Installation and Maintenance Manual
Handheld Electrostatic Meter
Type IZH10

Safety Instructions

- This manual contains essential information for the protection of users and others from possible injury and equipment damage.
- Read this manual before using the product, to ensure correct handling and read the manuals of related apparatus before use.
- Keep this manual in a safe place for future reference.
- These instructions include the level of potential hazard by label of "DANGER," "WARNING," or "CAUTION," followed by important safety information which must be carefully followed.
- To ensure safety of personnel and equipment, the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

**CAUTION**
If instructions are not followed there is a possibility of serious injury or loss of life.

**WARNING**
If instructions are not followed there is a possibility of injury or equipment damage.

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

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**Safety Instructions (continued)**

**NOTE**
Follow the instructions given below when handling the meter.
If the instructions are not followed the meter may malfunction or become damaged.

**Notes for use**
- Do not carry or swing the meter by the sensor cable. If the sensor cable breaks, the meter can hit people or objects, causing injury or damage.
- Do not press setting buttons with sharp, pointed objects.
- Do not touch the detecting surface of the sensor by hand, directly or with a metal object. Such action can result in damage and accidents as well as a loss of specified function and performance.
- When measuring objects with a high charged potential, there is a risk of electrostatic discharge to the hand of the user holding the sensor. In this situation use the high voltage measuring handle (optional extra) and wear protective rubber gloves. Starting from a safe distance, slowly move the sensor closer to the measurement target. Stop immediately if the display shows "HHH" or "LLL" as the charged potential is out of range. This means the charged potential is very high, which can be highly dangerous. The display will not change if the sensor is moved closer to the charged object.
- Do not place objects and cables other than the measurement target near the detecting port of the sensor. Doing so will cause interference and result in an inaccurate display reading.
- Handle cables carefully so they do not get tangled with users' equipment, as this can be highly dangerous.
- The measurement distance is 50 mm. Refer to scales shown on the label attached to the sensor.
- The meter is designed to measure static electricity and must not be used for other purposes.

**Environment for use/storage**
- Do not use in areas where electromagnetic noise is generated. It can result in malfunction (display of incorrect value), deterioration and damage to internal components.
- Do not leave the meter in areas exposed to direct heat or sunlight, such as inside a closed car or near a heating appliance. High temperatures can cause deformation, discoloration and damage to the meter.
- Do not use in areas where the meter could be splashed by oil or chemicals.

**Maintenance and Other Precautions**
- Use 2 of AA (LR6) alkaline dry cell batteries in the meter. Other batteries are not suitable and their use may result in damage.
- When fitting the batteries pay particular attention to the polarity markings ("+" and "+") stamped on the body of the meter. If fitted incorrectly, the batteries may leak or even burst.
- Remove the batteries when the meter will not be used for extended periods.
- If the meter body becomes dirty, clean by wiping with a soft cloth.
- For more stubborn dirt, wipe with a cloth dampened with a dilute solution of neutral detergent, then dry thoroughly with another clean, dry cloth.

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**Model Indication Method**

**IZH10** - 

**Option**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High voltage measuring handle</td>
</tr>
</tbody>
</table>

**Accessories and Options/Part Number for Individual Parts**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground wire (1.5 m)</td>
<td>IZH-A-01</td>
</tr>
<tr>
<td>Soft case</td>
<td>IZH-B-01</td>
</tr>
<tr>
<td>High voltage measuring handle</td>
<td>IZH-C-01</td>
</tr>
</tbody>
</table>

**Power supply**

1.5 V AA alkaline dry cell battery (2 pcs.)

(Battery life: >15 hours continuous use)

**Note 1)** AA alkaline dry cell batteries (2 pcs.) are not included, and need to be supplied separately.

**Display accuracy**

± 0.5 %, ±1 digit

**Specifications**

<table>
<thead>
<tr>
<th>Item</th>
<th>IZH10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated charge range</td>
<td>0.01 kV (0 to 0.09 kV) 0.1 kV (1.0 kV to 20.0 kV)</td>
</tr>
<tr>
<td>Display resolution</td>
<td>1 digit</td>
</tr>
<tr>
<td>Measurement distance</td>
<td>50 mm (between sensor and measurement target)</td>
</tr>
<tr>
<td>Accessories and Options/Part Number for Individual Parts</td>
<td>Ground wire, soft case</td>
</tr>
</tbody>
</table>

**Names and Functions of Individual Parts**

**Meter body**

- LCD: Display screen
- Ground terminal: Connection to ground wire
- Battery saving: "L": Battery-saving mode
- Battery: AA (LR6) dry cell battery (2 pcs.)

**Sensor**

- Sensor: Detecting port
- Sensor label: Calibration label for sensor

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**Outline with Dimensions (mm)**

**Sensor**

- Detecting port

**Power supply**

1.5 V AA alkaline dry cell battery (2 pcs.)

(Battery life: >15 hours continuous use)

**Note 1)** AA alkaline dry cell batteries (2 pcs.) are not included, and need to be supplied separately.

**Note 2)** With 2 new alkaline dry cell batteries at room temperature.


**Power OFF**
When the "POWER" button is pressed for 3 seconds or more with the meter on, the meter will be turned off. If no buttons are pressed for a set time the meter will automatically turn off. (For details, refer to Auto Power-off function.)

To conserve battery life turn the meter off immediately after use.

**Auto Power-off**
If no buttons are pressed for 5 minutes or more the meter will turn off automatically.

**Auto Power-off Extension**
When the "POWER" button is pressed for 6 seconds or more with the meter turned off, the auto power-off display will extend to 15 minutes. (When the auto power-off extension is activated, all the display segments will flash for 3 seconds.)

**Zero Clear**
The displayed value can be adjusted to zero for a measured charged potential if it is in the range of the factory zero setting ± 5 % F.S. (There may be a slight deviation from the factory setting, due to variations in the sensor itself and the ambient environment where the meter is used.)

When "POWER" and "LIGHT" buttons are pressed simultaneously for 6 seconds or more (with the meter on), the displayed value is reset to zero and the meter will then return to measurement mode. Once the meter is turned off, the offset value for Zero Clear is cleared.

**Backlight**
When the "LIGHT" button is pressed while the meter is in measurement mode, the backlight will turn on. Pressing the "LIGHT" button again will turn the backlight off.

**Peak/Bottom Hold Value**
When the "POWER" button is pressed with the meter turned on, the display will be changed to instantaneous value, peak hold value, bottom hold value and back to instantaneous value, in that order. (For details, refer to Auto Power-off extension.)

To conserve battery life turn the meter off immediately after use.

**Battery LOW**
When the power from the batteries is running low, "L" will appear on the display. Depending upon how much power is left in the batteries, "L" will be displayed differently.

- The batteries are very low.
- The batteries are very low.
- The batteries are very low.

**Display resolution change**
The display resolution changes depending upon the measured charged potential value.

- Display example:
  - 1.0 kV to 20.0 kV
  - 0 to 0.99 kV
  - Display resolution: 0.1 kV
  - Display resolution: 0.01 kV

**Error Indication (continued)**

Error name | Error display | Error contents | Troubleshooting
--- | --- | --- | ---
Zero Clear | Er1 | A charged potential greater than ± 5 % F.S. of the factory zero setting was present when Zero Clear was performed. | Return to uncharged condition, and perform Zero Clear again.
Sensor error | Er2 | The sensor is broken. | Stop using immediately and contact the local SMC sales branch.
System error | Er3 | There is an internal data error. | Turn the meter off and on again. If the error has not cleared, contact the local SMC sales branch.

**Error display**
- Prepare to replace with new batteries.
- Replace with new batteries immediately.

**Specifications are subject to change without prior notice from the manufacturer.**

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