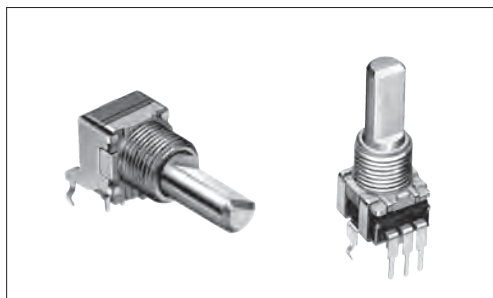


Single-unit and dual-unit types suit a variety of controls



■ Typical Specifications



Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	50V AC, 10V DC
Total rotational angle	300° ±5°
Rotational torque	2 to 25mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to +70°C

■ Product Line

Number of resistor elements	Control part orientation	Shaft type	Length of the shaft L ₁ (mm)	Center detent	Total resistance (k Ω)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.		
							Japan	Export				
Single-unit	Horizontal	Flat	15	Without	10	1B	1,000	2,000	RK09L1120A5F	1		
				With					RK09L1120036			
			20	Without					RK09L1120A0Z			
				With					RK09L112003S			
	Vertical		15	Without					RK09L1140A5L	2		
				With					RK09L114001E			
			20	Without					RK09L1140A2U			
				With					RK09L114001T			
Dual-unit	Horizontal for tone		15	With		15A			RK09L122002H	3		
			25						RK09L122002L			
	Horizontal for vol.		15	Without					RK09L12B0A4S			
			25						RK09L12B0A1V			
	Vertical for tone		15	With					1B	RK09L1240015	4	
			20						RK09L1240019			
	Vertical for vol.		15	Without					15A	RK09L12D0A1W		
			20						RK09L12D0A1T			

■ Note

Other varieties are also available. Refer to "Other Specifications" (P.284).

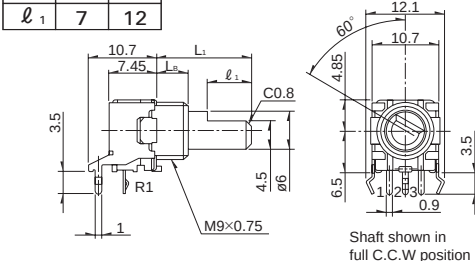
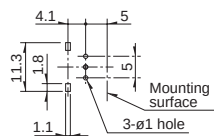
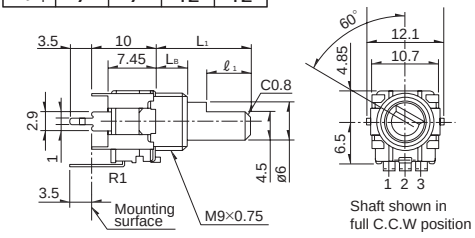
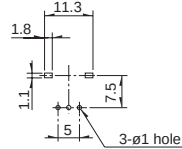
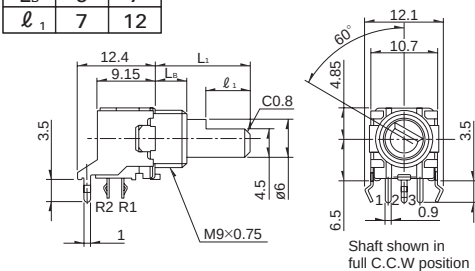
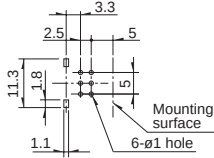
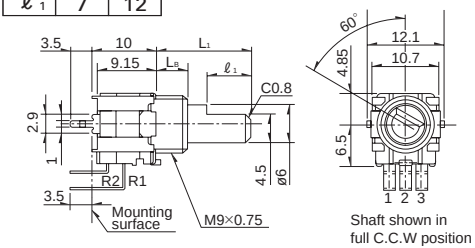
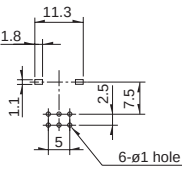
■ Packing Specifications

Tray

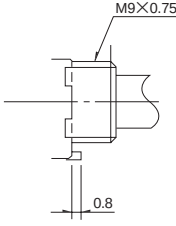
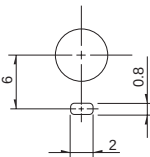
Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
1,000	2,000	479×369×181

Refer to P.284 for other specifications.
 Refer to P.284 for attached parts.
 Refer to P.285 for ordering products not listed.
 Refer to P.311 for soldering conditions.

■ Dimensions

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)															
1	Single-shaft, single-unit Horizontal RK09L1120 	<table><tr><td>L₁</td><td>15</td><td>20</td></tr><tr><td>L_B</td><td>5</td><td>7</td></tr><tr><td>ℓ₁</td><td>7</td><td>12</td></tr></table>  Shaft shown in full C.C.W position	L ₁	15	20	L _B	5	7	ℓ ₁	7	12							
L ₁	15	20																
L _B	5	7																
ℓ ₁	7	12																
2	Single-shaft, single-unit Vertical RK09L1140 	<table><tr><td>L₁</td><td>12.5</td><td>15</td><td>20</td><td>25</td></tr><tr><td>L_B</td><td>5</td><td>5</td><td>7</td><td>7</td></tr><tr><td>ℓ₁</td><td>7</td><td>7</td><td>12</td><td>12</td></tr></table>  Shaft shown in full C.C.W position	L ₁	12.5	15	20	25	L _B	5	5	7	7	ℓ ₁	7	7	12	12	
L ₁	12.5	15	20	25														
L _B	5	5	7	7														
ℓ ₁	7	7	12	12														
3	Single-shaft, dual-unit Horizontal RK09L1220 (For tone) RK09L12B0 (For vol.) 	<table><tr><td>L₁</td><td>15</td><td>25</td></tr><tr><td>L_B</td><td>5</td><td>7</td></tr><tr><td>ℓ₁</td><td>7</td><td>12</td></tr></table>  Shaft shown in full C.C.W position	L ₁	15	25	L _B	5	7	ℓ ₁	7	12							
L ₁	15	25																
L _B	5	7																
ℓ ₁	7	12																
4	Single-shaft, dual-unit Vertical RK09L1240 (For tone) RK09L12D0 (For vol.) 	<table><tr><td>L₁</td><td>15</td><td>20</td></tr><tr><td>L_B</td><td>5</td><td>7</td></tr><tr><td>ℓ₁</td><td>7</td><td>12</td></tr></table>  Shaft shown in full C.C.W position	L ₁	15	20	L _B	5	7	ℓ ₁	7	12							
L ₁	15	20																
L _B	5	7																
ℓ ₁	7	12																

■ Dimensions of Bushing and Fixing Lug

Unit:mm	
	

9mm Size Metal Shaft Snap-in Type / Other Specifications

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products.

Total Resistance Variety

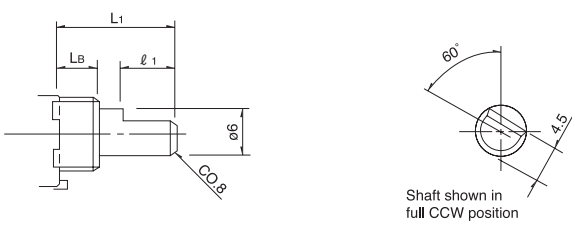
Total resistance (k Ω)	5	10	20	50	100
--------------------------------	---	----	----	----	-----

Resistance Taper

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

Unit:mm



L ₁	L _B	l ₁
12.5	5	7
15	5	7
17.5	5	7
20	7	12
25	7	12

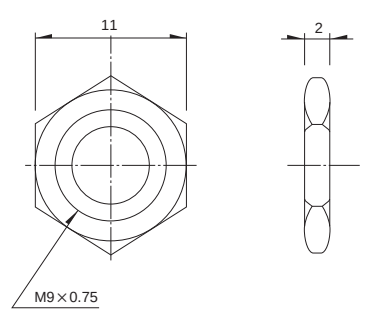
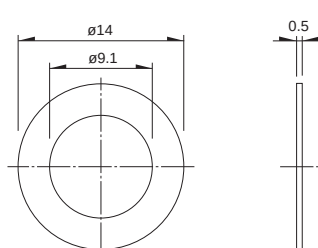
Note

Marked are specifications recommended by Alps Alpine.

9mm Size Metal Shaft Snap-in Type / Attached Parts

The following parts are included with the product.

Unit:mm

Nut	Washer
	

9mm Size Metal Shaft Snap-in Type / Ordering Products Not Listed

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products. Please refer to the notation example below.

Sample Part Number

R K 0 9 L 1 1 4 0 — **F 1 5** — **C 0** — **B 1 0 3**

Model type

Code	Model type
112	Single-unit Horizontal
114	Single-unit Vertical
122	Dual-unit Horizontal for tone
124	Dual-unit Vertical for tone
12B	Dual-unit Horizontal for vol.
12D	Dual-unit Vertical 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	Code	Length of the shaft
12	12.5	17	17.5	25	25
15	15	20	20	—	—

Detent

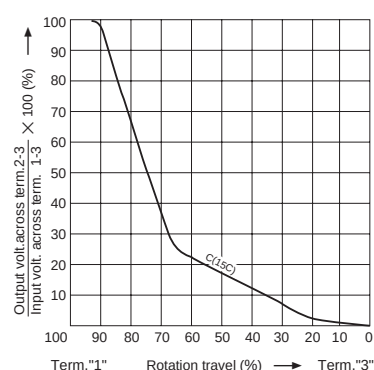
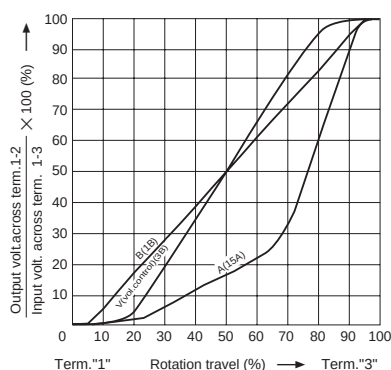
Code	Center detent
C0	Without
C1	With

Resistance taper

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

B: For tone & general (model type : 112, 114, 122, 124)

V: For vol. (model type : 112, 114, 12B, 12D)



Total resistance

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

Note

Marked are specifications recommended by Alps Alpine.

Metal Shaft Potentiometers

List of Varieties

Type		9mm size			
Series		RK09L		RK0971	RK0972
		Single-shaft			Dual-shaft
Number of resistor elements		Single/dual			Dual
Photo					
Control part orientation		Horizontal	Vertical	Horizontal	
Fixing method of bushing		Screw			
Operating temperature range		-10℃ to +70℃		-20℃ to +70℃ -40℃ to + 85℃ (Vehicle-compatible)	
Operating life		15,000 cycles			
Available for automotive use		—	—	○	○
Life cycle (availability)					
Electrical performance	Total resistance (k Ω)	10, 20, 50, 100			
	Resistance taper	15A, 1B, 3B, 15C			
	Rated Power	0.05W			
	Residual resistance	R≤10kΩ 20Ω max. 10kΩ<R≤50kΩ 30Ω max. 50kΩ<R Nominal total resistance of 0.1% or less			
	Maximum attenuation (Volume control)	5kΩ≤R< 10kΩ 70dB min. 10kΩ≤R< 50kΩ 80dB min. 50kΩ≤R 90dB min.		5kΩ≤R< 10kΩ 70dB min. 10kΩ≤R< 50kΩ 80dB min. 50kΩ≤R<100kΩ 90dB min. 100kΩ≤R 100dB min.	
	Gang error applicable to Dual-unit parts for audio volume control purposes	-40dB to 0dB 3dB max.			
	Insulation resistance	100MΩ min. 250V DC			
	Voltage proof	300V AC for 1 minute			
	Center-taps	Without		Without / With	
Mechanical performance	Detent	Without, Center			
	Stopper strength	0.5N·m		0.5N·m (With push-lock mechanism: 0.4N·m)	
	Push-pull strength	80N max.		100N 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 style		Flat type			Inner-shaft: flat type Outer-shaft: slotted type
Terminal style		Insertion			
Attached switch		—	—	Rotary switch Push-on switch Push-lock switch	—
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Potentiometers Cautions	384
Potentiometers Measurement and Test Methods	386
Potentiometers Resistance Taper	388

Notes

1. For the switch attached, the single-shaft or inner shaft of the dual-shaft type can be chosen.
2. The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
3. ○ Indicates applicability to some products in the series.

Reference for Manual Soldering

Series		Tip temperature	Soldering time	No. of solders
RK09L, RK097		350°C max.	3s max.	1 time
RK271		350°C max.	5s max.	1 time
RK501		350±10°C	5 ⁺¹ ₀ s	1 time
RK163		350°C max.	5s max.	1 time
RK168	Potentiometer terminal	300°C max.	3s max.	1 time
	Motor terminal	350°C max.	2s max.	

Reference for Dip Soldering

Series	Preheating		Dip soldering		No. of solders
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RK09L, RK097	100°C max.	2 min. max.	260±5°C	5±1s	2 times max.
RK501	120±10°C	2 min. max.	260±5°C	5±1s	2 times

Mouser Electronics

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