

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

RK12L Series



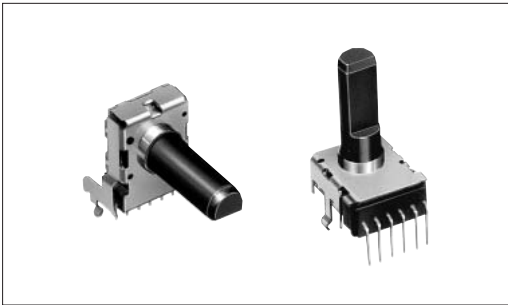
Full-fledged, high performance 12 mm type.

Rotary
Potentiometers

Slide
Potentiometers

Multi Control
Devices

Rotary Sensors
Linear Sensors



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
- 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	$\pm 20\%$
Maximum operating voltage	50V AC for AC only
Total rotational angle	$300 \pm 5^\circ$
Rotational torque	3 to 20mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to $+70^\circ\text{C}$

Recommended Products List

Number of resistor elements	Mounting direction	Products No.	Shaft type	Length of the shaft LM ₁ (mm)	Center detent	Total resistance (k Ω)	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		Without	10	15A	For vol.	1		
	Vertical type	RK12L12C0C0V			15	50		15C		
		RK12L12C0A0E			25	10		15A		
		RK12L12C0A0G			30					20
		RK12L12C0A0A								10
	Horizontal type	RK12L12A0C0R								

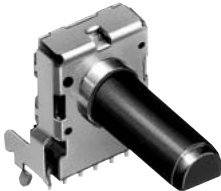
Note

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

For product varieties, see **P.69**
For products specifications, see **P.72**

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (View from mounting side)
1	Horizontal type without bushing RK12L121 (For tone control) RK12L12A (For vol. control) 		

Rotary
PotentiometersSlide
PotentiometersMulti Control
DevicesRotary Sensors
Linear SensorsMetal
ShaftInsulated
ShaftKnob
Operating

Product Varieties

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

Total Resistance Variety

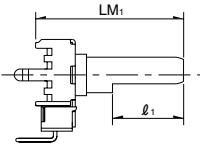
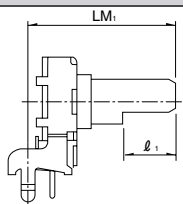
Total resistance (kΩ)	5	10	20	50	100	200
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Resistance Taper

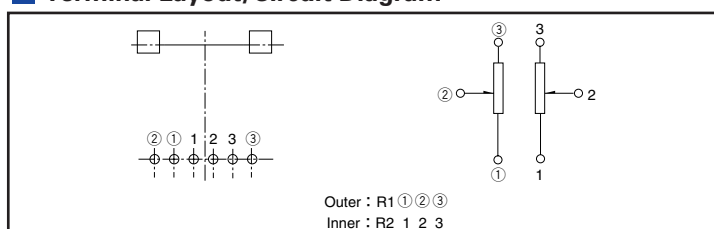
Resistance taper	15A	1B	3B	15C
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Shaft Variety

Unit:mm

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

Terminal Layout/Circuit Diagram



Note

Shows the specification recommended by us.

For other resistance taper, see P.70, 199

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 (LM₁) (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

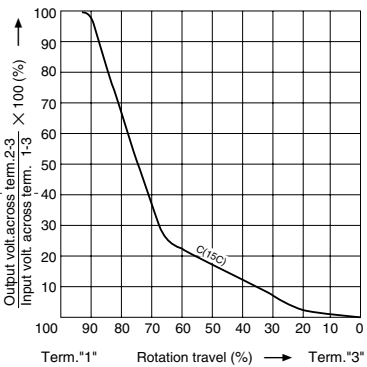
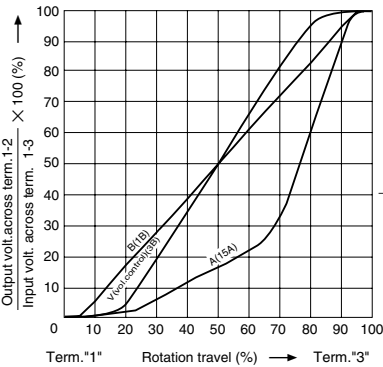
Resistance taper

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

B:For tone & general
V:For vol.

Total resistance

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



Products Specifications

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors

Linear Sensors

Metal Shaft

Insulated Shaft

Knob Operating

Items			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
			Model	RK09K11□ RK09D11□	RK09K12□	RK09Y11L	RK11K11□	RK12L12□ RK14K12□
				Single-unit	Dual-unit	Single-unit	Single-unit	Dual-unit
Operating temperature range			−10℃ to +70℃					
Electrical performance	Total resistance tolerance		±20%	±30%		±20%		
	Rated power		0.05W	0.03W	0.01W	0.05W		
	Maximum operating voltage		50V AC 20V DC	50V AC For AC only	50VDL	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		5mN・m max	3 to 20mN・m		
	Strength of the operating section	Stopper strength	0.3N・m		150mN・m	Without bushing 0.5N・m With bushing 0.6N・m	14mm 0.6N・m 12mm 0.5N・m	
		Push-pull strength	50N 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					
	Solder heat resistance	Manual soldering	350℃ max. 3s max.					
Endurance	Operating life		5,000 cycles		1,000,,000 cycles	15,000 cycles		
Environmental test	Cold		−10℃ for 96h					