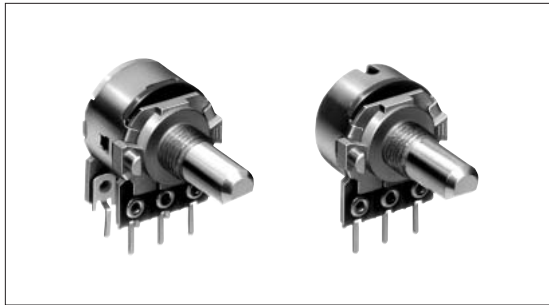


Metal Shaft Potentiometer 16mm Size Metal Shaft Type

RK163 Series



Versatile product lineups applicable for various controls.



Applications

- Controls for sound devices, including mini component stereos and stereo systems
- Controls for refrigerators, fan heaters, wireless radios and measuring appliances

Rotary Potentiometers
Slide Potentiometers
Multi Control Devices
Rotary Sensors
Linear Sensors

Metal Shaft
Insulated Shaft
Knob Operating

Typical Specifications

Items	Specifications
Total resistance tolerance	±20%
Maximum operating voltage	150V AC
Total rotational angle	300±5°
Rotational torque	2 to 25 mN·m
Operating life	15,000 cycles
Operating temperature range	-10°C to +70°C

Recommended Products List

Number of resistor elements	Mounting direction	Products No.	Shaft type	Terminal style	Length of the shaft (mm)	Center detent	Total resistance (kΩ)	Resistance taper	Minimum packing unit (pcs.)	Drawing No.
Single-unit	Horizontal type	RK1631110TBK	Flat	For PC board	15	Without	10	1B	100	1
		RK1631110TT3			20			15A		
		RK1631110U1Q						Lead		
		RK1631110TNP	Knurled	For PC board	15		20			
		RK1631110TTU			Lead		10	4		
		RK1631110U0Q					Flat	20		
RK1631210ATD		Knurled	For PC board	15	10	6				
RK16312101B8				20			With	5		
RK1631210AX9					Flat	For PC board	20	Without		10
RK16312A0B85		25	3B							
RK16312A0BKH			15	10			15A			
RK16312A0BKR		Knurled								

Note

Additional product specifications in response to those not included in the above recommended products are also available. For inquiries, contact our sales department.


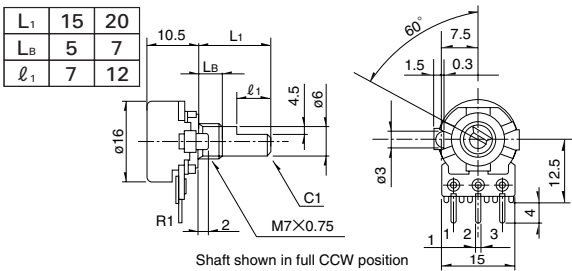
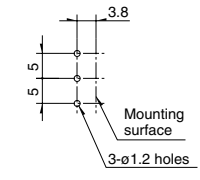

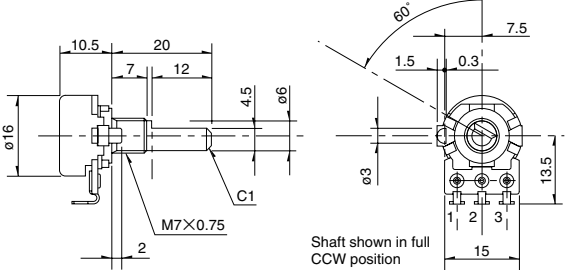

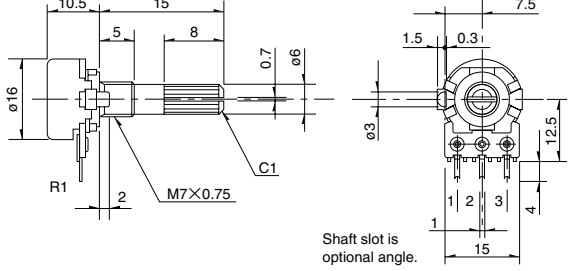
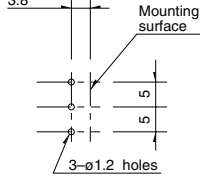

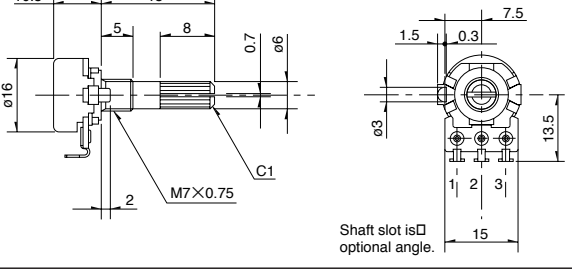

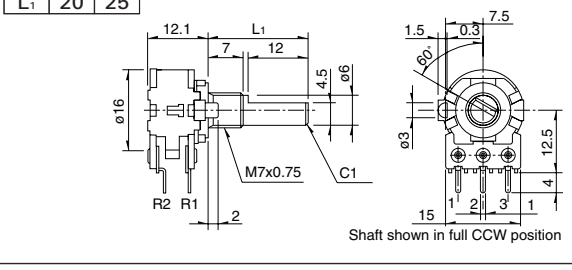
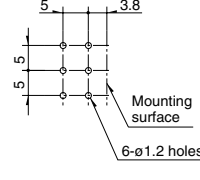

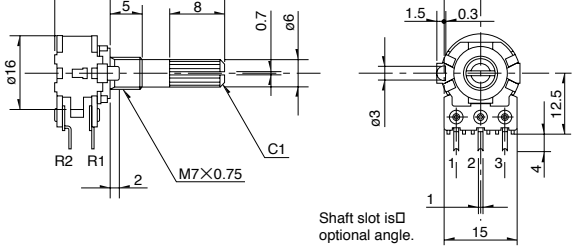
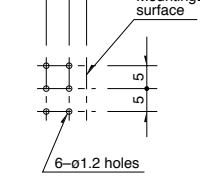
For product varieties, see P.33
For products specifications, see P.46, 47

Metal Shaft Potentiometer

16mm Size Metal Shaft Type | RK163 Series

Dimensions

Unit:mm

No.	Photo	Style	PC board mounting hole dimensions (Viewed from mounting side)									
1		<table border="1" data-bbox="590 324 726 414"> <tr> <td>L_1</td> <td>15</td> <td>20</td> </tr> <tr> <td>L_B</td> <td>5</td> <td>7</td> </tr> <tr> <td>l_1</td> <td>7</td> <td>12</td> </tr> </table>  <p>Shaft shown in full CCW position</p>	L_1	15	20	L_B	5	7	l_1	7	12	 <p>Mounting surface 3-ϕ1.2 holes</p>
L_1	15	20										
L_B	5	7										
l_1	7	12										
2		 <p>Shaft shown in full CCW position</p>										
3		 <p>Shaft slot is optional angle.</p>	 <p>Mounting surface 3-ϕ1.2 holes</p>									
4		 <p>Shaft slot is \square optional angle.</p>										
5		<table border="1" data-bbox="590 1489 726 1534"> <tr> <td>L_1</td> <td>20</td> <td>25</td> </tr> </table>  <p>Shaft shown in full CCW position</p>	L_1	20	25	 <p>Mounting surface 6-ϕ1.2 holes</p>						
L_1	20	25										
6		 <p>Shaft slot is \square optional angle.</p>	 <p>Mounting surface 6-ϕ1.2 holes</p>									

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors
Linear Sensors

Metal Shaft

Insulated Shaft

Knob Operating

Product Varieties

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

Product Specifications and Applications

Type	Model	Applications	Detent variety
Single-shaft, single-unit	RK16311	General	Center 21
Single-shaft, dual-unit	RK16312	General or Volume and tone control	31 41

Total Resistance Variety

Total resistance (kΩ)	5	10	20	50	100	200

Resistance Taper

Resistance taper	15A	1B	3B	15C

Dimensions of Shaft

1) 18 teeth knurl

Unit:mm

Die-casting shaft

Not specified slotting angle

L ₁	L _B	l ₁
15	5	8
20	5	12
25	7	12
30	7	12

Shaft shown in full CCW position

● The serration angle shall be as shown.

2) Flat type

Unit:mm

Shaft shown in full CCW position

L ₁	L _B	l ₁
15	5	7
20	7	12
25	7	12
30	7	12

3) Slotted type

Unit:mm

Shaft shown in full CCW position

L ₁	L _B
15	7
20	7
25	7
30	7

Note

Shows the specification recommended by us.

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors
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Metal Shaft

Insulated Shaft

Knob Operating

Orders Other Than Recommended Products

Specify orders for varieties that are not listed in the Recommended Product List, referring to the following example.

Sample Part Number



Model type

Code	Model type
111	Single-unit
121	Dual-unit for tone
12A	Dual-unit for vol.

Shaft type

Code	Shaft type
F	Flat
S	Slotted
K	Knurled

Length of the shaft (L₁) (mm)

Code	Length of the shaft	Code	Length of the shaft
15	15	25	25
20	20	30	30

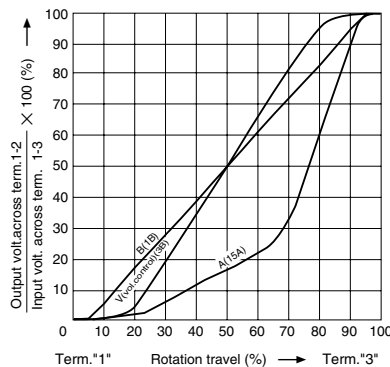
Detent

Code	Detent	Code	Detent
C0	Without	31	31
C1	Center	41	41
21	21		

Resistance taper

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

B:For tone & general
V:For vol.



Total resistance

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

Terminal style

Code	Terminal style
P	For PC board
L	Lead terminal

Note

Shows the specification recommended by us.

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors
Linear Sensors

Metal Shaft

Insulated Shaft

Knob Operating

Products Specifications

Items		Model		RK097 RK098	RK117	RK163 RK168
		RK09L				
Operating temperature range		-10°C to +70°C				
Electrical performance	Total resistance tolerance	±20%				
	Rated power	0.05W				
	Maximum operating voltage	50V AC			RK163 :150V AC RK168 : 50V AC	
	Residual resistance	$R \leq 10k\Omega$ 20Ω max. $10k\Omega < R \leq 50k\Omega$ 30Ω max. $50k\Omega < R$ Nominal total resistance of 0.1% or less				
	Maximum attenuation (Volume control)	$5k\Omega \leq R < 10k\Omega$ 70dB min. $10k\Omega \leq R < 50k\Omega$ 80dB min. $50k\Omega \leq R < 100k\Omega$ 90dB min. $100k\Omega \leq R$ 100dB min.				
	Insulation resistance	100MΩ min. 250V DC			100MΩ min. 500V DC	
	Voltage proof	1 minute 300V AC			1 minute 500V AC	
Mechanical performance	Total rotational angle	300±5°	300±5° (Shaft movement type is 300 ^{+10°} _{-5°})	300 ^{+10°} _{-5°}	300±5°	
	Rotational torque	2 to 25mN·m			RK163 : 2 to 25mN·m RK168 : 15 to 45mN·m	
	Stopper strength	0.5N·m (For shaft movable type,0.4N·m)			0.9N·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				
	Solder heat resistance	Manual soldering	350°C max. 3s max.			
Dip soldering		260±5°C	4±1s	—		
Endurance	Operating life	15,000 cycles				
Environmental test	Cold	-10°C for 96h				
	Long-term heat resistance	+70°C for 96h				
	Moisture resistance	+40±2°C, 90 to 95%RH for 96h				

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Rotary Sensors
Linear Sensors

Metal Shaft

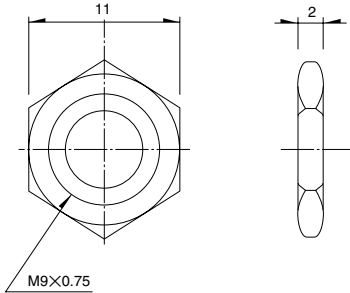
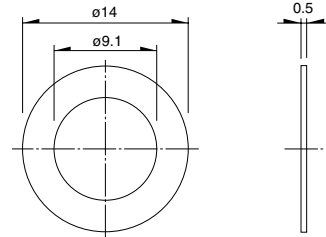
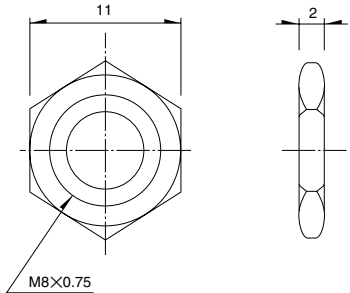
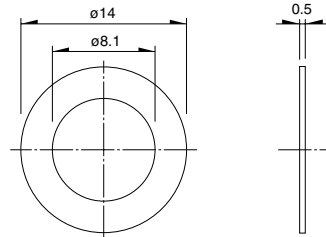
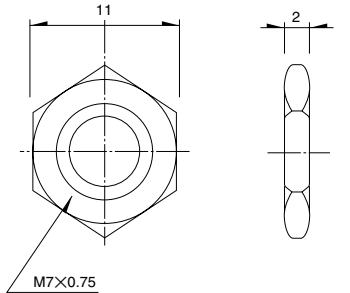
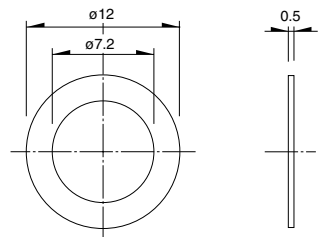
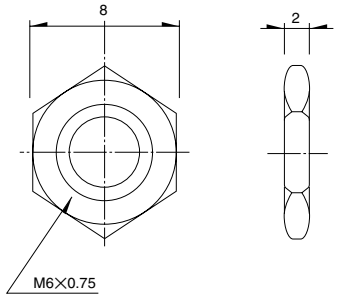
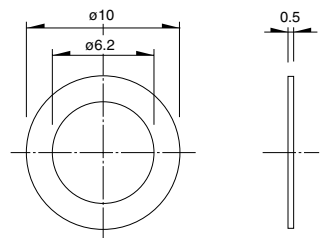
Insulated Shaft

Knob Operating

Attached Parts

These parts are attached to the following products.

Unit:mm

Applicable products	Bearing screw diameter	Hexagonal nut	Flat washer
Rotary Potentiometers Slide Potentiometers Multi Control Devices Rotary Sensors Linear Sensors RK09L RK168 RK097	M9		
RK271	M8		
RK097 RK098 RK163	M7		
RK097 RK098	M6		

Rotary Potentiometers
Slide Potentiometers
Multi Control Devices
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Metal Shaft
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