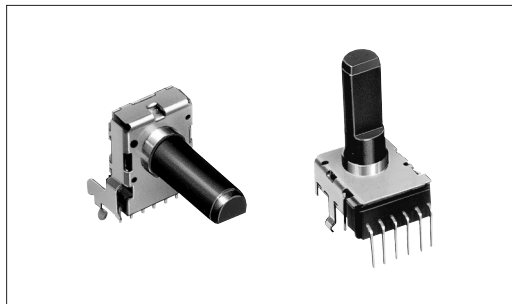


# Insulated Shaft Potentiometer 12mm Size Insulated Shaft Snap-in Type

RK12L Series



High performance 12mm wide type.



## Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	50V AC for AC only
Total rotational angle	300±5°
Rotational torque	2 to 15mN·m
Operating life	15,000cycles
Operating temperature range	-10°C to +70°C

Rotary Potentiometers  
Slide Potentiometers

Metal Shaft  
Insulated Shaft  
Knob Operating  
Ring Type Devices

## Product Line

Number of resistor elements	Mounting direction	Shaft type	Length of the shaft LM <sub>1</sub> (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Application	Minimum order unit (pcs.)	Products No.	Drawing No.
Dual-unit	Vertical type	Flat	20	Without	50	1B	For tone	2,000	RK12L1230C0K	2
			30		10	15A			RK12L1230C0T	
			25	With	20	1B		RK12L1230C1M		
			30		50			RK12L123000E		
	Horizontal type		30	Without	10	15A		RK12L1210C0R	1	
			Vertical type		15	50		15C	RK12L12C0C0V	2
	25				10	15A		RK12L12C0A0E		
	30				20			RK12L12C0A0G		
		10			RK12L12C0A0A					
	Horizontal type	30	10		RK12L12A0C0R		1			
						For vol.	2,400			
							1,600			

## For the mixing console market

Number of resistor elements	Mounting direction	Shaft type	Length of the shaft LM <sub>1</sub> (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Application	Minimum order unit (pcs.)	Products No.	Drawing No.
Dual-unit	Vertical type	Flat	30	Without	20	15A	For vol.	800	RK12L12H0005	2
				With		1B	For tone		RK12L1270009	

## Packing specifications

### Tray

Length of the shaft LM <sub>1</sub> (mm)	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case/export packing	
15	1,200	2,400	374 × 532 × 240
20	1,000	2,000	
25,30	800	1,600	

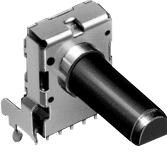
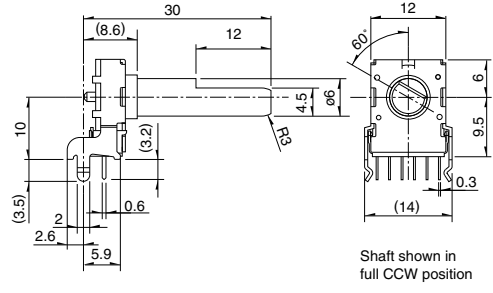
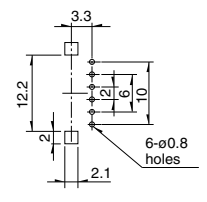
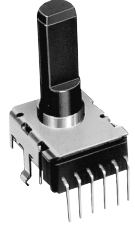
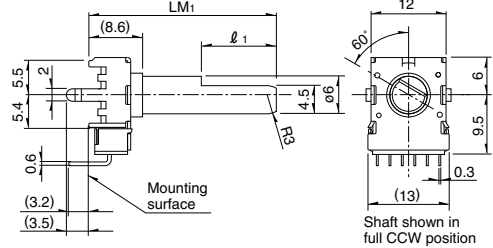
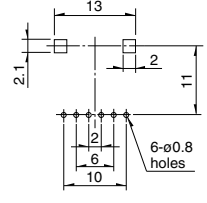
## Notes

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).

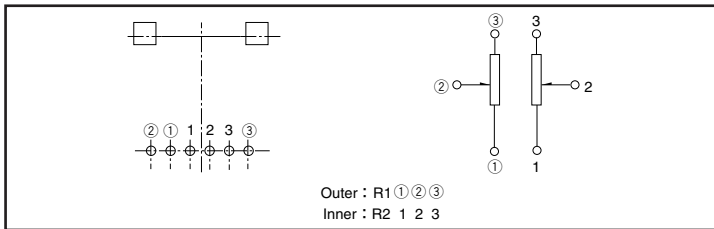
Refer to P.395 for product varieties.  
Refer to P.395, 396, 470 for resistance taper.

**Dimensions**

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)										
1	<p><b>Horizontal type without bushing</b> RK12L121 (For tone control) RK12L12A (For vol. control)</p> 	 <p>Shaft shown in full CCW position</p>											
2	<p><b>Vertical type without bushing</b> RK12L123 (For tone control) RK12L12C (For vol. control)</p> 	<table border="1" style="margin-bottom: 10px;"> <tr> <td>LM<sub>1</sub></td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>4.5</td> <td>7</td> <td>12</td> <td>12</td> </tr> </table>  <p>Shaft shown in full CCW position</p>	LM <sub>1</sub>	15	20	25	30	ℓ <sub>1</sub>	4.5	7	12	12	
LM <sub>1</sub>	15	20	25	30									
ℓ <sub>1</sub>	4.5	7	12	12									

**Terminal Layout/Circuit Diagram**



**Product Varieties**

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

**Total Resistance Variety**

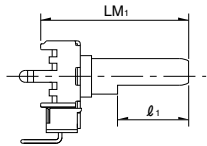
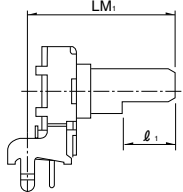
Total resistance (kΩ)	5	10	20	50	100	200
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**Resistance Taper**

Resistance taper	15A	1B	3B	15C
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**Shaft Variety**

Unit:mm

Style	Vertical type		Horizontal type		
					
Shaft variety	LM <sub>1</sub>	15	20	25	30
	ℓ <sub>1</sub>	4.5	7	12	12

**Note**

marked are specifications recommended by ALPS.

Refer to P.396, 470 for resistance taper.

# Orders Other Than Recommended Products

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

## Sample Part Number



### Model type

Code	Model type
1	Horizontal type for tone
3	Vertical type for tone
A	Horizontal type for vol.
C	Vertical type 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

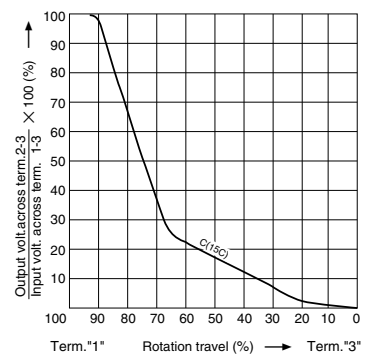
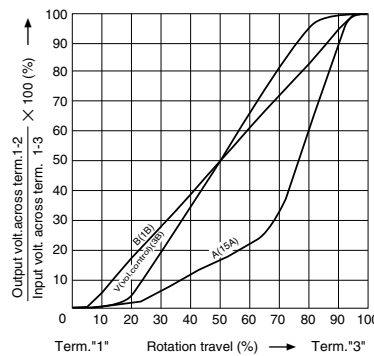
### Detent

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 (Model type : 1,3)  
V: For vol. (Model type : A,C)



### Total resistance

Code	Total resistance (kΩ)	Code	Total resistance (kΩ)
502	5	503	50
103	10	104	100
203	20	204	200

### Note

marked are specifications recommended by ALPS.

## List of Varieties

Items	Type	9mm Size Insulated Shaft Snap-in		11mm Size Insulated Shaft Snap-in	12mm Size Insulated Shaft Snap-in	14mm Size Insulated Shaft Snap-in	9mm Size Insulated shaft Long-life	12mm Size Insulated shaft Snap-in	
	Model	RK09K11□ RK09D11□	RK09K12□	RK11K11□	RK12L12□	RK14K12□	RK09Y11L	RK12L115	
		Single-unit	Dual-unit	Single-unit	Dual-unit		Single-unit		
Photo									
Bushing	Without		With/With out	Without	With/With out	Without	With		
Operating temperature range	-10°C to +70°C							-40°C to +85°C	
Automotive use								○	
Electrical performance	Total resistance tolerance	±20%	±30%	±20%			±30%	±20%	
	Maximum operating voltage	50V AC 20V DC	50V AC For AC only	50V AC 20V DC	50V AC For AC only		50V AC 5V DC	50V AC 20V DC	
	Insulation resistance	100MΩ min. 250V DC		100MΩ min. 500V DC	100MΩ min. 250V DC				
	Voltage proof	250V AC for 1minute		500V AC for 1minute	300V AC for 1minute		250V AC for 1minute	300V AC for 1minute	
	Gang error	—	-40dB to 0dB 3dB max.	—	Volume control -40dB to 0dB 3dB max. For tone control within 2dB at center		—		
Mechanical performance	Strength of the actuator	Stopper strength	0.3N·m		Without bushing 0.5N·m With bushing 0.6N·m	0.5N·m	0.6N·m	—	0.5N·m
		Push-pull strength	50N max.		80N max.		30N max.	80N 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						
	Resistance to soldering heat	Manual soldering	350°C max. 3s max.						
Dip Soldering		—		260°C max. 5s max.	—				
Environmental performance	Cold	-30±2°C for 96h					-30±2°C for 240h	-40±3°C for 96h	
	Dry heat	70±2°C for 96h			70±2°C for 240h	70±2°C for 96h	70±2°C for 240h	85±3°C for 96h	
	Damp heat	40±2°C, 90 to 95% RH for 96h					40±2°C, 90 to 95% RH for 240h	40±2°C, 90 to 95% RH for 96h	
Page	384		390	394	397	401	402		

● Insulated Shaft Potentiometers Cautions .....404, 405

### Note

○marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C.

Rotary Potentiometers  
Slide Potentiometers

Metal Shaft  
Insulated Shaft  
Knob Operating  
Ring Type Devices