

# Insulated Shaft Potentiometer 14mm Size Insulated Shaft Snap-in Type

RK14K Series



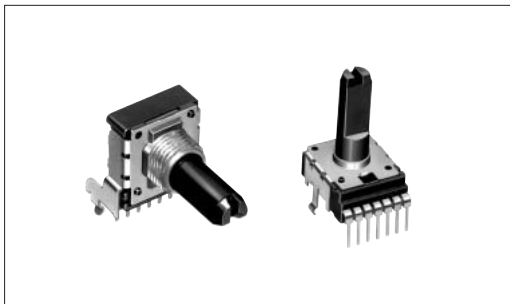
14mm outline dimensions, available in a variety and suitable for audio equipment, video equipment, electronic musical instruments and other in various fields.

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors  
Linear Sensors



## Features

- Closed structure improved dust-proofing capacity and flux resistance.
- Available with bushing, tap and detent.

## Applications

- Sound volume, tone and balance controls for audio devices
- Controls for audio mixes, musical instruments and image devices including DVD players

Metal Shaft

Insulated Shaft

Knob Operating

## Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Total rotational angle	300±5°
Rotational torque	3 to 20mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to +70°C

## Recommended Products List

Number of resistor elements	Mounting direction	Products No.	Bushing	Shaft type	Length of the shaft LM <sub>1</sub> (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Application	Minimum packing unit (pcs.)	Drawing No.
Dual-unit (Not applicable to DC)	Vertical type	RK14K1230A2X	Without	Flat	15	Without	10	1B	For tone	100	2
		RK14K1230A0X			25						
		RK14K12C0A1S			20			15A	For vol.		
		RK14K12C0A0T			25						
		RK14K1240062	With		20	With	100	1B	For tone		
		RK14K1240036			25						
		RK14K1240D04			27.5						
		RK14K1240A4S			32.5						
	RK14K12D0A1X	Without	27.5	Without	10	15A	For vol.				
	RK14K12D0A18		50								
	RK14K12A0A3C	Without	15	Without	10	10	1B	For tone	1		
	RK14K1210A1B		25								
	RK14K1220A0F	With	With	22.5	With	20	1B	For tone			
	RK14K1220024								50		
RK14K1220A25	10										
RK14K12B0A0E									50	15A	For vol.
RK14K12B0A0R	10										

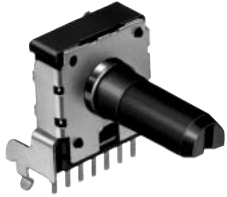
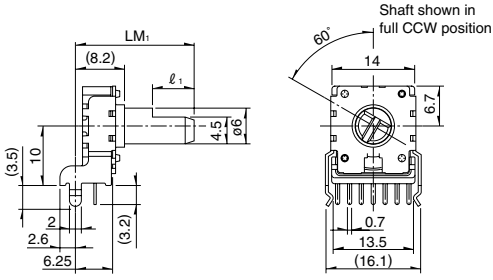
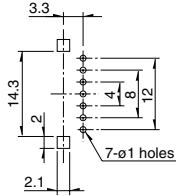

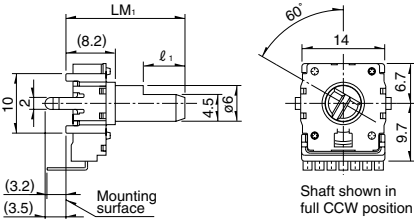
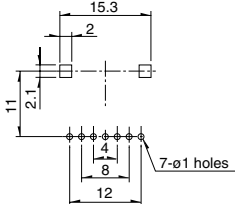
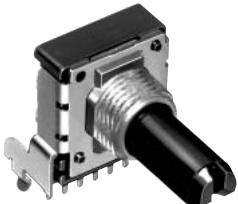
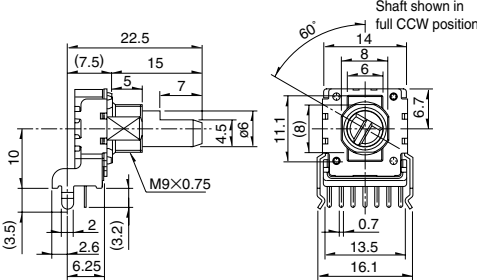
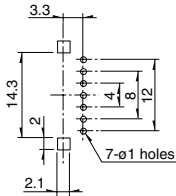

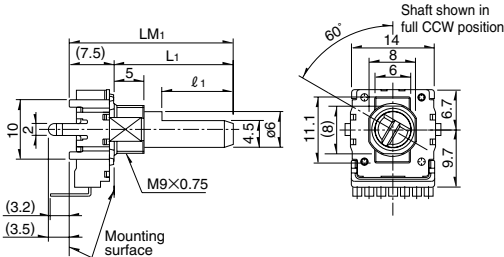
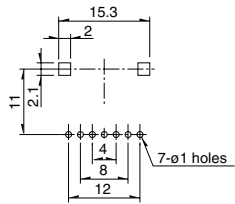
## Notes

1. Additional product specifications in response to those not included in the above recommended products are also available.
2. Nut and washer are not attached. Please specify if required.

For product varieties, see P.66  
For products specifications, see P.72

### Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)															
1	<p><b>Horizontal type without bushing</b> RK14K121 (For tone control) RK14K12A (For vol. control)</p> 	<table border="1"> <tr> <td>LM<sub>1</sub></td> <td>15</td> <td>25</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>4.5</td> <td>12</td> </tr> </table> 	LM <sub>1</sub>	15	25	ℓ <sub>1</sub>	4.5	12										
LM <sub>1</sub>	15	25																
ℓ <sub>1</sub>	4.5	12																
2	<p><b>Vertical type without bushing</b> RK14K123 (For tone control) RK14K12C (For vol. control)</p> 	<table border="1"> <tr> <td>LM<sub>1</sub></td> <td>15</td> <td>20</td> <td>25</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>4.5</td> <td>7</td> <td>12</td> </tr> </table> 	LM <sub>1</sub>	15	20	25	ℓ <sub>1</sub>	4.5	7	12								
LM <sub>1</sub>	15	20	25															
ℓ <sub>1</sub>	4.5	7	12															
3	<p><b>Horizontal type with bushing</b> RK14K122 (For tone control) RK14K12B (For vol. control)</p> 																	
4	<p><b>Vertical type with bushing</b> RK14K124 (For tone control) RK14K12D (For vol. control)</p> 	<table border="1"> <tr> <td>LM<sub>1</sub></td> <td>20</td> <td>25</td> <td>27.5</td> <td>32.5</td> </tr> <tr> <td>L<sub>1</sub></td> <td>12.5</td> <td>17.5</td> <td>20</td> <td>25</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>7</td> <td>12</td> <td>12</td> <td>12</td> </tr> </table> 	LM <sub>1</sub>	20	25	27.5	32.5	L <sub>1</sub>	12.5	17.5	20	25	ℓ <sub>1</sub>	7	12	12	12	
LM <sub>1</sub>	20	25	27.5	32.5														
L <sub>1</sub>	12.5	17.5	20	25														
ℓ <sub>1</sub>	7	12	12	12														

## Product Varieties

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

### Total Resistance Variety

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

Resistance taper	15A	1B	3B	15C
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### Tapped Types are Also Available

RK14K12 (for audio volume control) is also available with tap.

### Shaft Variety

Unit:mm

Style	Without bushing				With bushing							
	Horizontal type		Vertical type		Horizontal type		Vertical type					
Detail dimensions	LM <sub>1</sub>	15	20	25	30	LM <sub>1</sub>	20	22.5	25	27.5	30	32.5
	—	—	—	—	—	L <sub>1</sub>	12.5	15	17.5	20	22.5	25
	ℓ <sub>1</sub>	4.5	7	12	12	ℓ <sub>1</sub>	7	7	12	12	12	12
	—	—	—	—	—	LB	5	5	5	5	5	5
Knob dimensions		<p>LM<sub>1</sub> = 15 only application</p>										

### Terminal Layout/Circuit Diagram

Viewed from Mounting Side

Without tap for volume	With tap for volume	For tone and for volume (15C)

#### Note

Shows the specification recommended by us.

# Orders Other Than Recommended Products

Specify orders for varieties that are not listed in the Recommended Product List, referring to the following example.

## Sample Part Number



### Model type

Code	Model type
1	Horizontal type without bushing for tone
2	Horizontal type with bushing for tone
3	Vertical type without bushing for tone
4	Vertical type with bushing for tone
A	Horizontal type without bushing for vol.
B	Horizontal type with bushing for vol.
C	Vertical type without bushing for vol.
D	Vertical type with bushing for vol.

### Shaft type

Code	Shaft type
F	Flat

\* Only available in flat format.

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

Code	Length of the shaft	Code	Length of the shaft
15	15	25	25
20	20	30	30
22	22.5	32	32.5
27	27.5		

### Detent

Code	Center detent
C0	Without
C1	With

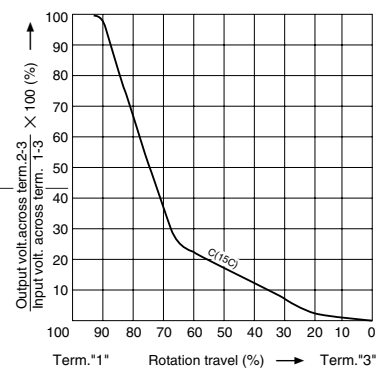
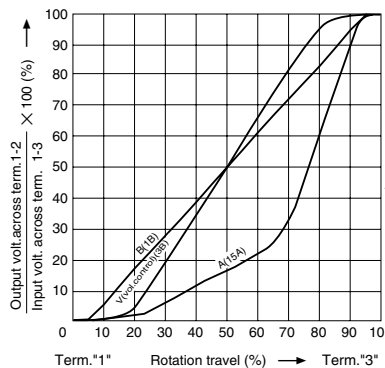
### Resistance taper

Code	Resistance taper	Code	Resistance taper
A	15A	C	15C
B	1B	V	3B

B:For tone & general  
V:For vol.

### Total resistance

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



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## Products Specifications

Type		9mm Size Insulated Shaft Snap-in		9mm Size Insulated shaft Long-life	11mm Size Insulated Shaft Snap-in	12mm/14mm Size Insulated Shaft Snap-in	
		RK09K11□ RK09D11□	RK09K12□	RK09Y11L	RK11K11□	RK12L12□ RK14K12□	
Items		Single-unit	Dual-unit	Single-unit	Single-unit	Dual-unit	
<b>Operating temperature range</b>		-10°C to +70°C					
<b>Electrical performance</b>	<b>Total resistance tolerance</b>	±20%	±30%		±20%		
	<b>Rated power</b>	0.05W	0.03W	0.01W	0.05W		
	<b>Maximum operating voltage</b>	50V AC 20V DC	50V AC For AC only	50VDL	50V AC 20V DC	50V AC For AC only	
	<b>Insulation resistance</b>	100MΩ min. 250V DC			100MΩ min. 500V DC	100MΩ min. 250V DC	
	<b>Voltage proof</b>	1 minute 250V AC			1 minute 500V AC	1 minute 300V AC	
	<b>Gang error</b>	—	-40dB to 0dB within 3dB	—	Volume control -40dB to 0dB max. 3dB For tone control within 2dB at center		
<b>Mechanical performance</b>	<b>Total rotational angle</b>		280±5° RK09D11□ : 300±5°	300±5°			
	<b>Rotational torque</b>		1 to 8mN·m	5mN·m max	3 to 20mN·m		
	Strength of the operating section	<b>Stopper strength</b>	0.3N·m	150mN·m	Without bushing 0.5N·m With bushing 0.6N·m	14mm 0.6N·m 12mm 0.5N·m	
		<b>Push-pull strength</b>	50N max.	30N max.	80N max.		
	<b>Vibration</b>		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				
	Solder heat resistance	Manual soldering	350°C max. 3s max.				
<b>Endurance</b>	<b>Operating life</b>	5,000 cycles	1,000,000 cycles	15,000 cycles			
<b>Environmental test</b>	<b>Cold</b>	-10°C for 96h					

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