

# Rotary Switch 6-position Vertical Type

SRRN Series



Lead wiring compatible switch.

- Detector
- Push
- Slide
- Rotary**
- Encoders
- Power
- Dual-in-line Package Type
- TACT Switch™
- Custom-Products



## Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		0.15A 12V DC/50μA 3V DC
Contact resistance (Initial/After operating life)		50mΩ max./100mΩ max.
Rotational torque		70±30mN·m
Operating life	Without load	10,000cycles
	With load	10,000cycles (0.15A 12V DC)

## Product Line

Number of wafers	Poles	Positions	Changeover angle	Changeover timing	Actuator configuration	Actuator length (mm)	Minimum order unit (pcs.)	Product No.
1	2	5	30±3°	Non shorting	Round	20	600	SRRN151800
		6			Flat	15		SRRN152000
	3	4			18-tooth serration	20		SRRN161100
		4			Round			SRRN142100
	4	3			18-tooth serration	15		SRRN134300

## Packing Specifications

### Bulk

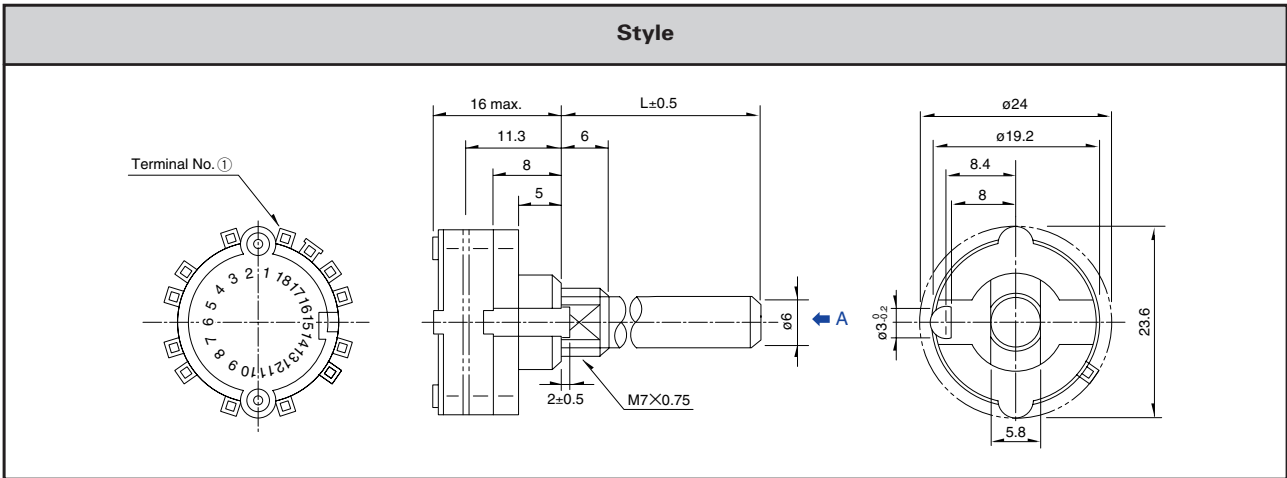
Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
100	600	369×349×367

### Notes

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

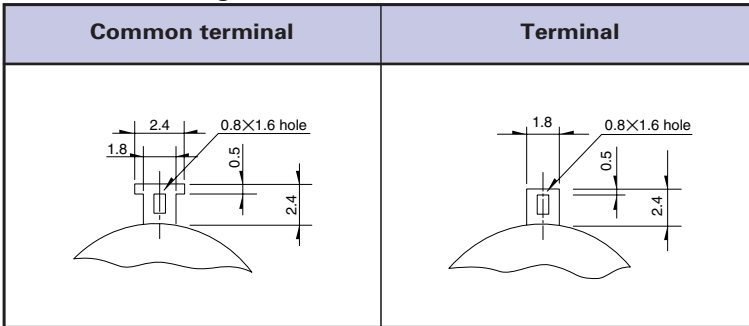
**Dimensions**

Unit:mm



**Terminal Configuration**

Unit:mm



**Standard Circuit Diagram (Standard Poles Per Step)**









Number of poles	2		3		4	
<b>Circuit diagram</b>						
<b>Dummy terminals</b>	<b>5-positions</b>	17 8	<b>4-positions</b>	—	<b>3-positions</b>	—
	<b>6-positions</b>	—		—		—

**Note**

The ☒ mark in the above table indicate a stopper with the shaft turned fully counterclockwise when viewed from direction A of the diagrams.

Refer to P.199 for shaft configurations.  
Refer to P.201 for attached parts.

## List of Varieties

Series	SRBD	SRBQ		SRRM	SRBV	SRBM		SRRN				
		Insertion	Reflow type			Rotary	Pulse					
Detector												
Push												
Slide												
Rotary	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				
Encoders	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					
Power	Operating temperature range	-25°C to +85°C	-10°C to +60°C		-40°C to +85°C		-10°C to +60°C					
Dual-in-line Package Type	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					
TACT Switch™	Electrical performance	Insulation resistance	100MΩ min. 100V DC		100MΩ min. 500V DC	100MΩ min. 100V DC		100MΩ min. 500V DC				
Custom-Products		Voltage proof	100V AC for 1minute		500V AC for 1minute	100V AC for 1minute		500V AC for 1minute				
		Terminal strength	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		The below table shows for SRBQ (Unit : mm)			The below table shows for SRBV (Unit : mm)			Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension
		Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension	Distance from mounting surface to the tip of shaft	Shaft wobble (max. value)	Measuring position from mounting surface	Shaft wobble (max. value)	Applicable mounting dimension	10mm	0.17 mm	15 mm
10		0.17	15	below 5	0.5 max.	10	0.2	15	15mm	0.25 mm	20 mm	
15	0.25	20	above 5 and below 10	0.9 max.	15	0.3	20	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.		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°C for 500h	-20±2°C for 96h									
	Dry heat	85±2°C for 500h	85±2°C for 96h									
	Damp heat	60±2°C, 90 to 95%RH for 500h	40±2°C, 90 to 95%RH for 96h									
Soldering	Manual soldering	—	350±10°C 3 <sup>+1</sup> s	350±5°C 3s max.	350±10°C, 3 <sup>+1</sup> s							
	Dip soldering	—	260±5°C 5±1s	—	260±5°C 10±1s		260±3°C 5s max.	260±5°C 10±1s				
	Reflow soldering	Please see P.200										
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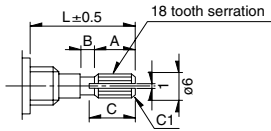
## Shaft Configurations

### 18-tooth Serration Shaft

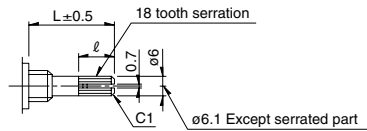
The shaft shows the position in which it is turned fully counterclockwise. ①

Unit:mm

#### ①Cutting Shaft



#### ②Die Casting Shaft



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

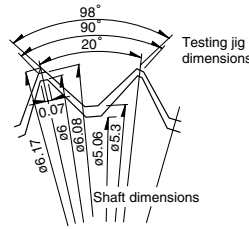
Unit:mm

#### ②

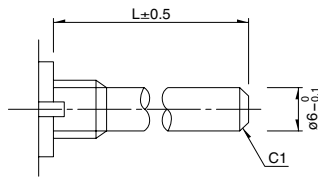
Shaft length L	l
15	8
20	12

### 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.

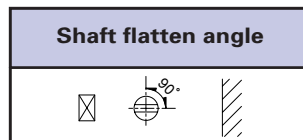
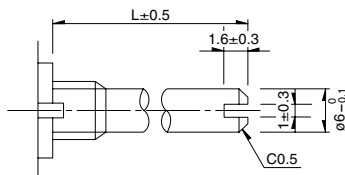


### Round Shaft



### Round Shaft with Groove

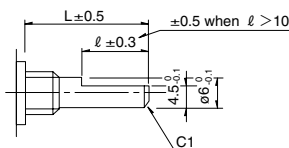
The shaft shows the position in which it is turned fully counterclockwise.



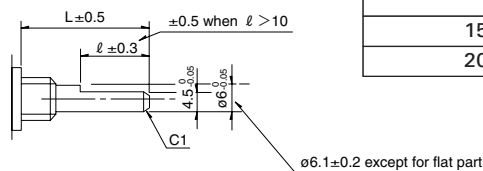
### Flat Shaft

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

#### Cutting Shaft

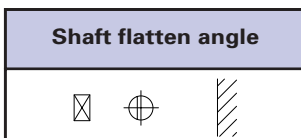


#### Die Casting Shaft



Unit:mm

Shaft length L	l
15	7
20	12



### Note

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

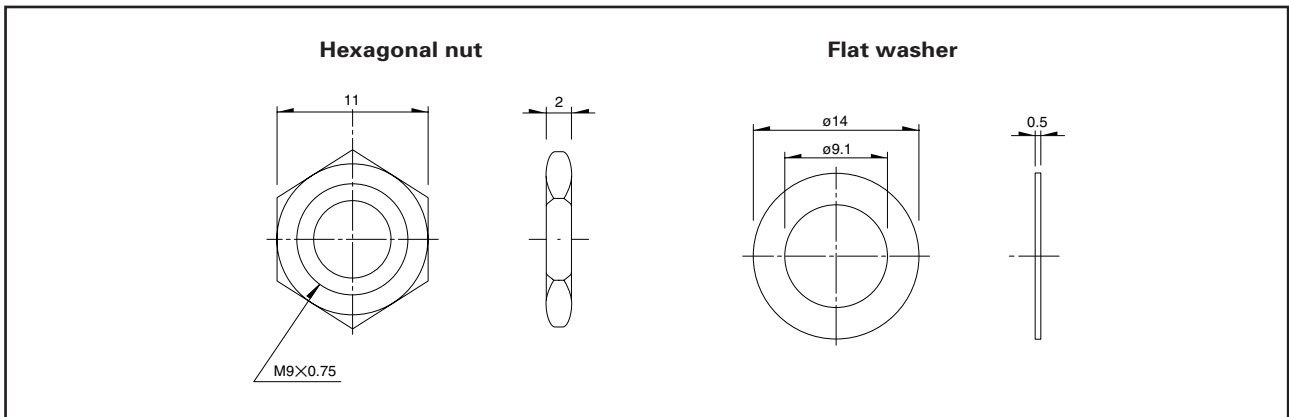
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## Attached Parts

The following parts are included with the product.

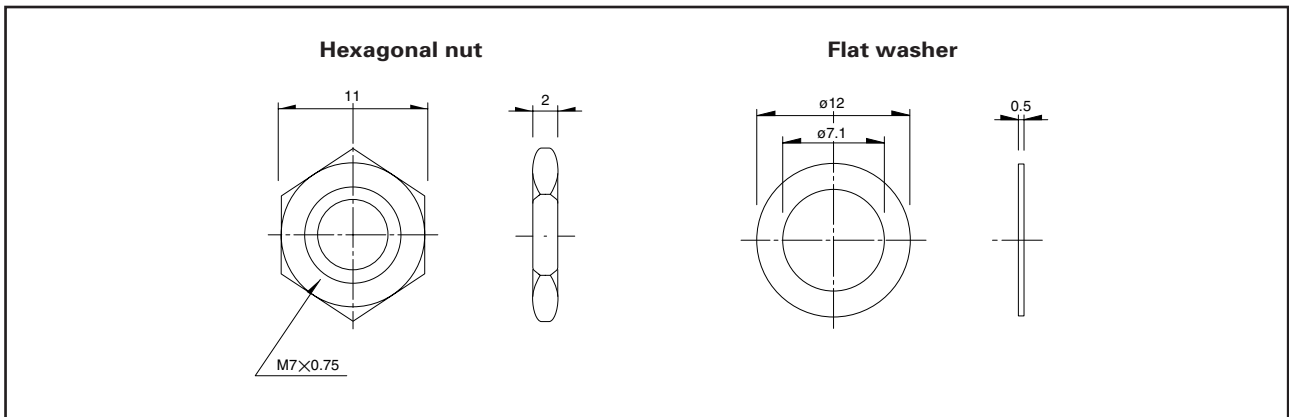
### ■ SRRM, SRBV

Unit:mm



### ■ SRBM, SRRN

Unit:mm



Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products