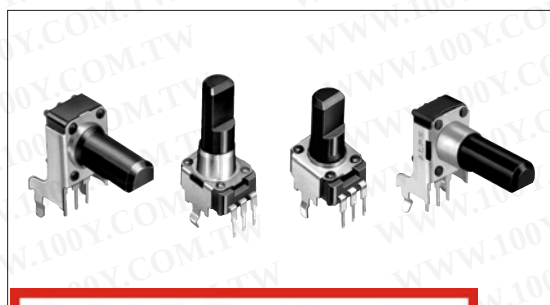


Insulated Shaft Potentiometer 9mm Size Insulated Shaft Snap-in Type

RK09K/RK09D Series



Compact type potentiometer with 9.8mm width is ideal for designing high density sets.



勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Typical Specifications

Items		Specifications
Total resistance tolerance	Single-unit	±20%
	Dual-unit	±30%
Maximum operating voltage	Single-unit	50V AC 20V DC
	Dual-unit	50V AC for AC only
Total rotational angle	Single-unit	RK09K: 280±5° RK09D: 300±5°
	Dual-unit	280±5°
Rotational torque		1 to 8mN·m
Operating life	Single-unit	5,000cycles
	Dual-unit	10,000cycles
Operating temperature range		-10°C to +70°C

Product Line

Number of resistor elements	Mounting direction	Total rotation angle	Collar (Sleeve type)	Shaft type	Length of the shaft (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)	Products No.	Drawing No.	
Single-unit (20V DC)	Vertical type	280±5°	Without	Flat	15	With	10	1B	2,000	RK09K113004U	2	
						5	RK09K1130AU2					
						10	15A	RK09K1130A6S				
						20	1B	RK09K1130AJ3				
					50	RK09K1130ACM						
					10	RK09K1130ACL						
					5	RK09K1130AAU						
					20	Without	10	RK09K1130AH1				
				5			RK09K1130BM4					
				15			1B	RK09K1130A8G				
				20				RK09K1130A5R				
				30	RK09K1130081							
				30	1B	RK09K1130A70						
				Driver		15	RK09K1130AP5					
						20	RK09K1130AV7					
						5	15A	RK09K1110A2S				
	Flat	15	Without		10	RK09K1110AK4						
		20		5	1B	RK09K1110AH8						
		Knob		20		10		RK09K1110B1V				
				15		50	15A	RK09K1110A0J				
	20		1B	RK09K11100E9								
	Flat			15	Without	10		RK09K1110B1R				
		20		50		RK09K1110B26						
		25		1B		RK09D1130C1B						
		30	10			RK09D1130C2P						
	20	With	5		RK09D1130A1L							
			25		RK09D1130A1N							
			25	10	RK09D1130C3W							
			30	RK09D1130C3C								
	Horizontal type H=10mm	Without	50	1B	RK09D113000F							
			25		RK09D1110C0R							
			Vertical type		300±5°	With	Flat	25		Without	50	1B
50												
50												
50												

Note

Products other than those listed in above products are also available. Please contact us for details.

Refer to P.388 for product varieties.
Refer to P.388, 389, 470 for resistance taper.

Insulated Shaft Potentiometer 9mm Size Insulated Shaft Snap-in Type | RK09K/RK09D Series

Product Line

Number of resistor elements	Mounting direction	Total rotation angle	Collar (Sleeve type)	Shaft type	Length of the shaft (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)	Products No.	Drawing No.	
Dual-unit (50V AC)	Vertical type	280±5°	Without	Flat	15	Without	10	15A	2,000	RK09K12C0A19	10	
					20		50			RK09K12C0A2S		
					30					RK09K12C0A4D		
			With		25		10			RK09K12C0A8P	12	
					30					RK09K12C0A8K		
	Horizontal type H=6.5mm		Without		15		RK09K12A0A2K			9		
					20	50	RK09K12A0A6R					
			With				RK09K12A0B0W			11		

For the mixing console market

Number of resistor elements	Mounting direction	Total rotation angle	Collar (Sleeve type)	Shaft type	Length of the shaft (mm)	Center detent	Total resistance (k Ω)	Resistance taper	Minimum order unit (pcs.)	Products No.	Drawing No.
Single-unit (20V DC)	Vertical type	300 $\pm$ 5°	With	Flat	30	With	10	1B	1,000	RK09D117000B	4
						Without		15A		RK09D117000C	

Note

Products other than those listed in above products are also available. Please contact us for details.

Packing specifications

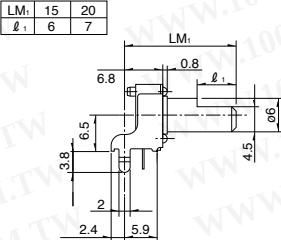
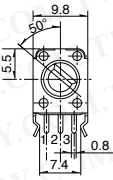
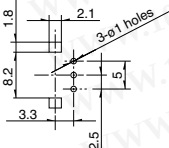
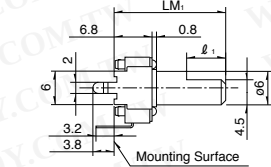
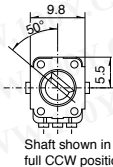
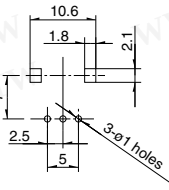
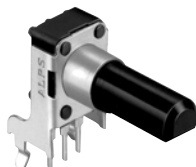
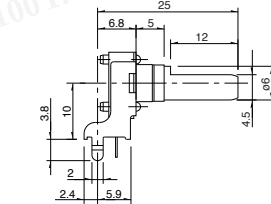
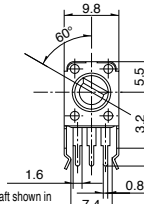
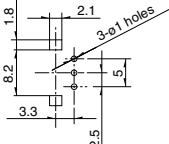
Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case/export packing	
1,000	2,000	368 × 530 × 180

Dimensions

Single-shaft, single-unit

Unit:mm

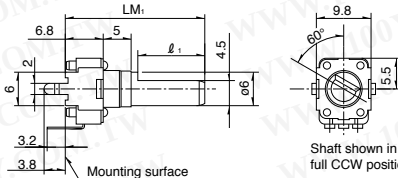
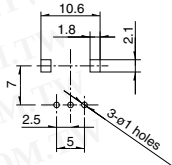
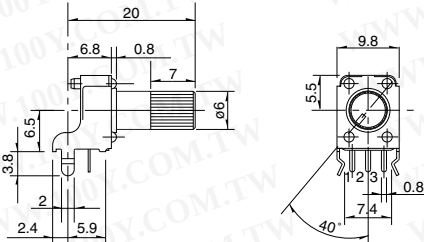
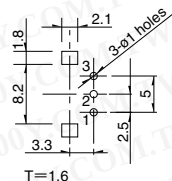
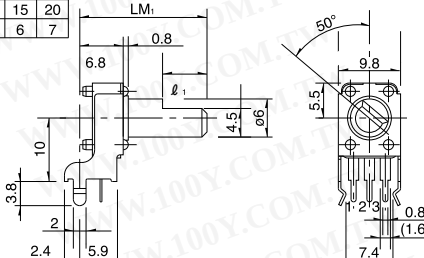
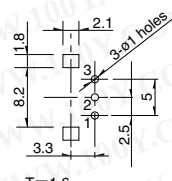
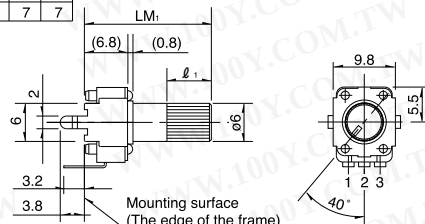
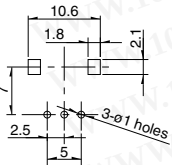
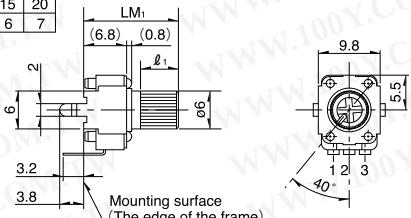
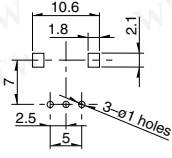
No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)
1	Horizontal type RK09K111 	  Shaft shown in full CCW position.	
2	Vertical type RK09K113 	  Mounting Surface Shaft shown in full CCW position.	
3	Horizontal type with collar RK09D111 	  Shaft shown in full CCW position.	

Refer to P.388 for product varieties.
Refer to P.388, 389, 470 for resistance taper.

■ Dimensions

Single-shaft, single-unit

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)								
4	Vertical type with collar RK09D113 	<table border="1"><tr><td>LM₁</td><td>20</td><td>25</td><td>30</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	20	25	30	ℓ ₁	7	12	12	
LM ₁	20	25	30								
ℓ ₁	7	12	12								
5	Horizontal type RK09K111 										
6	Horizontal type RK09K111 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table> 	LM ₁	15	20	ℓ ₁	6	7			
LM ₁	15	20									
ℓ ₁	6	7									
7	Vertical type RK09K113 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td><td>30</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td><td>7</td></tr></table>  Mounting surface (The edge of the frame)	LM ₁	15	20	30	ℓ ₁	6	7	7	
LM ₁	15	20	30								
ℓ ₁	6	7	7								
8	Vertical type RK09K113 	<table border="1"><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table>  Mounting surface (The edge of the frame) Shaft shown in full CCW position.	LM ₁	15	20	ℓ ₁	6	7			
LM ₁	15	20									
ℓ ₁	6	7									

Rotary
Potentiometers

Slide
Potentiometers

Metal
Shaft

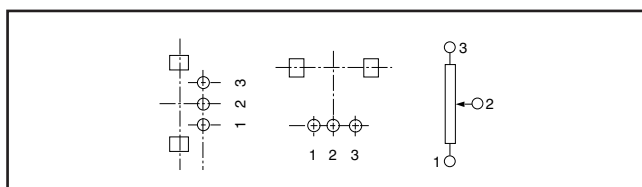
Insulated
Shaft

Knob
Operating

Ring Type
Devices

■ Terminal Layout/Circuit Diagram

Single-unit

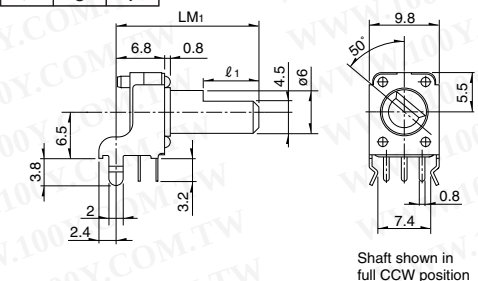
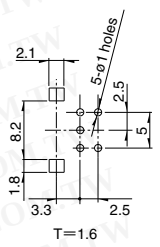
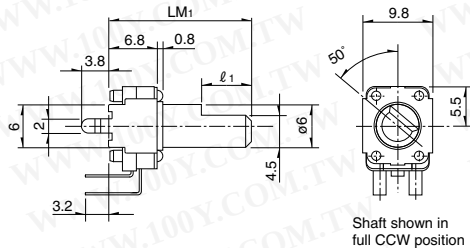
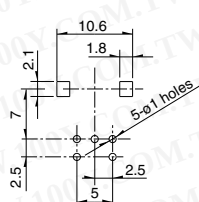
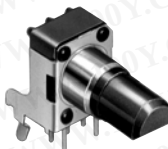
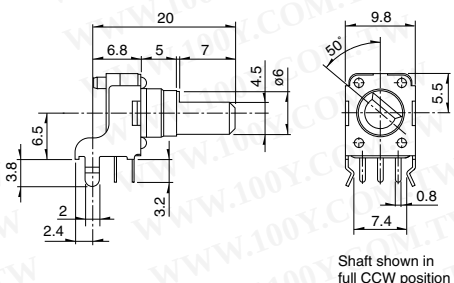
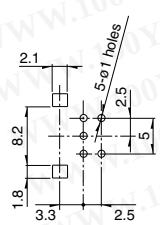
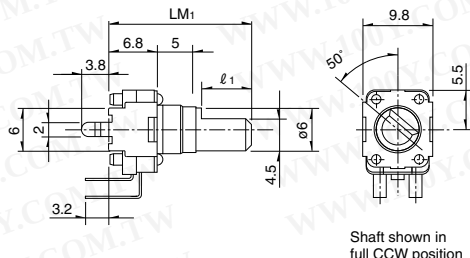
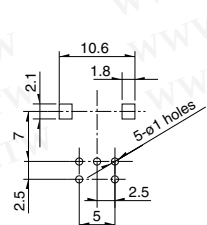


Insulated Shaft Potentiometer 9mm Size Insulated Shaft Snap-in Type | RK09K/RK09D Series

Dimensions

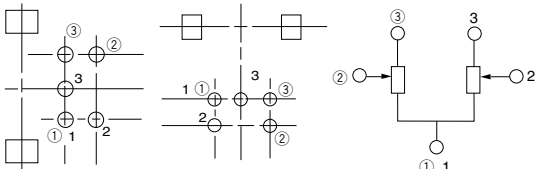
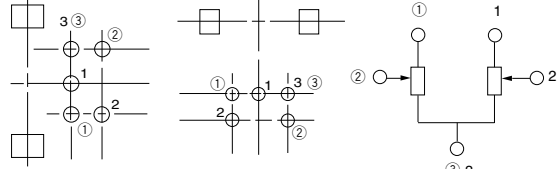
Single-shaft, dual-unit

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)								
9	Horizontal type RK09K12A 	<table><tr><td>LM₁</td><td>15</td><td>20</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td></tr></table>  Shaft shown in full CCW position	LM ₁	15	20	ℓ ₁	6	7			
LM ₁	15	20									
ℓ ₁	6	7									
10	Vertical type RK09K12C 	<table><tr><td>LM₁</td><td>15</td><td>20</td><td>30</td></tr><tr><td>ℓ₁</td><td>6</td><td>7</td><td>12</td></tr></table>  Shaft shown in full CCW position	LM ₁	15	20	30	ℓ ₁	6	7	12	
LM ₁	15	20	30								
ℓ ₁	6	7	12								
11	Horizontal type with collar RK09K12A 	 Shaft shown in full CCW position									
12	Vertical type with collar RK09K12C 	<table><tr><td>LM₁</td><td>25</td><td>30</td></tr><tr><td>ℓ₁</td><td>12</td><td>12</td></tr></table>  Shaft shown in full CCW position	LM ₁	25	30	ℓ ₁	12	12			
LM ₁	25	30									
ℓ ₁	12	12									

Terminal Layout/Circuit Diagram

Dual-unit

Tapers 15A, 1B, 3B 	Tapers 15C 
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Product Varieties

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

Total Resistance Variety

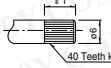
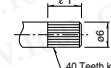
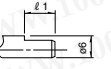
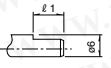
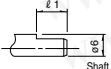
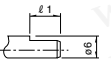
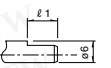
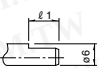
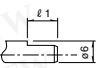
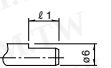
Total resistance (kΩ)	5	10	20	50	100	200
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Resistance Taper

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

Unit:mm

Number of resistor elements	Style	Shaft type		Shaft color
		Knob variety	Detail dimensions	
Single-unit	Horizontal type LM ₁ Vertical type LM ₁ Mounting surface	Knob type (φ6)  Shaft shown at center position	LM ₁ 15 20 25 30 ℓ ₁ 6 7 7 7	Black
		Screw-driver adjustment type  Shaft shown at center position	LM ₁ 9.5 15 20 ℓ ₁ — 6 7	
		Flat type  Shaft shown in full CCW position	LM ₁ 15 20 25 30 ℓ ₁ 6 7 12 12	
		Flat type  Shaft shown in full CCW position	LM ₁ 15 20 25 30 ℓ ₁ 6 7 12 12	
	With collar LM ₁ Mounting surface	Flat type  Shaft shown in CCW position	LM ₁ 20 25 30 ℓ ₁ 7 12 12	Black
		Flat type  Shaft shown in full CCW position	LM ₁ 20 25 30 ℓ ₁ 7 12 12	
		Flat type  Shaft shown in full CCW position	LM ₁ 15 20 25 30 ℓ ₁ 6 7 12 12	Black
		Flat type  Shaft shown in CCW position	LM ₁ 20 25 30 ℓ ₁ 7 12 12	
Dual-unit	Horizontal type LM ₁ Vertical type LM ₁ Mounting surface	Flat type  Shaft shown in full CCW position	LM ₁ 15 20 25 30 ℓ ₁ 6 7 12 12	Black
	LM ₁ With collar LM ₁ Mounting surface	Flat type  Shaft shown in CCW position	LM ₁ 20 25 30 ℓ ₁ 7 12 12	

Notes

1. marked are specifications recommended by ALPS.
2. RK09D117 is only for flat type of 20mm, 25mm, 30mm

Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Ring Type Devices

Orders Other Than Recommended Products

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

Sample Part Number

R K 0 9 K 1 1 3 0 — F 2 0 — C 0 — B 1 0 3

Model type

Code	Model type
K111	280° single-unit horizontal type H=6.5
K113	280° single-unit vertical type
D111	300° single-unit horizontal type H=10
D113	300° single-unit vertical type
K12A	280° dual-unit horizontal type H=6.5
K12C	280° dual-unit vertical type

* All RK09D types are single-ganged.

* For other horizontal type mount height requirements, please indicate separately.

Shaft type

Code	Shaft type	Code	Shaft type
F	Flat	X	Driver
K	Knob		

* All RK09D types are 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

* 20, 25 and 30 are the only available RK09D types.

* 9.5, 15 and 20 are the only available models in the driver shape.

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

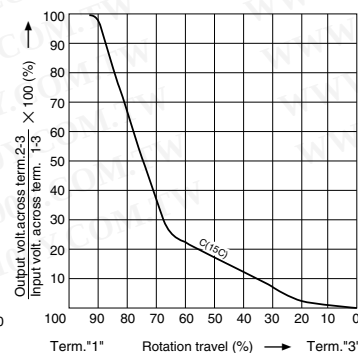
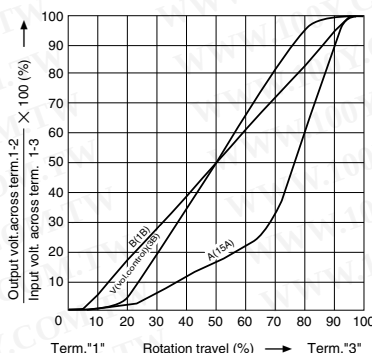
V: For vol.

* 1B is a recommended specification for single-unit.

* 3B is a recommended specification for dual-unit.

Total resistance

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



Notes

1. RK09D comes with a collar.
2. The recommended specification for RK09K does not include a collar. For collar requirements please indicate separately.
3. marked are specifications recommended by ALPS.

List of Varieties

Items			Type	9mm Size Insulated Shaft Snap-in		11mm Size Insulated Shaft Snap-in	12mmSize Insulated Shaft Snap-in	14mm Size Insulated Shaft Snap-in	9mm Size Insulated shaft Long-life	12mm Size Insulated shaft Snap-in
			Model	RK09K11□ RK09D11□	RK09K12□	RK11K11□	RK12L12□	RK14K12□	RK09Y11L	RK12L115
				Single-unit	Dual-unit	Single-unit	Dual-unit		Single-unit	
Photo										
Bushing			Without		With/With out	Without	With/With out	Without	With	
Operating temperature range			-10℃ to +70℃							-40℃ to +85℃
Automotive use										○
Electrical performance	Total resistance tolerance		±20%	±30%	±20%			±30%	±20%	
	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	50V AC 20V DC	
	Insulation resistance		100M.Ω min. 250V DC		100M.Ω min. 500V DC	100M.Ω min. 250V DC				
	Voltage proof		250V AC for 1minute		500V AC for 1minute	300V AC for 1minute		250V AC for 1minute	300V 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	Strength of the actuator	Stopper strength	0.3N·m		Without bushing 0.5N·m With bushing 0.6N·m	0.5N·m	0.6N·m	—	0.5N·m	
		Push-pull strength	50N max.		80N 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							
	Resistance to soldering heat	Manual soldering	350℃ max. 3s max.							
		Dip Soldering	—			260℃ max. 5s max.	—			
Environmental performance	Cold		-30±2℃ for 96h					-30±2℃ for 240h	-40±3℃ for 96h	
	Dry heat		70±2℃ for 96h			70±2℃ for 240h	70±2℃ for 96h	70±2℃ for 240h	85±3℃ for 96h	
	Damp heat		40±2℃, 90 to 95% RH for 96h					40±2℃, 90 to 95% RH for 240h	40±2℃, 90 to 95% RH for 96h	
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● Insulated Shaft Potentiometers Cautions404, 405

Note

○marks in "Available for automotive use" indicate that some of the series products can work at the operating temperature range from -40°C to +85°C.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)