

PUSH SWITCHES P8 SERIES



177

ROCKER SWITCHES RE SERIES



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ROCKER SWITCHES RF SERIES



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ROCKER SWITCHES FT SERIES



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DETECT SWITCHES B8 SERIES



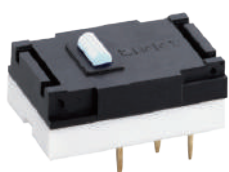
182

HOOK SWITCHES HK01 SERIES



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HOOK SWITCHES HM2 SERIES



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TACT SWITCHES T6 SERIES



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ENCODER SWITCHES RP SERIES



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LOW TORQUE SWITCHES CNR SERIES



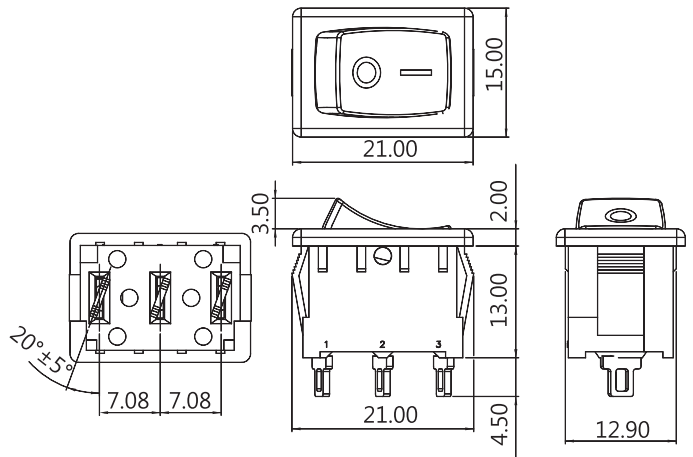
191

ROCKER SWITCHES



DIMENSIONS

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



RE SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 50 m Ω

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

Insulation Resistance (at 500 VDC / minute)

Min. 100 M Ω

Dielectric Strength

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

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

Operating Temperature Range

-40°C to 55°C (with no icing)

Vibration

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

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

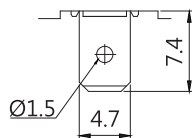
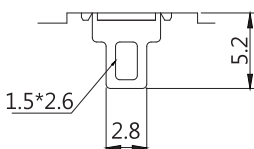
APPLICATIONS

Juice Maker, Blender, Food Processor

TERMINAL TYPES

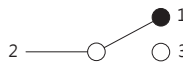
A TYPE (t=0.8mm)

D TYPE (t=0.8mm)

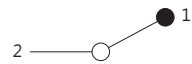


CONTACT CONFIGURATION

SPDT



SPST



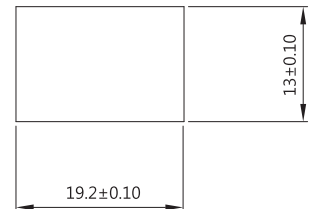
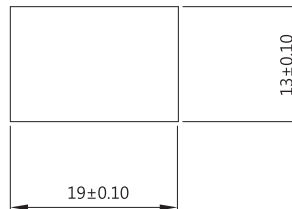
TERMINAL TYPES

MOUNTING HOLES

t=0.8mm

t=1.0mm

t=1.2mm



CERTIFICATE INFORMATION

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

ORDERING INFORMATION

Series Prefix	Code	Rating Current	Code	Operating Force	Code	Terminal Type	Code	Type	Code	Actuator Color	Code	Circuit Arrangement	Code	Actuator Marking	Code	RoHS Code
RE	1	6A 125VAC	S	Max. 700gf	A	(Diagram)	2	Twist	B	BLACK	A	SPST	0			
	2	12A 125/250VAC			D	(Diagram)					B	SPDT	1	I, O		
													2	•		
													3	L, H		
													4	I, Φ		
													5	ON, OFF		
													6	-, O		

ROCKER SWITCHES



RF SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 50 mΩ

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

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

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

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

Operating Temperature Range

-40°C to 85°C (with no icing)

Vibration

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

Electrical Service Life

Min. 10,000 operations

Electrical Operating Frequency

10~30 operations per minute

APPLICATIONS

Juice Maker, Blender, Food Processor

CERTIFICATE INFORMATION

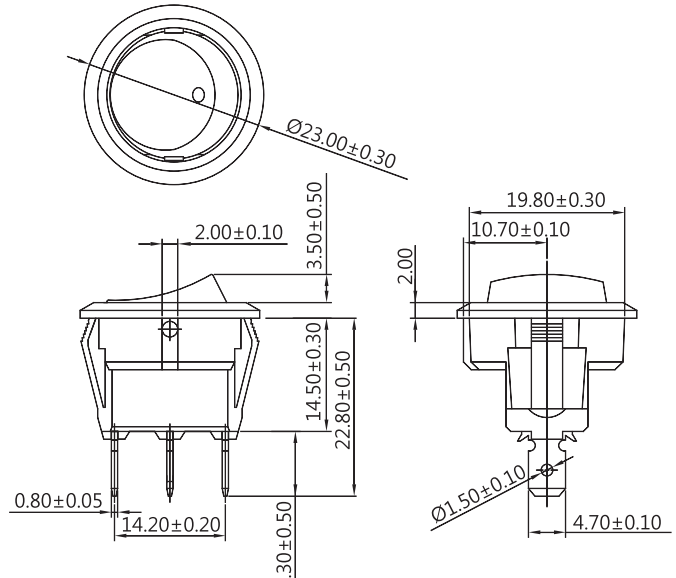
Model Name	UL, cUL	ENEC
RF-12S	12A 125/250 VAC (Temp:55°C) Min. 6,000 operations	12(4)A 250 VAC. μ T85/55, 1E4

ORDERING INFORMATION

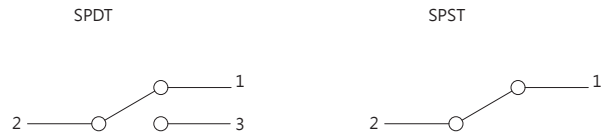
R	F	-	1	2	S	-	D	B	R	2	-	0	-	Z	
SERIES PREFIX	C O D E	RATING CURRENT	C O D E	OPERATING FORCE	C O D E	TERMINAL TYPE	C O D E	CASE COLOR	C O D E	ACTUATOR COLOR	C O D E	CIRCUIT ARRANGEMENT	C O D E	ACTUATOR MARKING	ROHS CODE
	12	12A 125/250VAC 12(4)A 250VAC	S	Max.700gf	A	SOLDER TERMINAL	B	BLACK	B	BLACK	1	SPST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

DIMENSIONS

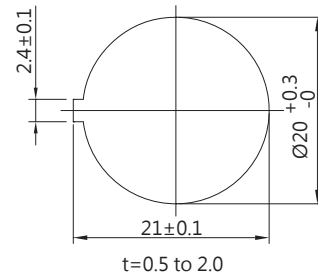
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



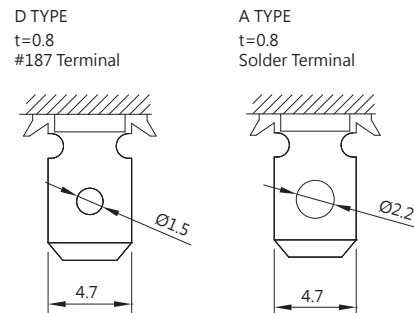
CONTACT CONFIGURATION



MOUNTING HOLES



TERMINAL TYPES

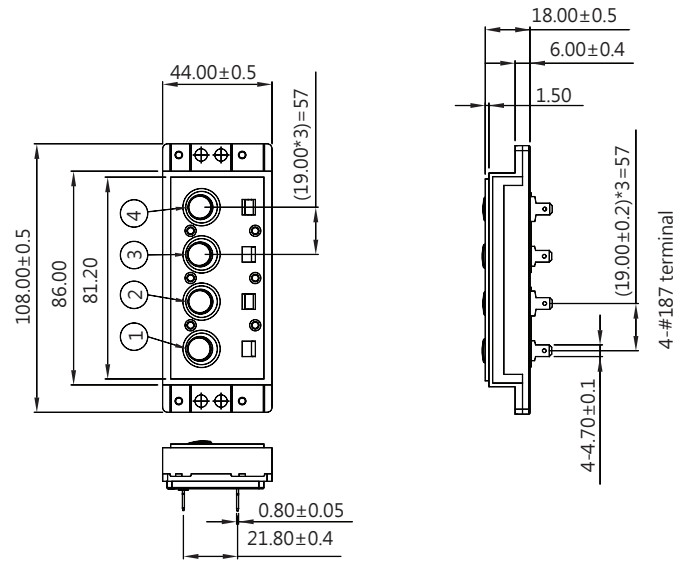


ROCKER SWITCHES



DIMENSIONS

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



FT SERIES

SPECIFICATIONS

Operating Force

2~5lb(907~2268gf)

Contact Resistance (initial)

Max. 300 m Ω

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

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

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

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

Operating Temperature Range

-40°C to 50°C (with no icing)

Electrical Service Life

Min. 6,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 24,000 operations

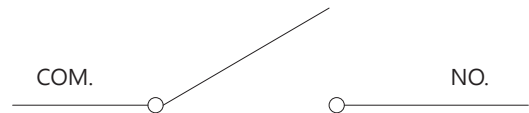
Mechanical Operating Frequency

30 operations per minute

APPLICATION

Refrigerator , Self cleaning filter,Washing machine

CONTACT CONFIGURATION



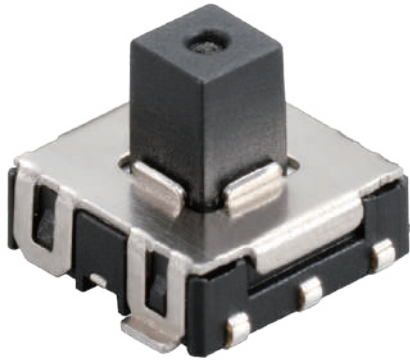
CERTIFICATE INFORMATION

Model Name	UL, cUL
FT-15	15.1A 125/250/277 VAC 1/2HP 125/250/277 VAC Temp : 50 °C Min. 6,000 operations

ORDERING INFORMATION

FT	15	S	G	D	S	01	Z
SERIES PREFIX	RATING CURRENT	OPERATING FORCE	COLOR	TERMINAL TYPE	Mechanical Service Life	SPECIAL CODE	ROHS CODE
15	15.1A 1/2HP 125/250/277VAC	S 907~2268g(2~5lb)	G GRAY B BLACK	D #187 TERMINAL	S Min 24,000 Operations H Min 44,000 Operations		

DETECT SWITCHES



B8 SERIES

SPECIFICATIONS

Contact Resistance (initial)

Max. 200 mΩ

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

Insulation Resistance (at 250VDC/minute)

Min. 100MΩ

Operating Temperature range

-10°C to 60°C (with no icing)

Vibration

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

Electrical Service Life

Min. 200,000 operations.

Electrical Operating Frequency

120 operations per minute

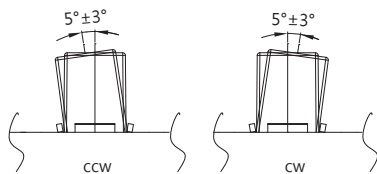
RATING

50mA 24VDC

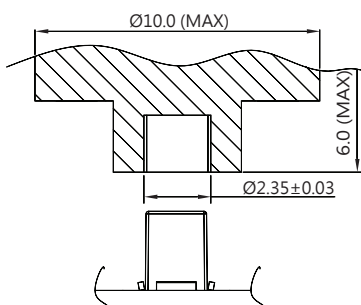
APPLICATIONS

Digital Camera · Mobile Phone

DIMENSION OF BUTTON MOVING ANGLE

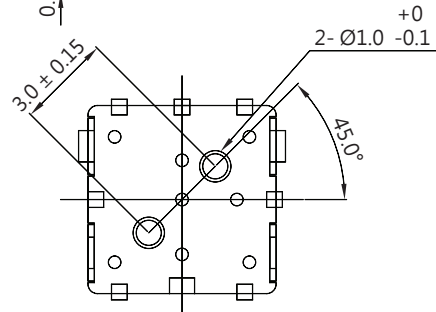
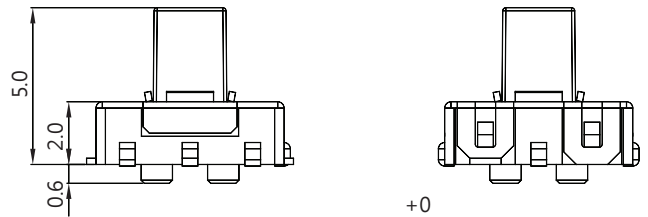
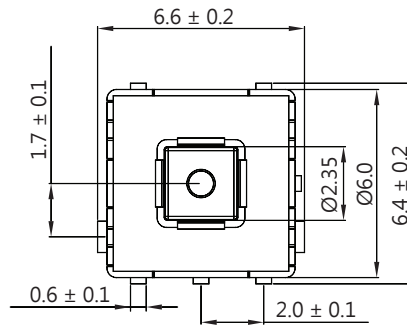


DIMENSION OF ASSEMBLY PART



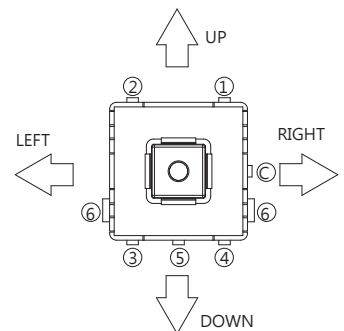
DIMENSIONS

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

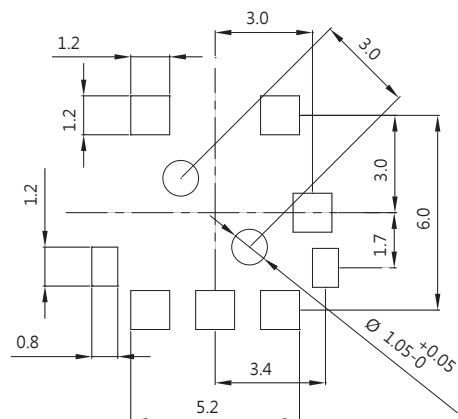


CONTACT CONFIGURATION

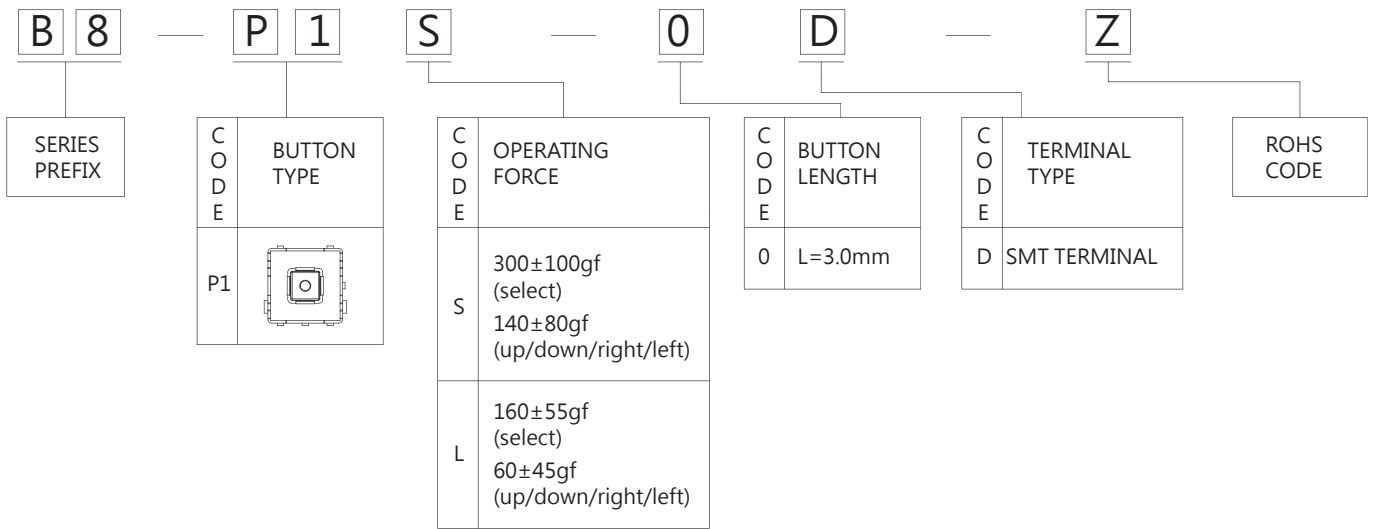
DIRECTION	①	②	③	④	⑤	⑥	C
UP	○	○					○
DOWN			○	○	○	○	○
LEFT		○	○				○
RIGHT				○	○	○	○
SELECT					○	○	○



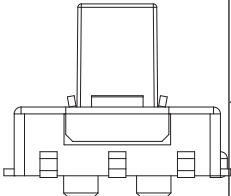
MOUNTING HOLES



ORDERING INFORMATION



OPERATING CHARACTERISTICS

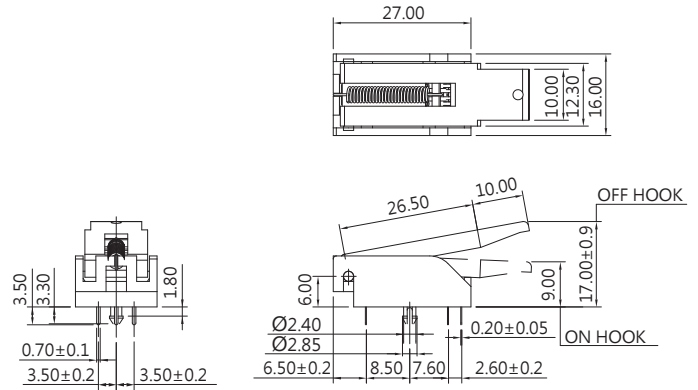
SWITCH TYPE	PART SUFFIX	OF(gf)		RF Min. (gf)	OF(UP/DOWN/R/L) (gf)	RF(UP/DOWN/R/L) Min.(gf)
B8-P1 □ -0D-Z		L	160±55gf	25gf	60±45gf	5gf
		S	300±100gf	55gf	140±80gf	10gf

HOOK SWITCHES



DIMENSIONS

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



HK01 SERIES

SPECIFICATIONS

Operating Force

Max. 110 gf at point P

Return Force

Min. 20gf at point P

Contact Resistance (initial)

Max. 100m Ω

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

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Operating Temperature Range

0°C to 55°C

Vibration

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

Electrical Service Life

Min. 500,000 operations

Electrical Operating Frequency

30 operations per minute

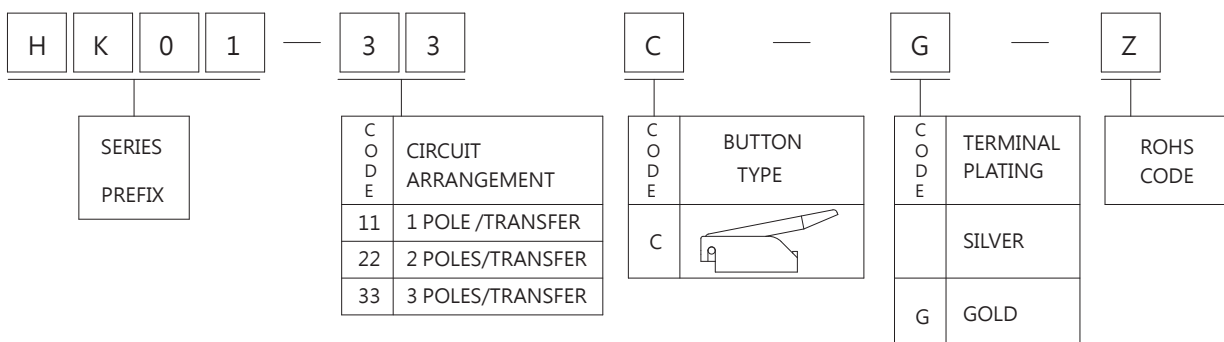
RATING

0.1A 48VDC

APPLICATIONS

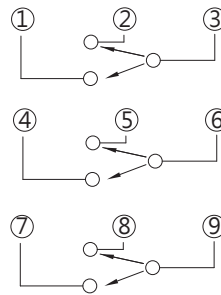
Various telephone sets, telephone-related equipment and other communication systems using telephone circuits

ORDERING INFORMATION

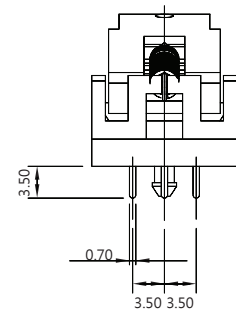


CONTACT CONFIGURATION

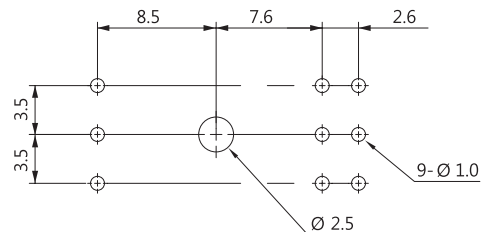
Seen from the Direction A



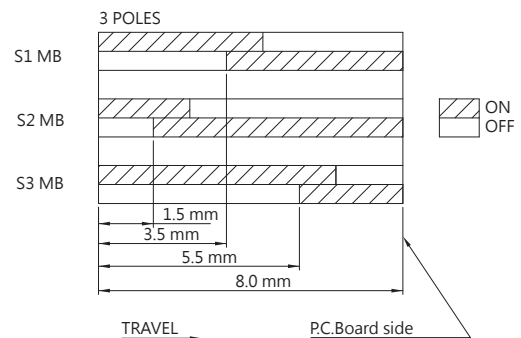
TERMINAL TYPES



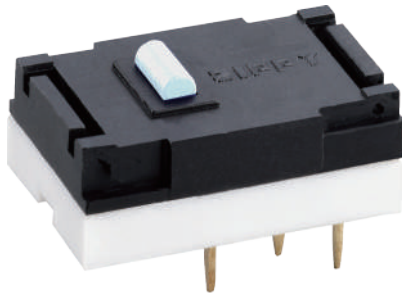
MOUNTING HOLES



SWITCH SEQUENCE



HOOK SWITCHES



HM2 SERIES

SPECIFICATIONS

Contact Resistance(Initial)

Max. 100mΩ

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

Insulation Resistance (at 500 VDC / minute)

Min. 100 MΩ

Dielectric Strength

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

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

Operating Temperature Range

0°C to 65°C

Vibration

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

Electrical Service Life

1A - Min. 6,000 operations

Other ratings - Min. 500,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min.1,000,000 operations

Mechanical Operating Frequency

120 operations per minute

Operating application of the switch

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

RATING

0.1A 60VDC, 0.2A 60VDC

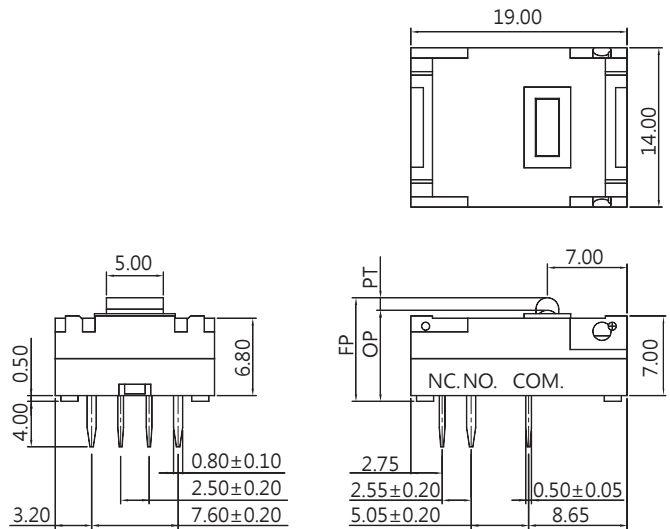
0.2A 125 VAC, 1A 125VAC

APPLICATIONS

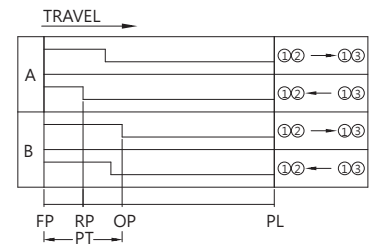
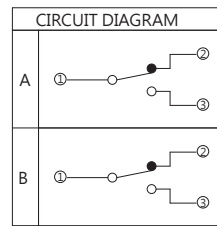
Telephone, Magnetic card reader

DIMENSIONS

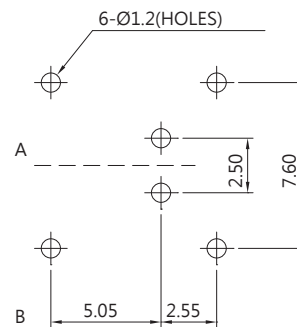
Unless otherwise specified, a tolerance of ±0.4mm applies to all dimensions.



CONTACT CONFIGURATION



MOUNTING HOLES



THE SELECTION OF RATING & FORCE

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

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

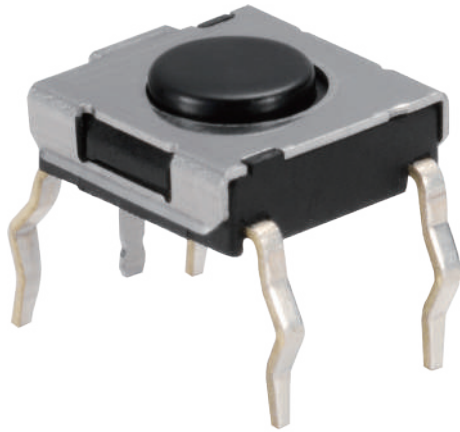
ORDERING INFORMATION

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

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

OPERATING CHARACTERISTICS

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



T6 SERIES

SPECIFICATIONS

Contact Resistance(initial)

Max. 100 mΩ

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

Insulation Resistance(at 100 VDC / minute)

Min. 100 MΩ

Operating Temperature Range

-25°C to 70°C (with no icing)

Vibration

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

Electrical Service Life

Min. 2,000,000 operations

Electrical Operating Frequency

120 operations per minute

RATING

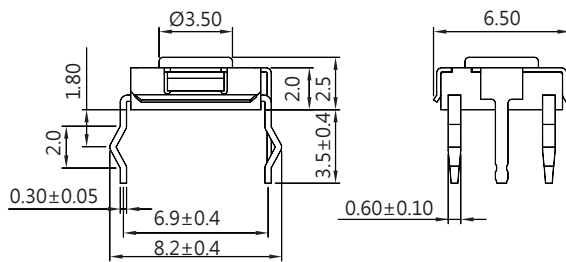
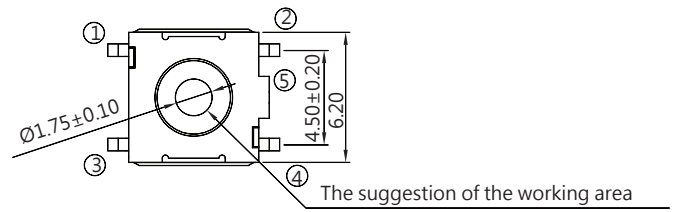
50mA 12VDC

APPLICATIONS

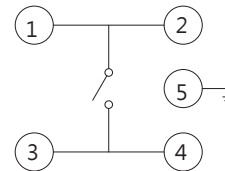
Mouse, Joystick, Notebook

DIMENSIONS

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

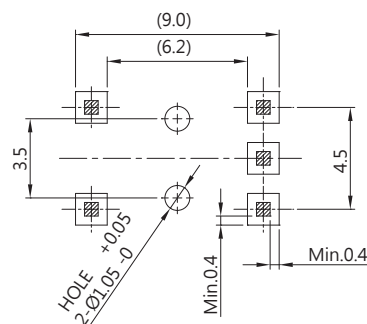


CONTACT CONFIGURATION

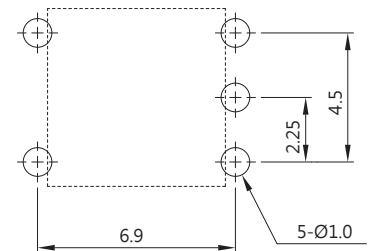


MOUNTING HOLES

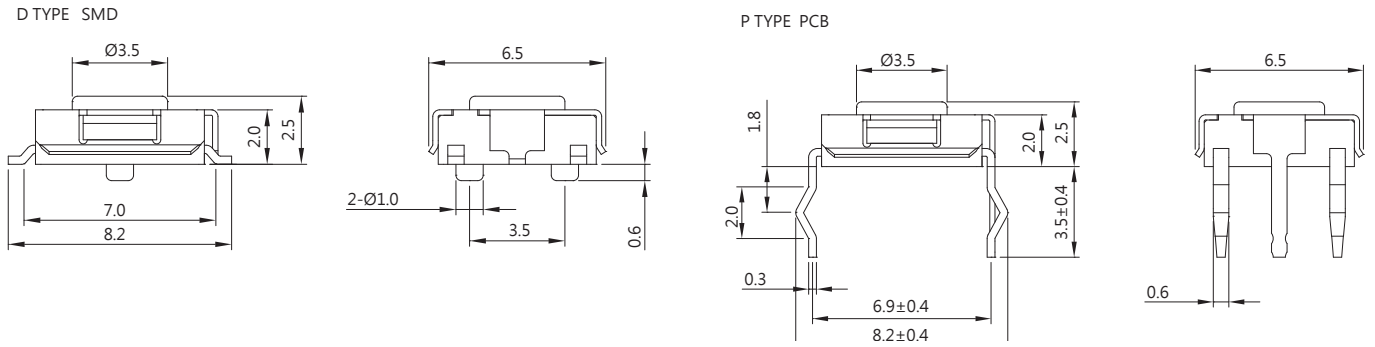
D TYPE



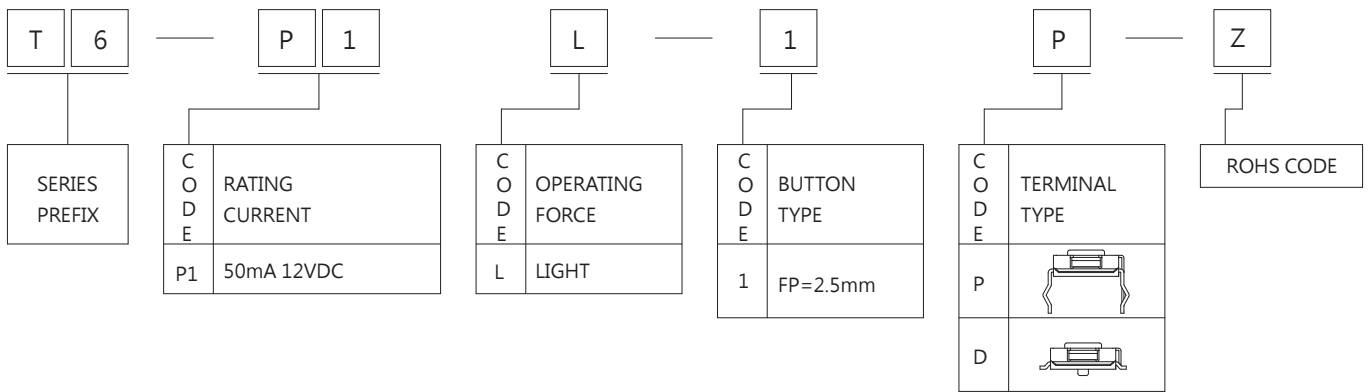
P TYPE



TERMINAL TYPES



ORDERING INFORMATION



OPERATING CHARACTERISTICS

SWITCH TYPE	PART SUFFIX	OF(gf)		TRAVEL (mm)	FP (mm)	RF- Min. (gf)
T6-P1L-1P-Z		L	60±25gf	0.5 ^{+0.2} / _{-0.1} mm	2.5 ±0.2 mm	20 gf
T6-P1L-1D-Z		L	60±25gf	0.5 ^{+0.2} / _{-0.1} mm	2.5 ±0.2 mm	20 gf

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

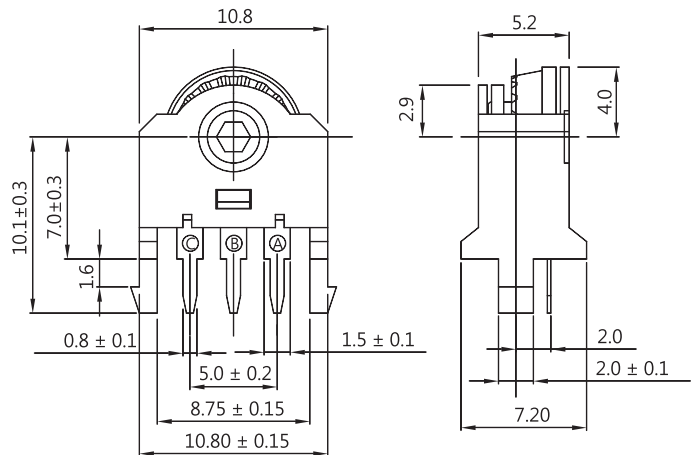
1mA 5VDC

APPLICATIONS

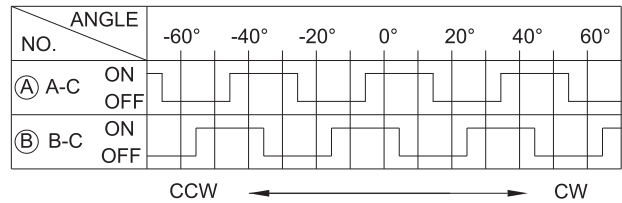
Mouse, Keyboard, Fax machine, Remote control, LCD monitor, Set top box, Browser

DIMENSIONS

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

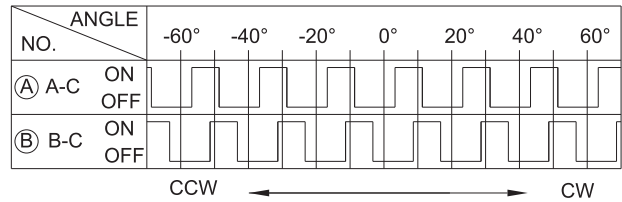


CONTACT CONFIGURATION



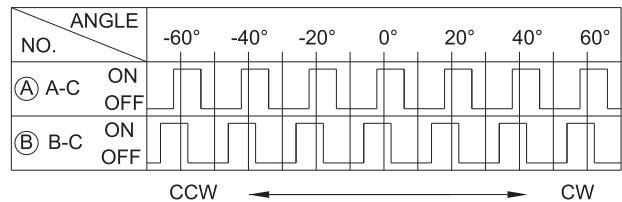
Numbers of detent : 18

Pulse / Rotation: 9 Pulse /360°



Numbers of detent : 18

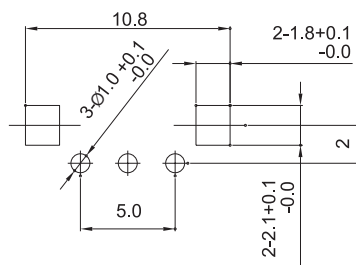
Pulse / Rotation:18 Pulse /360°



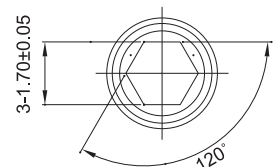
Numbers of detent : 18

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

MOUNTING HOLES

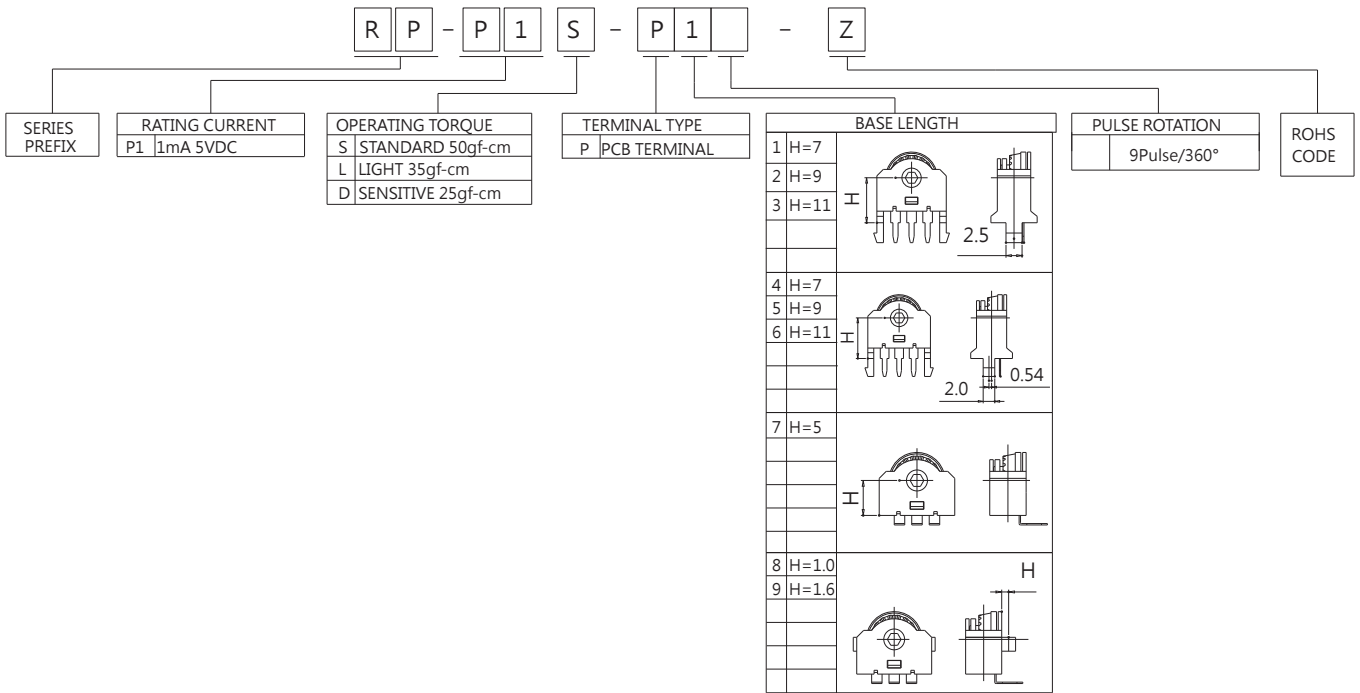


HEXAGONAL HOLE

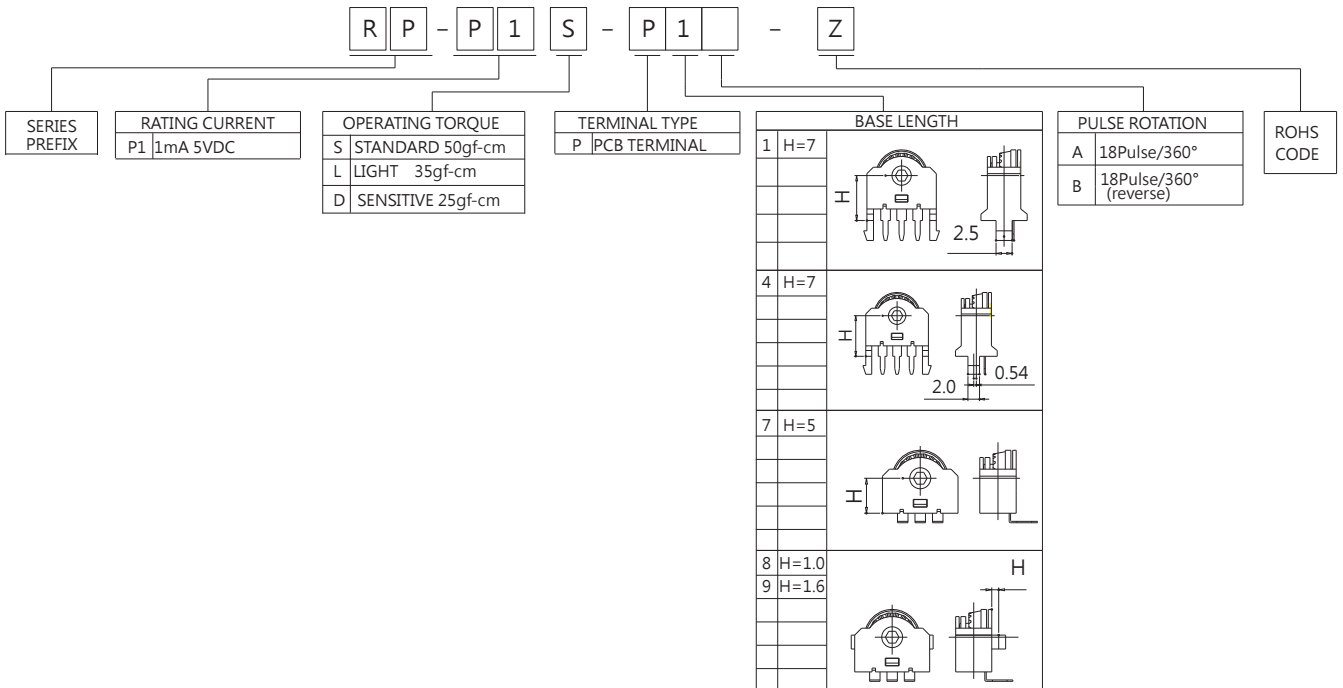


ORDERING INFORMATION

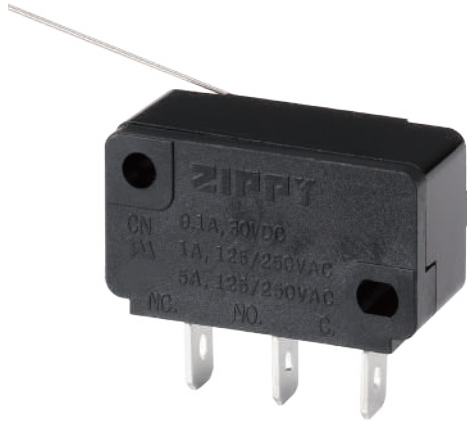
Pulse / Rotation : 9Pulses/360°



Pulse / Rotation : 18Pulses/360°

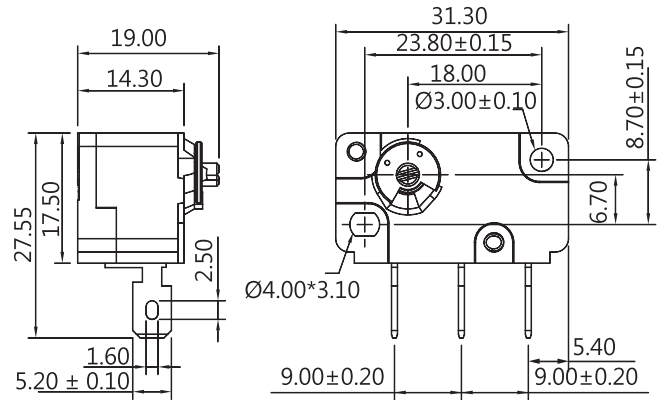


LOW TORQUE SWITCHES



DIMENSIONS

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



CNR SERIES

SPECIFICATIONS

Insulation Resistance (at 500VDC/minute)

Min. 100M Ω

Dielectric Strength

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

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

Operating Temperature Range

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

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

Vibration

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

Electrical Service Life

Min. 6,000 operations

Electrical Operating Frequency

10~30 operations per minute

Mechanical Service Life

Min. 10,000,000 operations

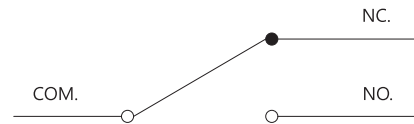
Mechanical Operating Frequency

120 operations per minute

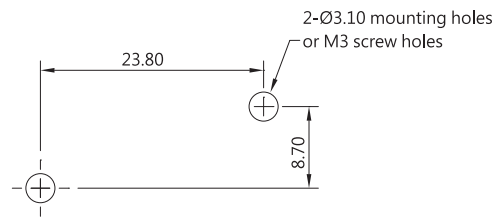
APPLICATIONS

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

CONTACT CONFIGURATION



MOUNTING HOLES



CERTIFICATE INFORMATION

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

OPERATING CHARACTERISTICS

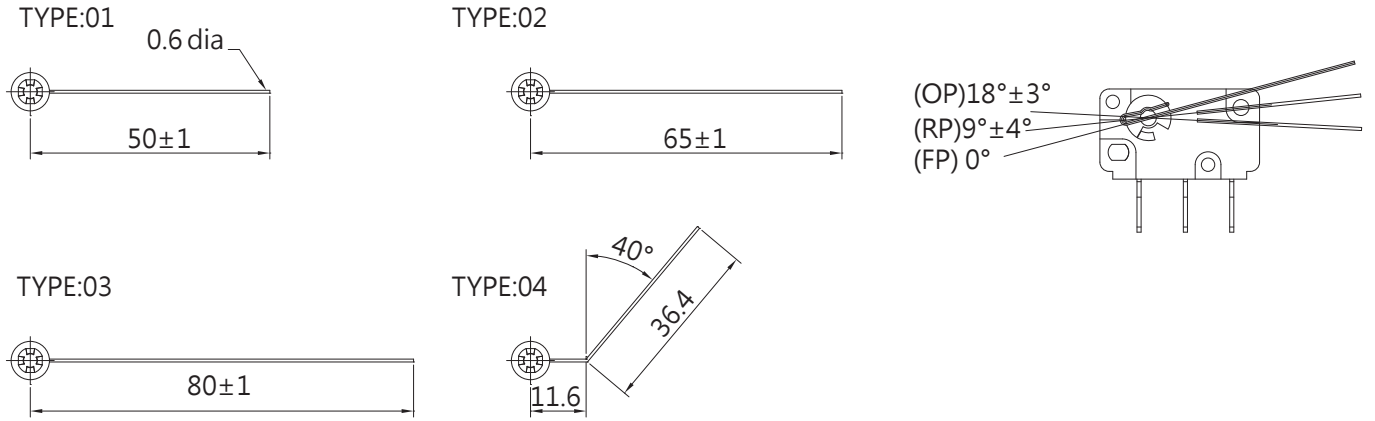
Type	L	S	H
Operating Force(OF)Max	5.1 gf	7.6 gf	10.2 gf
Releasing Force(RF)Min.	0.6 gf	0.9 gf	1.3 gf
Operating Position(OP)	18 \pm 3°		
Releasing Position(RP)	9 \pm 4°		

THE SELECTION OF RATING & FORCE

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

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

ACTUATOR TYPES



ORDERING INFORMATION

C N	R	0 5	S	0 3	Z
SERIES PREFIX	ACTUATOR DIRECTION R CLOCKWISE	RATING CURRENT P1 0.1A 125VAC 05 1A,5A 125/250VAC	OPERATING TORQUE Max. L 5.1gf-cm S 7.6gf-cm H 10.2gf-cm	ACTUATOR TYPE 01 TYPE:01 02 TYPE:02 03 TYPE:03 04 TYPE:04	ROHS CODE

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

CAUTIONS:

注意事項

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

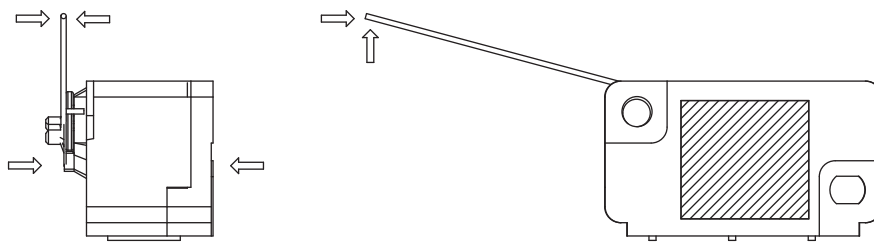


Figure-1