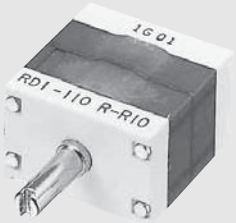
ROTARY CODED SWITCHES RD

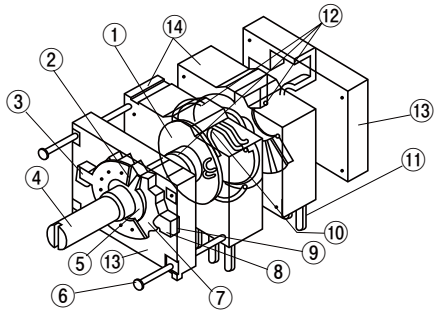
RoHS compliant



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)

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	
⑦	Click gear	PA (Polyamide)	UL94HB
⑧	Click plate	POM (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	UL94HB
⑬	Cover	PBT (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

RD 1 - 1 08 C - R 15

- Series name
- No. of blocks
  1 : 1 block
- No. of circuits
  1 : 1 pole
- No. of positions
  02 ~ 12 : Real code
  02 ~ 08 : Complementary code
- Code format
  R : Real code
  C : Complementary code
- Shape of shaft
  R : Round type ϕ3.2 mm
  D : D-cut ϕ4 mm
- Shaft length
  15 : 15 mm

※ 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	$\overline{4}$	●	●	●	●								
		$\overline{2}$	●	●			●	●						
		$\overline{1}$	●		●		●		●					

● ··· Contact closed

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RD
ROTARY CODED SWITCHES

STANDARD SPECIFICATIONS

Circuit type	Binary code
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

ELECTRICAL CHARACTERISTICS

Contact rating Maximum current Minimum current Maximum voltage Minimum voltage	1 VA 1 A 1 µA 30 V 20 mV
Contact resistance	100 mΩ maximum
Insulation resistance	1000 MΩ (DC500 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 maximum
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 temperature exposure	85 °C, 16 h
Low temperature exposure	−40 °C, 16 h

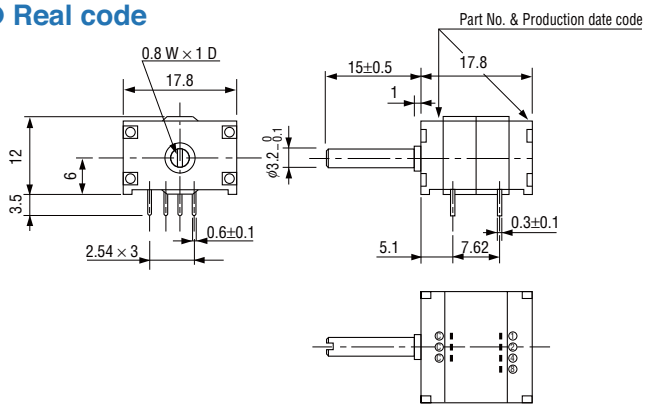
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RD
ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

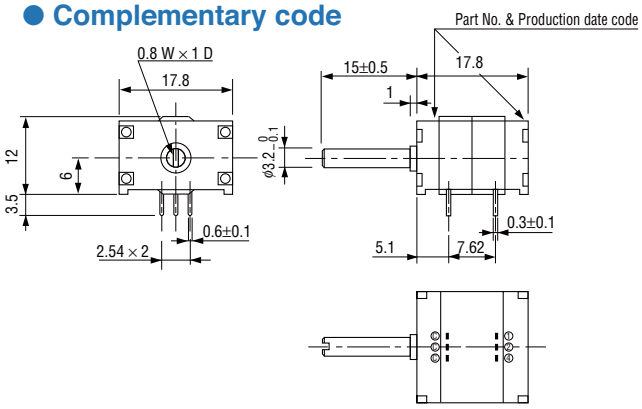
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

Real code



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

Complementary code



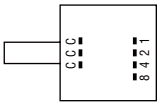
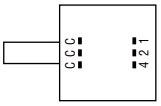
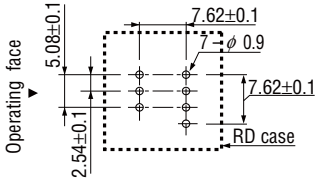
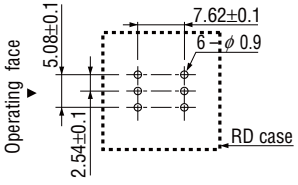
The adove shows when a shaft is fully turned to CCW direction.

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, φ 3.2 mm) available in the market such as the one in the picture can be used.



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