

RK501 50mm Size Metal Shaft High-quality-audio Type

High sound quality, good response and high grade for high end audio devices



Typical Specifications

Items		Specifications
Total resistance tolerance		±20%
Maximum operating voltage		150V AC
Total rotational angle		300° ± 3°
Rotational torque	Dual-unit	28 ± 15mN·m
	Quad-unit	32 ± 15mN·m
Operating life		15,000 cycles
Operating temperature range		-10°C to +70°C

Product Line

Number of resistor elements	Shaft type	Length of the shaft L ₁ (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum order unit (pcs.)		Products No.	Drawing No.
						Japan	Export		
Dual-unit	Slotted	25	Without	100	15A	1	1	RK50112A0004	1
Quad-unit		30		50				RK50114A0001	2

Note

Other varieties are also available. Refer to "Other Specifications" (P.306).

Dimensions

No.	Photo	Style	Unit:mm
1	<p>Single-shaft, dual-unit RK50112</p>		<p>Mounting hole detail view from mounting side</p>
2	<p>Single-shaft, quad-unit RK50114</p>		<p>Mounting hole detail view from mounting side</p>

Refer to P.306 for other specifications.
Refer to P.306 for attached parts.
Refer to P.311 for soldering conditions.

50mm Size Metal Shaft High-quality-audio 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

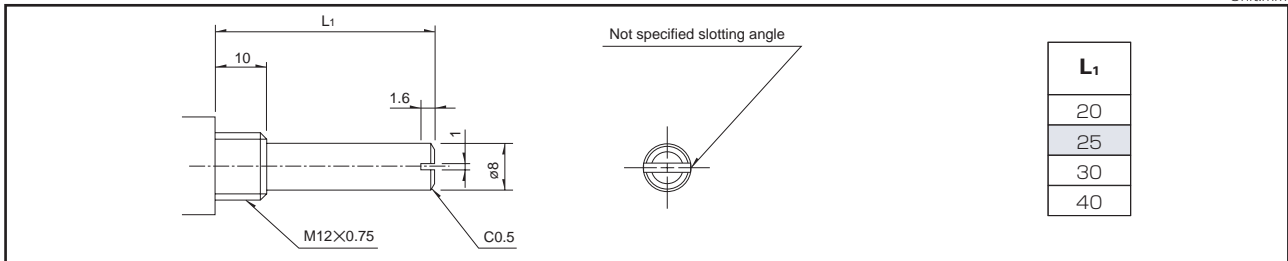
Total resistance (kΩ)	10	20	50	100
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Resistance Taper

Resistance taper	15A	3B
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Dimensions of Shaft

Slotted type

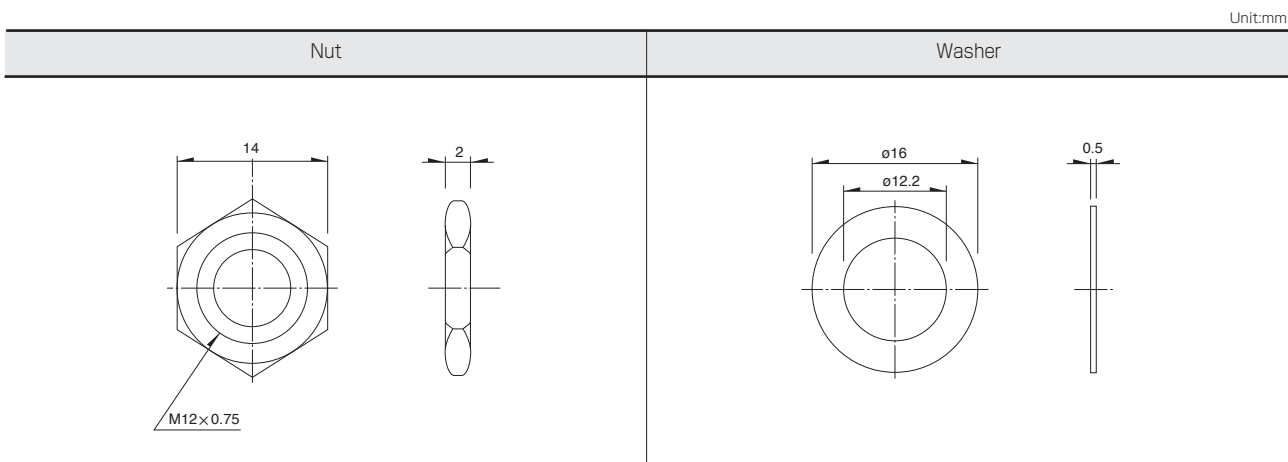










Note

Marked are specifications recommended by Alps Alpine.

50mm Size Metal Shaft High-quality-audio Type / Attached Parts

The following parts are included with the product.



Type	16mm size	27mm size	50mm size	Rotary motor-driven	
Series	RK163	RK271	RK501	RK168	
	Single-shaft				
Number of resistor elements	Single/dual	Single/dual/quad	Dual/quad		
Photo					
Control part orientation	Horizontal				
Fixing method of bushing	Bushing screw clamp				
Operating temperature range	-10°C to +70°C				
Operating life	15,000 cycles				
Available for automotive use	—	—	—	—	
Life cycle (availability)					
Electrical performance	Total resistance (kΩ)	5, 10, 20, 50, 100, 200	5, 10, 20, 50, 100, 250	10, 20, 50, 100	
	Resistance taper	15A, 1B, 3B, 15C	15A, 3B		
	Rated Power	0.1W 0.05W (15A)	0.05W	0.1W	0.05W
	Residual resistance	R≤10kΩ 20Ω max. 10kΩ<R≤50kΩ 30Ω max. 50kΩ<R Nominal total resistance of 0.1% or less	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<100kΩ 90dB min. 100kΩ≤R 100dB min.	5kΩ≤R< 10kΩ 70dB min. 10kΩ≤R< 50kΩ 80dB min. 50kΩ≤R<100kΩ 90dB min. 100kΩ≤R 100dB min.	120dB 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.	-70dB to -60dB 3dB max. -60dB to 0dB 2dB max.	-100dB to 0dB 3dB max. ※	-60dB to -40dB 5dB max. -40dB to 0dB 3dB max.
	Insulation resistance	100MΩ min. 500V DC			100MΩ min. 250V DC
	Voltage proof	500V AC for 1 minute			300V AC for 1 minute
	Center-taps	Without			
Mechanical performance	Detent	Without, Cente	Without, Center, 21, 31, 41	Without	
	Stopper strength	0.9 N·m		1.5 N·m 0.9 N·m	
	Push-pull strength	100N max.		150N 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 for 2 hours respectively			
Shaft style	Serrated type. Flat type, Slotted type	Slotted type, Flat type	Slotted type	Flat type	
Terminal style	Insertion, Lead	Insertion			
Attached switch	—				
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Note

○ Indicates applicability to some products in the series.

※ Gang error of 4-gang (quad) model: - 100dB to 0dB 3dB max. (applies only between R1 and R2 and between R3 and R4)

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