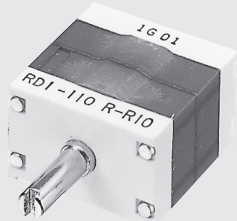


ROTARY CODED SWITCHES

RD

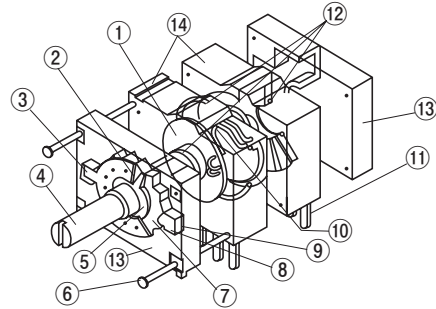
RoHS compliant



FEATURES

- RoHS compliant
- P.C.B. mounted, compact size and DIP compatible
- Protection by "O" ring (contact block) against dust and washable after soldering
- Precious metal alloy wiping type contacts provide a long life (50000 revolutions at no load) and high reliability (In house comparison)
- Resin material is UL Recognized 94HB

INTERNAL STRUCTURE



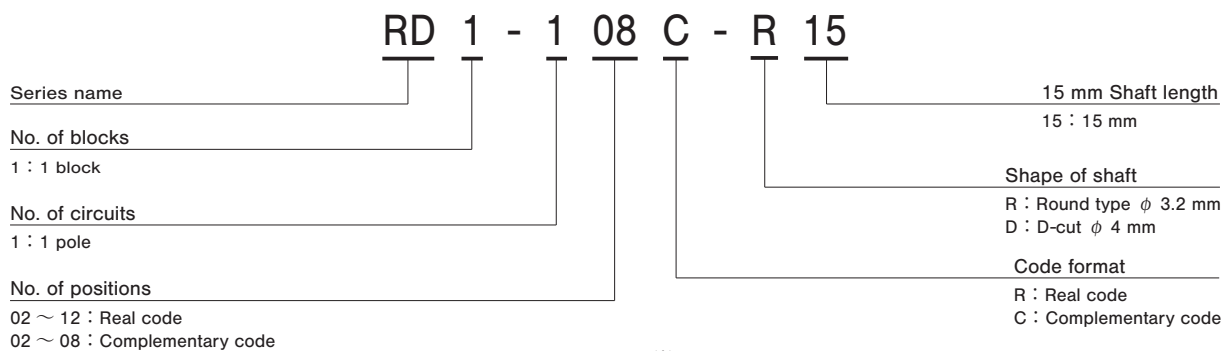
Part name		Material
①	Rotor	Polyoxymethylene
②	Stopper pin	Copper alloy
③	Stopper pin holder	
④	Shaft	Copper alloy, Nickel-plated
⑤	Stopper ring	Nickel-plated
⑥	Linking pin	Copper alloy, Nickel-plated
⑦	Click gear	PA (Polyamide)
⑧	Click plate	Polyoxymethylene
⑨	Click spring	SWPA (Piano wire)
⑩	Contact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

The DIP-TYPE ROTARY CODED SWITCHES RD series listed here are standard versions, but our production will be made upon receipt of your order.

RD

ROTARY CODED SWITCHES

PART NUMBER DESIGNATION



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

LIST OF PART NUMBERS

No. of circuits	Code	No. of positions										
		02	03	04	05	06	07	08	09	10	11	12
1	Real code	RD1-102R	RD1-103R	RD1-104R	RD1-105R	RD1-106R	RD1-107R	RD1-108R	RD1-109R	RD1-110R	RD1-111R	RD1-112R
	Complementary code	RD1-102C	RD1-103C	RD1-104C	RD1-105C	RD1-106C	RD1-107C	RD1-108C				

☐: Not manufactured

※ Verify the above part numbers when placing orders.

※ The above part numbers are all available with a round or D-cut shaft.

CODE FORMAT

No. of positions		1	2	3	4	5	6	7	8	9	10	11	12
Binary code		0	1	2	3	4	5	6	7	8	9	A	B
Code	Real code	8								●	●	●	●
		4				●	●	●	●				
		2			●	●		●	●			●	●
		1		●		●		●	●		●		●
	Complementary code	4	●	●	●	●							
		2	●	●			●	●					
		1	●		●		●		●				
		8											

● ... Contact closed

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RD

ROTARY CODED SWITCHES

STANDARD SPECIFICATIONS

Circuit type	Binary code
Operating temp. range	-40 ~ 85 °C
Storage temp. range	
Sealing	Washable (only contact block, "O" ring sealed) ※ Please refer to page 149,150
Net weight	Approx. 7 g

ELECTRICAL CHARACTERISTICS

Contact rating	1 VA
Maximum current	1 A
Minimum current	1 μA
Maximum voltage	30 V
Minimum voltage	20 mV
Contact resistance	100 mΩ maximum
Insulation resistance	1000 MΩ (DC100 V) minimum
Dielectric strength	AC500 V, 60 s
Electrostatic capacity	4 pF maximum, 10 kHz

MECHANICAL CHARACTERISTICS

No. of positions	Real code: 12 maximum Complementary code: Below 8
Adjustment torque	60 ± 30 mN·m {612 ± 306 gf·cm}
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 mm or Acceleration 196 m/s ² , 10-2000-10 Hz, 3 directions for 4 h each
Shock	980 m/s ² , 6 ms 6 directions for 3 times each
Load life	500,000 steps or 50,000 cycles at 6 positions with no load 200,000 steps or 20,000 cycles at 6 positions with rated load
Humidity (Steady state)	40 °C, Relative humidity 90 ~ 95 %, 240 h
High temp. exposure	85 °C, 16 h
Low temp. exposure	-40 °C, 16 h

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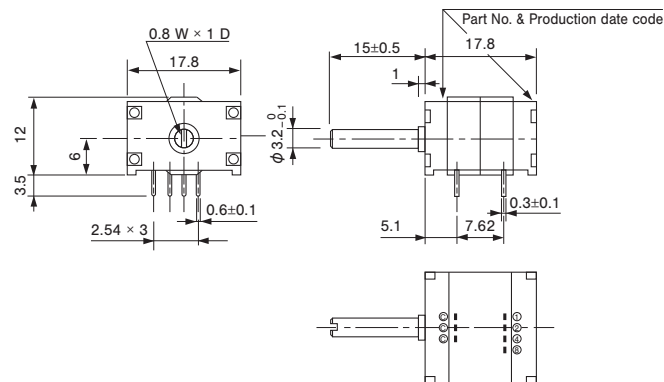
RD

ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

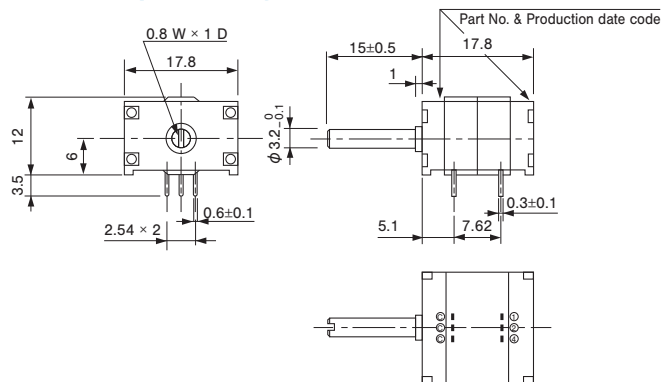
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

Real code



The above shows when a shaft is fully turned to CCW direction.

Complementary code



The above shows when a shaft is fully turned to CCW direction.

Diameter of shaft



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

(Unit: mm)

	Real code	Complementary code
Terminal pin layout (Bottom view)		
P.C.B. dimensions (Bottom view)		

PACKAGING SPECIFICATIONS

- Boxing is performed with 20 pcs. per box.
Order will be accept for unit of 20 pcs., ie., 20, 40, 60pcs., etc.

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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