Ultra Compact Rotary Switch

MR8A Series

Outline

MR8A is our tiniest rotary switch designed for compact devices, used for many different equipments which has very limited space inside.

Features

- 8mm square compact (8.0x8.0 mm)
- Gold plated contacts
- Monolithic sealed structure of the terminals to prevent entry of a soldering flux
- RoHS compliant
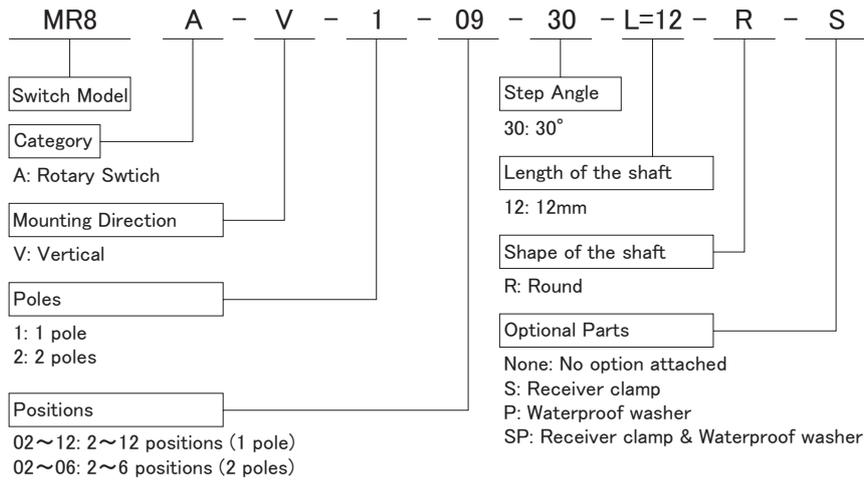- Waterproofed model available

Specifications

Operating temperature	-20℃ ～ +70℃ -4F ～ 158F	Keep the body unfrozen	
Storage temperature	-40℃ ～ +70℃ -40F ～ 158F		
Mechanical Specification	Rotational Torque	0.02±0.01N・m	
	Terminal Strength	3N (of static load applied to the tip of the terminal once and in any direction)	
	Rotation Stopper Strength	0.4N・m	
	Panel Nut Tightening Torque	0.8N・m	
	Heat Resistance of Solder	300℃ ±10℃ , 3±1 sec.	
	Water Resistance	Water resistant through the mounted panel (2m deep in the water for 2h)	
Electrical Specification	Contact Capacity	0.4VA (AC&DC)	
	Maximum Voltage	25V (AC&DC)	
	Working Electric Current	0.1mA ～ 50mA (AC&DC)	
	Contact Resistance	80mΩ max.	

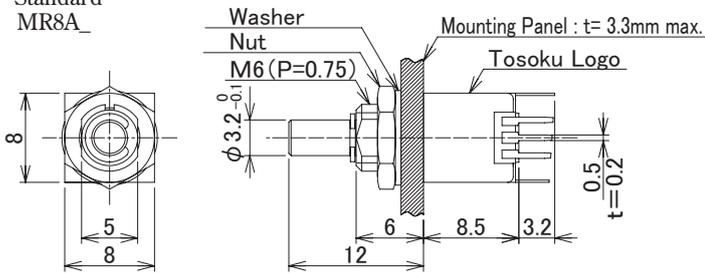|			
Electrical Specification	Insulation Resistance	500MΩmin. (250VDC): Between terminals	
		1000MΩmin. (500VDC): Between Terminals and Ground	
	Withstanding Voltage	300VAC 1min.: Between terminals	
		300VAC 1min.: Between terminals and ground	
Insulation Resistance		DC100V (1min later)	terminal – terminal	100MΩ ≦
		DC500V (1minLater)	terminal – ground	500MΩ ≦
Weight		5.5g	
Durability		50,000 strokes (Rotational Torque: ±20% the initial value, Contact Resistance: Not more than 100mΩ, Insulation Resistance: After 1min 250VDC electrification)	
Humidity Proof		Temperature : +40 ± 2℃ Relative Humidity : 90 ～ 95% (Duration : 48 ± 2h)	

Warranty

- 1 year from the date of shipment.
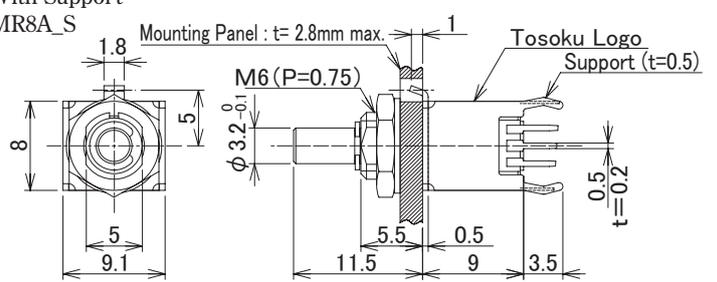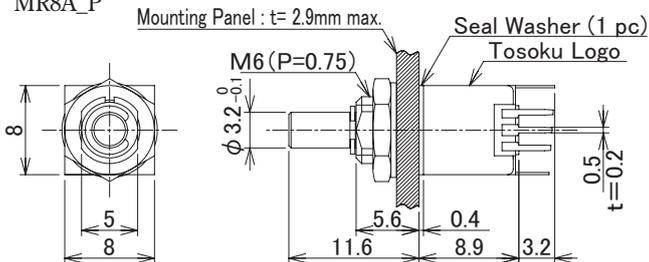
Part Number Designation

MR8 A – V – 1 – 09 – 30 – L=12 – R – S

Switch Model

Category
A: Rotary Swtich

Mounting Direction
V: Vertical

Poles
1: 1 pole
2: 2 poles

Positions
02〜12: 2〜12 positions (1 pole)
02〜06: 2〜6 positions (2 poles)

Step Angle
30: 30°

Length of the shaft
12: 12mm

Shape of the shaft
R: Round

Optional Parts
None: No option attached
S: Receiver clamp
P: Waterproof washer
SP: Receiver clamp & Waterproof washer

Dimensions (mm)

Standard
MR8A_

Washer
Nut
M6(P=0.75)
Mounting Panel : t= 3.3mm max.
Tosoku Logo
$\phi 3.2^{0}_{-0.1}$
8
5
8
6　8.5　3.2
12
0.5
t=0.2

With Support
MR8A_S

1.8
Mounting Panel : t= 2.8mm max.
1
Tosoku Logo
Support (t=0.5)
M6(P=0.75)
$\phi 3.2^{0}_{-0.1}$
8
5
5
9.1
5.5　0.5
11.5　9　3.5
0.5
t=0.2

With Seal Washer (Front panel seal)
MR8A_P

Mounting Panel : t= 2.9mm max.
Seal Washer (1 pc)
Tosoku Logo
M6(P=0.75)
$\phi 3.2^{0}_{-0.1}$
8
5
8
5.6　0.4
11.6　8.9　3.2
0.5
t=0.2

With Support & Seal Washer (Front panel seal)
MR8A_SP

1.8
Mounting Panel : t= 2mm max.
1
Seal Washer (2 pcs)
Tosoku Logo
Support (t=0.5)
M6(P=0.75)
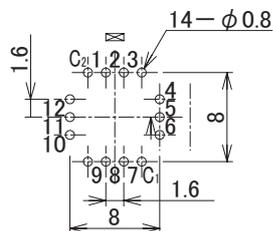$\phi 3.2^{0}_{-0.1}$
8
5
5
9.1
4.7　1.3
10.7　9.8　3.2
0.5
t=0.2
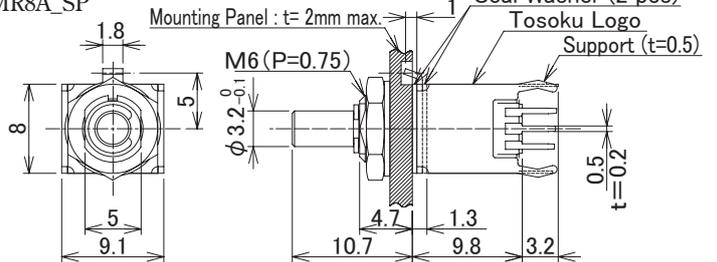
※Use 2 seal washers

PWB Mounting Hole Dimensions (mm)

Standard / With Seal Washer

Seal Washer (2 pcs)
13－ϕ0.8
1.6
C2 1 2 3
12
11
10
4
5
6
9 8 7
8
1.6
8

※Use 2 seal washers
14－ϕ0.8
1.6
C2 1 2 3
12
11
10
4
5
6
9 8 7 C
8
1.6
8

With Support (& Seal Washer)

Seal Washer (2 pcs)
13－ϕ0.8
4－ϕ1.2
1.6
C2 1 2 3
12
11
10
4
5
6
9 8 7
7.3
8
1.6
8
8.6
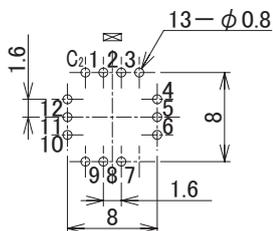
※Use 2 seal washers
14－ϕ0.8
4－ϕ1.2
1.6
C2 1 2 3
12
11
10
4
5
6
9 8 7 C
7.3
8
1.6
8
8.6
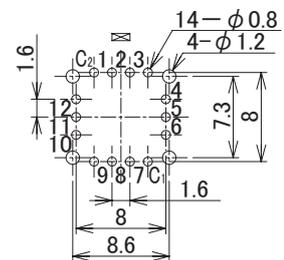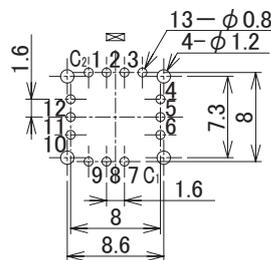
Mounting Hole Dimension (mm)

Standard / With Seal Washer

ϕ6.2
5.2

With Support (& Seal Washer)

※ϕ2.1
ϕ6.2
5
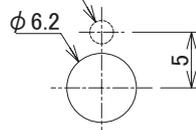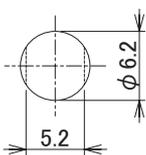
With seal washer,
keep the hole closed.

Accessories

Nut
8
1.6

Washer
6.2
8.5
0.5

Seal Washer (1 pc)
6.2
8
0.4