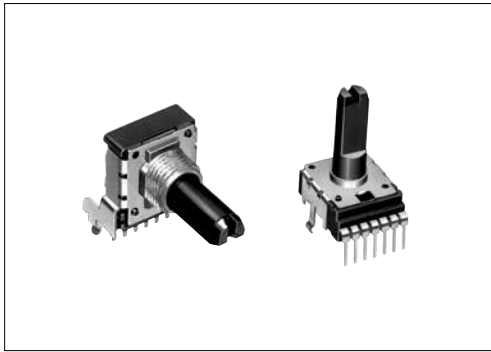


A 14mm wide potentiometer for audio, visual, electronic musical instruments and various applications



Typical Specifications



| Items | Specifications |
|-----------------------------|--------------------|
| Total resistance tolerance | ±20% |
| Maximum operating voltage | 50V AC for AC only |
| Total rotational angle | 300° ±5° |
| Rotational torque | 3 to 20mN·m |
| Operating life | 15,000 cycles |
| Operating temperature range | -10°C to +70°C |

Product Line

| Number of resistor elements | Mounting direction | Bushing | Shaft type | Length of the shaft LM ₁ (mm) | Center detent | Total resistance (kΩ) | Resistance taper | Application | Minimum order unit (pcs.) | | Products No. | Drawing No. | |
|-------------------------------------|---------------------|---------|------------|--|---------------|-----------------------|---------------------|---------------------|---------------------------|-------|---------------------|---------------------|---------------------|
| | | | | | | | | | Japan | Japan | | | |
| Dual-unit (Not applicable to DC) | Vertical type | Without | Flat | 15 | Without | 10 | 1B | For tone | 1,200 | 2,400 | RK14K1230A2X | 2 | |
| | | | | 25 | | | | | 800 | 1,600 | RK14K1230A0X | | |
| | | | | 20 | | 1,000 | 2,000 | RK14K12C0A1S | | | | | |
| | | | | 25 | | | | | 800 | 1,600 | RK14K12C0A0T | | |
| | | With | | 20 | With | 100 | 1B | For tone | 1,000 | 2,000 | RK14K1240062 | 4 | |
| | | | | 25 | | 10 | | | RK14K1240036 | | | | |
| | | | | 27.5 | | 100 | | | RK14K1240D04 | | | | |
| | | | | 32.5 | | 10 | | | RK14K1240A4S | | | | |
| | Horizontal type | Without | With | Flat | 27.5 | Without | 10 | 15A | For vol. | 800 | 1,600 | RK14K12D0A1X | 3 |
| | | | | | 25 | | | | | | | 50 | |
| | | | | | 15 | | 10 | 1,200 | 2,400 | | | RK14K12A0A3C | |
| | | | | | 25 | | 50 | 800 | 1,600 | | | RK14K1210A1B | |
| | | With | | | 22.5 | With | 10 | 1B | For tone | 1,000 | 2,000 | RK14K1220A0F | |
| | | | | | 20 | | RK14K1220024 | | | | | | |
| | | | | | 50 | | RK14K1220A25 | | | | | | |
| | | | | | 10 | | 15A | | | | | For vol. | RK14K12B0A0E |
| 50 | RK14K12B0A0R | | | | | | | | | | | | |

Notes

- Other varieties are also available. Refer to "Other Specifications" (P.362).
- Nut and washer are not attached. Please specify if required.

Packing Specifications

Tray

| Length of the shaft LM ₁ (mm) | Number of packages (pcs.) | | Export package measurements (mm) |
|--|---------------------------|-------------------------|----------------------------------|
| | 1 case / Japan | 1 case / export packing | |
| 15 | 1,200 | 2,400 | 543×377×250 |
| 20 to 22.5 | 1,000 | 2,000 | |
| 25 or more | 800 | 1,600 | |

Refer to P.362 for other specifications.
Refer to P.363 for ordering products not listed.
Refer to P.366 for soldering conditions.

Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from mounting side) | | | | | | | | | | | | | | | |
|-----------------|---|--|--|------|----|----------------|----------------|----------------|------|------|----|----|----------------|---|----|----|----|--|
| 1 | <p>Horizontal type without bushing RK14K121 (For tone control) RK14K12A (For vol. control)</p> | <table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>4.5</td> <td>12</td> </tr> </table> <p>Shaft shown in full CCW position</p> | LM ₁ | 15 | 25 | ℓ ₁ | 4.5 | 12 | | | | | | | | | | |
| LM ₁ | 15 | 25 | | | | | | | | | | | | | | | | |
| ℓ ₁ | 4.5 | 12 | | | | | | | | | | | | | | | | |
| 2 | <p>Vertical type without bushing RK14K123 (For tone control) RK14K12C (For vol. control)</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> <p>Mounting surface</p> <p>Shaft shown in full CCW position</p> | 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 RK14K122 (For tone control) RK14K12B (For vol. control)</p> | <table border="1"> <tr> <td>LM₁</td> <td>15</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>4.5</td> <td>12</td> </tr> </table> <p>M9×0.75</p> <p>Shaft shown in full CCW position</p> | LM ₁ | 15 | 25 | ℓ ₁ | 4.5 | 12 | | | | | | | | | | |
| LM ₁ | 15 | 25 | | | | | | | | | | | | | | | | |
| ℓ ₁ | 4.5 | 12 | | | | | | | | | | | | | | | | |
| 4 | <p>Vertical type with bushing RK14K124 (For tone control) RK14K12D (For vol. control)</p> | <table border="1"> <tr> <td>LM₁</td> <td>20</td> <td>25</td> <td>27.5</td> <td>32.5</td> </tr> <tr> <td>L₁</td> <td>12.5</td> <td>17.5</td> <td>20</td> <td>25</td> </tr> <tr> <td>ℓ₁</td> <td>7</td> <td>12</td> <td>12</td> <td>12</td> </tr> </table> <p>M9×0.75</p> <p>Mounting surface</p> <p>Shaft shown in full CCW position</p> | LM ₁ | 20 | 25 | 27.5 | 32.5 | L ₁ | 12.5 | 17.5 | 20 | 25 | ℓ ₁ | 7 | 12 | 12 | 12 | |
| LM ₁ | 20 | 25 | 27.5 | 32.5 | | | | | | | | | | | | | | |
| L ₁ | 12.5 | 17.5 | 20 | 25 | | | | | | | | | | | | | | |
| ℓ ₁ | 7 | 12 | 12 | 12 | | | | | | | | | | | | | | |

Rotary Potentiometers
Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type

14mm Size Insulated Shaft Snap-in Type / Other Specifications

In addition to the products listed, we can accommodate the follow specifications.

Total Resistance Variety

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

Resistance Taper

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

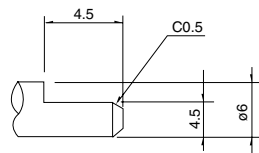
Tapped Types are Also Available

RK14K12 (for audio volume control) is also available with tap.

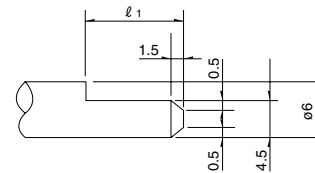
Shaft Variety

| Style | | Without bushing | | | | With bushing | | | | | |
|-------------------|-----------------|-----------------|----|---------------|----|-----------------|------|---------------|------|------|------|
| | | Horizontal type | | Vertical type | | Horizontal type | | Vertical type | | | |
| Detail dimensions | 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 |
| | L _B | — | — | — | — | 5 | 5 | 5 | 5 | 5 | 5 |

Detail dimensions



LM₁ =15 only application



Terminal Layout / Circuit Diagram

| Without tap for volume | With tap for volume | For tone and for volume (15C) |
|------------------------|---------------------|-------------------------------|
| | | |
| | | |

Note

Marked are specifications recommended by Alps Alpine.

Refer to P.363 for ordering products not listed.

14mm Size Insulated Shaft Snap-in Type / Ordering Products Not Listed

When ordering product varieties that are not listed, specify referring to the examples below.

Sample Part Number

R K 1 4 K 1 2 4 0 — **F 2 5** — **C 0** — **B 1 0 3**

Model type

| Code | Model type |
|------|--|
| 1 | Horizontal type without bushing for tone |
| 2 | Horizontal type with bushing for tone |
| 3 | Vertical type without bushing for tone |
| 4 | Vertical type with bushing for tone |
| A | Horizontal type without bushing for vol. |
| B | Horizontal type with bushing for vol. |
| C | Vertical type without bushing for vol. |
| D | Vertical type with bushing for vol. |

Shaft type

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

*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 |
| 22 | 22.5 | 32 | 32.5 |
| 27 | 27.5 | — | — |

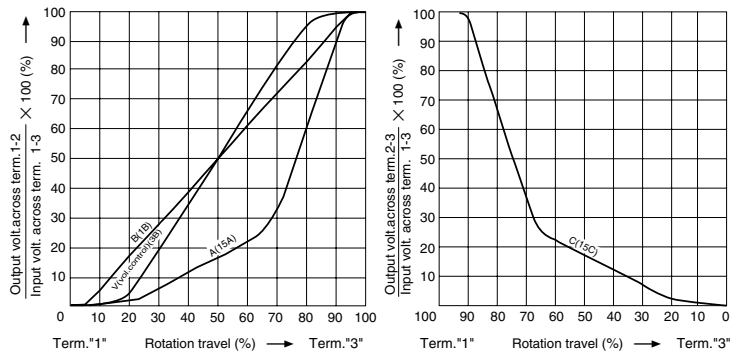
Detent

| 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 (Model type : 1, 2, 3, 4)
V : For vol. (Model type : A, B, C, D)



Total resistance












| Code | Total resistance (k Ω) | Code | Total resistance (k Ω) |
|------|------------------------|------|------------------------|
| 502 | 5 | 503 | 50 |
| 103 | 10 | 104 | 100 |
| 203 | 20 | — | — |

Note

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 | RK09K12 | RK09Y11L | RK11K | RK12L12 | RK14K | |
| | Single-unit | Dual-unit | Single-unit | Single-unit | Dual-unit | Dual-unit | |
| Photo |  |  |  |  |  |  | |
| Terminal mounting | Vertical / Horizontal | | Horizontal | Vertical / Horizontal | | | |
| Bushing | Without | | | With / Without | Without | With / Without | |
| Operating temperature range | -10°C to +70°C | | | | | | |
| Operating life | 5,000 cycles | 10,000 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% | ±30% | ±20% | | |
| | Rated power | 0.05W | 0.03W | 0.01W | 0.05W | | |
| | Maximum operating voltage | 50V AC 20V DC | 50V AC for AC only | 50V AC 5V DC | 50V AC 20V DC | 50V AC for AC only | |
| | Gang error | — | -40dB to 0dB 3dB max. | — | — | Volume control -40dB to 0dB 3dB max. For tone control within 2dB 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, 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 | 345 364(RK09D117) | | 352 | 353 | 357 364(RK12L12H, RK12L127) | 360 | |

| | |
|---|-----|
| Insulated Shaft Potentiometers Soldering Conditions | 366 |
| Potentiometers Cautions | 418 |
| Potentiometers Measurement and Test Methods | 420 |
| Potentiometers Resistance Taper | 422 |

Note

● Indicates applicability to all products in the series.

Reference for Manual Soldering

| Series | Tip temperature | Soldering time | No. of solders |
|--|-----------------|----------------|----------------|
| RK09D, RK09K, RK09Y11L, RK11K, RK12L, RK14K | 350°C max. | 3s max. | 1 time |

Reference for Dip Soldering

| Series | Preheating | | Dip soldering | | No. of solders |
|--------------|-------------------------------|--------------|-----------------------|----------------|----------------|
| | Soldering surface temperature | Heating time | Soldering temperature | Soldering time | |
| RK12L | 100°C | 1 min. max. | 260°C max. | 5s max. | 2 time max. |

Rotary Potentiometers

Slide Potentiometers

Metal Shaft

Insulated Shaft

Knob Operating

Through Shaft Type

Ring Type

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ALPS:

[RK14K12C0A0T](#) [RK14K12B0A0R](#) [RK14K1230A0X](#) [RK14K12C0A1S](#) [RK14K1230A2X](#) [RK14K1240D04](#)
[RK14K1240062](#) [RK14K1220A25](#) [RK14K1240036](#) [RK14K1240A4S](#) [RK14K12D0A18](#) [RK14K1220A0F](#)
[RK14K12D0A1X](#) [RK14K1210A1B](#) [RK14K12A0A3C](#) [RK14K1220024](#) [RK14K12B0A0E](#) [RK14K1240-F32-C0-B104](#)
[RK14K1220025](#) [RK14K1240A4S HARDWARE](#) [RK14K1220F25C0C104](#) [RK14K1220-F25-C0-A103](#) [RK14K1240-F20-](#)
[C0-B103](#) [RK14K1240-F32-C0-A503](#) [RK14K1240F0B103 HARDWARE](#) [RK14K1240D1M](#) [RK14K1240-F32-C0-B103](#)
[RK14K1240-F32-C1-B103](#) [RK14K12B0A0E HARDWARE](#) [RK14K1240-F32-C0-A104](#) [RK14K124003Y](#) [RK14K1220-](#)
[F25-C1-B103](#) [RK14K1240-F32-C1-B104](#) [RK14K1240-F32-C1-B503](#)