE SELECTION OF RATING & FORCE

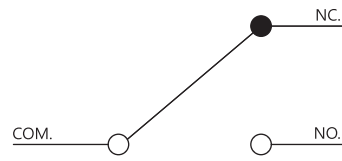
MODEL	Rating	D	J	L	S	H	Q
VA1	0.1A	*	*	*	*	*	*
	3A	*	*	*	*	*	*
	6A	*	*	*	*	*	*
	6.1(2.5)A						
	10A		*	*	*	*	*
	10(4)A						
	16A		*	*	*	*	*
16(4)A							
20A					*	*	
26A						*	

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

## MOUNTING HOLES

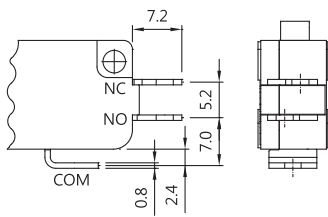


## CONTACT CONFIGURATION

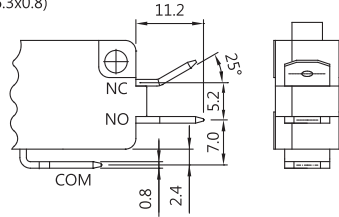


## TERMINAL TYPES

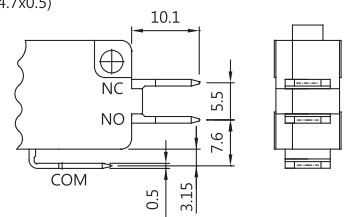
A TYPE  
Solder terminal



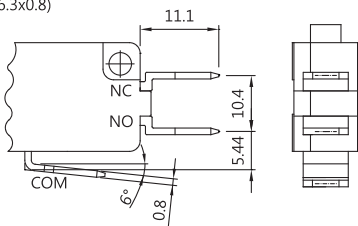
C TYPE  
250 terminal  
(6.3x0.8)



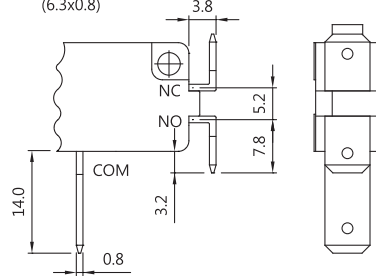
D TYPE  
187 terminal  
(4.7x0.5)



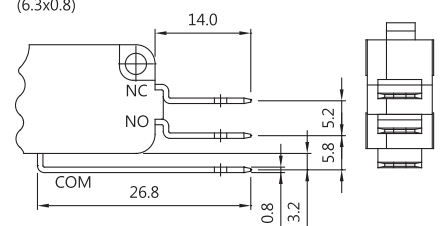
E TYPE  
250 terminal  
(6.3x0.8)



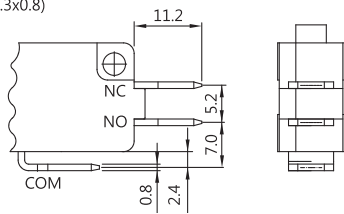
F TYPE  
250 terminal  
(6.3x0.8)



G TYPE  
250 terminal  
(6.3x0.8)



R TYPE  
250 terminal  
(6.3x0.8)



## ORDERING INFORMATION

V	A	1	1	6	S	0	0	0	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		A*	SOLDER	0	S.P.D.T	
	03	3A 125/250VAC	H	HEAVY					C	250 SERIES	1	S.P.S.T NO	
	06	6A 6.1(2.5)A 125/250VAC	S	STANDARD					D	187 SERIES	2	S.P.S.T NC	
	10	10A 10(4)A 125/250VAC	L*	LIGHT	1		01		E	250 SERIES			
	16	16.1A 16(4)A 125/250VAC	J	SLIGHT					F*	250 SERIES			
	20	20A 20(4)A 125/250VAC	D	LIGHTNESS	2		02		G	250 SERIES			
	26	26A 125/250VAC							R	250 SERIES			

# 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,L,J
5	Code:16	H,S,L,J
6	Code:20	H
7	Code:26	Q

## CAUTIONS



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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

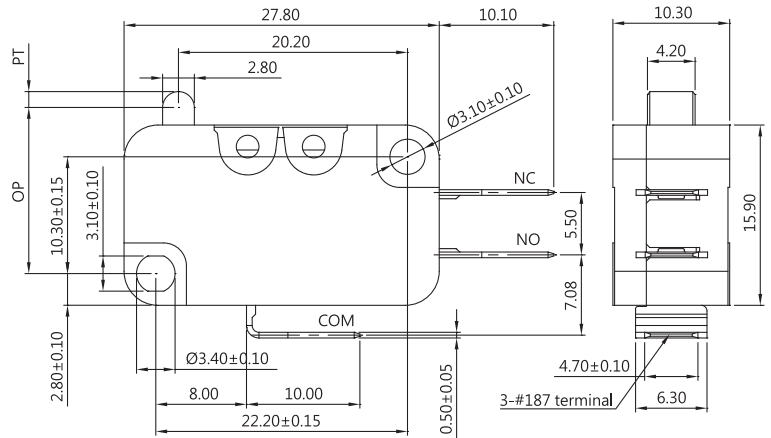
\* There is another series of VA1 with MD reduced to 63%.

# MICRO SWITCHES



## DIMENSIONS

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



## 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

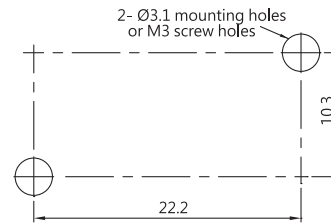
Joystick, TV Game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine

### THE SELECTION OF RATING & FORCE

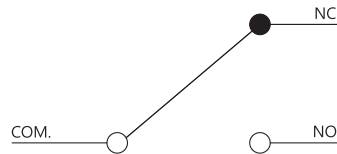
MODEL	Rating	B	D	N	L	S	H	Q
VA2	0.1A	*	*	*	*	*	*	*
	3A	*	*	*	*	*	*	*
	6A		*	*	*	*	*	*
	10A 10(4)A				*	*	*	*
	16A 16(4)A				*	*	*	*
	20A					*	*	*
	26A						*	*
6A T200						*	*	*

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

### MOUNTING HOLES



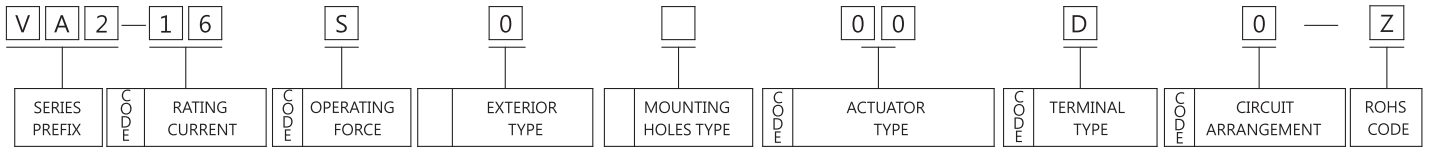
### CONTACT CONFIGURATION



### 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)A125/250VAC 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

ORDERING INFORMATION



SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	EXTERIOR TYPE	MOUNTING HOLES TYPE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE	
V A 2	P1*	0.1A 125/250VAC T125	S	Q	HEAVIER	0	8.8	STANDARD TERMINAL NO ACTUATOR	00	NO LEVER	A	0	S.P.D.T	Z
	03	3A 125/250VAC T125		H	HEAVY							1	8.8	
	06	6A 125/250VAC T125		S	STANDARD	2	8.8	STANDARD TERMINAL ACTUATOR NEAR BUTTON	02	SIDE OUT	2			
	10*	10A 10(4)A 125/250VAC T125		L	LIGHT				3		14.3	STANDARD TERMINAL ACTUATOR NEAR BUTTON	03	
	16	16A 16(4)A 125/250VAC T125		N	SLIGHT	4*	8.4	SIDE OUT TERMINAL ACTUATOR AWAY BUTTON		04			D	
	20	20A 125/250VAC T125		D	LIGHTNESS				5*	14.3	SIDE OUT TERMINAL ACTUATOR NEAR BUTTON	...		
	26	26A 125/250VAC T55		B	EXTREMELY LIGHTNESS	6*	12.2	SPECIAL TERMINAL NO ACTUATOR					...	
	A03*	3A 125/250VAC T85		7*	8.4				SIDE OUT TERMINAL ACTUATOR AWAY BUTTON	187 series (4.7x0.8)	STANDARD			
	A06*	6A 125/250VAC T85				8*	14.3	SIDE OUT TERMINAL ACTUATOR NEAR BUTTON				187 series (4.7x0.8)	SIDE OUT	
	T6*	6A 125/250VAC T200		H**	12.2				SPECIAL TERMINAL ACTUATOR AWAY BUTTON	250 series (6.0x0.8)	STANDARD			
		I**	12.2			SPECIAL TERMINAL ACTUATOR NEAR BUTTON	187 series (4.7x0.5)	STANDARD						
				J	12.2				SPECIAL TERMINAL ACTUATOR NEAR BUTTON	250 series (6.3x0.8)	STANDARD			
		L	12.2			SPECIAL TERMINAL ACTUATOR NEAR BUTTON	187 series (4.7x0.8)	SIDE OUT						
				R	12.2				SPECIAL TERMINAL ACTUATOR NEAR BUTTON	250 series (6.3x0.8)	STANDARD			

# 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

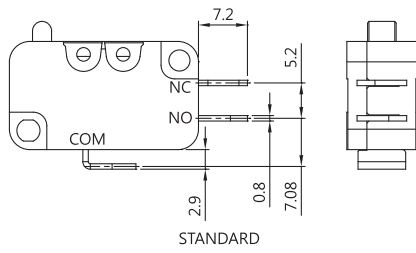
CAUTIONS



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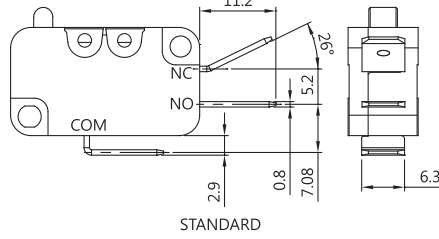
## TERMINAL TYPES

A TYPE



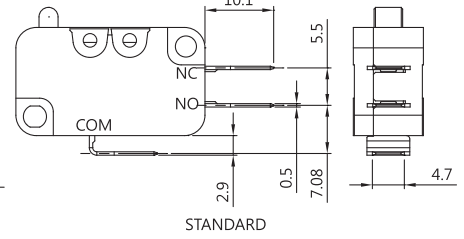
STANDARD

C TYPE  
250 terminal  
(6.3x0.8)

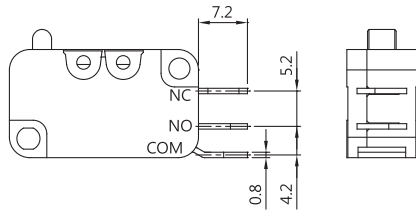


STANDARD

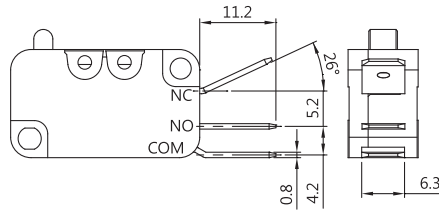
D TYPE  
187 terminal  
(4.7x0.5)



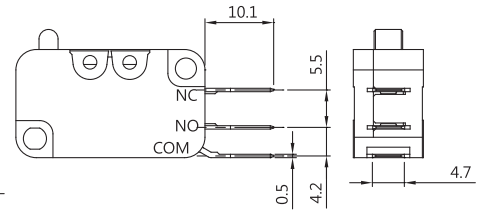
STANDARD



SIDE OUT

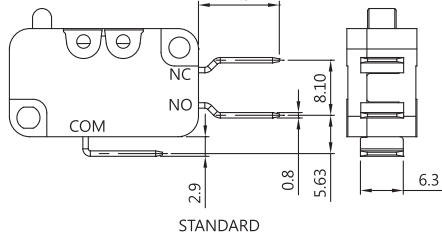


SIDE OUT



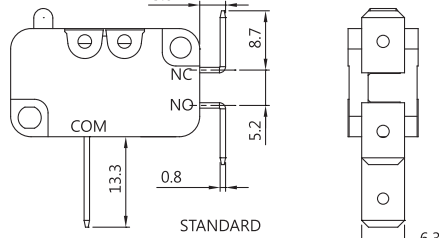
SIDE OUT

E TYPE  
250 terminal  
(6.3x0.8)



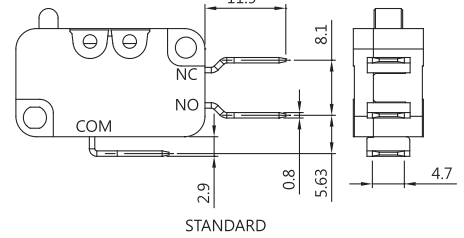
STANDARD

F TYPE  
250 terminal  
(6.3x0.8)



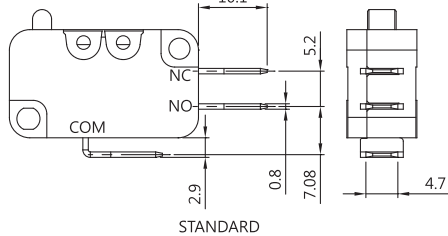
STANDARD

I TYPE  
187 terminal  
(4.7x0.8)



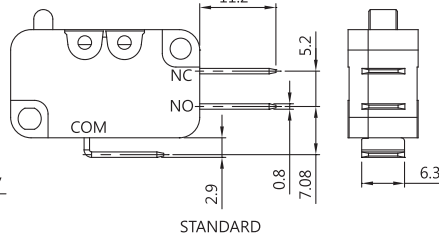
STANDARD

H TYPE  
187 terminal  
(4.7x0.8)



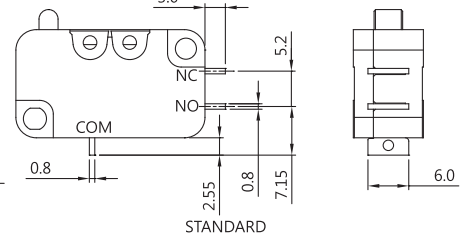
STANDARD

R TYPE  
250 terminal  
(6.3x0.8)

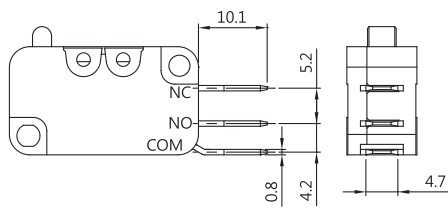


STANDARD

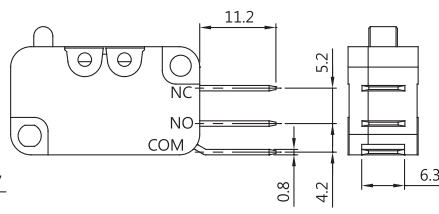
J TYPE  
250 terminal  
(6.0x0.8)



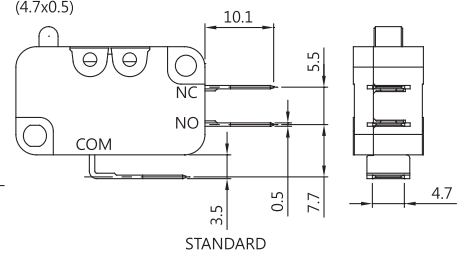
STANDARD



SIDE OUT



SIDE OUT



STANDARD

L TYPE  
187 terminal  
(4.7x0.5)

OPERATING CHARACTERISTICS

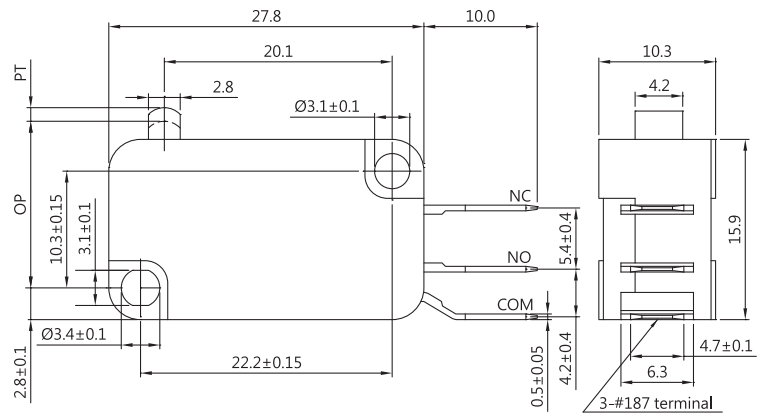
SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	D	N	L	S	H	Q				
VA2- □□□ 0-00D0-Z		25	45	75	110	170	230	330	14.7±0.5	1.72	0.8	0.4
VA2- □□□ 1-01D0-Z		25	45	75	110	170	230	330	15.3±0.5	2.8	0.6	0.5
VA2- □□□ 2-01D0-Z		15	27	43	50	85	120	175	15.3±1.1	5.2	1.55	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		-	20	30	40	51	65	90	20.7±2.2	9.3	2.8	1.8

# 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 $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

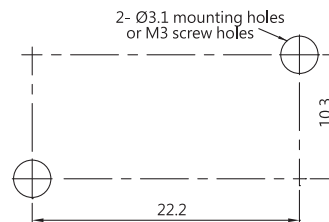
#### Mechanical Operating Frequency

120 operations per minute

#### Operating application of the switch

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

### MOUNTING HOLES



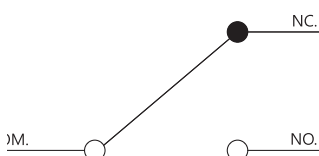
### CERTIFICATE INFORMATION

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

### APPLICATIONS

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

### CONTACT CONFIGURATION



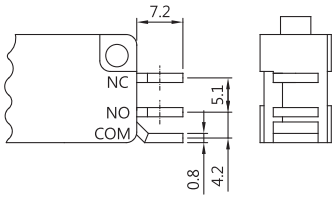
### THE SELECTION OF RATING & FORCE

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

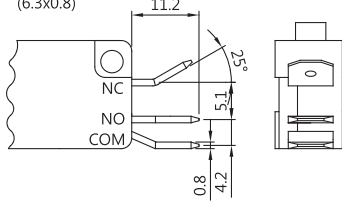
NOTE : The Symbol " \* " to represent the result is accepted

**TERMINAL TYPES**

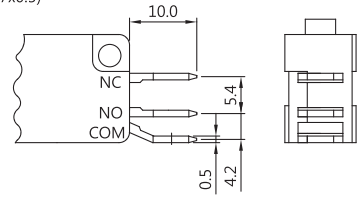
A TYPE  
Solder terminal



C TYPE  
250 terminal  
(6.3x0.8)



D TYPE  
187 terminal  
(4.7x0.5)



**ORDERING INFORMATION**

V	K	—	P	1	S	—	0	0	D	0	—	Z
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	ROHS CODE	
	P1*	0.1A 125/250VAC	B		00		A*	SOLDER	0	S.P.T		
	03*	3A 125/250VAC	D		01		C		250 SERIES	1	S.P.S.T NO	
	06*	6A 125/250VAC	N		02		D	187 SERIES	2	S.P.S.T NC		
	10	10A 125/250VAC	L		03							
	15	15A 16(4)A 125/250VAC	S		04							
			H		05							
			A	06								
			C									
			M									
			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

**CAUTIONS**



Scan the QR code or download [https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

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- 0000 -00 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- 0000 -01 00 -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- 0000 -02 00 -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- 0000 -03 00 -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- 0000 -04 00 -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- 0000 -05 00 -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- 0000 -06 00 -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				

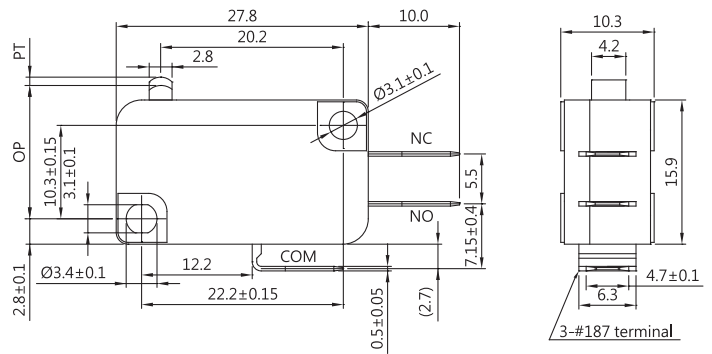


# MICRO SWITCHES



## DIMENSIONS

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



## VM SERIES

### SPECIFICATIONS

#### Contact Resistance(initial)

Max. 100 m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

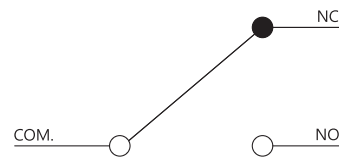
#### Operating application of the switch

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

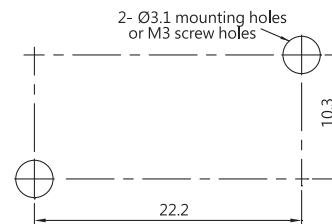
### APPLICATIONS

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

### CONTACT CONFIGURATION



### MOUNTING HOLES



### CERTIFICATE INFORMATION

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

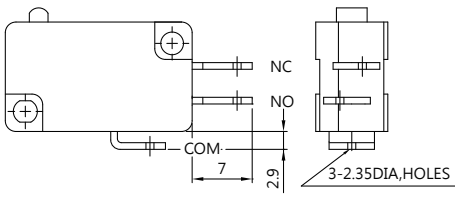
### THE SELECTION OF RATING & FORCE

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

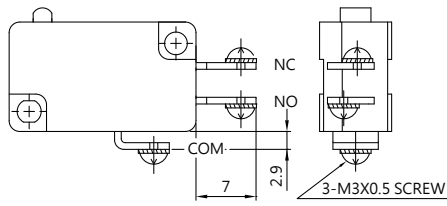
NOTE : The Symbol " \* " to represent the result is accepted

## TERMINAL TYPES

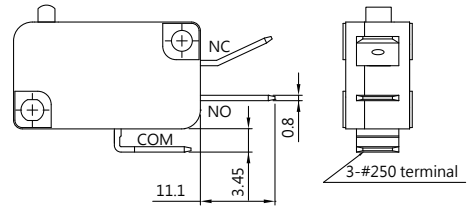
Solder terminal A TYPE



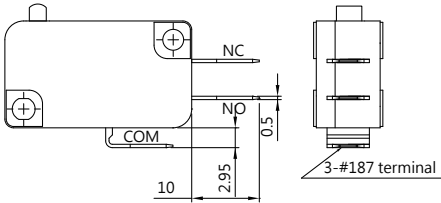
Screw terminal B TYPE



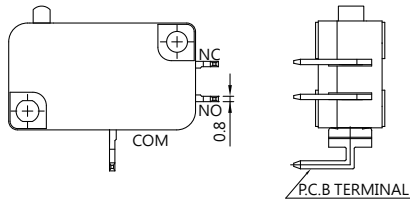
Terminal 250 Series C TYPE



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 125/250VAC 5A 125/250VAC		8.4		00 No Lever		A SOLDER TERMINAL		0 S.P.D.T		
05				14.2		01 02 03 04		B SCREW TERMINAL		1 S.P.S.T NO		
								C 250 SERIES		2 S.P.S.T NC		
								D 187 SERIES				
								P PCB SERIES				

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

## CAUTIONS



Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

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				

# MICRO SWITCHES



## VMN 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

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

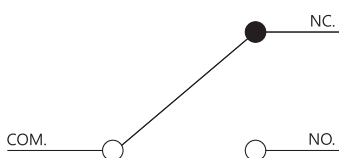
#### Operating application of the switch

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

### APPLICATIONS

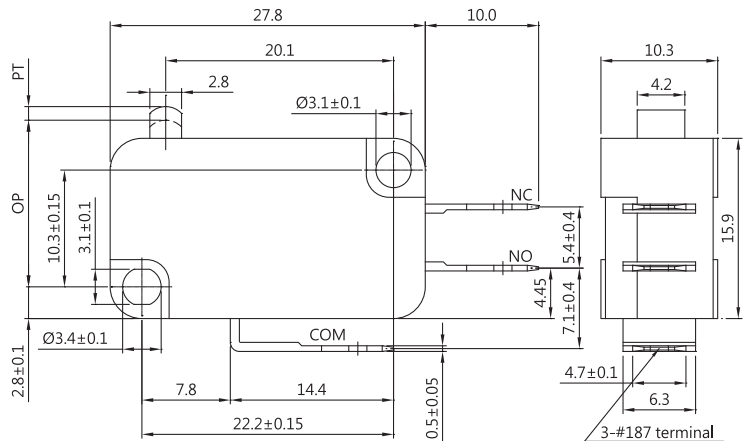
Joystick, TV game, Time Recorder, Air Conditioner, Food Processor, Juice Maker, Alarm, Mixer, Shredder Machine.

### CONTACT CONFIGURATION

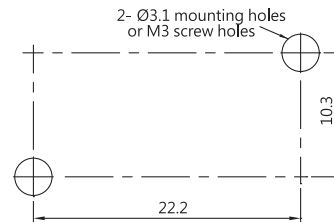


### DIMENSIONS

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



### 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 μ40T125 1E4
VMN-03	3A 125/250 VAC (Temp:120°C) Min. 6,000 operations	3A 125/250VAC μ40T125 1E4
VMN-06	6A 125/250 VAC (Temp:120°C) Min. 6,000 operations	6A 125/250VAC μ40T125 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 μ40T125 1E4
VMN-15	15A 1/2HP 125/250 VAC (Temp:120°C) Min. 6,000 operations	15A 16(4)A 125/250VAC μ40T125 1E4

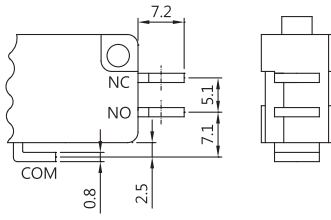
### THE SELECTION OF RATING & FORCE

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							*

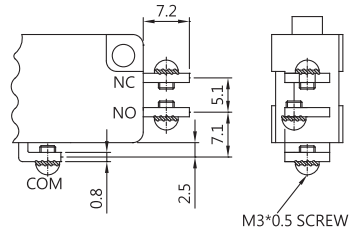
NOTE : The Symbol " \* " to represent the result is accepted

## TERMINAL TYPES

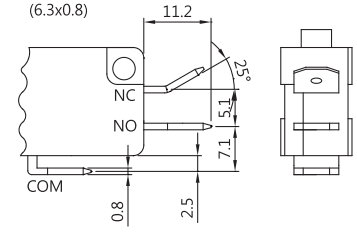
A TYPE  
Solder terminal



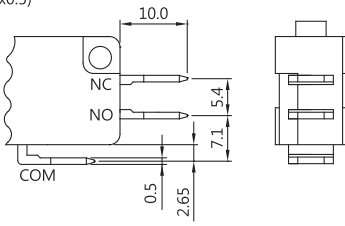
B TYPE  
Screw terminal



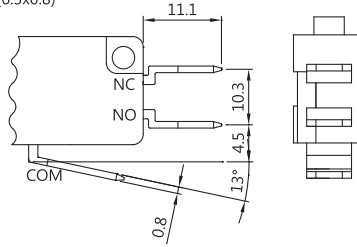
C TYPE  
250 terminal  
(6.3x0.8)



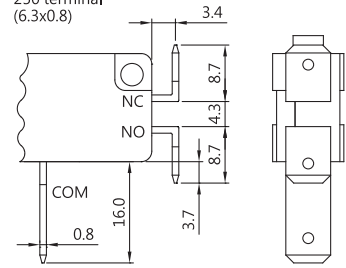
D TYPE  
187 terminal  
(4.7x0.5)



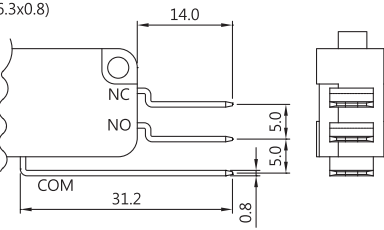
E TYPE  
250 terminal  
(6.3x0.8)



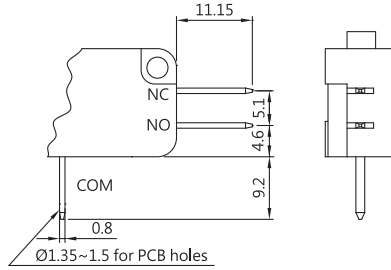
F TYPE  
250 terminal  
(6.3x0.8)



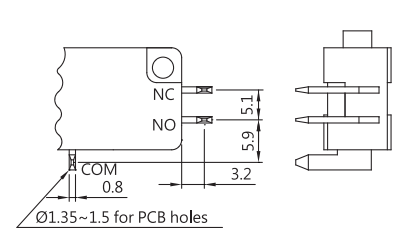
G TYPE  
250 terminal  
(6.3x0.8)



K TYPE  
PCB terminal



P TYPE  
PCB terminal



## ORDERING INFORMATION

SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING FORCE	CODE	ACTUATOR TYPE	CODE	TERMINAL TYPE	CODE	CIRCUIT ARRANGEMENT	CODE	COLOR	ROHS CODE
V	M	N	P	1	S	0	0	D	0	B	Z		
	P1*	0.1A 125/250VAC	B		00		A*		0	S.P.D.T	B	BLACK	
	03*	3A 125/250VAC	D		01		B		1	S.P.S.T NO			
	06*	6A 125/250VAC	N		02		C		2	S.P.S.T NC			
	10	10A 125/250VAC	L		03		D						
	15	15A 16(4)A 125/250VAC	S		04		E						
			H		05		F*						
			A		06		P						
			C				G						
			M				K*						
			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,SPECIFY H&G
3	Code:06	N,L,S,H,M,K,R,G,SPECIFY H&G
4	Code:10	L,S,H,K,R,G,SPECIFY H&G
5	Code:15	S,H,R,G,SPECIFY H&G (FOR 15A)
6	Code:15	DSPECIFY H&G (FOR 16(4)A)

## CAUTIONS



Scan the QR code or download  
[https://www.zippys.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippys.com/ecmodelcautions/micro_switch_cautions.pdf)

OPERATING CHARACTERISTICS

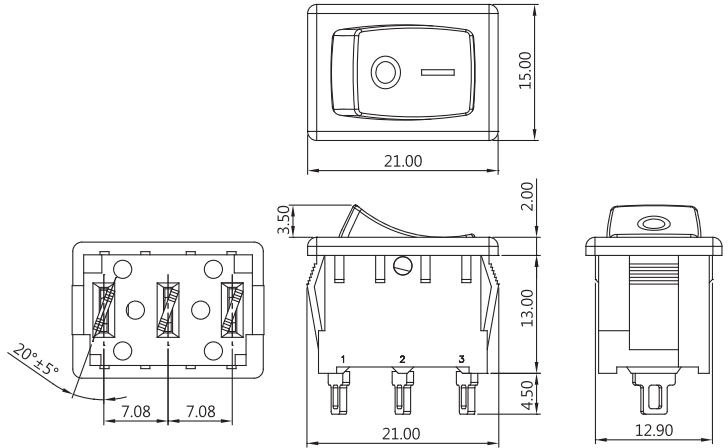
SWITCH TYPE	PART SUFFIX	OF Max. (gf)							OP (mm)	PT Max. (mm)	OT Min. (mm)	MD Max. (mm)
		B	D	N	L	S	H	SPECIFY H				
VMN-□□□-00□□-B-Z		B	D	N	L	S	H	SPECIFY H	14.7±0.5	1.72	0.8	0.25
		18	45	75	110	170	230	330				
VMN-□□□-01□□-B-Z		B	D	N	L	S	H	SPECIFY H	15.3±0.5	1.57	0.6	0.41
		18	45	75	110	170	230	330				
		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				

# 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 $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

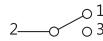
10~30 operations per minute

### APPLICATIONS

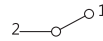
Juice Maker, Blender, Food Processor

### CONTACT CONFIGURATION

SPDT

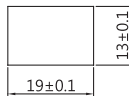


SPST

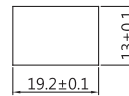


### MOUNTING HOLES

t=0.8mm  
t=1.0mm

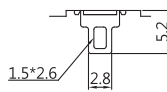


t=1.2mm

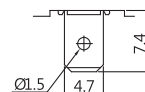


### TERMINAL TYPES

A TYPE (t=0.8mm)



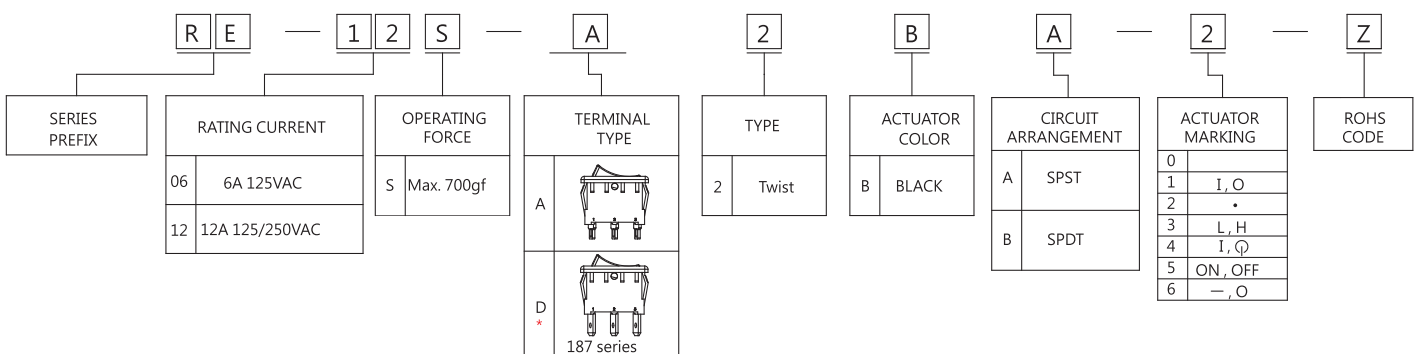
D TYPE (t=0.8mm)



### 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 $\mu$ T85/55 1E4

### ORDERING INFORMATION



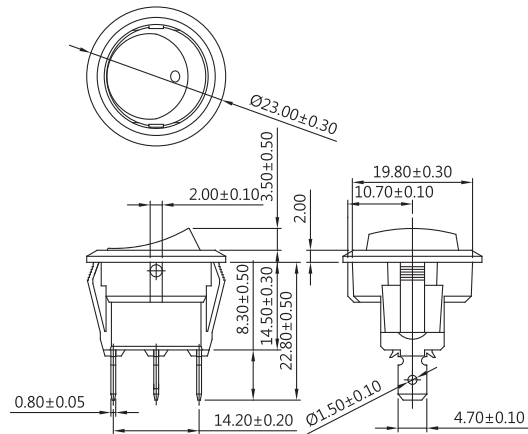


# ROCKER SWITCHES



## DIMENSIONS

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



## RF SERIES

### SPECIFICATIONS

#### Contact Resistance (initial)

Max. 50 m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

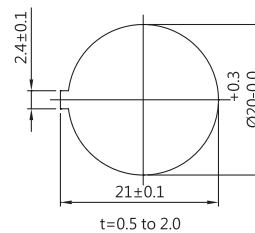
### CERTIFICATE INFORMATION

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

### CONTACT CONFIGURATION

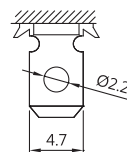


### MOUNTING HOLES

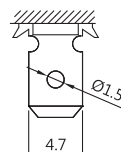


### TERMINAL TYPES

A TYPE  
t=0.8  
Solder Terminal



D TYPE  
t=0.8  
#187 Terminal



### ORDERING INFORMATION

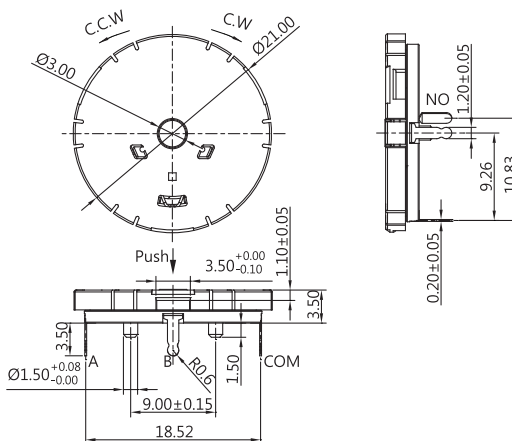
SERIES PREFIX	RATING CURRENT	OPERATING FORCE	TERMINAL TYPE	CASE COLOR	ACTUATOR COLOR	CIRCUIT ARRANGEMENT	ACTUATOR MARKING	ROHS CODE
RF	12	S	A	B	B	1	0	Z
	12A 125/250VAC 12(4)A 250VAC	Max.700gf	SOLDER TERMINAL	BLACK WHITE	BLACK RED PURPLE	SPST SPDT SPST 250VAC WITH NEON LAMP (ONLY FOR RED ACTUATOR) SPST 125VAC WITH NEON LAMP (ONLY FOR RED ACTUATOR)	NO MARKING I L H ON OFF	

# ROTARY SWITCHES



## DIMENSIONS

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



## AN SERIES

### SPECIFICATIONS

#### Operating Force

Rotation - Max.50 gf-cm

Push -  $220 \pm 40$  gf

#### Contact Resistance (initial)

Max. 300 m $\Omega$

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

#### Insulation Resistance (at 100 VDC/min.)

Min. 100 M $\Omega$

#### 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

### CONTACT CONFIGURATION

Push



Rotation

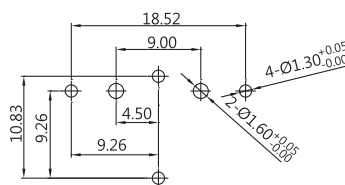
NO.	ANGLE						
	-90°	-60°	-30°	0°	30°	60°	90°
A A-C	ON	ON	ON	ON	ON	ON	ON
	OFF	OFF	OFF	OFF	OFF	OFF	OFF
B B-C	ON	ON	ON	ON	ON	ON	ON
	OFF	OFF	OFF	OFF	OFF	OFF	OFF

CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

### MOUNTING HOLES



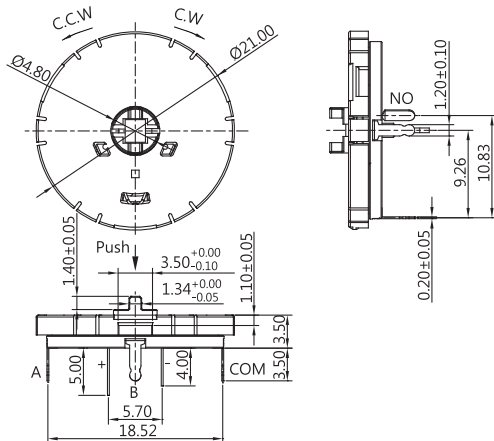
A N	-	P 1	S	-	2	S	P	-	Z		
SERIES PREFIX	CODE	RATING CURRENT	CODE	OPERATING TORQUE	CODE	TYPE	CODE	OPERATING FORCE	CODE	TERMINAL TYPE	ROHS CODE
	P1	1mA 10VDC	S	Rotation Max.50gf-cm	2	COVER IS NOT THROUGH Rotation Life :200,000 operations (C.W. 100,000 & C.C.W 100,000operations)	S	Push 220±40gf	P	PCB TERMINAL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

# ROTARY SWITCHES



## DIMENSIONS

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



## ANL SERIES

### SPECIFICATIONS

#### Operating Force

Rotation – Max. 50gf-cm

Push -  $220 \pm 40$  gf

#### Contact Resistance ( initial )

Max.  $300\text{m}\Omega$

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

#### Insulation Resistance ( at 100VDC/minute )

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

#### Operating Temperature Range

$0^\circ\text{C}$  to  $40^\circ\text{C}$  ( with no icing )

#### Vibration

$10\sim 55$  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

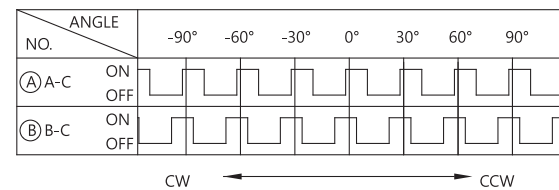
<b>A</b>	<b>N</b>	<b>L</b>	-	<b>P</b>	<b>1</b>		<b>S</b>	-	<b>2</b>		<b>S</b>		<b>P</b>		<b>B</b>	-	<b>Z</b>
SERIES PREFIX	Code	RATING CURRENT	Code	OPERATING TORQUE	Code	TYPE	Code	OPERATING FORCE	Code	TERMINAL TYPE	Code	LED COLOR	ROHS CODE				
	P1	1mA 10VDC	S	Rotation Max.50gf-cm	2	COVER IS NOT THROUGH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

### CONTACT CONFIGURATION

Push



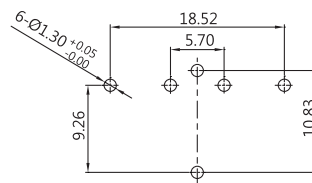
Rotation



Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

### MOUNTING HOLES

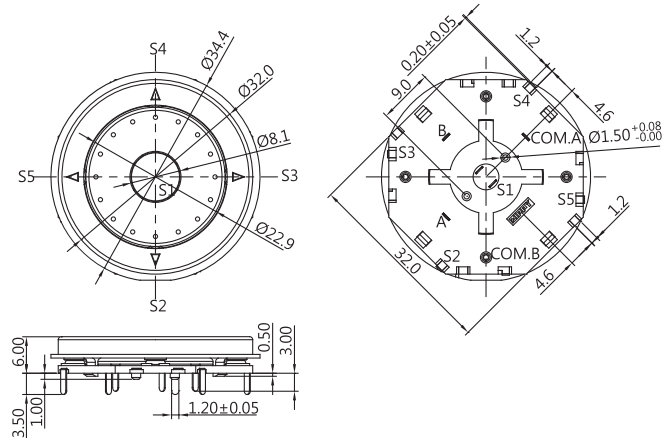


# ROTARY SWITCHES



## 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 $\Omega$

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

#### Insulation Resistance(at 100 VDC/ minute)

Min. 100 M $\Omega$

#### 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

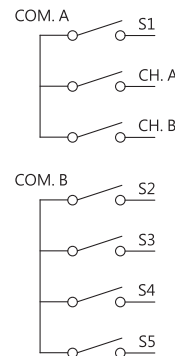
### APPLICATIONS

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

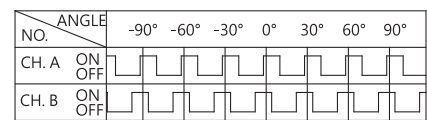
Mobile phone

### CONTACT CONFIGURATION

Functional Block Diagram



Rotational Output Waveform

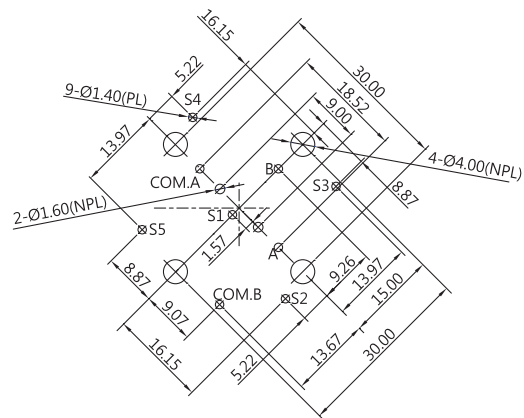


CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

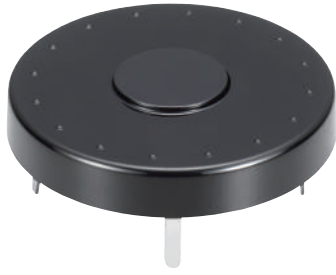
### MOUNTING HOLES



### ORDERING INFORMATION

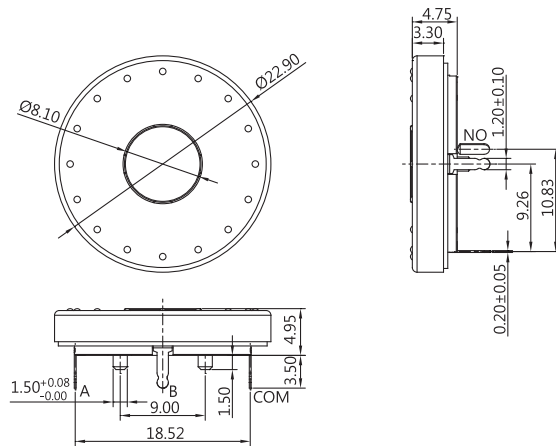
A	N	O	-	I	1	W	-	M	1	W	-	O	2	W	-	S	-	Z
SERIES PREFIX	CODE	INSIDE BUTTON SHAPE	CODE	COLOR	CODE	MIDDLE BUTTON SHAPE	CODE	COLOR	CODE	OUTSIDE BUTTON SHAPE	CODE	COLOR	CODE	COLOR	CODE	OPERATING FORCE	ROHS CODE	
I1	FLAT	W	WHITE	M1	FLAT	W	WHITE	O2	CAMBER	W	WHITE	S	STANDARD	Z				
		B	BLACK			B	BLACK			B	BLACK							

# ROTARY SWITCHES



## DIMENSIONS

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



## ANM SERIES

### SPECIFICATIONS

#### Operating Force

Rotation - Max.60 gf-cm

Push - Max. 300 gf

#### Contact Resistance (initial)

Max. 300m $\Omega$

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

#### Insulation Resistance (at 100VDC/minute)

Min. 100M $\Omega$

#### 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

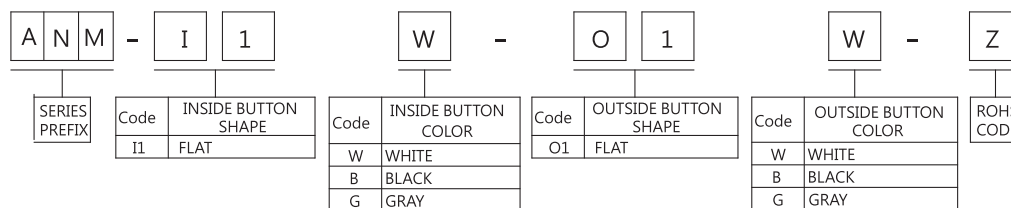
### RATING

1mA 10VDC

### APPLICATIONS

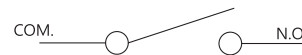
Remote control, Tablet, Keyboard, Audio, Mp3, NB, Mobile Phone

### ORDERING INFORMATION

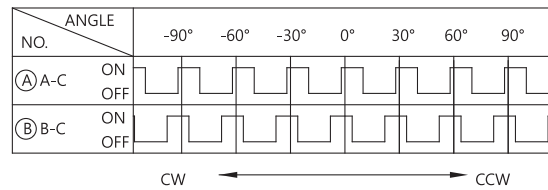


### CONTACT CONFIGURATION

Push



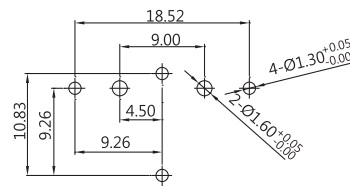
Rotation



Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

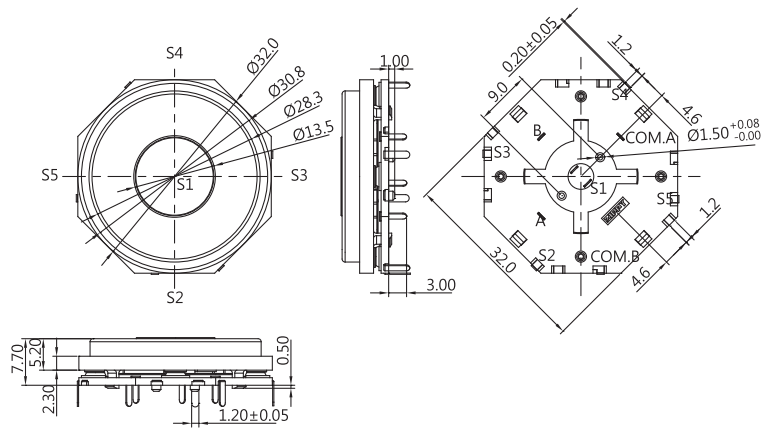
### MOUNTING HOLES



# ROTARY SWITCHES

## DIMENSIONS

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



## ANQ SERIES

### SPECIFICATIONS

#### Operating Force

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

#### Contact Resistance (initial)

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

#### Insulation Resistance (at 100VDC/minute)

Min. 100M $\Omega$

#### 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. 200,000 operations

#### Electrical Operating Frequency

Rotation – 30 operations per minute  
Push – 120 operations per minute

### RATING

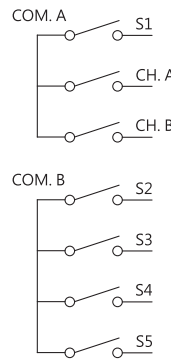
1mA 10VDC

### APPLICATIONS

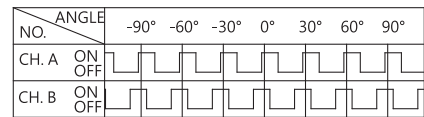
Remote control, Tablets, Keyboard, Audio, Mp3 player, Notebook,  
Mobile phone, Control Panel

### CONTACT CONFIGURATION

Functional Block Diagram



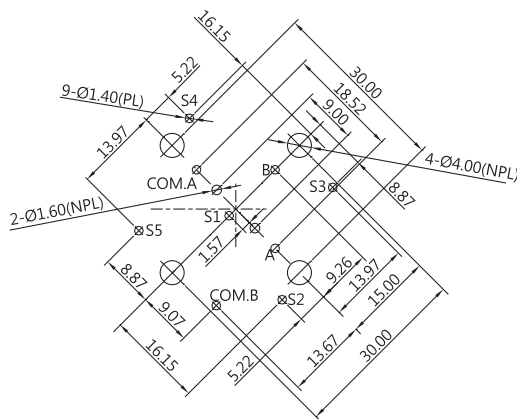
Rotational Output Waveform



CW ← → CCW

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

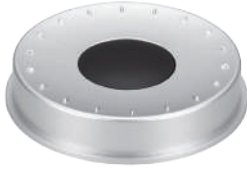
### MOUNTING HOLES



### ORDERING INFORMATION

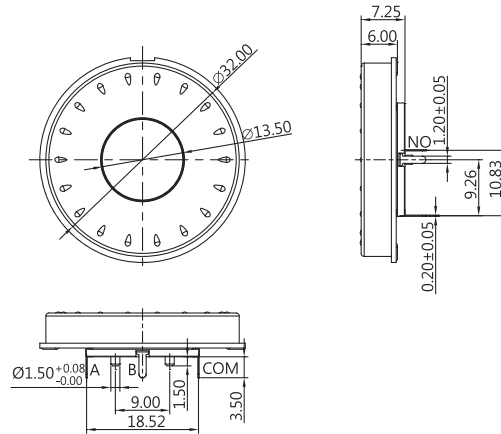
A	N	Q	-	I	1	W	-	O	1	W	-	S	-	Z	
SERIES PREFIX			CODE	INSIDE BUTTON SHAPE	CODE	COLOR	CODE	OUTSIDE BUTTON SHAPE	CODE	COLOR	CODE	COLOR	CODE	OPERATING FORCE	ROHS CODE
			I1	FLAT	W	WHITE	O1	FLAT	W	WHITE	S	BLACK	S	STANDARD	
					B	BLACK			B	BLACK					

# ROTARY SWITCHES



## DIMENSIONS

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



## KC SERIES

### SPECIFICATIONS

#### Operating Force

Rotation - Max.60 gf-cm

Push - Max. 300 gf

#### Contact Resistance (initial)

Max. 300m $\Omega$

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

#### Insulation Resistance (at 100VDC/minute)

Min. 100M $\Omega$

#### 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

### CONTACT CONFIGURATION

Push



Rotation

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

CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

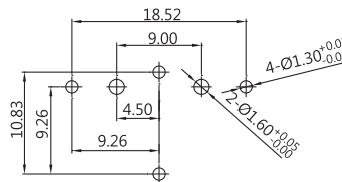
### RATING

1mA 10VDC

### APPLICATIONS

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

### P.C.B MOUNTING HOLES



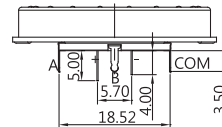
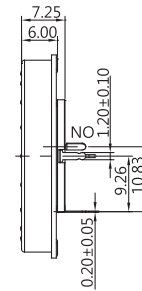
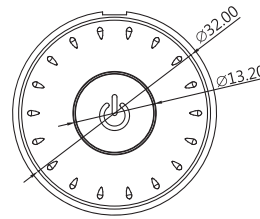
### ORDERING INFORMATION

KC	I1	B	O1	G	Z		
SERIES PREFIX	CODE	INSIDE BUTTON SHAPE	CODE	OUTSIDE BUTTON SHAPE	CODE	OUTSIDE BUTTON COLOR	ROHS CODE
	I1	FLAT		O1	FLAT	G	GRAY
		B				B	BLACK
		G				A	IRON GRAY

# ROTARY SWITCHES

## DIMENSIONS

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



## KCL SERIES

### SPECIFICATIONS

#### Operating Force

Rotation – Max. 60gf-cm

Push – Max. 300 gf

#### Contact Resistance ( initial )

Max. 300m $\Omega$

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

#### Insulation Resistance ( at 100VDC/minute )

Min. 100M $\Omega$

#### 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 100,000 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

### CONTACT CONFIGURATION

Push



Rotation

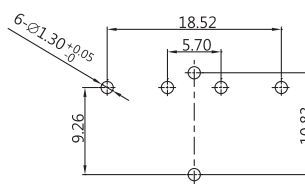
NO.	ANGLE							
		-90°	-60°	-30°	0°	30°	60°	90°
A A-C	ON	[Waveform]						
	OFF	[Waveform]						
B B-C	ON	[Waveform]						
	OFF	[Waveform]						

CW ← → CCW

Numbers of detent : 24

Pulse/Rotation : 12 pulse/360°

### MOUNTING HOLES



### ORDERING INFORMATION

K	C	L	—	I	B	1	B	—	O	1	G	—	Z		
SERIES PREFIX			Code	INSIDE BUTTON COLOR		Code	INSIDE BUTTON MARKING		Code	OUTSIDE BUTTON SHAPE		Code	OUTSIDE BUTTON COLOR		ROHS CODE
			IB	BLACK		1	[Power icon]		B	FLAT		G	GRAY		
									Code						
									B						
									W						
									R						
									G						

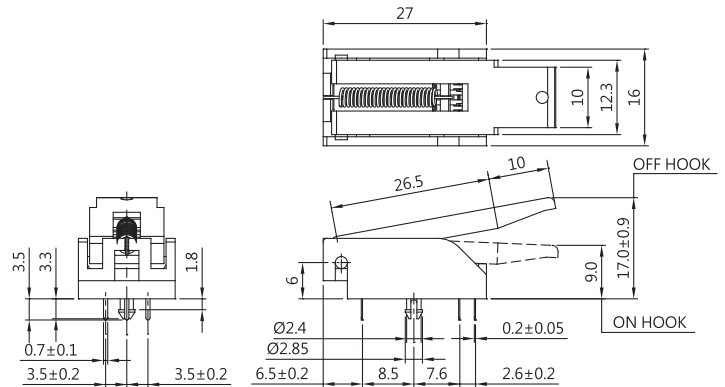


# HOOK SWITCHES



## 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 $\Omega$

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

#### Insulation Resistance ( at 500VDC/minute )

Min. 100M $\Omega$

#### Operating Temperature Range

0°C to 55°C

#### Electrical Service Life

Min. 500,000 operations

#### Electrical Operating Frequency

30 operations per minute

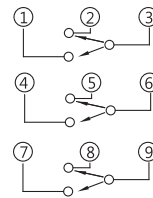
### RATING

0.1A 48VDC

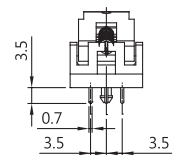
### APPLICATIONS

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

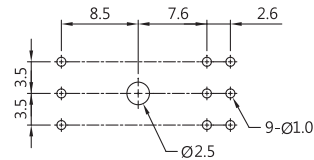
### CONTACT CONFIGURATION



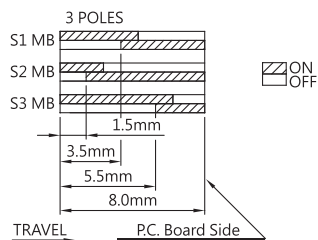
### TERMINAL TYPES



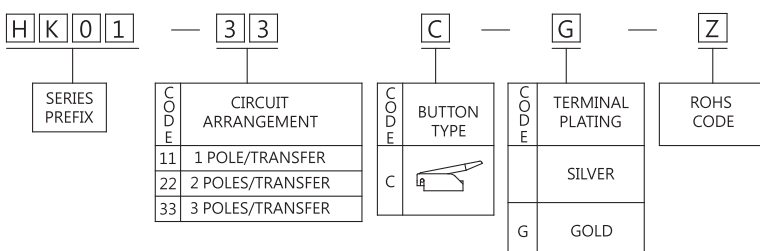
### MOUNTING HOLES



### SWITCH SEQUENCE



### ORDERING INFORMATION



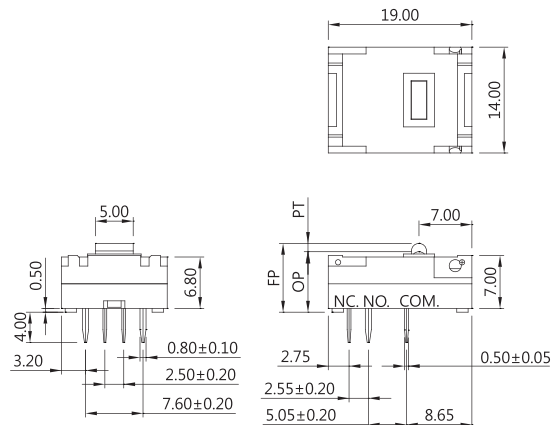
# HOOK SWITCHES



## HM2 SERIES

### DIMENSIONS

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



### SPECIFICATIONS

#### Contact Resistance(Initial)

Max. 100m $\Omega$

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

#### Insulation Resistance (at 500 VDC / minute)

Min. 100 M $\Omega$

#### 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

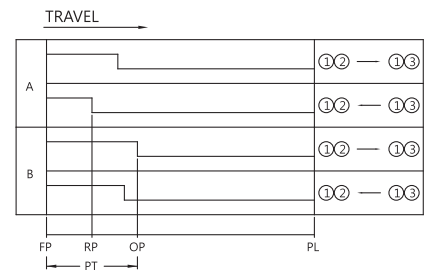
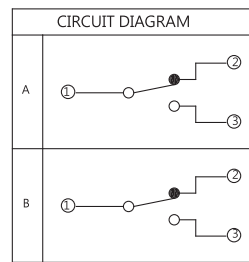
#### Mechanical Operating Frequency

120 operations per minute

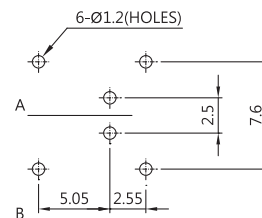
#### Operating application of the switch

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

### CONTACT CONFIGURATION



### MOUNTING HOLES



### RATING

0.1A 60VDC, 0.2A 60VDC

0.2A 125 VAC, 1A 125VAC

### APPLICATIONS






Telephone, Magnetic card reader

### 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

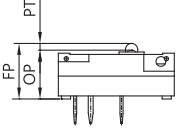
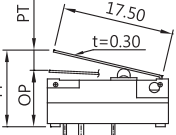
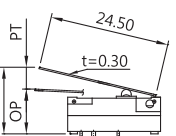
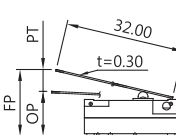
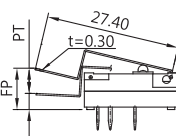
ORDERING INFORMATION

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 0.2A 60VDC 0.2A 125VAC	H	HEAVY	02*	 L=24.5			
								03	 L=32			
								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

# 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

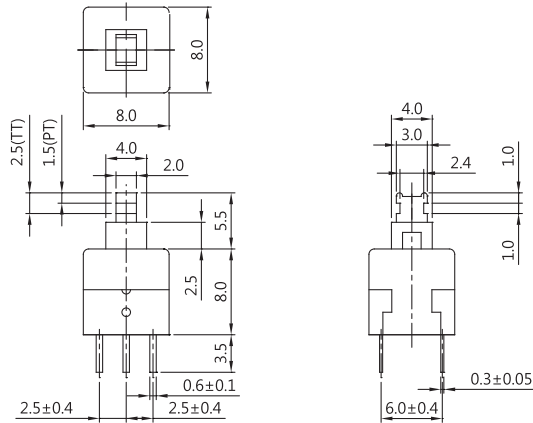
Telephone, Computer, Tester, Automotive, Apparatus

### ORDERING INFORMATION

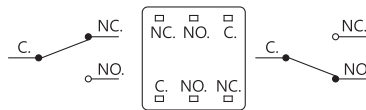
<b>P</b> <b>1</b>	—	<b>1</b>	—	<b>S</b>	—	<b>Z</b>	NO-TOP BUTTON	<b>L</b>	—	<b>Z</b>	
<b>P</b> <b>1</b>	—	<b>1</b>	—	<b>S</b>	—	<b>1</b>	NO-TOP BUTTON	<b>L</b>	—	<b>Z</b>	
<b>SERIES PREFIX</b>		<b>TYPE</b>		<b>OPERATING FORCE</b>		<b>TOP BUTTON TYPE</b>		<b>TOP BUTTON COLOR</b>		<b>ROHS CODE</b>	
		0	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.



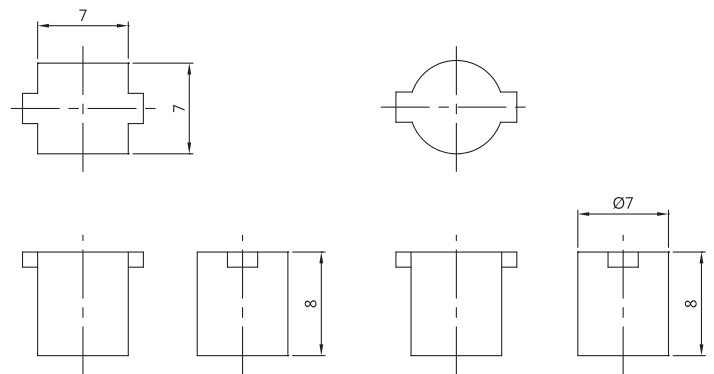
### CONTACT CONFIGURATION



### TOP BUTTON DIMENSIONS

1. 7\*7\*8mm

3. ∅7\*8mm



### OPERATING FORCE

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

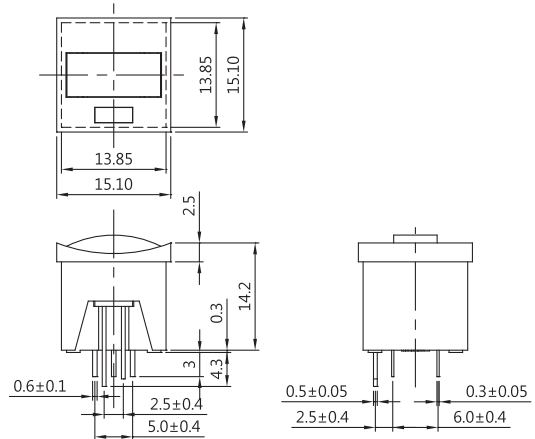
# PUSH SWITCHES



## P2 SERIES

### DIMENSIONS

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



### SPECIFICATIONS

#### Insulation Resistance (at 500VDC/minute)

Min. 100M $\Omega$

#### 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 $\pm 0.5\text{mm}$

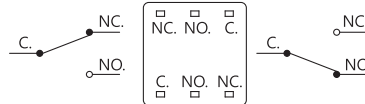
### RATING

0.1A 30VDC

### APPLICATIONS

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

### CONTACT CONFIGURATION



### ORDERING INFORMATION

<b>P</b>	<b>2</b>	-	<b>0</b>		<b>S</b>		<b>L</b>		<b>G</b>	-	<b>R</b>	-	<b>Z</b>
SERIES PREFIX	CODE	TYPE	CODE	OPERATING FORCE	CODE	TOP BUTTON COLOR	CODE	CASE COLOR	CODE	LED COLOR	ROHS CODE		
	0	NON LOCK	S	NON LOCK 150 $\pm 50\text{g}$	R	RED	G	GRAY	R	RED			
	1	LOCK		LOCK 180 $\pm 50\text{g}$	L	BLUE	B	BLACK	E	GREEN			
	2	NON LOCK CLICK			E	GREEN			Y	YELLOW			
					N	BROWN				WITHOUT LED			
					O	ORANGE							
					B	BLACK							
					G	GRAY							

# 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

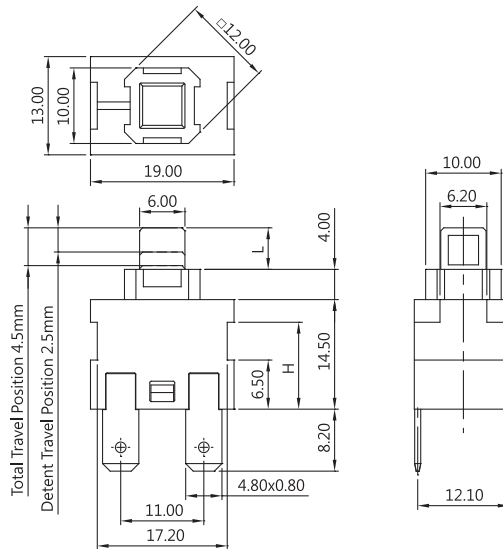
10~30 operations per minute

### APPLICATIONS

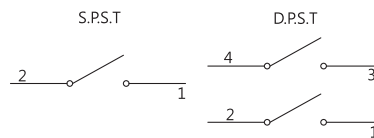
Vacuum Cleaner, Refrigerator, Espresso Machine

### 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	CODE	RATING CURRENT	CODE	OPERATING FORCE	CIRCUIT ARRANGEMENT	CODE	BUTTON TYPE	CODE	COVER TYPE	CODE	TERMINAL TYPE	ROHS CODE
P	3		1	S	S.P.S.T. OF: Max. 1100gf	A	L=5.5mm+LOCK	1	H=11.50mm	D	#187 TERMINAL	Z
		10A 1/2HP 125/250VAC 10(4)A 125/250VAC	6			B	L=5.5mm+NON LOCK	**	H=12.25mm	H	#187 TERMINAL	
		16A 3/4HP 125/250VAC 16.1(4)A 125/250VAC 8(8)A 125/250VAC			D.P.S.T. OF: Max. 1600gf	C	L=8.0mm+LOCK			*		
						D	L=8.0mm+NON LOCK	**				

# 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

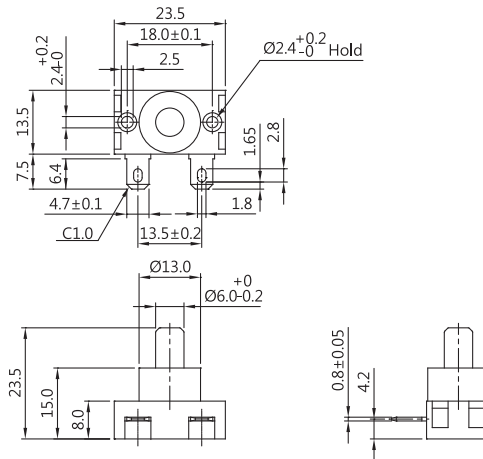
10~30 operations per minute

### APPLICATIONS

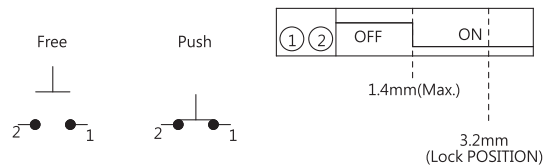
Juice Maker, Blender, Food processor

### DIMENSIONS

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



### CONTACT CONFIGURATION

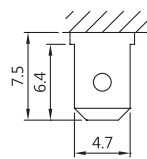


### CERTIFICATE INFORMATION

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

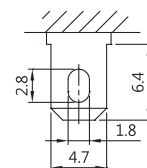
### TERMINAL TYPES

#### D TYPE



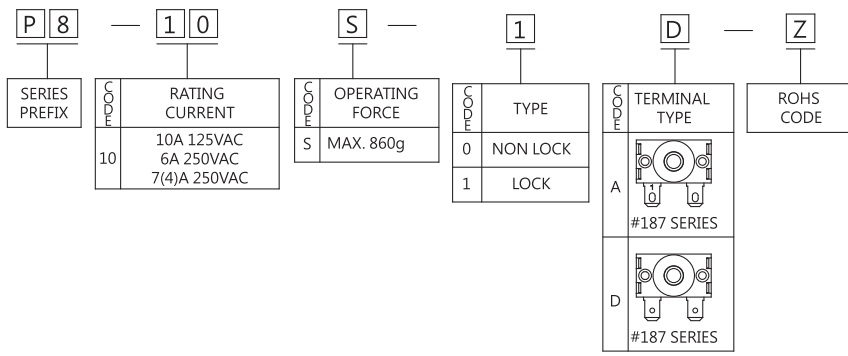
t=0.8  
#187 Terminal

#### A TYPE

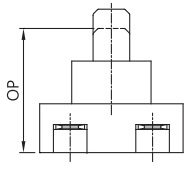
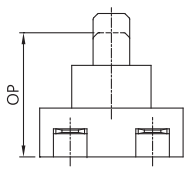


t=0.8  
#187 Terminal

**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



# ENCODER SWITCHES



## RP SERIES

### SPECIFICATIONS

#### Contact Resistance (initial)

Max. 100 mΩ

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

#### Insulation Resistance ( at 50VDC/minute )

Min. 10MΩ

#### 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

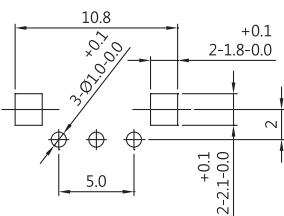
1mA 5VDC

### APPLICATIONS

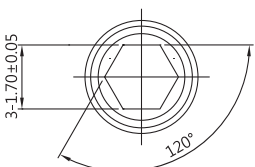
Mouse, Keyboard, Fax machine, Remote control, LCD monitor,

Set top box, Browser

### MOUNTING HOLES

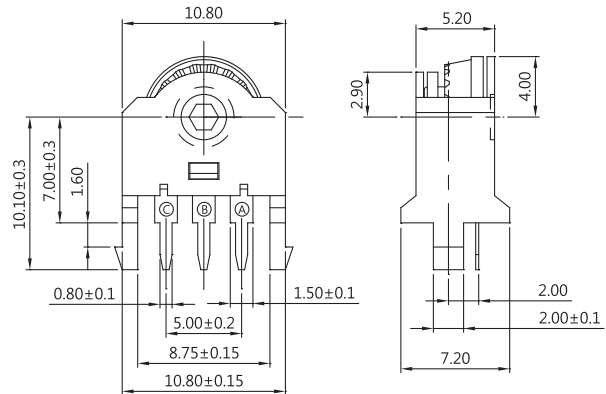


### HEXAGONAL HOLE

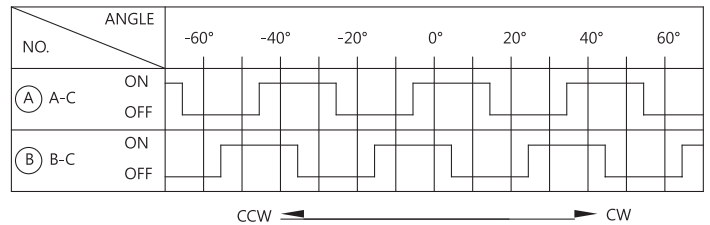


### DIMENSIONS

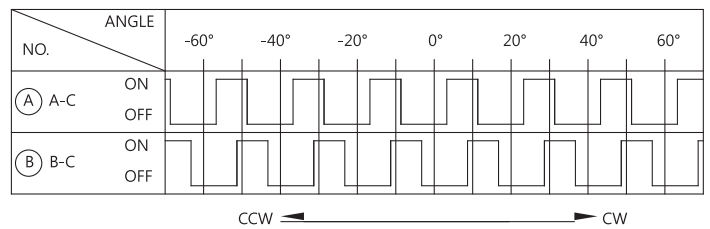
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



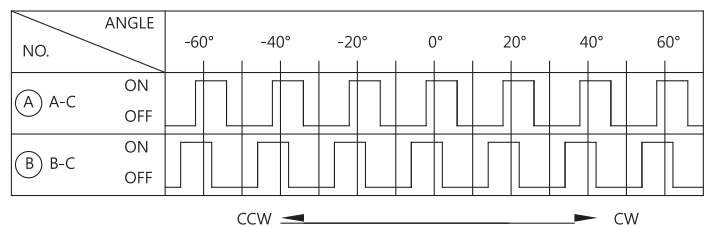
### CONTACT CONFIGURATION



Numbers of detent : 18  
Pulse/Rotation : 9 pulse/360°



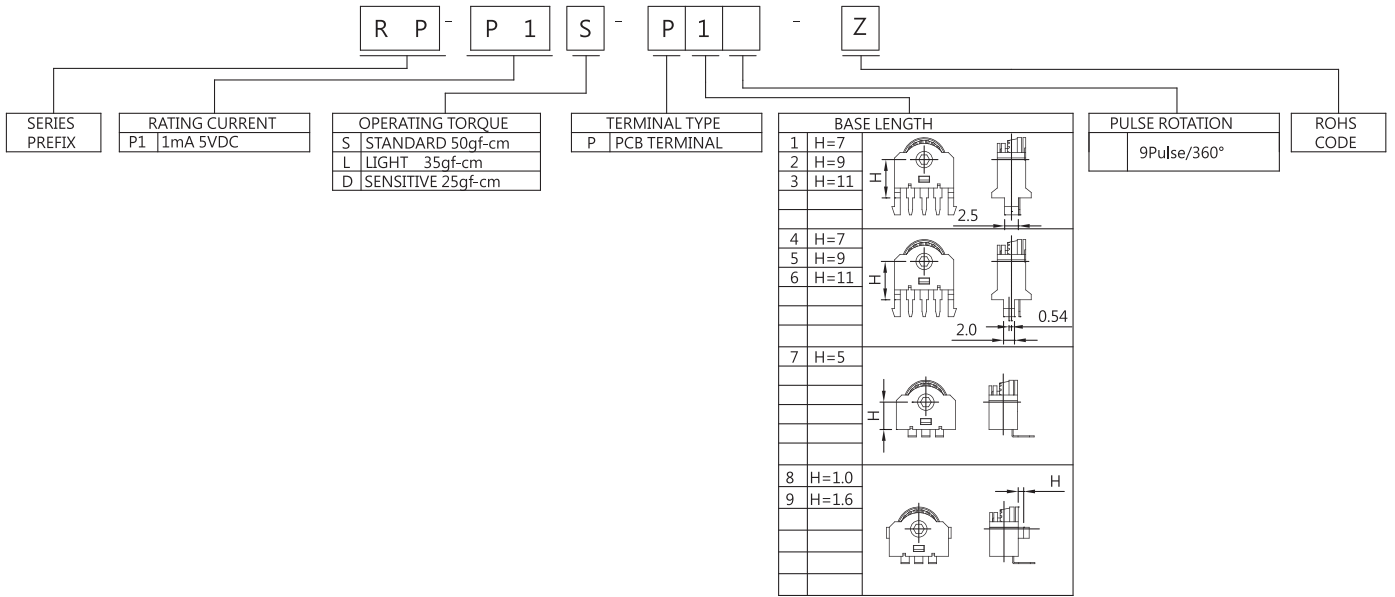
Numbers of detent : 18  
Pulse/Rotation : 18 pulse/360°



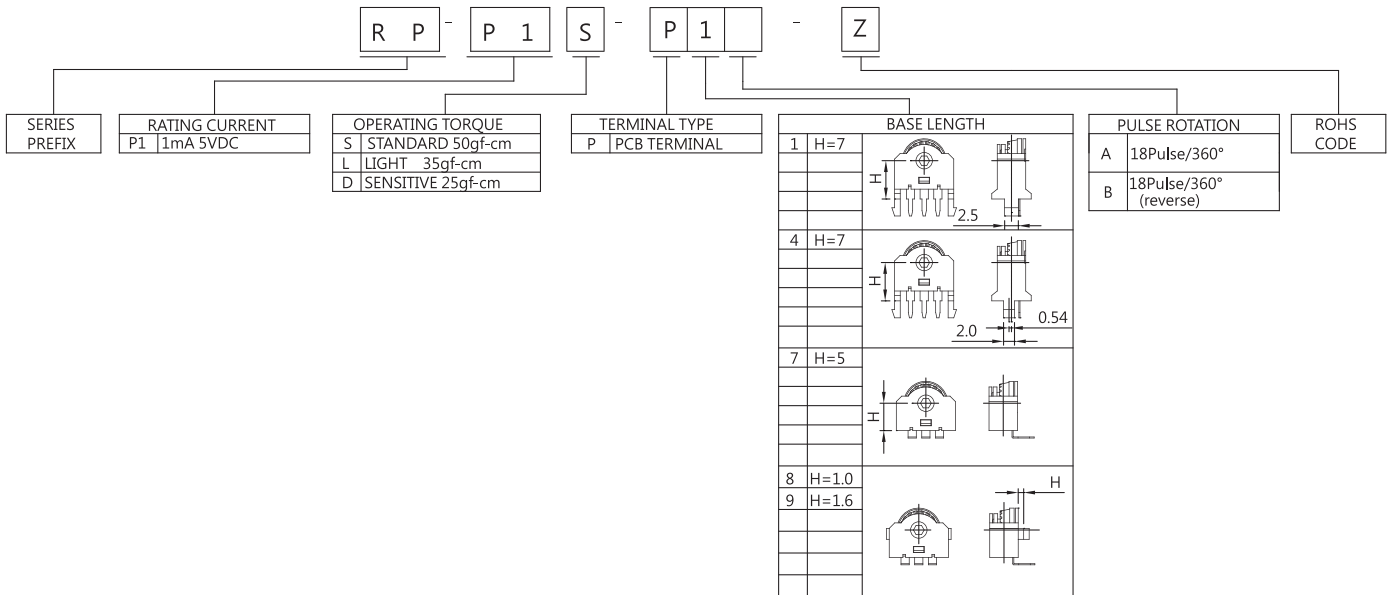
Numbers of detent : 18  
Pulse/Rotation : 18 pulse/360°(reverse)

## ORDERING INFORMATION

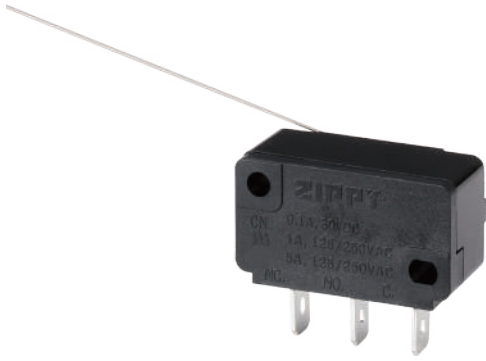
Pulse/Rotaion:9Pulse/360°



Pulse/Rotaion:18Pulse/360°

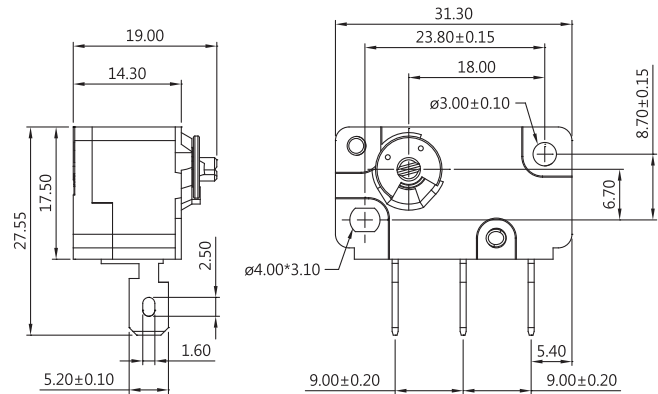


# LOW TORQUE SWITCHES



## 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 $\Omega$

**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

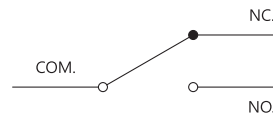
**Mechanical Operating Frequency**

120 operations per minute

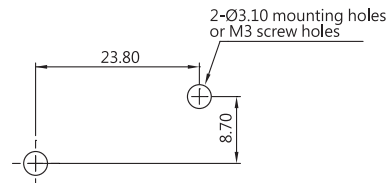
### APPLICATIONS

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 $\pm 3^\circ$		
Releasing Position(RP)	9 $\pm 4^\circ$		

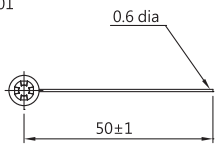
### THE SELECTION OF RATING & FORCE

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

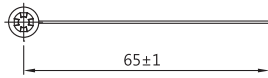
NOTE : The Symbol " \* " to represent the result is accepted

## ACTUATOR TYPES

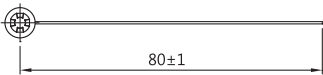
TYPE:01



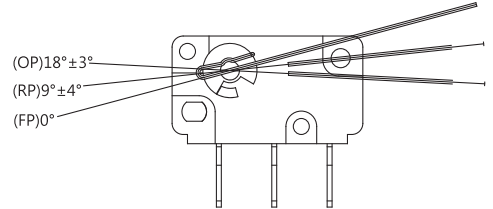
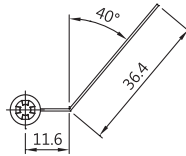
TYPE:02



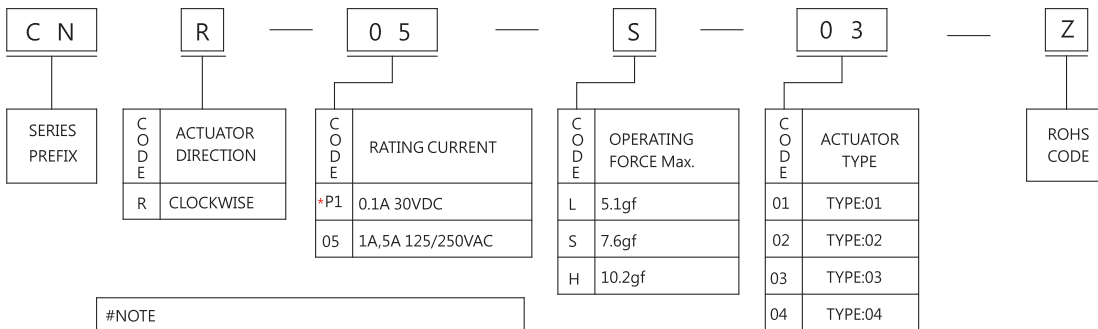
TYPE:03



TYPE:04



## ORDERING INFORMATION



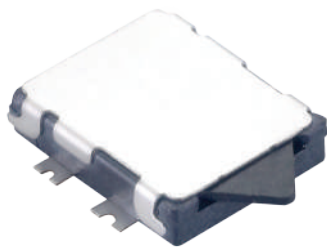
#NOTE		
ITEM	Rating Current	OPERATING FORCE
* 1	Code:P1	L,S,H
2	Code:05	L,S,H

## CAUTIONS



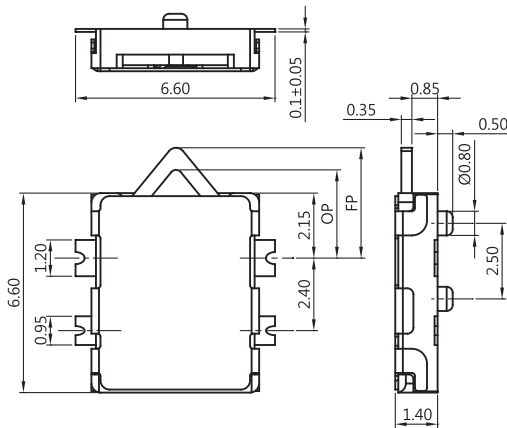
Scan the QR code or download  
[https://www.zippy.com/ecmodelcautions/micro\\_switch\\_cautions.pdf](https://www.zippy.com/ecmodelcautions/micro_switch_cautions.pdf)

# SLIDE SWITCHES



## DIMENSIONS

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



## D4 SERIES

### SPECIFICATIONS

#### Contact Resistance (Initial)

Max.  $2\Omega$

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

#### Insulation Resistance (At 100VDC/minute)

Min. 100M $\Omega$

#### 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)

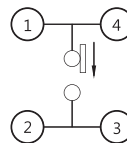
#### Electrical Service Life

Min. 50,000 operations

#### Electrical Operating Frequency

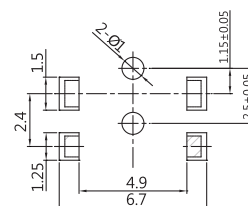
Max.20 operations per minute

### CONTACT CONFIGURATION



TERMINAL	DEFINE
1	NO
2	COMMON
3	COMMON
4	NO

### P.C.B MOUNTING HOLES



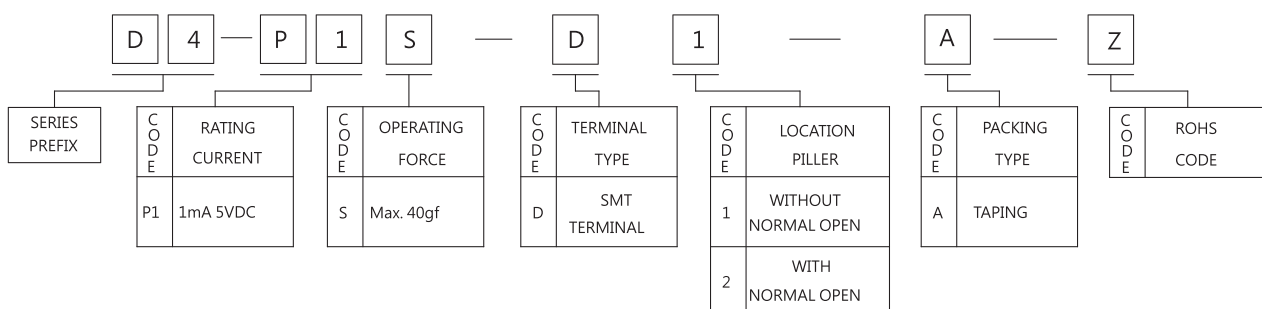
### RATING

1mA 5 VDC

### APPLICATIONS

CD-ROM device, Mouse, PDA

### ORDERING INFORMATION





## ZIPPY TECHNOLOGY CORP.

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Email:switchsales@zippy.com.tw

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### ● U.S. West (Pacific) – ZIPPY USA INC

1 Morgan, Irvine CA 92618, USA

TEL:+1-949-3669525 | FAX:+1-949-3669526

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