

Encoder Metal Shaft Type

SRGH Series

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Shaft vertical type facilitates mounting and provides high versatility.

Detector

Push

Slide

Rotary

Encoders

Power

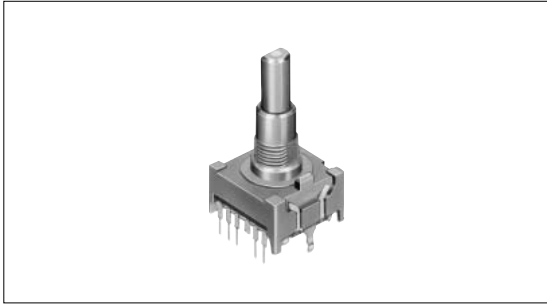
Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Incremental
Type

**Absolute
Type**



Typical Specifications

Items		Specifications
Rating(max.)(min.) (Resistive load)		0.1A 12V DC/50 μ A 3V DC
Contact resistance (Initial/After operating life)		1 max./1 max.
Operating life	Without load	10,000cycles
	With load	10,000cycles(0.1A 12V DC)

Product Line

6-positions	Torque(mN·m)			Operating direction	Positions	Changeover angel	Minimum order unit (pcs.)	Product No.	Drawing No.
	15-positions								
	Between 1-position, 2-positions	Between 2-positions, 14-positions	Between 14-positions, 15-positions						
37.3 \pm 20.5	37.3 \pm 20.5	21.6 \pm 11.8	37.3 \pm 20.5	Vertical	6	40 °	400	SRGH160100	1
					15	12.8 °		SRGH1F0100	2

Notes

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

Refer to P.201 for attached parts.

Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions
1	<p>6-positions</p>	
2	<p>15-positions</p>	

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Standard Codes

Code	Terminal	Number of positions														
		6						15								
	Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Gray	1															
	2															
	3															
	4															

The marks shows the ON position.

List of Varieties

Type		Absolute type				
		With Knob	Metal shaft	Hollow shaft	Jog-shuttle	
Series		SRRQ	SRGH	SRGA	SRGPHJ	
Photo						
Output		Absolute type				
Outline specifications	Shaft types	With knob	Single-shaft	Hollow shaft	Single-shaft/ Dual-shaft	
	Operating direction	Vertical/Horizontal		Vertical		
	Number of pulse/ Number of detent	—————				
	Push switch (Travel mm)	Without				
	Optional functions	—————				
Dimensions (mm)	Changeover angle	22.5°, 36°	40°, 12.8°	15°, 24°, 30°, 45°	Shuttle part: All angles rotation 160° Jog part: All angles rotation 360°	
	W	14.4	20	18	35	
	D	15.6	19		43.7	
H	7.5	10.5	8	8.6		
Soldering	Manual soldering	300 ± 10 , 3 ⁺¹ s		350 ± 10 , 3 ⁺¹ s		
	Dip soldering	260 ± 5 , 10 ± 1s			260 ± 5 , 5 ± 1s	
	Reflow soldering	—————			Please see P.209	
Operating temperature range		-10 to +60	-40 to +85	-10 to +60		
Electrical performance	Initial contact resistance		1 max.			
	Output voltage	Shuttle part	—————			
		Jog part	4V min. at 1mA 5V DC (resistive load)			
Insulation resistance		100M min. 100V DC				
Mechanical performance	Voltage proof		100V AC for 1minute			
	Rotational torque		Shall be in accordance with individual specifications.			
	Terminal strength		5N for 1minute			
	Resistance to soldering heat	Rotational direction	—————			
		Push direction	5N	100N		
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		-20 ± 2 for 96h			
	Dry heat		85 ± 2 for 96h			
	Damp heat		40 ± 2 , 90 to 95%RH for 96h			
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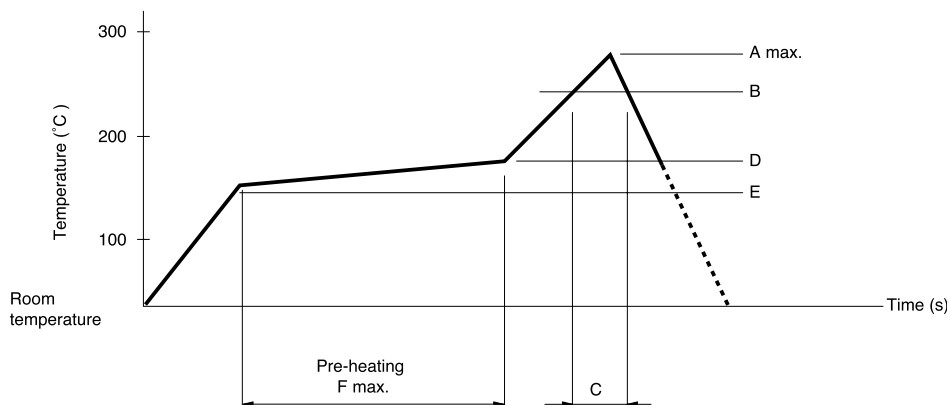
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Note
The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.

Soldering Conditions

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface). A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)	A (°C) max.	B (°C)	C (s)	D (°C)	E (°C)	R (s)
SRGP30	240	230	20	150	150	120
SRGP30	260		40	180		
SRGAR10100	240	220	30	160		

Notes

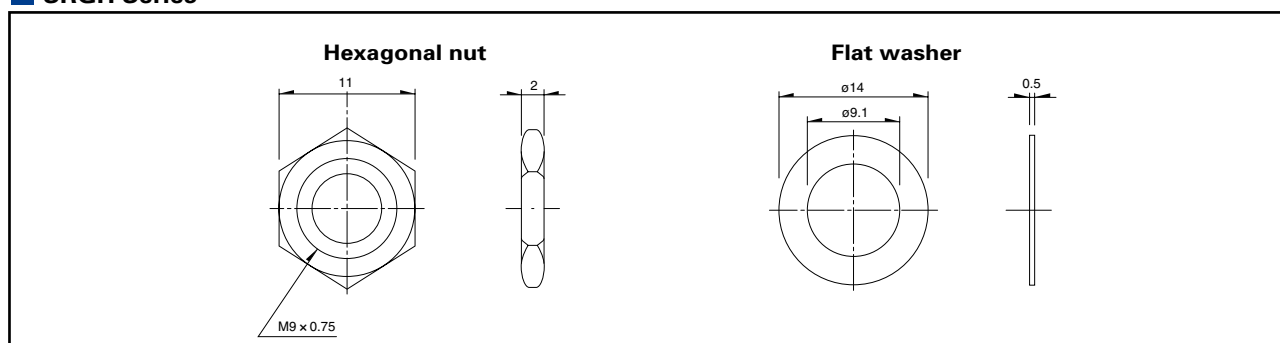
1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

Attached Parts

The following parts are included with the product.

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Unit:mm



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