

Insulated Shaft Potentiometer 11mm Size Insulated Shaft Snap-in Type

RK11K Series



A 11mm width potentiometer for audio, visual, electronic musical instruments and various applications.



Features

- Closed structure improves dust and flux resistance.
- Available with bushing, tap and detent.

Applications

- For various types of control in mini component stereos, portable audio, speaker systems and various audio equipment
- For controlling mixing consoles and electronic musical instruments
- For controlling flat panel TVs, game consoles, copy machines and refrigerators (temperature control)

Typical Specifications

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

Recommended Products List

Number of resistor elements	Mounting direction	Bushing	Shaft type	Length of the shaft LM ₁ (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum packing unit (pcs.)	Products No.	Drawing No.
Single-unit (20V DC)	Vertical type	Without	Flat	15	Without	10	1B	100	RK11K1130A2X	2
				20	With				RK11K1130A0M	
				25	Without				RK11K1130040	
				20	With				RK11K1130A07	
		22.5		Without	RK11K113002F	4				
		25		With	RK11K114003Y					
		27.5		Without	RK11K1140A9L					
		30		With	RK11K1140A23					
	32.5	Without	RK11K114001Z							
	25	With	RK11K1140A3L							
	27.5	Without	RK11K1140A4Q							
	30	With	RK11K1140A2S							
	Horizontal type	Without	25	Without	10	15A	RK11K1110A3D		1	
			22.5	With	20		RK11K1120060		3	
		With	25	Without	10		RK11K1120A5T			
			27.5	Without	20		RK11K1120A31			


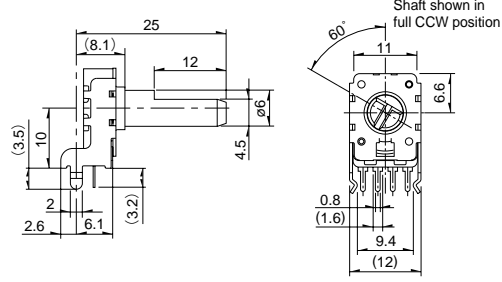
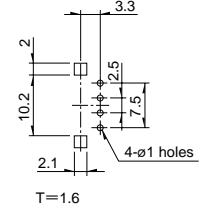

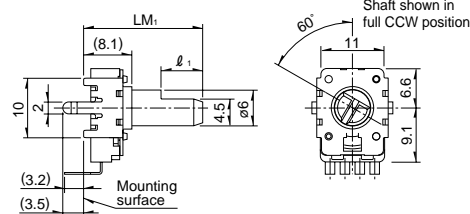
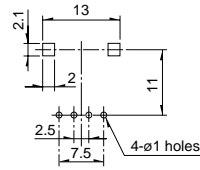
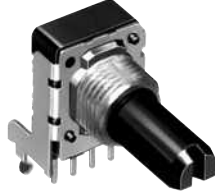
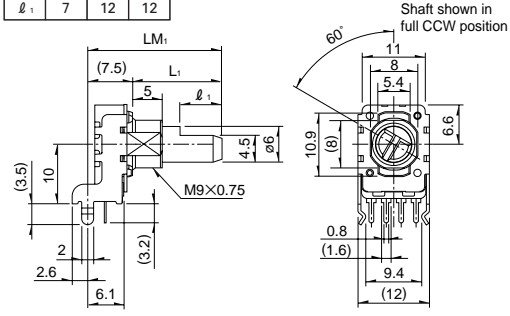
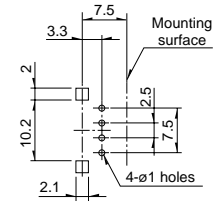

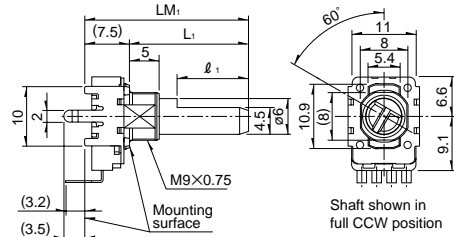
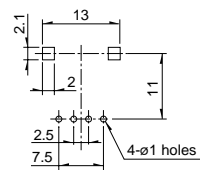
Notes

1. Products other than those listed in above recommended product are also available. Please contact us for details.
2. Nut and washer are not attached. Please specify if required.

Refer to P.68 for product varieties.
Refer to P.78 for product specifications.

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)																					
1	<p>Horizontal type without bushing RK11K111 (Single-unit)</p> 																							
2	<p>Vertical type without bushing RK11K113 (Single-unit)</p> 	<table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>4.5</td> <td>7</td> <td>12</td> </tr> </table> 	LM ₁	15	20	25	ℓ ₁	4.5	7	12														
LM ₁	15	20	25																					
ℓ ₁	4.5	7	12																					
3	<p>Horizontal type with bushing RK11K112 (Single-unit)</p> 	<table border="1"> <tr> <td>LM₁</td> <td>22.5</td> <td>25</td> <td>27.5</td> </tr> <tr> <td>L₁</td> <td>15</td> <td>17.5</td> <td>20</td> </tr> <tr> <td>ℓ₁</td> <td>7</td> <td>12</td> <td>12</td> </tr> </table> 	LM ₁	22.5	25	27.5	L ₁	15	17.5	20	ℓ ₁	7	12	12										
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L ₁	15	17.5	20																					
ℓ ₁	7	12	12																					
4	<p>Vertical type with bushing RK11K114 (Single-unit)</p> 	<table border="1"> <tr> <td>LM₁</td> <td>20</td> <td>22.5</td> <td>25</td> <td>27.5</td> <td>30</td> <td>32.5</td> </tr> <tr> <td>L₁</td> <td>12.5</td> <td>15</td> <td>17.5</td> <td>20</td> <td>22.5</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>7</td> <td>7</td> <td>12</td> <td>12</td> <td>12</td> <td>12</td> </tr> </table> 	LM ₁	20	22.5	25	27.5	30	32.5	L ₁	12.5	15	17.5	20	22.5	25	ℓ ₁	7	7	12	12	12	12	
LM ₁	20	22.5	25	27.5	30	32.5																		
L ₁	12.5	15	17.5	20	22.5	25																		
ℓ ₁	7	7	12	12	12	12																		

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Sensors

Metal Shaft

Insulated Shaft

Hollow Type

Knob 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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Tapped Types are Also Available

RK11K (single-unit) is also available with tap.

Shaft Variety

Unit:mm

Style	Without bushing				With bushing						
	Horizontal type		Vertical type		Horizontal type		Vertical type				
	LM ₁	L ₁	ℓ ₁	LB	LM ₁	L ₁	ℓ ₁	LB			
Shaft variety	LM ₁	15	20	25	30	20	22.5	25	27.5	30	32.5
	L ₁	—	—	—	—	12.5	15	17.5	20	22.5	25
	ℓ ₁	4.5	7	12	12	7	7	12	12	12	12
	LB	—	—	—	—	5	5	5	5	5	5

Detail dimensions

LM₁ = 15 only application

Terminal Layout/Circuit Diagram (Viewed from the Mounting Side)

<p>Without tap</p>	<p>With tap</p>
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Note

marked are specifications recommended by ALPS.

Refer to P.69, 211 for resistance taper.

Orders other than recommended products

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

Sample Part Number



Model type

Code	Model type
1	Horizontal type without bushing
2	Horizontal type with bushing
3	Vertical type without bushing
4	Vertical type with bushing

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
22	22.5	32	32.5
27	27.5		

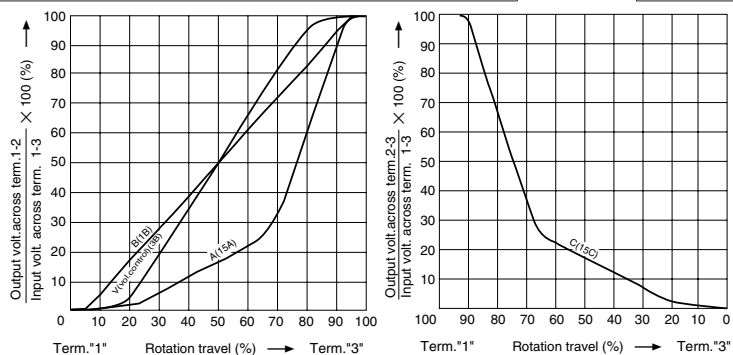
Detent

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	204	200

Note

marked are specifications recommended by ALPS.

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Product Specifications

Items	Type	9mm Size Insulated Shaft Snap-in		11mm Size Insulated Shaft Snap-in	14mm Size Insulated Shaft Snap-in	12mm Size Insulated Shaft Snap-in	9mm Size Insulated shaft Long-life	
	Model	RK09K11□ RK09D11□	RK09K12□	RK11K11□	RK14K12□	RK12L12□	RK09Y11L	
	Items	Single-unit	Dual-unit	Single-unit	Dual-unit	Dual-unit	Single-unit	
Operating temperature range		-10°C to +70°C						
Electrical performance	Total resistance tolerance	±20%	±30%	±20%		±30%		
	Rated power	0.05W	0.03W	0.05W		0.01W		
	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	
	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)	
	Gang error	—	-40dB to 0dB 3dB max.	—	Volume control -40dB to 0dB 3dB max. For tone control within 2dB at center		—	
Mechanical performance	Total rotational angle	RK09K : 280±5° RK09D11□ : 300±5°		300±5°				
	Rotational torque	1 to 8mN·m		3 to 20mN·m		2 to 15mN·m	5mN·m max.	
	Strength of the actuator	Stopper strength	0.3N·m		Without bushing 0.5N·m With bushing 0.6N·m	0.6N·m	0.5N·m	—
		Push-pull strength	50N max.		80N max.		30N 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.	—
Endurance	Operating life	Single-unit : 5,000cycles Dual-unit : 10,000cycles		15,000cycles			1,000,000 cycles	
Environmental performance	Cold	-30±2°C for 96h					-30±2°C for 240h	
	Dry heat	70±2°C for 96h			70±2°C for 240h			
	Damp heat	40±2°C, 90 to 95% RH for 96h					40°C, 90 to 95% RH for 240h	

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