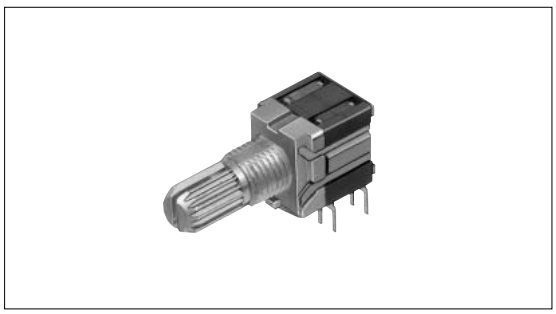
6-position Horizontal Type

SRBM Series

Car Use RoHS compliant

Pulse switching (20 pulses) model available in same figure.



Typical Specifications

Items		Specifications	
		Rotary switch	Pulse switch
Rating (max.) / (min.) (Resistive load)		0.1A 16V DC/50μA 3V DC	
Contact resistance (Initial/After operating life)		50mΩ max./150mΩ max.	
Rotational torque		40±20 mN•m	15±7 mN•m
Operating life	Without load	10,000cycles	30,000cycles
	With load	10,000cycles (0.1A 16V DC)	

Product Line

Number of wafers	Poles	Positions	Changeover angle	Changeover timing	Actuator configuration	Actuator length (mm)	Minimum order unit (pcs.)	Product No.	Drawing No.
1	2	2	30±3°	Non shorting	18-tooth serration	L=15	1,600	SRBM120700	1
					Flat			SRBM121300	
		3			18-tooth serration			SRBM131300	
						L=20	1,200	SRBM131400	
		4				L=15	1,600	SRBM140700	
						L=20	1,200	SRBM140800	
					Flat			SRBM149501	
	1	5			18-tooth serration	L=15	1,600	SRBM150500	
					Flat			SRBM154002	
		6			18-tooth serration			SRBM160700	
		20 pulses	18±3°	–				SRBM1L0800	2
					Flat		1,200	SRBM1L1400	

Notes

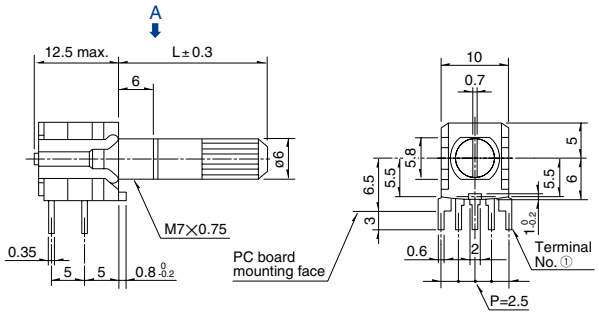
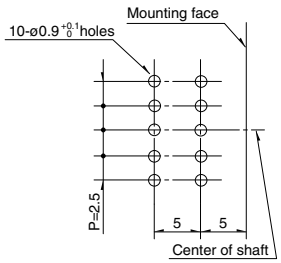
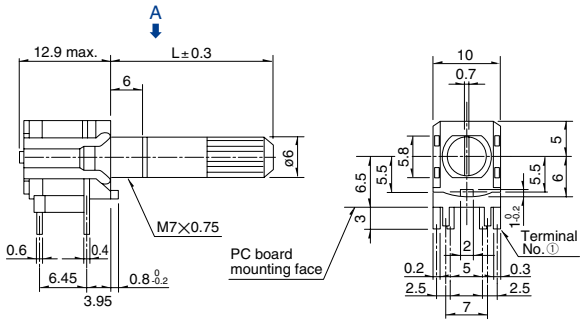
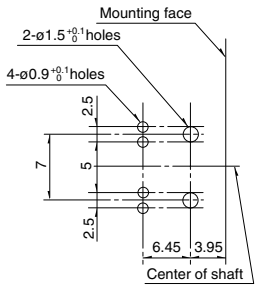
1. Products other than those listed in the above chart are also available. Please contact us for details.
2. All the axis are die casting shafts.
3. Please place purchase orders per minimum order unit(integer).

Refer to **P.171** for shaft configurations.
Refer to **P.173** for attached parts.

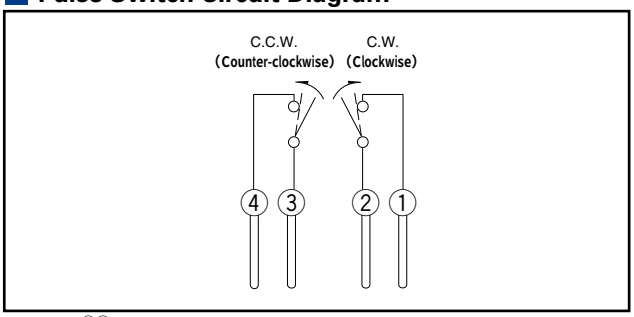
Dimensions

Single-shaft Type

Unit:mm

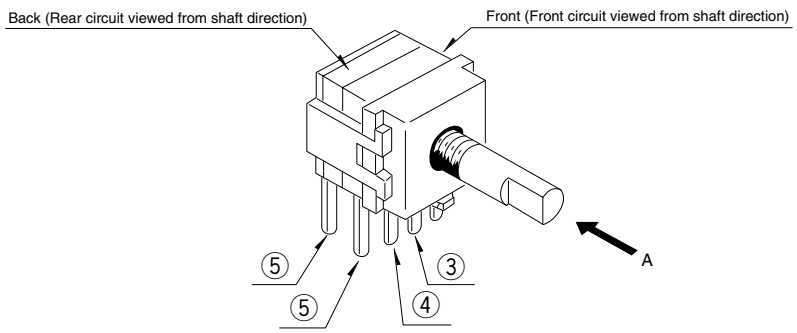
No.	Style	PC board mounting hole dimensions (Viewed from the direction A)
1	**Rotary switch** 	
2	**Pulse switch** 	

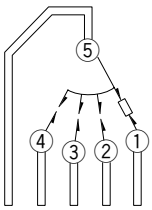
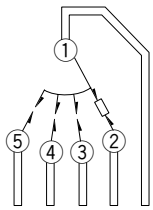
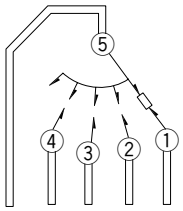
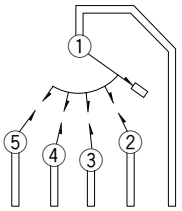
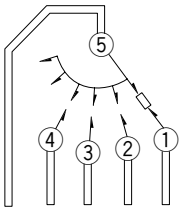
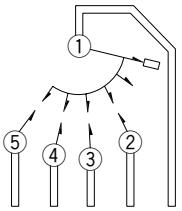
Pulse Switch Circuit Diagram



C.W. : ①② ON during changeover only
C.C.W. : ③④ ON during changeover only

Rotary Switch Circuit Diagram (Viewed from Direction A of Below Diagram)



2 to 4-positions		5-positions※1		6-positions※2	
Rear	Front	Rear	Front	Rear	Front
					

※1: Circuit steps are positions 2 to 5 at front and positions 1 to 4 at rear.
※2: Circuit steps are positions 3 to 6 at front and positions 1 to 4 at rear.
For above ※1 and ※2: External wiring to common terminal is required.

Notes

1. For positions 2 to 4, 1section consists of 2-poles.
2. For positions 5 and 6, 1 section consists of 1-pole.

Dummy Terminals

Number of positions	2	3	4	5	6
Front	④ ⑤	⑤	———	———	———
Rear	③ ④	④	———	———	———

List of Varieties

Series			SRBD	SRBQ Insertion	SRBQ Reflow type	SRRM	SRBV	SRBM Rotary	SRBM Pulse	SRRN
Photo										
Outline specifications	Step angle		36 °	40±3 °		30±3 °			18±3 °	30±3 °
	Number of poles		1			1 2 3 4	1	1 2		2 3 4
Dimensions (mm)		W	10	11.4		———	16.2	12.5		———
		D		12.4			18.5	10		
		H	1.7	3.5			7.5	11.5		
Operating temperature range			-25℃ to +85℃	-10℃ to +60℃			-40℃ to +85℃			-10℃ to +60℃
Rating(max)/(min) (Resistive load)			1mA 5V DC 50μA 3V DC	0.1A 16V DC 50μA 3V DC		0.25A 30V DC 50μA 3V DC	0.3A 16V DC 50μA 3V DC	0.1A 16V DC 50μA 3V DC		0.15A 12V DC 50μA 3V DC
Electrical performance	Initial contact resistance		100MΩ min. 100V DC			100MΩ min. 500V DC	100MΩ min. 100V DC			100MΩ min. 500V DC
	Insulation resistance		100V AC for 1minute			500V AC for 1minute	100V AC for 1minute			500V AC for 1minute
	Voltage proof		3N for 1minute	5N for 1minute		10N for 1minute	5N for 1minute			
Mechanical performance	Actuator strength	Rotational direction	———			1N·m	0.6N·m	0.5N·m	——	1N·m
		Push direction	50N	20N		100N				
	Wobble of actuator		Load at the tip of shaft SRRM : 5N SRBV, SRBQ : 1N (Unit : mm) Measuring position from mounting surface / Shaft wobble (max. value) / Applicable mounting dimension 10 / 0.17 / 15 15 / 0.25 / 20		The below table shows for SRBQ (Unit : mm) Distance from mounting surface to the tip of shaft / Shaft wobble (max.value) below 5 / 0.5 max. above 5 and below 10 / 0.9 max. above 10 and below 15 / 1.2 max.		The below table shows for SRBV (Unit : mm) Measuring position from mounting surface / Shaft wobble (max. value) / Applicable mounting dimension 10 / 0.2 / 15 15 / 0.3 / 20	Measuring position from mounting surface / Shaft wobble (max. value) / Applicable mounting dimension 10mm / 0.17 mm / 15 mm 15mm / 0.25 mm / 20 mm Load at the tip of shaft : 5N	
Durability	Operating life without load		10,000cycles 250mΩ max.	10,000cycles 100mΩ max.		10,000cycles 40mΩ max.	10,000cycles 100mΩ max.		30,000cycles 100mΩ max.	10,000cycles 70mΩ max.
	Operating life with load Load : (at rated load)		10,000cycles 250mΩ max.	10,000cycles 100mΩ max.		10,000cycles 60mΩ max.	10,000cycles 150mΩ max.			10,000cycles 100mΩ max.
Environmental performance	Cold		-40±2℃ for 500h	-20±2℃ for 96h						
	Dry heat		85±2℃ for 500h	85±2℃ for 96h						
	Damp heat		60±2℃, 90 to 95%RH for 500h	40±2℃, 90 to 95%RH for 96h						
Soldering	Manual soldering		———	350±10℃ 3$^{+1}_{0}$s	350±5℃ 3s max.	350±10℃, 3$^{+1}_{0}$s				
	Dip soldering		———	260±5℃ 5±1s	——	260±5℃ 10±1s		260±3℃ 5s max.		260±5℃ 10±1s
	Reflow soldering		Please see P.172	———						
Page			158	160		167	165	162		169

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- Rotary Switches Soldering Conditions ····· 172
- Rotary Switches Attached Parts ····· 173
- Rotary Switches Cautions ····· 174

Shaft Configurations

18-tooth Serration Shaft

The shaft shows the position in which it is turned fully counterclockwise.

Unit:mm

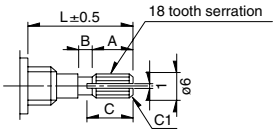
①

Shaft length L	A	B	C
15	6	1	7
20	10	2	11

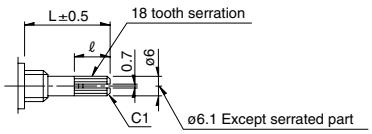
②

Shaft length L	ℓ
15	8
20	12

①Cutting Shaft

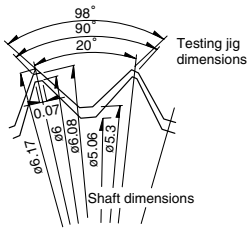


②Die Casting Shaft

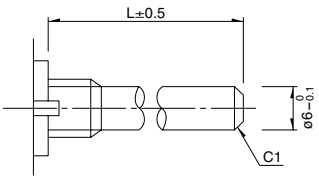


Details About Serration

(1) The mold dimensions of standard serration and the dimensions of test jigs are as shown in the figure at left.
(2) Position of the serration bottom
When the shaft is turned fully counterclockwise, the position of the serration bottom is on the AA line.
(3) Slitting angle
The slitting angle (position) is not specified.

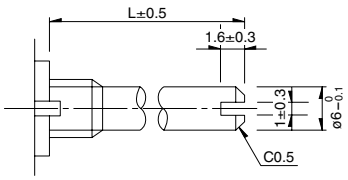


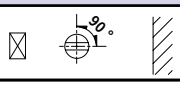
Round Shaft



Round Shaft with Groove

The shaft shows the position in which it is turned fully counterclockwise.



Shaft flatten angle


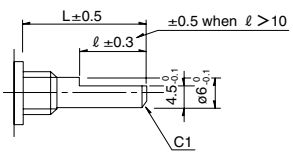
Flat Shaft

The shaft shows the position in which it is turned fully counterclockwise.

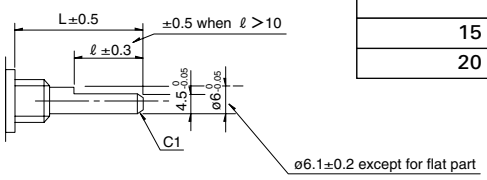
Unit:mm

Shaft length L	ℓ
15	7
20	12

Cutting Shaft



Die Casting Shaft



Shaft flatten angle


Note

SRBM Series are based on ////// (printed terminal direction). SRRM, SRRN, SRBV Series are based on ⊠ (panel lug).

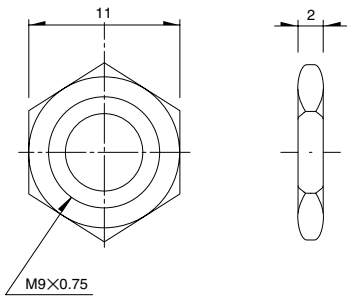
Attached Parts

The following parts are included with the product.

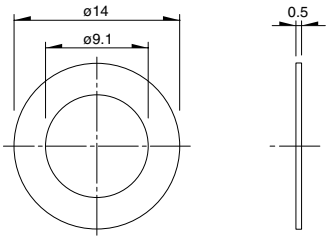
SRRM, SRBV

Unit:mm

Hexagonal nut



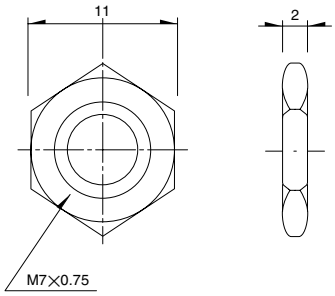
Flat washer



SRBM, SRRN

Unit:mm

Hexagonal nut



Flat washer

