

12mm Size Snap-in Insulated Shaft Potentiometer

RK12L Series

12mm O.D. type with improved structure for better characteristics.

Rotary Potentiometers

Slide Potentiometers

Trimmer Potentiometers

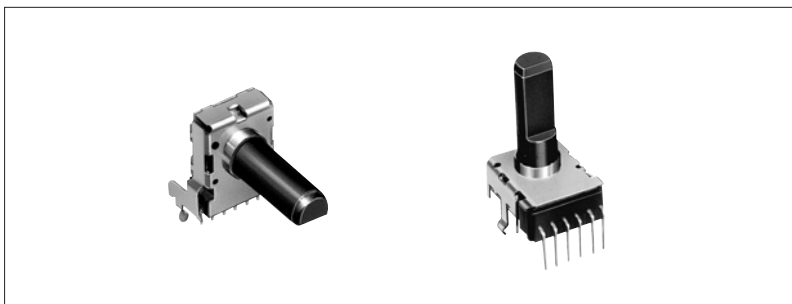
Multi Control Devices

Position Sensors

Metal Shaft

Insulated Shaft

Knob Operating



Features

- Enhanced structural design has improved cross talk and gang error characteristics.
- R-shaped shaft end point prevents catching when inserting the knob.
- Solder bridges can hardly appear thanks to terminal configuration.

Applications

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

Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	50V AC for AC only
Total rotational angle	300±10°
Rotational torque	3 to 20mN · m
Operating life	Without detent : 10,000 cycles With detent : 5,000 cycles
Operating temperature range	-10°C to +70°C

Recommended Products List

Number of resistor elements	Mounting direction	Products No.	Shaft type	Length of the shaft LM1 (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Application	Minimum packing unit (pcs.)	Drawing No.
Dual-unit	Vertical type	RK12L1230C0K	Flat	20	Without	50	1B	For tone	100	2
		RK12L1230C0T		30		10	15A			
		RK12L1230C1M		25	With	20	1B			
		RK12L123000E		30		50				
	Horizontal type	RK12L1210C0R		30	Without	10	15A	For vol.	1	
	Vertical type	RK12L12C0C0V		15		50	15C			
		RK12L12C0A0E		25		10	15A	2		
		RK12L12C0A0G								
		RK12L12C0A0A								
	Horizontal type	RK12L12A0C0R		30		20	10		1	

Note

Additional product specifications in response to those not included in the above recommended products are also available.

For product specifications, see P.71
For other detailed specifications, see P.75

Product Specifications

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

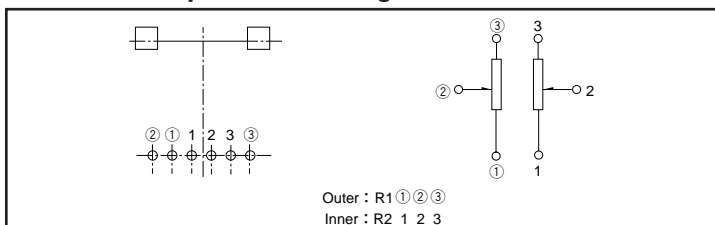
Style	Vertical type		Horizontal type		
Shaft variety	LM ₁	15	20	25	30
	l ₁	4.5	7	12	12

Dimensions

Unit : mm

No.	Model	Style	PC board mounting hole dimensions (Viewd from mounting side)
1	Horizontal type without bushing RK12L121 (For tone control) RK12L12A (For vol. control)		
2	Vertical type without bushing RK12L123 (For tone control) RK12L12C (For vol. control)		

Terminal Layout/Circuit Diagram



For other resistance taper, see P.72, 226

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 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 (L1) (mm)

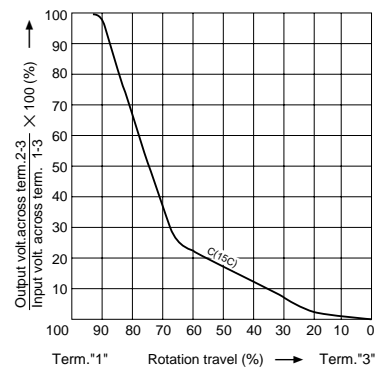
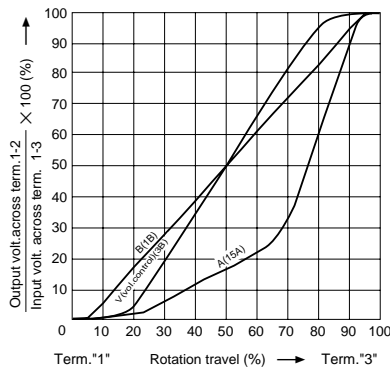
Code	Length of the shaft	Code	Length of the shaft
15	15	25	25
20	20	30	30

Detent

Code	Center detent
C0	Without
C1	With

Resistance taper

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



Total resistance

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

Note

Shows the specification recommended by us.

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Products Specifications

Items		Type	9mm size		11mm size	12mm size 14mm size	
		Model	RK09K11□ RK09D11□	RK09K12□	RK11K11□	RK12L12□ RK14K12□	
			Single-unit	Dual-unit	Single-unit	Dual-unit	
Operating temperature range		-10°C to +60°C			-10°C to +70°C		
Electrical performance	Total resistance tolerance	±20%	±30%	±20%			
	Rated power	0.05W	0.03W	0.05W			
	Maximum operating voltage	50V AC 20V DC	50V AC For AC only	50V AC 20V DC	50V AC For AC only		
	Insulation resistance	100MΩ min. 250V DC		100MΩ min. 500V DC	100MΩ min. 250V DC		
	Voltage proof	1 minute 250V AC		1 minute 500V AC	1 minute 300V AC		
	Gang error	—	-40dB to 0dB within 3dB	—	Volume control -40dB to 0dB max. 3dB For tone control within 2dB at center		
Mechanical performance	Total rotational angle		280±5° RK09D11□ : 300±5°		300±5°		
	Rotational torque		1 to 8mN · m		3 to 20mN · m		
	Strength of the operating section	Stopper strength	0.3N · m		Without bushing 0.5N · m With bushing 0.6N · m	14mm 0.6N · m 12mm 0.5N · m	
		Push-pull strength	50N 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				
	Solderability		230±5°C, 3±0.5s				
	Solder heat resistance	Manual soldering	Lower than 350°C for less than 3 seconds				
	Endurance	Operating life	5,000 cycles		Without detent : 10,000 cycles With detent : 5,000 cycles		
Environmental test	Cold	-10°C for 96h					
	Long-term heat resistance	+70°C for 96h					
	Moisture resistance	+40±2°C, 90 to 95%RH for 96h					

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