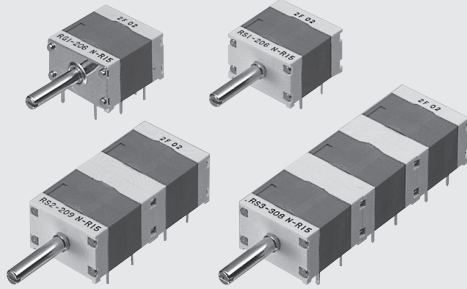


# ROTARY SELECTOR SWITCHES

# RS/RG

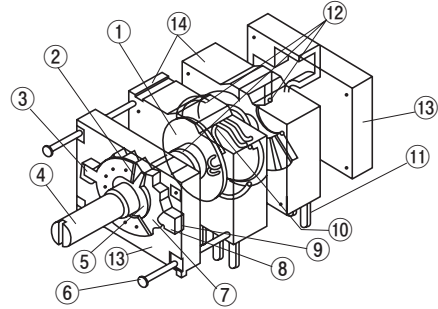
RoHS compliant



## FEATURES

- RoHS compliant
- P.C.B. mounted, compact size and DIP compatible
- Protection by “O” ring (contact block) against dust and for cleaning after soldering
- Precious metal alloy wiping type contacts provide a long life (50000 revolutions at no load) and high reliability. (In house comparison)
- Both shorting and non-shorting types are available

## INTERNAL STRUCTURE

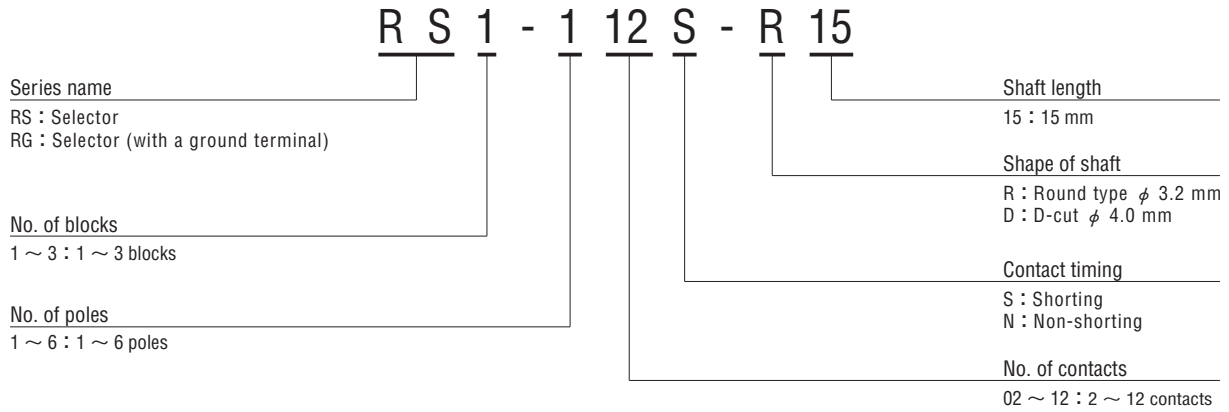


Part name	Material	Flammability
① Rotor	Polyoxymethylene	UL94HB
② Stopper pin	Copper alloy	—
③ Stopper pin holder		
④ Shaft	Copper alloy, Nickel-plated	
⑤ Stopper ring	Nickel-plated	
⑥ Linking pin	Copper alloy, Nickel-plated	UL94HB
⑦ Click gear	PA (Polyamide)	
⑧ Click plate	POM (Polyoxymethylene)	—
⑨ Click spring	SWPA (Piano wire)	
⑩ Contact spring	Multi metal alloy	
⑪ Terminal pin	Copper alloy, Gold-plated	UL94HB
⑫ “O” ring	Silicone rubber	
⑬ Cover	PBT (Polybutyleneterephthalate)	
⑭ Housing		

The DIP-TYPE ROTARY SELECTOR SWITCHES RS/RG series listed here are standard versions, but our production will be made upon receipt of your orders.

# RS/RG ROTARY SELECTOR SWITCHES

## PART NUMBER DESIGNATION



※ Shaft length of 10 mm or 20 mm is also available.

## LIST OF PART NUMBERS

No. of blocks	No. of poles	No. of contacts										
		02	03	04	05	06	07	08	09	10	11	12
1	1	RS1-102	RS1-103	RS1-104	RS1-105	RS1-106	RS1-107	RS1-108	RS1-109	RS1-110	RS1-111	RS1-112
	2	RS1-202	RS1-203	RS1-204	RS1-205	RS1-206	/	/	/	/	/	/
2	3	/	/	/	/	/	RS2-207	RS2-208	RS2-209	RS2-210	RS2-211	RS2-212
	4	RS2-302	RS2-303	RS2-304	RS2-305	RS2-306	/	/	/	/	/	/
3	5	/	/	/	/	/	RS3-307	RS3-308	RS3-309	RS3-310	RS3-311	RS3-312
2	6	RS2-402	RS2-403	RS2-404	RS2-405	RS2-406	/	/	/	/	/	/
	7	RS3-502	RS3-503	RS3-504	RS3-505	RS3-506	/	/	/	/	/	/
3	8	RS3-602	RS3-603	RS3-604	RS3-605	RS3-606	/	/	/	/	/	/
	9	/	/	/	/	/	/	/	/	/	/	/

□ : Not manufactured

※ Verify the above part numbers when placing orders.

※ The above part numbers are all available respectively with the combination of Ground terminal (with or without). Contact timing (Shorting or Non-shorting), and Shaft shape (Round or D-cut).

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## STANDARD SPECIFICATIONS

Circuit type	1 pole 2 ~ 12 contacts (per block) 2 poles 2 ~ 6 contacts (per block)
Operating temperature range	— 40 ~ 85 °C
Storage temperature range	
Sealing	Washable (only contact block, "O" ring sealed) ※ Please refer to page 150, 151
Net weight	Approx. 7 g (1 block) Approx. 13.6 g (2 blocks) Approx. 19.4 g (3 blocks)

## ELECTRICAL CHARACTERISTICS

Contact rating	1 VA
Maximum current	1 A
Minimum current	1 μ A
Maximum voltage	30 V
Minimum voltage	20 mV
Contact timing	Shorting, Non-shorting
Contact resistance	100 m Ω maximum
Insulation resistance	1000 M Ω (DC500 V) minimum
Dielectric strength	AC500 V, 60 s
Electrostatic capacity	4 pF maximum, 10 kHz

## MECHANICAL CHARACTERISTICS

Adjustment torque	60 ± 30 mN·m {612 ± 306 gf·cm}
Stopper strength	500 mN·m {5.1 kgf·cm} minimum
Stepping angle	30°
Terminal strength	10 N {1.02 kgf} minimum
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow : 260 ± 3 °C as the temperature in a pot of molten solder, immersion from head of terminal to backside of board, 5 ~ 6 s, two times maximum
	Manual soldering : 380 ± 10 °C, 3 ~ 4 s

{ } : Reference only

## ENVIRONMENTAL CHARACTERISTICS

Vibration	(Amplitude) 3 mmor (Acceleration) 196 m/s <sup>2</sup> , 10-2000-10 Hz, 3 directions for 4 h each
Shock	980 m/s <sup>2</sup> , 6 ms 6 directions for 3 times each
Load life	500,000 steps or 50,000 cycles at 6 contacts with no load 200,000 steps or 20,000 cycles at 6 contacts with rated load
Humidity (Steady state)	40 °C, Relative humidity 90 ~ 95 %, 240 h
High temperature exposure	85 °C, 16 h
Low temperature exposure	— 40 °C, 16 h

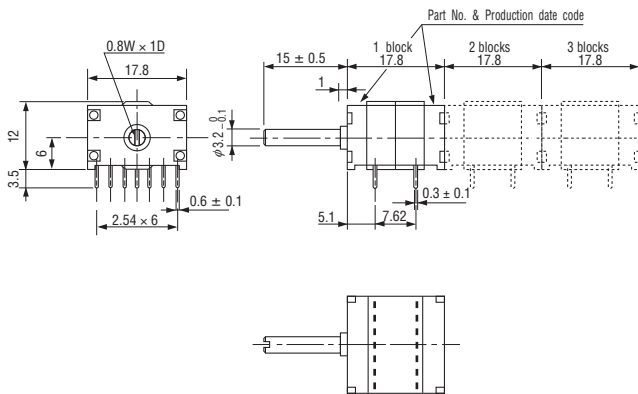
The DIP-TYPE ROTARY SELECTOR SWITCHES RS/RG series listed here are standard versions, but our production will be made upon receipt of your orders.

# RS/RG ROTARY SELECTOR SWITCHES

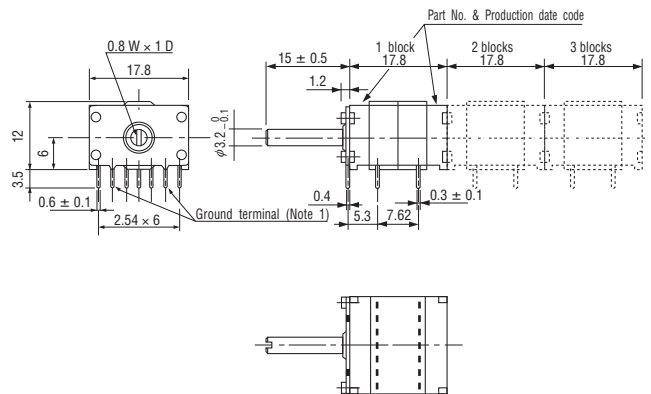
## OUTLINE DIMENSIONS

Unless otherwise specified, tolerance:  $\pm 0.3$  (Unit: mm)

### RS series



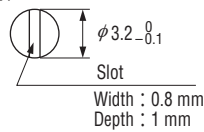
### RG series



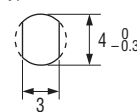
**(Note1)**  
A ground terminal is connected electrically to a shaft.

#### Diameter of shaft (A)

R : Round type



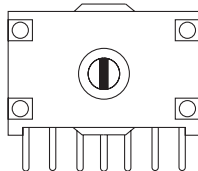
D : D-cut type



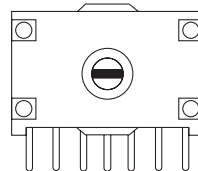
#### <Shaft slot direction>

There is a difference in the direction of the slot on the shaft between shorting and non-shorting type. The location of the shaft of each type when their shafts are fully turned to CCW is shown in the chart below.

#### Shorting type



#### Non-shorting type



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## ■ TERMINAL CONNECTION / P.C.B. THROUGH HOLE DIMENSIONS

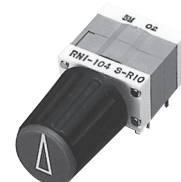
(Unit: mm)

	RS	RG
<b>Terminal pin layout (Bottom view)</b>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>2 poles 6 contacts</p> </div> <div style="text-align: center;"> <p>1 pole 12 contacts</p> </div> <div style="text-align: center;"> <p>4 poles 6 contacts</p> </div> </div> <p style="text-align: center;">外部接続 External connection</p>	<div style="text-align: center;"> <p>2 poles 12 contacts</p> </div> <p style="text-align: center;">外部接続 External connection</p>
<b>P.C.B. dimensions (Bottom view)</b>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="text-align: center;"> <p>RS 1</p> <p>Operating face</p> <p>RS case</p> </div> <div style="text-align: center;"> <p>RS 2</p> <p>Operating face</p> <p>RS case</p> </div> </div>	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="text-align: center;"> <p>RG 1</p> <p>Operating face</p> <p>RG case</p> </div> <div style="text-align: center;"> <p>RG 2</p> <p>Operating face</p> <p>RG case</p> </div> </div>

## ■ PACKAGING SPECIFICATIONS

- Boxing of one block type is performed 20 pcs. (More than two blocks type are 10 pcs.) per box. Order will be accept for the quantities by packaging unit(s).  
(Ex. 1 block: 20 pcs, 40pcs... / 2 blocks: 10 pcs, 20 pcs...)

Note: The conventional knob (Round shaft,  $\phi$  3.2 mm) available in the market such as the one in the picture can be used.



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