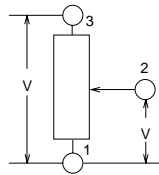


Caution

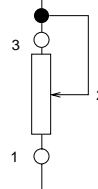
[Recommended Circuit Configuration]

When using variable resistors, it is recommended that you use them as voltage adjusting means, as shown in Fig. A. If the variable resistor is used as a current adjusting means as in Fig. B, it may be influenced by the contact resistance between the resistor body and the slide, depending on the set circuit. Conducting a test under actual operating conditions is highly recommended.

A. Voltage divider type

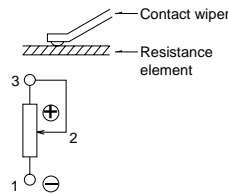


B. Current controller type



[Terminal Connections]

In applications where a direct current is allowed to flow through the potentiometer's sliding arm, there could be a problem of anodic oxidation due to an unusual increase in resistance value. In this case, it is recommended that you connect the negative line to the resistance element and the positive line to the sliding arm.



[Direct Voltage]

When direct voltage is flown through this part, terminal to terminal insulation may deteriorate depending on the use environment. This is due to a migration phenomenon. Contact us if you are planning to use this part under direct voltage.

[Impedance on the Output Side]

As when the impedance on the output side for the voltage adjusting circuit is low, it may receive the affect of contact resistance between the resistor and the movable slice, please set the impedance to the value as much as 100 times of the total resistance value or more.

[Residual Resistance]

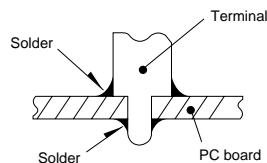
Although electric poles of resistors are generally formed by silver printing, we provide carbon coating over the silver poles to enhance reliability against sulfurization. Contact us if you wish to use the part in a low residual resistance state.

[Dew Condensation]

Avoid using the potentiometer where dew or water drops might occur on the surface of the resistor, etc. Deterioration of insulation or shorting may occur.

[Soldering]

Avoid employing wiring designs and soldering methods in which molten solder flows over the upper surface of PC board, as illustrated in the schematic drawing. This can cause occurrences of imperfect contacts.



[Stress Being Applied to the Terminals]

Always pay special attention not to apply excessive stress when handling the terminals. Also, be sure to design appropriate soldering conditions.

Rotary Potentiometers

Slide Potentiometers

Multi Control Devices

Sensors

Metal Shaft

Insulated Shaft

Hollow Type

Knob Operating

Caution

[Looseness of the Shaft]

When lengthy shaft lengths are being employed, the looseness(deviation) tends to grow in proportion to the shaft length. Conducting a test under actual operating conditions is recommended.

[Chassis Mounting]

The use of a nut to fasten this part may lead to excessive tightening and can deteriorate the rotary contact performance, or strip the threads. Handle with care when tightening the nut.

[Use of Chemicals]

Since synthetic resins such as polycarbonate are being used as the material for the insulated type shafts, avoid using this part under gassy environments of such chemicals as ammonia, amines, alkali water solutions, aromatic hydrocarbons, ketones, esters and halogenated hydrocarbons, especially, under their intensive gas environments.

[Operation at Low Temperature]

When these products are expected to be used under low temperature environments such as applications for car radios and car stereos, we can customize them for easier and more smooth rotary movements. When placing orders, indicate whether the low temperature specification is necessary or not.

The above operation notes are quoted from the

"Precaution and Guideline of Potentiometer for Electrical Devices", a technical report issued by the Japan Electronics and Information Technology Industries Association EIAJ RCR-2191A (in March 2002) .

For details, refer to the original technical report.

Rotary
Potentiometers

Slide
Potentiometers

Multi Control
Devices

Sensors

Metal
Shaft

Insulated
Shaft

Hollow
Type

Knob
Operating