

# Sensors

## Linear Type

### RDC10 Series



High precision space-saving design contributes to reduce size and weight of the set.



#### Features

- High-precision linearity is attained by high-precision printing technology.
- Light operation force contributes to reduce torque load in motor driven mode.

#### Applications

- For detecting feedback from motor drive units in digital camcorders and CD changers, MD changers
- For detecting various types of size in copy machines, multifunctional printers and projectors

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Sensors

Rotary Type

Linear Type

#### Typical Specifications

Items	Specifications
Rating voltage	5V DC
Operating force	0.25N max.
Operating life	200,000cycles
Total resistance	10kΩ
Total resistance tolerance	±30%

#### Recommended Products List

Travel (mm)	Linearity (Independent)	Length of lever (mm)	Length of terminal (mm)	Minimum packing unit (pcs.) ※	Model No.
14	±0.5%	4.5	2	2,400	RDC1014A09
22				2,100	RDC1022A05
32				900	RDC10320RB
47		4.4		1,000	RDC1047A03


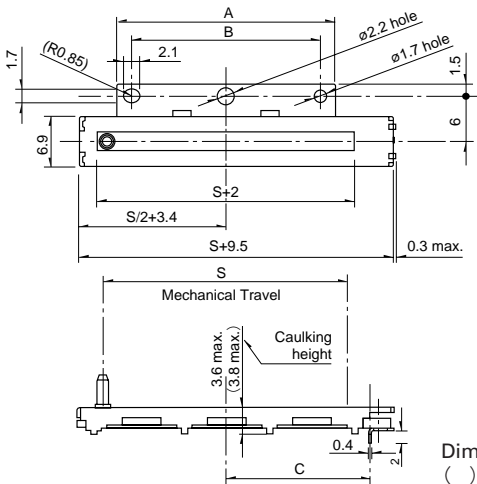
#### Note

※ For the switch attached, inner axis of the single-shaft or the dual-shaft type can be chosen. Please place purchase order per minimum packing unit. Please contact us for export packing details.

Refer to P.200 for product varieties.  
Refer to P.201 for product specifications.

**Dimensions**

Unit:mm

Photo	Style																									
	 <table border="1" style="margin-top: 10px;"> <thead> <tr> <th>Dimension</th> <th>S</th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>RDC1014</td> <td>14</td> <td>19</td> <td>15</td> <td>10</td> </tr> <tr> <td>RDC1022</td> <td>22</td> <td>19</td> <td>15</td> <td>14</td> </tr> <tr> <td>RDC1032</td> <td>32</td> <td>29</td> <td>25</td> <td>19</td> </tr> <tr> <td>RDC1047</td> <td>47</td> <td>37</td> <td>33</td> <td>26.5</td> </tr> </tbody> </table> <p style="font-size: small;">Dimensions surrounded by parentheses ( ) are applicable to RDC1047 only.</p>	Dimension	S	A	B	C	RDC1014	14	19	15	10	RDC1022	22	19	15	14	RDC1032	32	29	25	19	RDC1047	47	37	33	26.5
Dimension	S	A	B	C																						
RDC1014	14	19	15	10																						
RDC1022	22	19	15	14																						
RDC1032	32	29	25	19																						
RDC1047	47	37	33	26.5																						

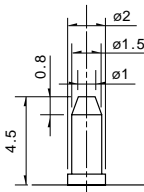
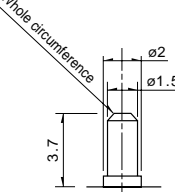
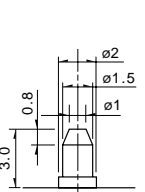
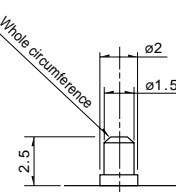
**Circuit Diagram**



**Product Varieties**

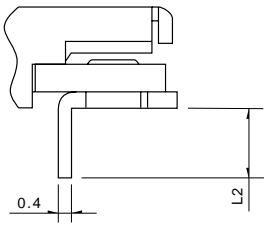
In addition to the recommended products, the following specifications can also be accommodated.

**Lever Variety** \* Size in ( ) are applicable to RDC1047 only. Unit:mm

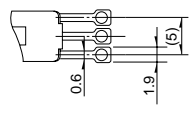
Length	4.5 (4.4)	3.7 (3.6)	3 (2.9)	2.5 (2.4)
Dimensions				

**Terminal Variety**

For printed wiring Unit:mm

Dimensions				
Length L2	1.5	2	4	5.5

For lead wiring Unit:mm

Dimensions	
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**Note**

marked are specifications recommended by ALPS.

# Products Specifications

Items	Type Model	Rotary type						Linear type
		RDC40	RDC501	RDC502	RDC503	RDC506	RDC80	RDC10
		Multiple turns	Horizontal type	Vertical type	Reflow type	Reflow type (Thin shape)	Reflow type	
<b>Operating temperature range</b>		-30°C to +80°C	-40°C to +120°C				-30°C to +85°C	
<b>Electric performance</b>	Total resistance tolerance	±30%						
	Resistance taper	Linear						
	Rated voltage	5V DC						
	Max. operating voltage	18V DC	16V DC				5V DC	
<b>Mechanical performance</b>	Linearity	±1%	±2%			±3%	±0.5%	
	Effective variable range	13 rotations	320°			330° (1-phase) 360° (2-phase)	S (Travel) -2mm	
	Rotational angle	—	(Without stopper)				—	
	Rotational torque	2mN·m max.				10mN·m max.	—	
<b>Durability</b>	Operating force	—————				0.25N max.		
	100,000cycles	●	—————			●	—	
	200,000cycles	—————				—	●	
	1,000,000cycles	—	●			—————		

Rotary Potentiometers

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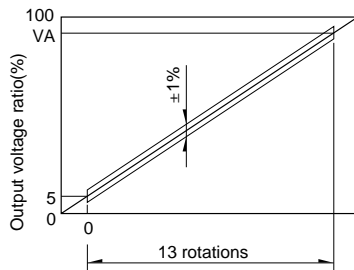
Rotary Type

Linear Type

## Method for Regulating the Linearity

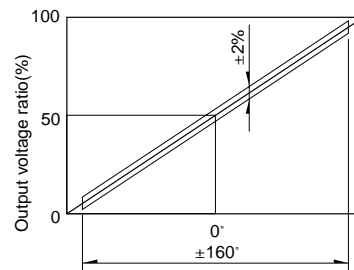
### Model RDC40

1. Reference taper : 90%/13 rotations
2. VA is measured output value



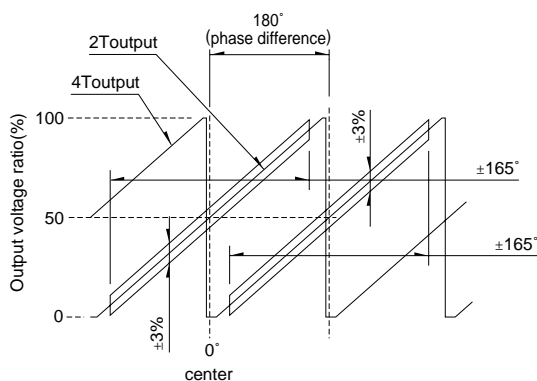
### Model RDC50

1. Reference taper : 100%/333.3°
2. Output level of reference point is 50% .



### Model RDC80

1. Reference taper : 100%/340°
2. The center position depends on the position depicted in the product drawing.



### Model RDC10

This is the deviation to an ideal line shown below when the voltage applied between terminals 1 and 3 is assumed to be 100%. (Unit:percentage)  
With rated voltage applied between terminals 1 and 3, the ideal line is assumed to be the straight line drawn between the measured output values  $V_B$  and  $V_A$  at specified reference positions B and A.

