

# Insulated Shaft Potentiometer 12mm Size Insulated Shaft Snap-in Type

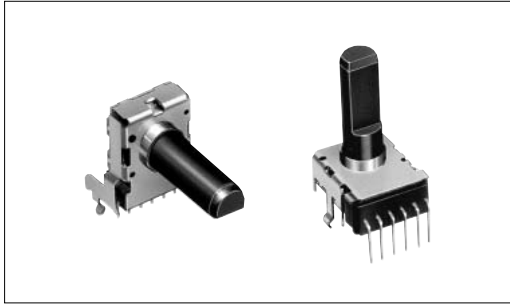
RK12L Series



High performance 12mm width type.

Rotary Potentiometers

Slide Potentiometers



## Typical Specifications

| Items                       | Specifications     |
|-----------------------------|--------------------|
| Total resistance tolerance  | ± 20%              |
| Maximum operating voltage   | 50V AC for AC only |
| Total rotational angle      | 300 ± 5 °          |
| Rotational torque           | 2 to 15mN·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 | Shaft type   | Length of the shaft LM:( mm ) | Center detent | Total resistance ( k ) | Resistance taper | Application | Minimum order unit ( pcs. ) | Products No. | Drawing No. |
|-----------------------------|--------------------|--------------|-------------------------------|---------------|------------------------|------------------|-------------|-----------------------------|--------------|-------------|
| Dual-unit                   | Vertical type      | Flat         | 20                            | Without       | 50                     | 1B               | For tone    | 1,000                       | RK12L1230C0K | 2           |
|                             |                    |              | 30                            |               | 10                     | 15A              |             |                             |              |             |
|                             |                    |              | 25                            | With          | 20                     | 1B               |             | 800                         | RK12L1230C1M |             |
|                             |                    |              | 30                            |               | 50                     |                  |             |                             |              |             |
|                             | Horizontal type    |              | 30                            | Without       | 10                     | 15A              | For vol.    | 1,200                       | RK12L1210C0R | 1           |
|                             | Vertical type      |              | 15                            |               | 50                     | 15C              |             |                             |              |             |
|                             |                    |              | 25                            |               | 10                     | 15A              |             | 800                         | RK12L12C0C0V | 2           |
|                             |                    |              | 30                            |               | 20                     |                  |             |                             | RK12L12C0A0E |             |
|                             |                    | RK12L12C0A0G |                               |               |                        |                  |             |                             |              |             |
|                             | RK12L12C0A0A       |              |                               |               |                        |                  |             |                             |              |             |
| Horizontal type             | 30                 | 10           | RK12L12A0C0R                  | 1             |                        |                  |             |                             |              |             |


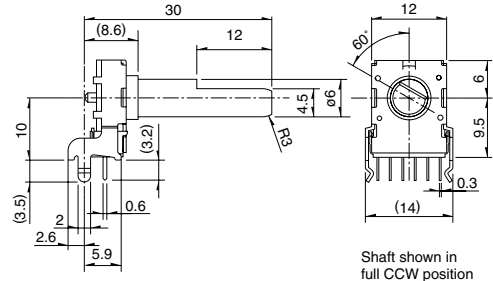
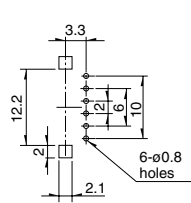

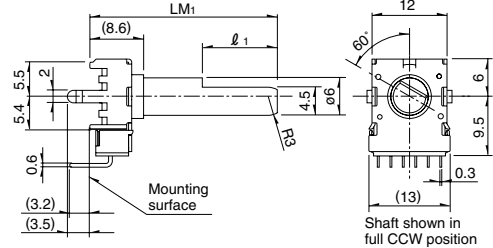
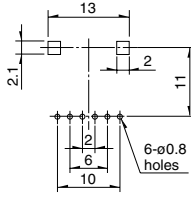
### Note

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

Refer to P.379 for product varieties.

**Dimensions**

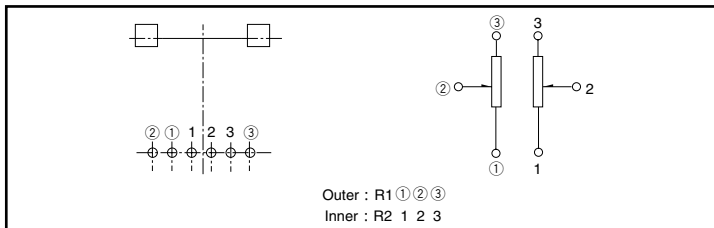
Unit:mm

| No.             | Photo  | Style   | PC board mounting hole dimensions (Viewed from mounting side)                       |    |    |    |    |                |     |   |    |    |   |
|-----------------|--|---|---|----|----|----|----|----------------|-----|---|----|----|---|
| 1               | <p>Horizontal type without bushing<br/>RK12L121( For tone control )<br/>RK12L12A( For vol. control )</p>  |  <p>Shaft shown in full CCW position</p>  |  |    |    |    |    |                |     |   |    |    |   |
| 2               | <p>Vertical type without bushing<br/>RK12L123( For tone control )<br/>RK12L12C( For vol. control )</p>    | <table border="1" data-bbox="638 649 893 705"> <tr> <td>LM<sub>1</sub></td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>ℓ<sub>1</sub></td> <td>4.5</td> <td>7</td> <td>12</td> <td>12</td> </tr> </table>  <p>Mounting surface</p> <p>Shaft shown in full CCW position</p> | LM <sub>1</sub>   | 15 | 20 | 25 | 30 | ℓ <sub>1</sub> | 4.5 | 7 | 12 | 12 |  |
| LM <sub>1</sub> | 15   | 20  | 25  | 30 |    |    |    |                |     |   |    |    |   |
| ℓ <sub>1</sub>  | 4.5  | 7   | 12  | 12 |    |    |    |                |     |   |    |    |   |

Rotary Potentiometers  
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**Terminal Layout/Circuit Diagram**



**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 |
|------------------|-----|----|----|-----|

**Shaft Variety**

Unit:mm

| Style          | Vertical type   |    | Horizontal type |    |
|----------------|-----------------|----|-----------------|----|
|                | LM <sub>1</sub> | 15 | 20              | 25 |
| ℓ <sub>1</sub> | 4.5             | 7  | 12              | 12 |

**Note**

marked are specifications recommended by ALPS.

Refer to P.380, 502 for resistance taper.

# 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 for tone |
| 3    | Vertical type for tone   |
| A    | Horizontal type for vol. |
| C    | Vertical type for vol.   |

### Shaft type

| Code | Shaft type |
|------|------------|
| F    | Flat       |

\* Only available in flat format.

### Length of the shaft (LM<sub>1</sub> X mm)

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

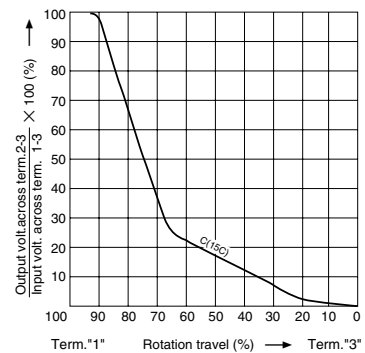
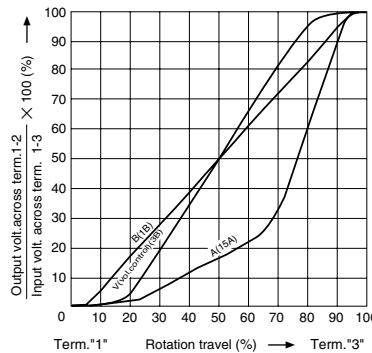
### Detent

| 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 ( Model type : 1,3 )  
 V: For vol. ( Model type : A,C )



### 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.

Rotary Potentiometers  
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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<br>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<br>20V DC   | 50V AC<br>For AC only   | 50V AC<br>20V DC  | 50V AC For AC only  |   | 50V AC<br>5V DC        |
|                           | Insulation resistance        |   | 100M min. 250V DC  |   | 100M min.<br>500V DC  | 100M min. 250V DC   |   |                        |
|                           | Voltage proof                |   | 250V AC for 1minute  |   | 500V AC<br>for 1minute  | 300V AC for 1minute   |   | 250V AC<br>for 1minute |
|                           | Gang error                   |   | —  | - 40dB to 0dB<br>3dB max.   | —   | Volume control<br>-40dB to 0dB 3dB max.<br>For tone control<br>within 2dB at center |   | —                      |
| Mechanical performance    | Strength of the actuator     | Stopper strength  | 0.3N·m   |   | Without bushing<br>0.5N·m<br>With bushing<br>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.<br>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

Slide Potentiometers

Metal Shaft

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Knob Operating

Insulated Shaft Potentiometers Cautions .....386, 387



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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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