

Handheld Electrostatic Meter

Series IZH10



How to Order



IZH10-□

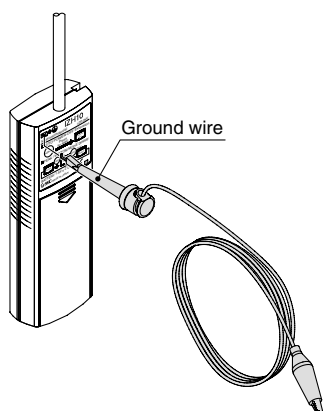
● Option

Nil	None
H	High-voltage measuring handle

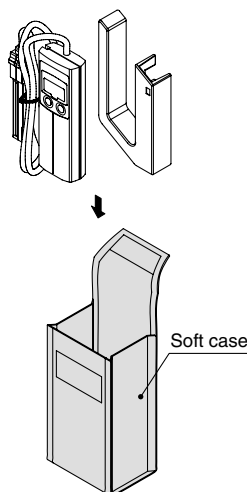
Accessories and Option / Part Number for Individual Parts

* The ground wire and soft case are attached to the IZH series.

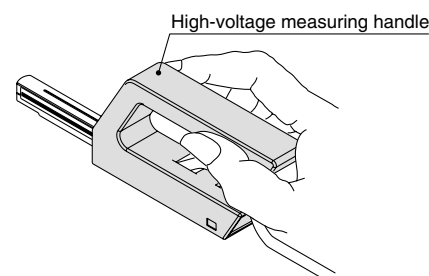
Ground wire (1.5 m) / Accessories IZH-A-01



Soft case / Accessories IZH-B-01



High-voltage measuring handle / Option IZH-C-01



Note) Be sure to use a high-voltage measuring handle in situations such as during high-voltage measurement when there is a possibility of personnel coming in contact with electricity.

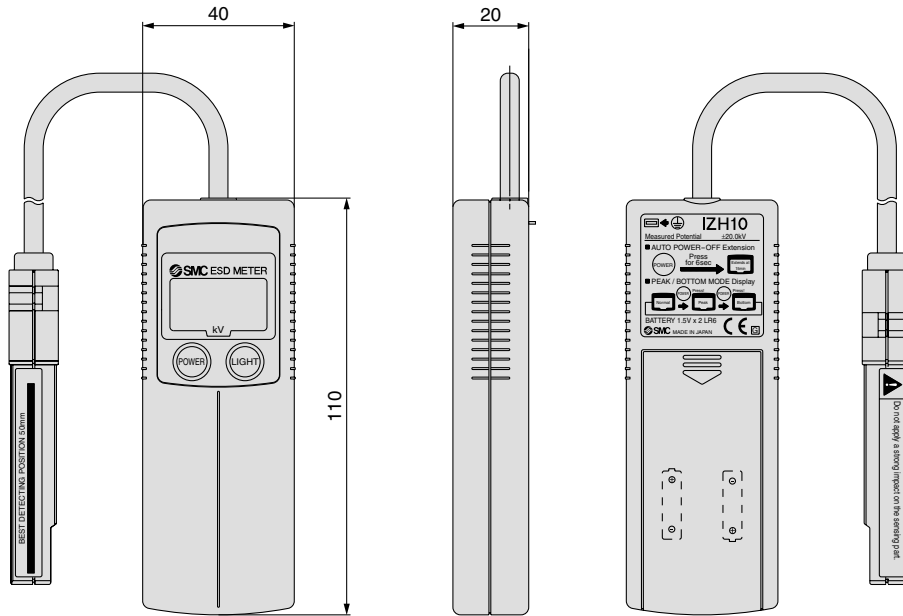
Specifications

Model		IZH10
Rated charge amount range		±20.0 kV
Minimum display unit		0.1 kV (±1.0 kV to ±20.0 kV), 0.01 kV (0 to ±0.99 kV)
Measurement distance		50 mm (between sensor part and measured target)
Power supply <small>Note 1)</small>		1.5 VDC 2A alkali dry cell battery, 2 pcs (continuous use for 15 hours or more, see <small>Note 2)</small>)
Display accuracy		±5% F.S. ±1 digit
Environmental resistance	Enclosure	IP40
	Operating temperature range	Operating: 0 to 40°C, Stored: -10 to 60°C (with no freezing or condensation)
	Operating humidity range	Operating/Stored: 35 to 85% R.H. (with no condensation)
	Vibration resistance	10 to 150 Hz at whichever is smaller of 1.5 mm amplitude or 98 m/s ² acceleration, in X, Y, Z directions for 2 hs. each (De-energized)
	Impact resistance	100 m/s ² in X, Y, Z directions 3 times each (De-energized)
Material		Display part: PC/ABS Sensor part: ABS
Mass		85 g (excluding dry cell batteries)
Standards		CE marking
Accessories		Ground wire, Soft case

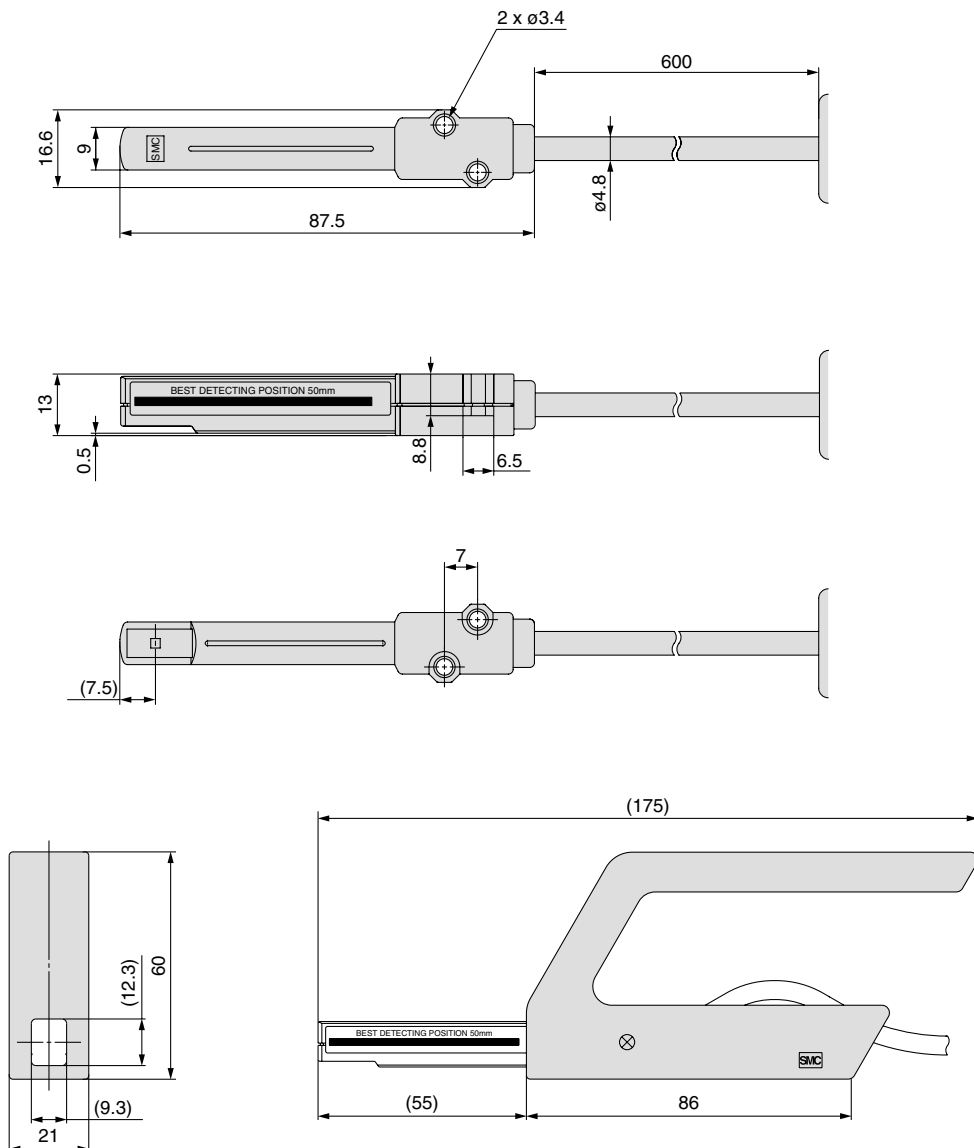
Note 1) 2A alkali dry cell batteries are not included, and must be acquired separately.
 Note 2) When new alkali dry cell batteries are used at ordinary temperature.

Dimensions (Unit: mm)

Display part



Sensor part

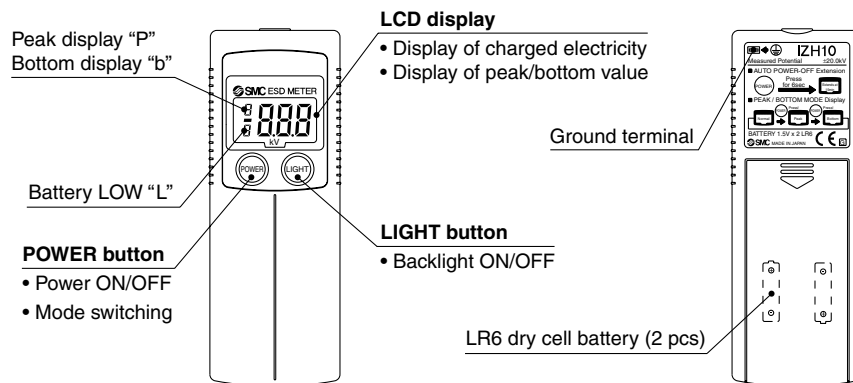


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Names and Functions of Individual Parts



Function Details

A Peak/Bottom display function

The function constantly detects and updates the maximum and minimum electrostatic potential value and allows holding the display value.

B Reset function

The reading of the measured voltage can be adjusted to zero.
The reading can be corrected within $\pm 5\%$ of F.S. from the factory-set condition.

C LOW battery indicator

When the batteries are low it is displayed in two stages: "Battery LOW" and "Replace Battery".
The battery level is indicated by the flashing or lightening up of "L" on the display.

- "L" flashes: Prepare to replace batteries.
- "L" lights up: Replace batteries with new ones.

D Auto power-off function

If no button is operated for 5 min. or more while the power supply is on, the power supply will turn off automatically.
When the [POWER] button is pressed for 6 sec. or more with the power supply off, continuous operating time while no button is pushed will extend to 15 min.

E Light-up of backlight

The display can be easily seen in the dark.
The backlight will be turned on and off by every press of the [LIGHT] button.

F Displayed digit change function

The minimum display digit is changed for the charged potential between -0.99 kV to $+0.99$ kV.

Error Display

Error description	Error display	Condition
Zero clear error	Er 1	A charge over $\pm 5\%$ F.S. of default potential is applied to the sensor. * The indication lasts approx. 1 sec. and then measurement mode returns automatically. There will be a slight displacement, depending on the deviation of the sensor itself and ambient environment.
Sensor error	Er 2	The sensor breaks.
System error	Er 3	Internal display error.
Measurement error	HHH	A charge over the upper limit of the measured voltage range is applied to the sensor, or the distance to the measured target is outside of specified range.
	LLL	A charge over the lower limit of the measured voltage range is applied to the sensor, or the distance to the measured target is outside of specified range.
Cable breakage	—	A broken cable prevents accurate measurement. The charge amount can be detected, but it will not change the displayed value.



Series IZH10

Handheld Electrostatic Meter Precautions

Be sure to read this before handling. Refer to front matters 58 and 59 for Safety Instructions.

Handling Precautions

Warning

1. Do not make any modifications (including exchanging the printed circuit board) to the product.

It may cause human injuries and damage.

2. Use the device in the condition of specified range.

Using it out of the specified range may result in fires, electric shock, or damage. Confirm the specifications before using.

3. Measurement near high-voltage

Avoid measuring near high-voltage exceeding specifications as it can be dangerous.

4. Handling of ground wire

Be sure to provide a ground wire to ensure safety and high-accuracy measurement when using the sensor.

Also, if the ground wire is not connected properly, the power is pooled in the sensor part and/or ground terminal, which can discharge to an operator's hand. Handle the sensor part and ground terminal carefully.

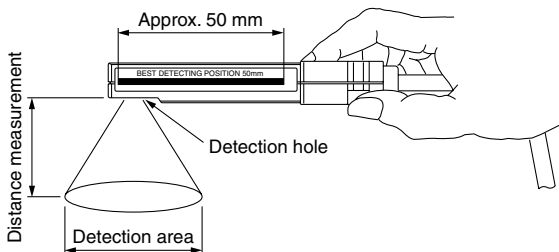
If grounding is not provided,

- Measurement accuracy gets worse.
- The sensor is charged and can discharge to an operator's hand.

5. Do not apply strong impact.

Do not drop, allow collision or apply excessive shock to the sensor when handling. It can result in damage of the sensor and accidents.

6. Distance measurement is 50 mm. Use display of label attached to the sensors as a guide.



7. The measurement of a part with a high-charge potential can be highly dangerous as it can cause a discharge to the user's hand.

In this case, use a handle specific for measuring high voltage, which is available as an option, and wear rubber gloves, etc. Also, gradually bring the sensor part close to the measured target from a distance, and stop the measurement immediately when the displayed value overflows (HHH) or underflows (LLL). (A target with a high-charge potential is very dangerous. The measured value does not change even if the distance is shortened.)

Operating Environment

Warning

1. Handheld electrostatic meters are CE marked; however, they are not equipped with surge protection against lightning. Lightning surge countermeasures should be applied directly to system components as necessary.
2. Handheld electrostatic meters do not have an explosion proof rating. Never use in the presence of an explosive gas as this may cause a serious explosion.

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Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC), Japan Industrial Standards (JIS)*1) and other safety regulations*2).

- * 1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
- ISO 4413: Hydraulic fluid power – General rules relating to systems.
- IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
- ISO 10218-1992: Manipulating industrial robots -Safety.
- JIS B 8370: General rules for pneumatic equipment.
- JIS B 8361: General rules for hydraulic equipment.
- JIS B 9960-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
- JIS B 8433-1993: Manipulating industrial robots - Safety.
- etc.
- * 2) Labor Safety and Sanitation Law, etc.

 **Caution:** Operator error could result in injury or equipment damage.

 **Warning:** Operator error could result in serious injury or loss of life.

 **Danger :** In extreme conditions, there is a possibility of serious injury or loss of life.

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.

2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.

3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3. An application which could have negative effects on people, property, or animals requiring special safety analysis.

4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.



Safety Instructions

Caution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

Limited Warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited Warranty and Disclaimer” and “Compliance Requirements”. Read and accept them before using the product.

Limited Warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*3)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

* 3) Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

When the product is exported, strictly follow the laws required by the Ministry of Economy, Trade and Industry (Foreign Exchange and Foreign Trade Control Law).