

# Metal Shaft Potentiometer 27mm Size Metal Shaft Type

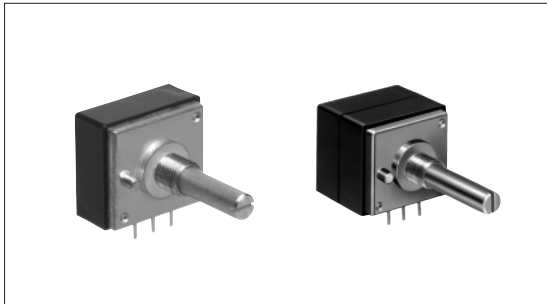
RK27 Series



High performance potentiometer with excellent operational feel.

Rotary Potentiometers

Slide Potentiometers



## Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	30V AC
Total rotational angle	300±3°
Rotational torque	8 to 35mN·m
Operating life	15,000cycles
Operating temperature range	-10°C to +70°C

Metal Shaft

Insulated Shaft

Knob Operating

## Product Line

Number of resistor elements	Mounting direction	Shaft type	Length of the shaft (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)	Products No.	Draw ing No.
Single-unit	Horizontal type	Slotted	25	31	100	15A	100	RK2711120026	1
				Without				RK271111001T	
20			Without	RK27112A00AK				2	
25		RK27112A00CC							
Flat		20		RK27112A0A16					3
		25	RK27112A00B9						

## Packing Specifications

### Bulk

	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case/export packing	
Single-unit/25mm	100	500	380×540×314
Dual-unit/25mm			360×510×359

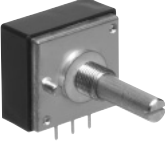
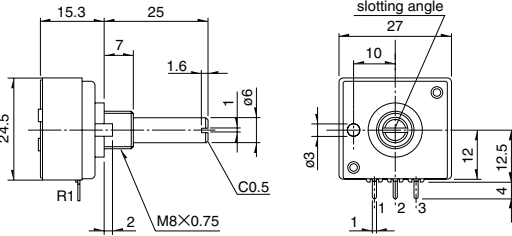
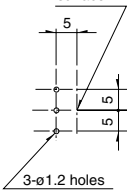
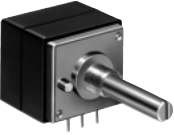
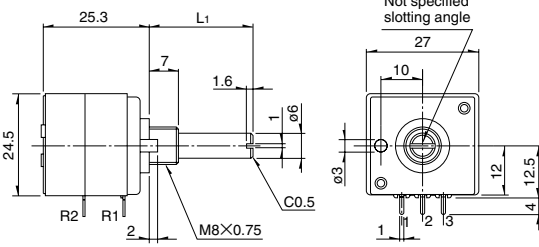
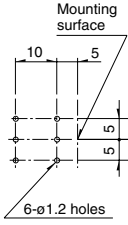

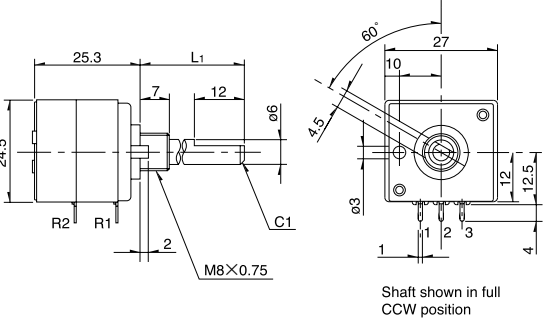
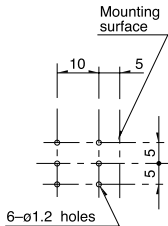
### Note

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

Refer to P.373 for product varieties.  
Refer to P.373, 374, 456 for resistance taper.  
Refer to P.377 for attached parts.

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)
1	<p>Single-shaft, single-unit                      RK27111</p> 		
2	<p>Single-shaft, dual-unit                      RK27112</p> 	<p>L<sub>1</sub> 20 25</p> 	
3	<p>Single-shaft, dual-unit                      RK27112</p> 	<p>L<sub>1</sub> 20 25</p> 	

## Product Varieties

In addition to the recommended products, the following specifications can also be accommodated.

### Products Specification

Type	Model	Mounting height (mm)	Detent variety	Gang error
Single-shaft, single-unit	RK27111	12.5	Center 21 31 41	—60dB to 0dB within 3dB —80dB to —60dB within 5dB possible depending on total resistance and taper.
Single-shaft, dual-unit	RK27112			
Single-shaft, quad-unit	RK27114			

### Total Resistance Variety

Total resistance (kΩ)	5	10	20	50	100	250
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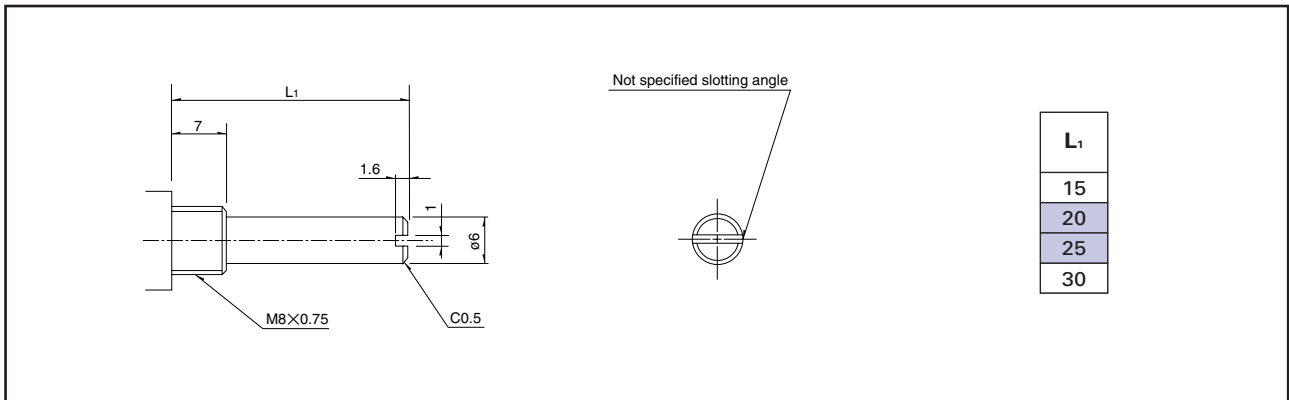
### Resistance Taper

Resistance taper	15A	3B
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### Dimensions of Shaft

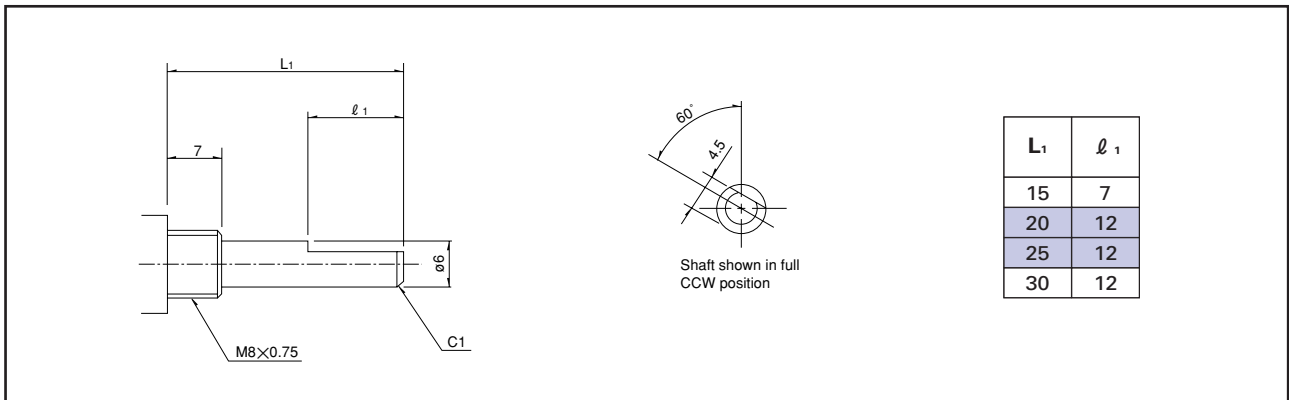
#### 1 Slotted type

Unit:mm



#### 2 Flat type

Unit:mm



### Note

marked are specifications recommended by ALPS.

Refer to P.374, 456 for resistance taper.  
Refer to P.377 for attached parts.

## Orders Other Than Recommended Products

When ordering product varieties that are not listed in the Product Line, please specify by referring to the example below.

### Sample Part Number

**R K 2 7 1 1 2 A 0** — **S 2 5** — **C 0** — **A 1 0 4**

#### Model type

Code	Model type
111	Single unit
112	Single unit, with detent
12A	Dual unit for vol.

#### Shaft type

Code	Shaft type
F	Flat
S	Slotted

#### Length of the shaft (L<sub>1</sub>) (mm)

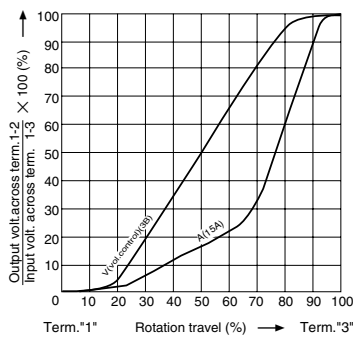
Code	Length of the shaft
15	15
20	20
25	25
30	30

#### Detent

Code	Detent
C0	Without
C1	Center
21	21
31	31
41	41

#### Resistance taper

Code	Resistance taper
A	15A
V	3B



#### Total resistance

Code	Total resistance (kΩ)	Code	Total resistance (kΩ)
502	5	503	50
103	10	104	100
203	20	254	250





#### Note

marked are specifications recommended by ALPS.

Rotary Potentiometers  
Slide Potentiometers

Metal Shaft  
Insulated Shaft  
Knob Operating

## List of Varieties

Type	16mm size metal shaft	20mm size metal shaft	27mm size metal shaft	Rotary motor-driven	
Number of drive shafts	Single-shaft				
Model	RK1631□1 RK1631□A	RK203 / EC20A	RK2711	RK1681□ MG0	
Photo					
Fixing method of bushing	Bushing screw clamp	The bushing can be fastened by use of screws	Bushing screw clamp	The bushing can be fastened by use of screws	
Terminal mounting	Horizontal type	Vertical type	Horizontal type		
Attached switch	Without				
Gang error applicable to Dual-unit parts for audio volume control purposes	-40dB to 0dB 3dB max.	—————	-60dB to 0dB 3dB max.	-40dB to 0dB 3dB max.	
Solder heat resistance	Manual soldering	350°C max. 5s max.	300°C max. 3s max.	350°C max. 5s max. 300°C max. 3s max. Motor terminal : 350°C max 2s max.	
	Dip soldering	—————	260±5°C, 5±1s	—————	
	Reflow soldering	—————			
Operating temperature range	-10°C to +70°C	EC20A : -30°C to +85°C RK203 : -40°C to +85°C	-10°C to +70°C		
Electrical performance	Rated power	0.05W			0.05W
	Residual resistance	$R \leq 10k\Omega$ 20Ω max. $10k\Omega < R < 50k\Omega$ 30Ω max. $50k\Omega \leq R$ Nominal total resistance of 0.1% or less	—————	$R \leq 10k\Omega$ 20Ω max. $10k\Omega < R < 50k\Omega$ 30Ω max. $50k\Omega \leq R$ Nominal total resistance of 0.1% or less	—————
	Maximum attenuation (Volume control)	$5k\Omega \leq R < 10k\Omega$ 70dB min. $10k\Omega \leq R < 50k\Omega$ 80dB min. $50k\Omega \leq R < 100k\Omega$ 90dB min. $100k\Omega \leq R$ 100dB min.	—————	$5k\Omega \leq R < 10k\Omega$ 70dB min. $10k\Omega \leq R < 50k\Omega$ 80dB min. $50k\Omega \leq R < 100k\Omega$ 90dB min. $100k\Omega \leq R$ 100dB min.	—————
	Insulation resistance	100MΩ min. 500V DC	100MΩ min. 250V DC	100MΩ min. 500V DC	100MΩ min. 250V DC
	Voltage proof	500V AC for 1minute	300V AC for 1minute	500V AC for 1minute	300V AC for 1minute
Mechanical performance	Stopper strength(N·m)	0.9	0.5	0.9	
	Push-pull strength	100N max.			
	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 and for 2 hours respectively			
Environmental performance	Cold	-20±2 for 96h	-40±3°C for 192h	-20±3°C for 96h	-20±2 for 16h
	Dry heat	70±2°C for 96h	85±3°C for 192h	70±2°C for 96h	70±2°C for 96h
	Damp heat	40±2°C, 90 to 95%RH for 96h	60±3°C, 90 to 95%RH for 240h	40±2°C, 90 to 95%RH for 96h	40±2°C, 90 to 95%RH for 96h
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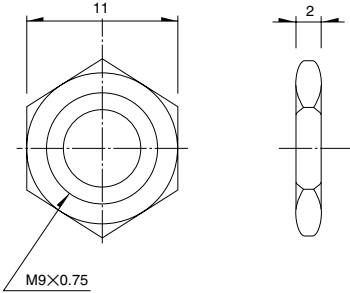
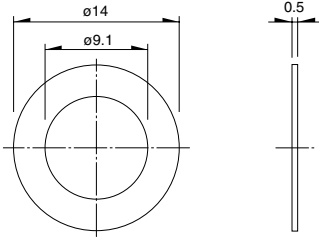
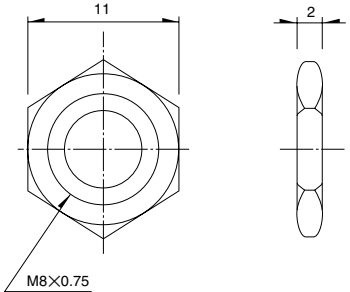
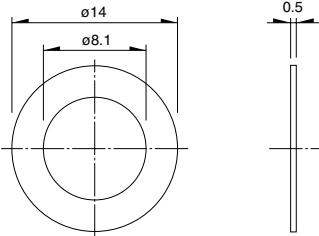
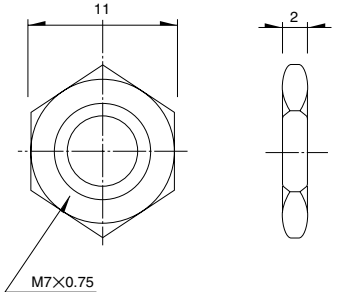
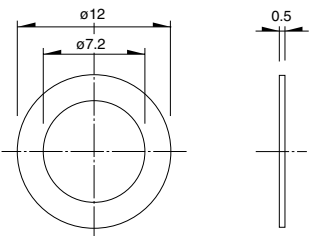
Rotary Potentiometers  
Slide Potentiometers

Metal Shaft  
Insulated Shaft  
Knob Operating

## Attached Parts

The following parts are included with the product.

Unit:mm

Applicable products	Bearing screw diameter	Hexagonal nut	Flat washer
Rotary Potentiometers Slide Potentiometers  <b>RK09L</b> <b>RK168</b> <b>RK097</b> <b>RK203</b>	M9		
Metal Shaft Insulated Shaft Knob Operating	M8		
<b>RK097</b> <b>RK163</b>	M7		
<b>RK097</b>	M6	