

Insulated Shaft Potentiometer 11mm Size Insulated Shaft Snap-in Type

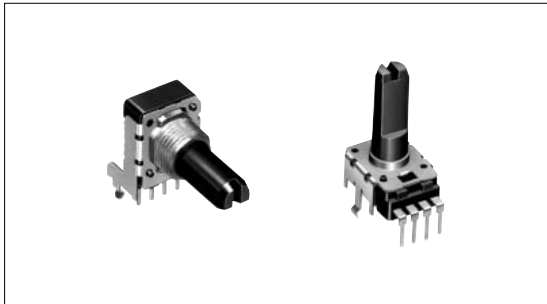
RK11K Series



A 11mm width potentiometer for audio, visual, electronic musical instruments and various applications.

Rotary Potentiometers

Slide Potentiometers



Typical Specifications

| Items | Specifications |
|-----------------------------|----------------|
| Total resistance tolerance | ± 20% |
| Total rotational angle | 300 ± 5 ° |
| Rotational torque | 3 to 20mN·m |
| Operating life | 15,000cycles |
| Operating temperature range | - 10 to + 70 |

Metal Shaft

Insulated Shaft

Knob Operating

Product Line

| Number of resistor elements | Mounting direction | Bushing | Shaft type | Length of the shaft LM(mm) | Center detent | Total resistance (k) | Resistance taper | Minimum order unit (pcs.) | Products No. | Drawing No. |
|-----------------------------|--------------------|---------|------------|------------------------------|---------------|------------------------|------------------|-----------------------------|--------------|-------------|
| Single-unit (20V DC) | Vertical type | Without | Flat | 15 | Without | 10 | 1B | 1,200 | RK11K1130A2X | 2 |
| | | | | 20 | With | | | 1,000 | RK11K1130A0M | |
| | | | | 25 | Without | | | 800 | RK11K1130A07 | |
| | | 20 | | With | 20 | RK11K113002F | | | | |
| | | 22.5 | | Without | 10 | RK11K114003Y | | 4 | | |
| | | 25 | | With | 20 | RK11K1140A9L | | | | |
| | 27.5 | Without | 10 | RK11K1140A23 | | | | | | |
| | 30 | Without | 20 | RK11K114001Z | | | | | | |
| | Horizontal type | With | Without | 25 | Without | 10 | | 800 | RK11K1140A3L | 1 |
| | | | | 32.5 | Without | 10 | | RK11K1140A4Q | | |
| | | | | 25 | Without | 10 | | RK11K1140A2S | | |
| | Horizontal type | With | Without | 25 | With | 20 | | 1,000 | RK11K1110A3D | 3 |
| | | | | 22.5 | Without | 10 | | 800 | RK11K1120060 | |
| | | | | 27.5 | Without | 20 | | 15A | RK11K1120A5T | |
| | | | | | | | | | | |


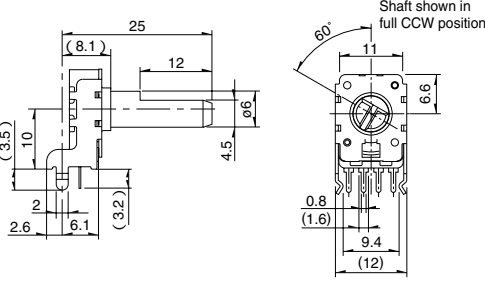
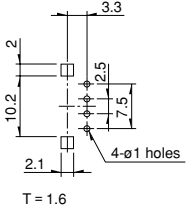

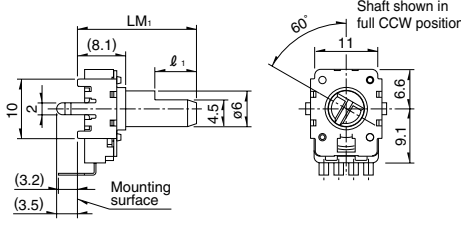
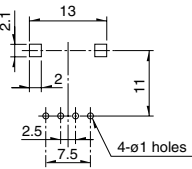
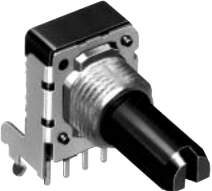
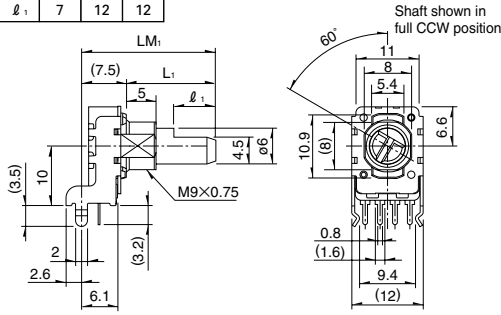
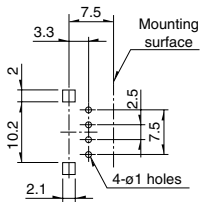

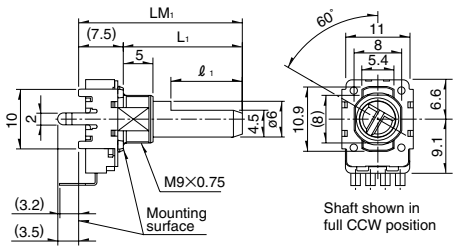
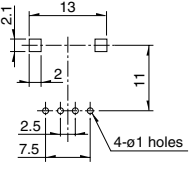
Notes

1. Products other than those listed in above products are also available. Please contact us for details.
2. Nut and washer are not attached. Please specify if required.

Refer to P.376 for product varieties.

Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from mounting side) | | | | | | | | | | | | | | | | | | | | | |
|-----------------|---|---|---|------|------|------|----------------|-----|------|----------------|--|----|------|----|---|----|----------------|---|---|----|----|----|----|---|
| 1 | <p>Horizontal type without bushing RK11K111(Single-unit)</p>  |  |  | | | | | | | | | | | | | | | | | | | | | |
| 2 | <p>Vertical type without bushing RK11K113(Single-unit)</p>  | <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>  | LM ₁ | 15 | 20 | 25 | ℓ ₁ | 4.5 | 7 | 12 |  | | | | | | | | | | | | | |
| LM ₁ | 15 | 20 | 25 | | | | | | | | | | | | | | | | | | | | | |
| ℓ ₁ | 4.5 | 7 | 12 | | | | | | | | | | | | | | | | | | | | | |
| 3 | <p>Horizontal type with bushing RK11K112(Single-unit)</p>  | <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>  | 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 | <p>Vertical type with bushing RK11K114(Single-unit)</p>  | <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>  | 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 | | | | | | | | | | | | | | | | | | |

Rotary Potentiometers
 Slide Potentiometers

Metal Shaft
 Insulated Shaft
 Knob Operating

Product Varieties

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

Total Resistance Variety

| | | | | | | |
|----------------------|---|----|----|----|-----|-----|
| Total resistance(k) | 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 |
| | LB | — | — | — | — | 5 | 5 | 5 | 5 | 5 | 5 |
| Detail dimensions | | | | | | | | | | | |
| | | | | | | | | | | | |
| LM ₁ =15 only application | | | | | | | | | | | |

Terminal Layout/Circuit Diagram

| | |
|--------------------|-----------------|
| <p>Without tap</p> | <p>With tap</p> |
|--------------------|-----------------|

Note

marked are specifications recommended by ALPS.

Refer to P.377, 502 for resistance taper.

Rotary Potentiometers
Slide Potentiometers

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Knob Operating

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



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(LM, X 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 | | |

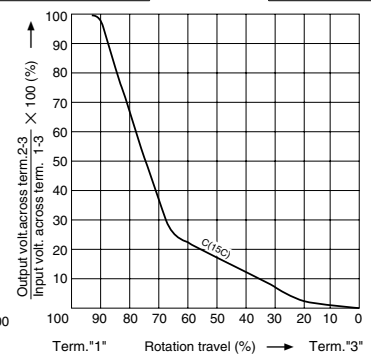
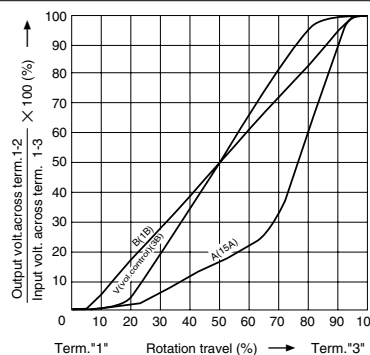
Detent

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






Note

marked are specifications recommended by ALPS.

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List of Varieties

| Items | Type | | 9mm Size Insulated Shaft Snap-in | 11mm Size Insulated Shaft Snap-in | 12mm Size Insulated Shaft Snap-in | 14mm Size Insulated Shaft Snap-in | 9mm Size Insulated shaft Long-life | |
|---------------------------|------------------------------|---|--|---|---|---|---|------------------------|
| | Model | | RK09K11 RK09D11 | RK09K12 | RK11K11 | RK12L12 | RK14K12 | RK09Y11L |
| | | | Single-unit | Dual-unit | Single-unit | Dual-unit | | Single-unit |
| Photo | |  | |  |  |  |  | |
| Bushing | | Without | | With/Without | Without | With/Without | Without | |
| Electrical performance | Total resistance tolerance | | ± 20% | ± 30% | ± 20% | | ± 30% | |
| | 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 |
| | Insulation resistance | | 100M min. 250V DC | | 100M min. 500V DC | 100M min. 250V DC | | |
| | Voltage proof | | 250V AC for 1minute | | 500V AC for 1minute | 300V AC for 1minute | | 250V 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 | — |
| | | Push-pull strength | 50N max. | | 80N max. | | 30N 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 | |
| | Dry heat | | 70 ± 2 for 96h | | 70 ± 2 for 240h | 70 ± 2 for 96h | 70 ± 2 for 240h | |
| | Damp heat | | 40 ± 2 , 90 to 95% RH for 96h | | | | 40 , 90 to 95% RH for 240h | |
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Rotary Potentiometers

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Metal Shaft

Insulated Shaft

Knob Operating

Insulated Shaft Potentiometers Cautions386, 387