

HIOKI

Instruction Manual

SME-8302

ELECTRODE FOR SURFACE RESISTANCE

HIOKI

HIOKI E.E. CORPORATION

2402 EN

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Warranty

Warranty malfunctions occurring under conditions of normal use in conformity with the Instruction Manual and Product Precautionary Markings will be repaired free of charge. This warranty is valid for a period of one (1) year from the date of purchase. Please contact the distributor from which you purchased the product for further information on warranty provisions.

Specifications of SME-8302

This is an electrode for measuring the surface resistance of insulating materials. Measurement is made by lightly applying the electrode tips to the surface of material being measured.

1. Specifications

Measuring range	$10^{11} \text{ M}\Omega$ or less
Max. applicable voltage	1,000VDC or less
Interval of electrode tip	approx. 10mm

2. Accessories

Instruction manual	1 copy
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3. Caution on Handling

Since high voltage (depending on the super megohmmeter to be connected) is handled, utmost care must be taken to the electric shock , etc.

Instruction manual of electrode for surface resistance, model SME-8302

1. General description

This electrode, having main electrode tips at 10mm distance, is used to measure the surface resistance of curved surface sample. It is very difficult to measure the surface resistance of uneven flat material. Because electrode tips does not always hit to the sample correctly. Considerable attention has been paid to this matter, but it is not perfect even in the curve ratio and uneven state of surface.

Construction is shown in Fig 1.

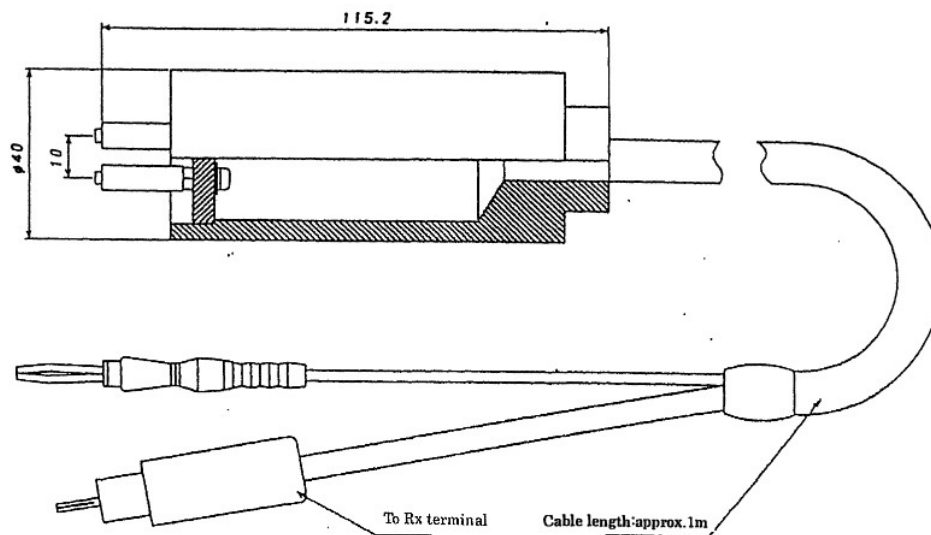


Fig. 1 Construction and dimensions of SME-8302

2. Handling method

This is used to connected to HIOKI super megohm meter SM-series. On connecting to the meter, pre-set high voltage generates at the tips of this electrode, depending on the kind of meter. Utmost care must be taken to this matter.

Measurement is possible by holding it and applying the electrode tips vertically to measuring position. Actually, contact condition of electrode tip changes depending on the uneven state or curve ratio of measuring position. Under this contact condition, measured value might be changed remarkably.

In actual measurement, increase of measuring times and average of data will be necessary.

Since the shielding of sample is unavailable, the upper limit of measurable value is naturally lower. Depending on surrounding environment and sample to be measured, "10¹¹ Ω" is maximum.

3. Electrode constant

In case of surface resistance measurement, measured values is compensated with electrode constant, then the data as resistivity is obtained. However, the condition of contact state cannot be specified when using this electrode, electrode constant can not be obtained. Obtained value is accurate but could not be simply compared with the data obtained by other electrode. It is necessary to calculate "ratio" from the data obtained by other electrode and this one.

4. Maintenance of electrode tip

This electrode is shown in Fig 2. Electrode tip is installed with "M3 screw". Electrode tip portion only is removed by turning it counterclockwise. (Refer to Fig. 3) If electrode tip portion is faulty, please contact our agent or us to replace it. When tip rubber is broken, insert it with 2mm minus driver into the electrode tip and turn it slowly. It is pressed. Too much turning makes the rubber come off. Usage by pushing out is considered as emergency measure. (Refer to Figure 4)

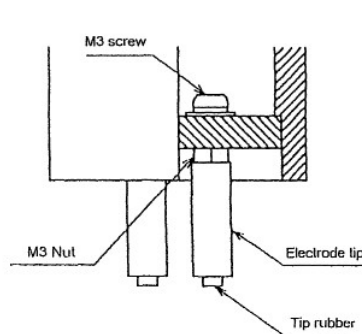


Fig. 2 construction figure of electrode

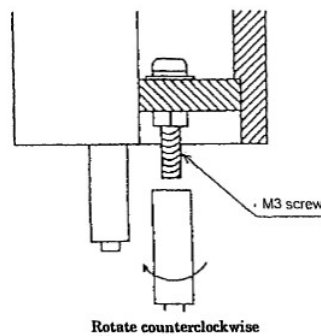


Fig. 3 How to remove electrode

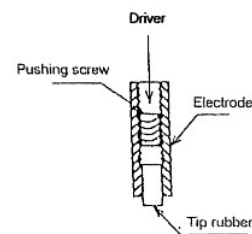


Fig. 4 Construction of electrode tip

5. Care in handling

The measured value changes according to the contact way of electrode tip. Please understand that measurement with this electrode is simplified method. Preset measuring voltage is output at the electrode tips of this electrode. Please use it, paying an attention to the electrical shock, etc.