

# Hollow Shaft Type Devices

## Hollow Shaft Type

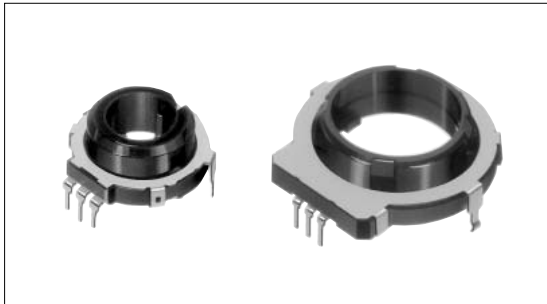
SRGP Series

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Hollow-center shaft encoder enabling various combinations.

Hollow Shaft  
Type Devices



### Typical Specifications

Items		Specifications
Rating (max.) (min.) (Resistive load)		10mA 5V DC/50 $\mu$ A 3V DC
Output voltage		1V max. at 1mA 5V DC (Resistive load)
Operating life	Without load	50,000cycles
	With load	50,000cycles

### Product Line

Detent torque (mN·m)	Number of detent	Number of pulse	Operating direction	Minimum order unit ( pcs. )	Product No.	Drawing No.
7 $\pm$ 3	20	10	Vertical	1,000	SRGP200200	1
13 $\pm$ 4	16	16		600	SRGPWJ0500	2
6.5 $\pm$ 4	32			SRGPWJ0200		

### Notes

1. Products other than those listed in the above chart are also available. Please contact us for details.
2. It is requested that the order placed be an integer multiple of the minimum order units. For export packing, please consult us.

Encoder  
Type

Potentiometer  
Type

**Dimensions**

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from the Direction A)
1	<p>Phase difference of code portion</p> <p>Clockwise              Counter-clockwise</p> <p>(36°)              (18°)              Detent position</p> <p>① ON OFF              ② ON OFF</p> <p>T1 T2 T3 T4</p> <p><math>T1, T3 = 1/4T \pm 1/8T</math></p> <p>T2, T4 = Phase difference shall not be reversed</p>	<p>2-<math>\phi</math>1.5 holes  <math>\phi</math>2.05      11.8  <math>\phi</math>2.1      13      6      17      3-<math>\phi</math>1 holes      2-30°</p>
2	<p>Phase difference of code portion</p> <p>Clockwise              Counter-clockwise</p> <p>(22.5°)              Detent position</p> <p>① ON OFF              ② ON OFF</p> <p>T1 T2 T3 T4</p> <p><math>T1, T3 = 1/4T \pm 1/8T</math></p> <p>T2, T4 = Phase difference shall not be reversed              (SRGPWJ0500)</p> <p>Clockwise              Counter-clockwise</p> <p>(22.5°)              Detent position</p> <p>① ON OFF              ② ON OFF</p> <p>T1 T2 T3 T4</p> <p><math>T1, T3 = 1/4T \pm 1/8T</math></p> <p>T2, T4 = Phase difference shall not be reversed              (SRGPWJ0200)</p>	<p>1.6      2-<math>\phi</math>2.55 holes      2.5      18      23      5      31.8      3-<math>\phi</math>1 holes</p>

**Note**





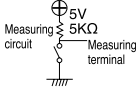
PC board thickness in above diagram is based on 1.6mm.

## List of Varieties

Hollow Shaft  
Type Devices

Encoder  
Type

Potentiometer  
Type

Type		Hollow type				
		17mm size		22mm size	30mm size	
Series		SRGP30	SRGP40	SRGP20	SRGPWJ	
Photo						
Output		Incremental				
Outline specifications	Shaft types	Hollow shaft				
	Operating direction	Vertical				
	Number of pulse/ Number of detent	9/18	12/24	10/20	16/16 16/32	
	Push switch (Travel mm)	Without				
	Optional functions	_____				
	Changeover angle	20°	15°	18°	22.5°	
Dimensions (mm)	W	17.5		23.6	31.8	
	D	18.5	18.25	23	32	
	H	2.3	1.55	4.5		
Soldering	Manual soldering	350 ± 5 , 3s max.	350 ± 10 , 3 ± 0.5s max.	350 ± 10 , 3 ± 0.5s		
	Dip soldering	_____		260 ± 5 , 5 ± 1s		
	Reflow soldering	Please see P.198				
Maximum operating current( Resistive load)		-10 to +60		-40 to +85		
Electrical performance	Output wave	1V max. at 5V DC, 1mA ( resistive load ) 				
	Insulation resistance	100M min. 100V DC				
	Voltage proof	100V AC for 1minute				
Mechanical performance	Rotational torque	5 ± 2.5mN· m	2 ± 1mN· m	7 ± 3mN· m	13 ± 4mN· m	
			3.5 ± 1mN· m			6.5 ± 4mN· m
	Terminal strength	_____		5N for 1minute		
	Actuator strength	Rotational direction	20N		40N	
Push direction						
Vibration		10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively				
Environmental performance	Cold	-40 ± 2 for 96h	-20 ± 2 for 96h			
	Dry heat	85 ± 2 for 96h				
	Damp heat	40 ± 2 , 90 to 95%RH for 96h				
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### Note

※ The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.