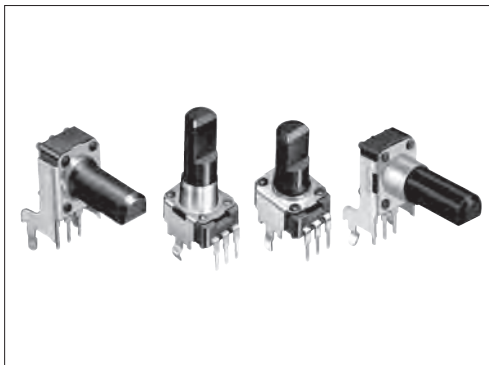


Compact type potentiometer with 9.8mm width is ideal for designing high density sets



Typical Specifications

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

Product Line

| Number of resistor elements | Control part orientation (Installed height) | Total rotational angle | Collar (Sleeve type) | Shaft type | Length of the shaft L _M (mm) | Center detent | Total resistance (kΩ) | Resistance taper | Minimum order unit (pcs.) | | Products No. | Drawing No. | |
|-----------------------------|---|------------------------|----------------------|------------|---|---------------|-----------------------|------------------|---------------------------|--------|--------------|-------------|--------------|
| | | | | | | | | | Japan | Export | | | |
| Single-unit (20V DC) | Vertical | 280° | Without | Flat | 15 | With | 10 | 1B | 1,000 | 2,000 | RK09K113004U | 2 | |
| | | | | | | Without | | | | | RK09K1130A6S | | |
| | | | | | | With | | | | | RK09K11300DR | | |
| | | | | | | Without | | | | | RK09K1130A8G | | |
| | | | | Knob | 20 | With | | | | | RK09K1130081 | | |
| | | | | | | Without | | | | | RK09K1130A5R | | |
| | | | | | | Screw driver | | | | | 15 | Without | RK09K1130AP5 |
| | | | | | | | | | | | 20 | Without | RK09K1130AST |
| | Horizontal H=6.5mm | 280° | Without | Flat | 15 | With | 10 | 1B | 1,000 | 2,000 | RK09K111009J | 1 | |
| | | | | | | Without | | | | | RK09K1110AK4 | | |
| | | | | | | With | | | | | RK09K11100DN | | |
| | | | | | | Without | | | | | RK09K1110AAR | | |
| | | | | Knob | 20 | With | | | | | RK09K1110077 | | |
| | | | | | | Without | | | | | RK09K1110A0J | | |
| | | | | | | Flat | | | | | 15 | Without | RK09K1110AMJ |
| | | | | | | | | | | | | 20 | With |
| | Horizontal H=10mm | 300° | With | Flat | 20 | With | 10 | 1B | 1,000 | 2,000 | RK09D1130C3W | 4 | |
| | | | | | | Without | | | | | RK09D1130C1B | | |
| | | | | | | With | | | | | RK09D1130C3C | | |
| | | | | | | Without | | | | | RK09D1130C2P | | |
| Knob | | | | 25 | With | RK09D1130C1A | | | | | | | |
| | | | | | Without | | | | | | | | |
| | | | | | Flat | 20 | | | | | With | | |
| | | | | | | | | | | | Without | | |

Clear Shaft

| Number of resistor elements | Control part orientation (Installed height) | Total rotation angle | Collar (Sleeve type) | Shaft type | Length of the shaft L _M (mm) | Center detent | Total resistance (kΩ) | Resistance taper | Minimum order unit (pcs.) | | Products No. | Drawing No. |
|-----------------------------|---|----------------------|----------------------|------------|---|---------------|-----------------------|------------------|---------------------------|--------|--------------|-------------|
| | | | | | | | | | Japan | Export | | |
| Single-unit (20V DC) | Vertical | 280° | Without | Knob | 20 | Without | 10 | 1B | 1,000 | 2,000 | RK09K1130D62 | 7 |

Note

Other varieties are also available. Refer to "Other Specifications" (P.316).

Packing Specifications

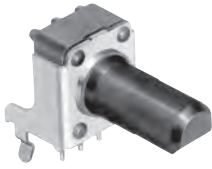
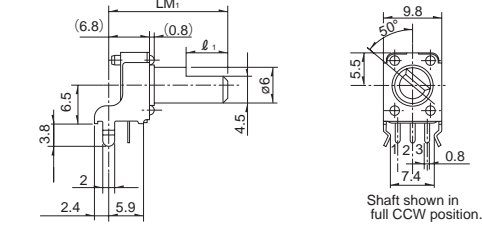
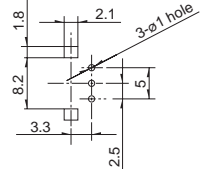

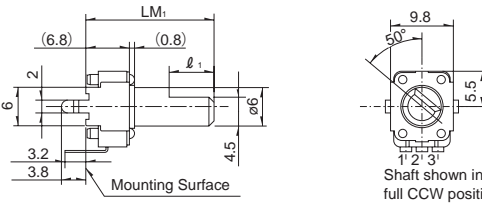
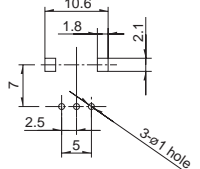
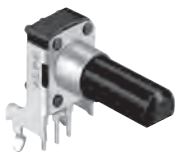
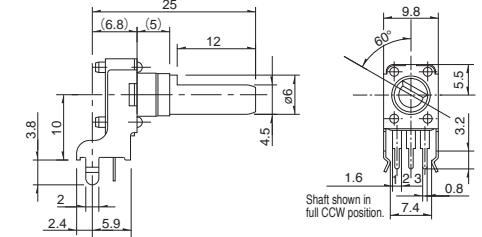
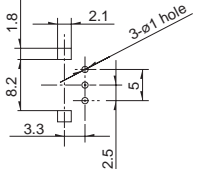

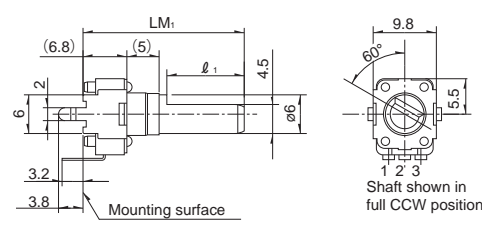
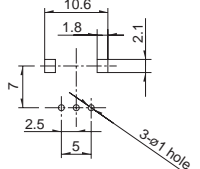

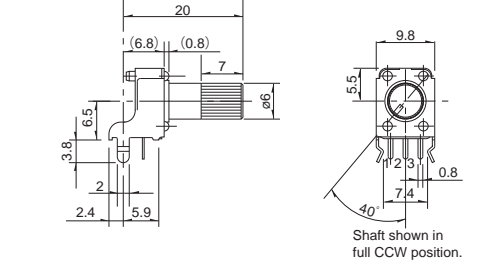
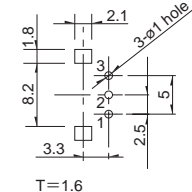
Bulk

| Number of packages (pcs.) | | Export package measurements (mm) |
|---------------------------|-------------------------|----------------------------------|
| 1 case / Japan | 1 case / export packing | |
| 1,000 | 2,000 | 528×369×178 |

Refer to P.316 for other specifications.
Refer to P.317 for ordering products not listed.
Refer to P.331 for soldering conditions.

■ Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from mounting side) | | | | | | |
|-----------------|---|--|--|----|----|----------------|---|----|---|
| 1 |  | <table border="1" data-bbox="657 369 785 414"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> </tr> <tr> <td>ℓ₁</td> <td>6</td> <td>7</td> </tr> </table>  <p>Shaft shown in full CCW position.</p> | LM ₁ | 15 | 20 | ℓ ₁ | 6 | 7 |  |
| LM ₁ | 15 | 20 | | | | | | | |
| ℓ ₁ | 6 | 7 | | | | | | | |
| 2 |  | <table border="1" data-bbox="657 683 785 728"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> </tr> <tr> <td>ℓ₁</td> <td>6</td> <td>7</td> </tr> </table>  <p>Mounting Surface Shaft shown in full CCW position.</p> | LM ₁ | 15 | 20 | ℓ ₁ | 6 | 7 |  |
| LM ₁ | 15 | 20 | | | | | | | |
| ℓ ₁ | 6 | 7 | | | | | | | |
| 3 |  |  <p>Shaft shown in full CCW position.</p> |  | | | | | | |
| 4 |  | <table border="1" data-bbox="657 1355 785 1400"> <tr> <td>LM₁</td> <td>20</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>7</td> <td>12</td> </tr> </table>  <p>Mounting surface Shaft shown in full CCW position.</p> | LM ₁ | 20 | 25 | ℓ ₁ | 7 | 12 |  |
| LM ₁ | 20 | 25 | | | | | | | |
| ℓ ₁ | 7 | 12 | | | | | | | |
| 5 |  |  <p>Shaft shown in full CCW position.</p> |  <p>T=1.6</p> | | | | | | |

Rotary Potentiometers
Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

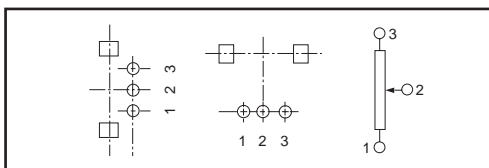
Ring Type

■ Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from mounting side) | | | | | | |
|-----------------|---|---|---|----|----|----------------|---|---|--|
| 6 | <p>Horizontal RK09K111</p> | <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> <p>Shaft shown in full CCW position.</p> | LM ₁ | 15 | 20 | ℓ ₁ | 6 | 7 | |
| LM ₁ | 15 | 20 | | | | | | | |
| ℓ ₁ | 6 | 7 | | | | | | | |
| 7 | <p>Vertical RK09K113</p> <p>Clear Shaft</p> | <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> <p>Shaft shown in full CCW position.</p> | LM ₁ | 15 | 20 | ℓ ₁ | 6 | 7 | |
| LM ₁ | 15 | 20 | | | | | | | |
| ℓ ₁ | 6 | 7 | | | | | | | |
| 8 | <p>Vertical RK09K113</p> | <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> <p>Shaft shown in full CCW position.</p> | LM ₁ | 15 | 20 | ℓ ₁ | 6 | 7 | |
| LM ₁ | 15 | 20 | | | | | | | |
| ℓ ₁ | 6 | 7 | | | | | | | |

■ Terminal Layout / Circuit Diagram



Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type

9mm Size Insulated Shaft Snap-in 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.

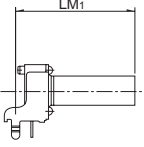
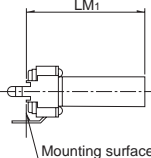
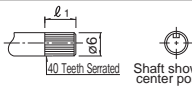
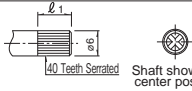
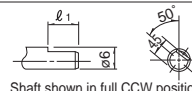
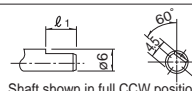
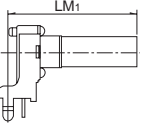
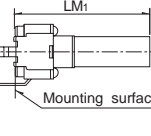
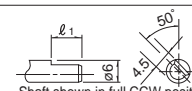
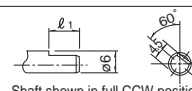
Total Resistance Variety

| | | | | | | |
|------------------------|---|----|----|----|-----|-----|
| Total resistance (k Ω) | 5 | 10 | 20 | 50 | 100 | 200 |
|------------------------|---|----|----|----|-----|-----|

Resistance Taper

| | | | | |
|------------------|-----|----|----|-----|
| Resistance taper | 15A | 1B | 3B | 15C |
|------------------|-----|----|----|-----|

Shaft Variety

| Style | Shaft type | | Shaft color | | | | | | | | | | |
|--|--|--|-----------------|-----|----|----|----------------|----------------|----|----|-----------------------------|---------------------------------|-------|
| | Knob variety | Detail dimensions | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Horizontal type</p>  </div> <div style="text-align: center;"> <p>Vertical type</p>  </div> </div> | <p>Knob type (φ6)</p>  <p>Shaft shown at center position</p> | <table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>l₁</td> <td>6</td> <td>7</td> <td>7</td> <td>7</td> </tr> </table> | LM ₁ | 15 | 20 | 25 | 30 | l ₁ | 6 | 7 | 7 | 7 | Black |
| | LM ₁ | 15 | 20 | 25 | 30 | | | | | | | | |
| | l ₁ | 6 | 7 | 7 | 7 | | | | | | | | |
| | <p>Screw-driver adjustment type</p>  <p>Shaft shown at center position</p> | <table border="1"> <tr> <td>LM₁</td> <td>9.5</td> <td>15</td> <td>20</td> </tr> <tr> <td>l₁</td> <td>—</td> <td>6</td> <td>7</td> </tr> </table> | LM ₁ | 9.5 | 15 | 20 | l ₁ | — | 6 | 7 | | | |
| | LM ₁ | 9.5 | 15 | 20 | | | | | | | | | |
| l ₁ | — | 6 | 7 | | | | | | | | | | |
| <p>Flat type</p>  <p>Shaft shown in full CCW position</p> | <table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>l₁</td> <td>6</td> <td>7</td> <td>12</td> <td>12</td> </tr> </table> | LM ₁ | 15 | 20 | 25 | 30 | l ₁ | 6 | 7 | 12 | 12 | | |
| LM ₁ | 15 | 20 | 25 | 30 | | | | | | | | | |
| l ₁ | 6 | 7 | 12 | 12 | | | | | | | | | |
| <p>Flat type</p>  <p>Shaft shown in full CCW position</p> | <table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>l₁</td> <td>6</td> <td>7</td> <td>12</td> <td>12</td> </tr> </table> | LM ₁ | 15 | 20 | 25 | 30 | l ₁ | 6 | 7 | 12 | 12 | Gray (15, 20, 25) Black (30) | |
| LM ₁ | 15 | 20 | 25 | 30 | | | | | | | | | |
| l ₁ | 6 | 7 | 12 | 12 | | | | | | | | | |
| <p>With collar</p>  | <p>Flat type</p>  <p>Shaft shown in full CCW position</p> | <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> | LM ₁ | 20 | 25 | 30 | l ₁ | 7 | 12 | 12 | Black | | |
| LM ₁ | 20 | 25 | 30 | | | | | | | | | | |
| l ₁ | 7 | 12 | 12 | | | | | | | | | | |
|  | <p>Flat type</p>  <p>Shaft shown in full CCW position</p> | <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> | LM ₁ | 20 | 25 | 30 | l ₁ | 7 | 12 | 12 | Gray (20, 25) Black (30) | | |
| LM ₁ | 20 | 25 | 30 | | | | | | | | | | |
| l ₁ | 7 | 12 | 12 | | | | | | | | | | |

Note

Marked are specifications recommended by Alps Alpine.

Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type

9mm Size Insulated Shaft Snap-in Type / Ordering Products Not Listed

In addition to the Product Line, we accommodate the following specifications. Combinations not included in the Product Line are treated as semi-standard products. Please refer to the notation example below.

Sample Part Number



Model type

| Code | Model type | |
|------|-----------------|------------------|
| K111 | 280°single-unit | Horizontal H=6.5 |
| K113 | 280°single-unit | Vertical |
| D111 | 300°single-unit | Horizontal H=10 |
| D113 | 300°single-unit | Vertical |

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

Shaft type

| Code | Shaft type | Code | Shaft type |
|------|------------|------|--------------|
| F | Flat | X | Screw 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 Screwdriver shape.

Detent

| Code | Center detent |
|------|---------------|
| C0 | Without |
| C1 | With |

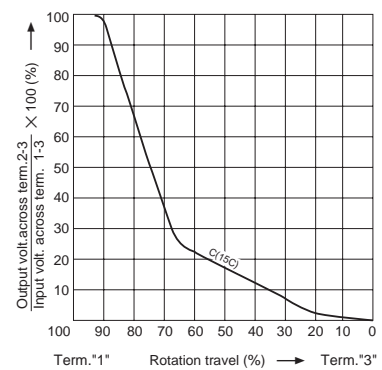
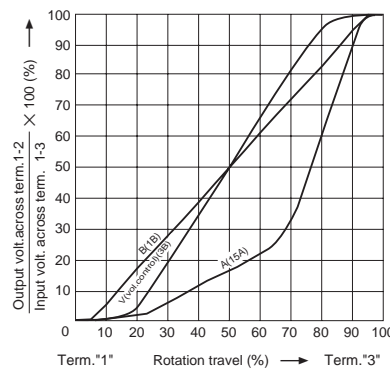
Resistance taper

| Code | Resistance taper | Code | Resistance taper |
|------|------------------|------|------------------|
| A | 15A | C | 15C |
| B | 1B | V | 3B |

B: For tone & general
V: For vol.

Total resistance

| Code | Total resistance (k Ω) | Code | Total resistance (k Ω) |
|------|------------------------|------|------------------------|
| 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 Alpine.

Insulated Shaft Potentiometers

List of Varieties

| Type | 9mm size | | 11mm size | 12mm size | 14mm size | |
|------------------------------|---|--|---|---|--|------------------------------------|
| Series | RK09K11 RK09D11 | RK09Y11L | RK11K | RK12L12 | RK14K | |
| | Single-unit | Single-unit | Single-unit | Dual-unit | Dual-unit | |
| Photo |  |  |  |  |  | |
| Control part orientation | Vertical / Horizontal | | Horizontal | Vertical / Horizontal | | |
| Bushing | Without | | With | Without | With | |
| Operating temperature range | -10°C to +70°C | | | | | |
| Operating life | 5,000 cycles | 1,000,000 cycles | 15,000 cycles | | | |
| Available for automotive use | — | — | — | — | — | |
| Life cycle |  |  |  |  |  | |
| Electrical performance | Total resistance (k Ω) | 5, 10, 20, 50, 100, 200 | 10 | 5, 10, 20, 50, 100, 200 | | |
| | Resistance taper | 15A, 1B, 3B, 15C | B | 15A, 1B, 3B, 15C | | |
| | Total resistance tolerance | ±20% | ±30% | ±20% | | |
| | Rated power | 0.05W | 0.01W | 0.05W | | |
| | Maximum operating voltage | 50V AC 20V DC | 50V AC 5V DC | 50V AC 20V DC | 50V AC for AC only | |
| | Gang error | — | — | — | For volume control -40dB to 0dB 3dB max. For tone control within 2dB max. at center | |
| | Insulation resistance | 100MΩ min. 250V DC | | 100MΩ min. 500V DC | 100MΩ min. 250V DC | |
| | Voltage proof | 250V AC for 1minute | | 500V AC for 1minute | 300V AC for 1minute | |
| | Center-taps | Without | | Without / With | Without | Without / With (Volume control) |
| Mechanical performance | Detent | Without, Center | Without | Without, Center | Without | Without, Center |
| | 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. | 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 | | | | |
| Shaft configuration | Flat type, Knob type, Screwdriver type | | Flat type | | | |
| Terminal style | Insertion | | | | | |
| Page | 313 329 (for Mixers) | 318 | 319 329 (for Mixers) | 322 329 (for Mixers) | 325 329 (for Mixers) | |

| | |
|---|-----|
| Insulated Shaft Potentiometers Soldering Conditions | 331 |
| Potentiometers Cautions | 384 |
| Potentiometers Measurement and Test Methods | 386 |
| Potentiometers Resistance Taper | 388 |

Note

● Indicates applicability to all products in the series.

Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type