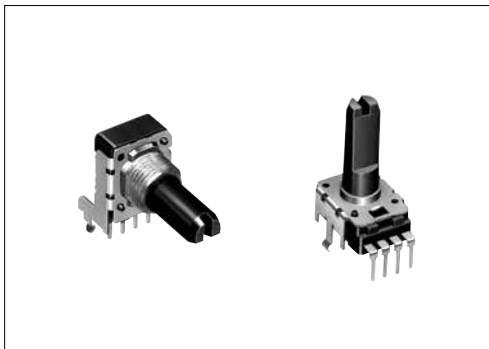


A 1 1 mm wide potentiometer for audio, visual, electronic musical instruments and various applications



### Typical Specifications



Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	50V AC, 20V DC
Total rotational angle	300° ±5°
Rotational torque	3 to 20mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to +70°C

### Product Line

Number of resistor elements	Mounting direction	Bushing	Shaft type	Length of the shaft LM <sub>1</sub> (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
								Japan	Export		
Single-unit (20V DC)	Vertical type	Without	Flat	15	Without	10	1B	1,200	2,400	RK11K1130A2X	2
				20	With			1,000	2,000	RK11K1130A0M RK11K1130040	
				25	Without	800		1,600	RK11K1130A07 RK11K113002F		
				20	With	20		1,000	2,000	RK11K114003Y RK11K1140A9L	
		22.5		Without	10	800		1,600	RK11K1140A23 RK11K114001Z RK11K1140A3L RK11K1140A4Q RK11K1140A2S	4	
		25		With	20	1,000		2,000	RK11K1110A3D		
		27.5		Without	10	800		1,600	RK11K1120060 RK11K1120A5T RK11K1120A31		
		30			20	1,000		2,000			
	32.5	Without	10	800	1,600						
	Horizontal type	Without	With	25	Without	20	800	1,600	RK11K1110A3D	1	
				22.5		With	20	1,000	2,000	RK11K1120060	
		25		Without	10	800	1,600	RK11K1120A5T RK11K1120A31			
		27.5			20	15A	800	1,600			

### Notes

- Other varieties are also available. Refer to "Other Specifications" (P.355).
- Nut and washer are not attached. Please specify if required.

### 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	543×377×250
20 to 22.5	1,000	2,000	
25 or more	800	1,600	

Refer to P.355 for other specifications.  
Refer to P.356 for ordering products not listed.  
Refer to P.366 for soldering conditions.

# RK11K 1.1 mm Size Insulated Shaft Snap-in Type

## Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)																					
1																								
2		<table border="1" data-bbox="657 757 826 801"> <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		<table border="1" data-bbox="657 1153 826 1220"> <tr> <td>LM<sub>1</sub></td> <td>22.5</td> <td>25</td> <td>27.5</td> </tr> <tr> <td>L<sub>1</sub></td> <td>15</td> <td>17.5</td> <td>20</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>7</td> <td>12</td> <td>12</td> </tr> </table> 	LM <sub>1</sub>	22.5	25	27.5	L <sub>1</sub>	15	17.5	20	ℓ <sub>1</sub>	7	12	12										
LM <sub>1</sub>	22.5	25	27.5																					
L <sub>1</sub>	15	17.5	20																					
ℓ <sub>1</sub>	7	12	12																					
4		<table border="1" data-bbox="657 1541 949 1608"> <tr> <td>LM<sub>1</sub></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>L<sub>1</sub></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>ℓ<sub>1</sub></td> <td>7</td> <td>7</td> <td>12</td> <td>12</td> <td>12</td> <td>12</td> </tr> </table> 	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>	7	7	12	12	12	12	
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>	7	7	12	12	12	12																		

# 1 mm Size Insulated Shaft Snap-in Type / Other Specifications

In addition to the products listed, we can accommodate the follow specifications.

## Total Resistance Variety

Total resistance (k Ω)	5	10	20	50	100	200
------------------------	---	----	----	----	-----	-----

## Resistance Taper

Resistance taper	15A	1B	3B	15C
------------------	-----	----	----	-----

## Tapped Types are Also Available

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

## Shaft Variety

Style		Without bushing				With bushing					
		Horizontal type		Vertical type		Horizontal type		Vertical type			
Shaft variety	LM <sub>1</sub>	15	20	25	30	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	7	7	12	12	12	12
	L <sub>B</sub>	—	—	—	—	5	5	5	5	5	5

Detail dimensions



LM<sub>1</sub> =15 only application



## Terminal Layout / Circuit Diagram



## Note

Marked are specifications recommended by Alps Alpine.

Refer to P.356 for ordering products not listed.

Rotary Potentiometers  
 Slide Potentiometers  
 Metal Shaft  
 Insulated Shaft  
 Knob Operating  
 Through Shaft Type  
 Ring Type

# 11 mm Size Insulated Shaft Snap-in Type / Ordering Products Not Listed

When ordering product varieties that are not listed, specify referring to the examples below.

## Sample Part Number

**R K 1 1 K 1 1 4 0** - **F 2 2** - **C 0** - **B 1 0 3**

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 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	—	—

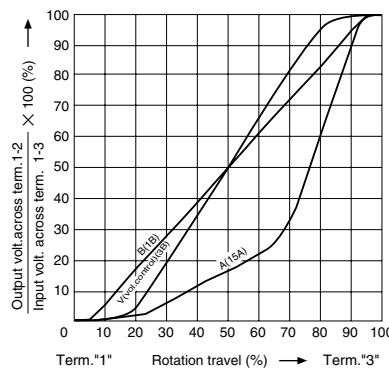
Detent \_\_\_\_\_

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

## Note

Marked are specifications recommended by Alps Alpine.

# Insulated Shaft Potentiometers

## List of Varieties

Type	9mm size			11mm size	12mm size	14mm size	
Series	<b>RK09K11</b> <b>RK09D11</b>	<b>RK09K12</b>	<b>RK09Y11L</b>	<b>RK11K</b>	<b>RK12L12</b>	<b>RK14K</b>	
	Single-unit	Dual-unit	Single-unit	Single-unit	Dual-unit	Dual-unit	
Photo							
Terminal mounting	Vertical / Horizontal		Horizontal	Vertical / Horizontal			
Bushing	Without			With / Without	Without	With / Without	
Operating temperature range	-10°C to +70°C						
Operating life	5,000 cycles	10,000 cycles	1,000,000 cycles	15,000 cycles			
Available for automotive use	—	—	—	—	—	—	
Life cycle							
Electrical performance	Total resistance (k Ω)	5, 10, 20, 50, 100, 200		10	5, 10, 20, 50, 100, 200		
	Resistance taper	15A, 1B, 3B, 15C		B	15A, 1B, 3B, 15C		
	Total resistance tolerance	±20%	±30%	±30%	±20%		
	Rated power	0.05W	0.03W	0.01W	0.05W		
	Maximum operating voltage	50V AC 20V DC	50V AC for AC only	50V AC 5V DC	50V AC 20V DC	50V AC for AC only	
	Gang error	—	-40dB to 0dB 3dB max.	—	—	Volume control -40dB to 0dB 3dB max. For tone control within 2dB at center	
	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	
	Center-taps	Without			Without / With	Without	Without / With (Volume control)
Mechanical performance	Detent	Without, Center		Without	Without, Center	Without, Center	
	Stopper strength	0.3N·m		—	Without bushing 0.5N·m With bushing 0.6N·m	0.5N·m 0.6N·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					
Shaft configuration	Flat type, Knob type, Screwdriver type			Flat type			
Terminal style	Insertion						
Page	345 364(RK09D117)		352	353	357 364(RK12L12H, RK12L127)	360	

Insulated Shaft Potentiometers Soldering Conditions	366
Potentiometers Cautions	418
Potentiometers Measurement and Test Methods	420
Potentiometers Resistance Taper	422

### Note

● Indicates applicability to all products in the series.

## Reference for Manual Soldering

Series	Tip temperature	Soldering time	No. of solders
<b>RK09D, RK09K, RK09Y11L, RK11K, RK12L, RK14K</b>	350°C max.	3s max.	1 time

## Reference for Dip Soldering

Series	Preheating		Dip soldering		No. of solders
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
<b>RK12L</b>	100°C	1 min. max.	260°C max.	5s max.	2 time max.

Rotary  
Potentiometers

Slide  
Potentiometers

Metal  
Shaft

Insulated  
Shaft

Knob  
Operating

Through  
Shaft Type

Ring  
Type



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