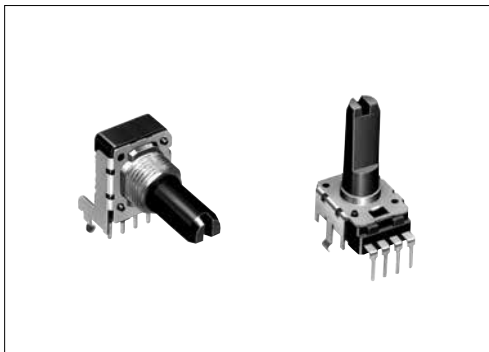


A 1 1 mm wide potentiometer for audio, visual, electronic musical instruments and various applications



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 ₁ (mm)	Center detent	Total resistance (k Ω)	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	
					25				Without	20		800	1,600
				With				RK11K113002F					
				With	20	With		10	1,000	2,000		RK11K114003Y	4
					22.5							Without	
		25			With	800			1,600	RK11K1140A23			
										With	RK11K114001Z		
		27.5			Without			20		RK11K1140A3L			
		30								RK11K1140A4Q			
		32.5		10		RK11K1140A2S							
		Horizontal type		Without	25	Without		20	1,000	2,000	RK11K1110A3D	1	
	22.5				With						RK11K1120060	3	
	With			25	10			RK11K1120A5T					
				27.5	20	15A		800	1,600	RK11K1120A31			

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

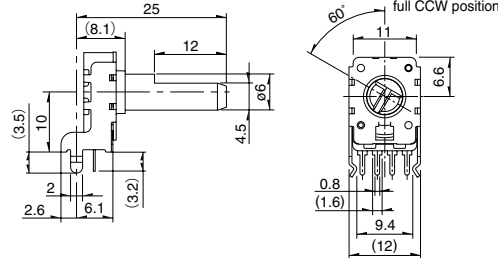
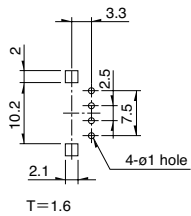
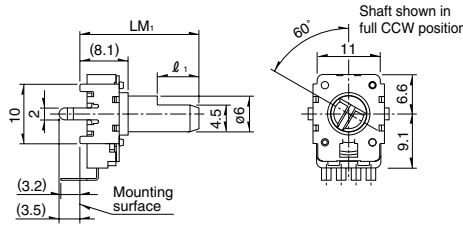
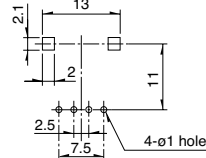
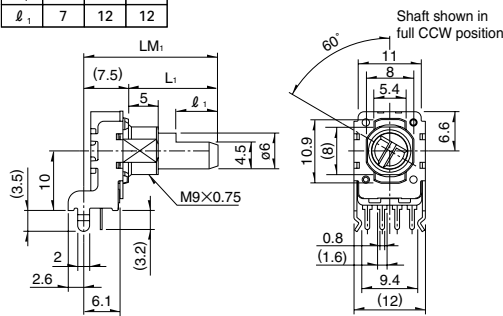
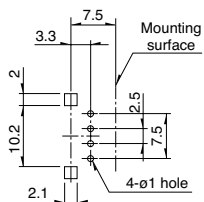
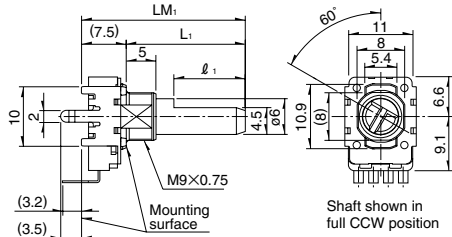
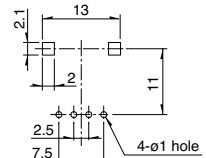
Length of the shaft LM ₁ (mm)	Number of packages (pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
15	1,200	2,400	543×377×250
20 to 22.5	1,000	2,000	
25 or more	800	1,600	

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	Horizontal type without bushing RK11K111 	 Shaft shown in full CCW position	 T=1.6																					
2	Vertical type without bushing RK11K113 	<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>  Shaft shown in full CCW position	LM ₁	15	20	25	ℓ ₁	4.5	7	12														
LM ₁	15	20	25																					
ℓ ₁	4.5	7	12																					
3	Horizontal type with bushing RK11K112 	<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>  Shaft shown in full CCW position	LM ₁	22.5	25	27.5	L ₁	15	17.5	20	ℓ ₁	7	12	12										
LM ₁	22.5	25	27.5																					
L ₁	15	17.5	20																					
ℓ ₁	7	12	12																					
4	Vertical type with bushing RK11K114 	<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>  Shaft shown in full CCW position	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																		

1 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

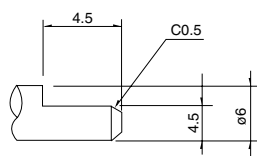
RK11K (single-unit) is also available with tap.

Shaft Variety

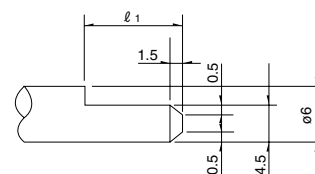
Unit:mm

Style		Without bushing				With bushing					
		Horizontal type		Vertical type		Horizontal type		Vertical type			
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
	L _B	—	—	—	—	5	5	5	5	5	5

Detail dimensions



LM₁ = 15 only application



Terminal Layout / Circuit Diagram

Without tap	With tap

Note

Marked are specifications recommended by Alps Alpine.

Refer to P.356 for ordering products not listed.

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 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	—	—

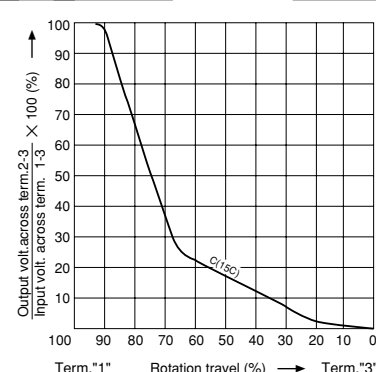
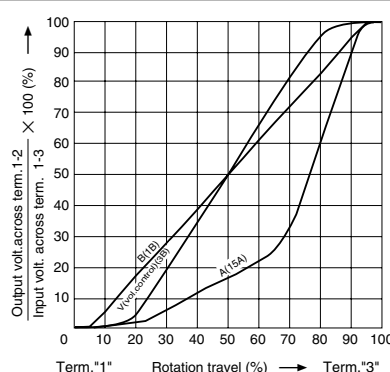
Detent

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 (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		RK09K11 RK09D11	RK09K12	RK09Y11L	RK11K	RK12L12	RK14K
		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℃ to +70℃					
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	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
RK09D, RK09K, RK09Y11L, RK11K, RK12L, RK14K	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	
RK12L	100°C	1 min. max.	260°C max.	5s max.	2 time max.