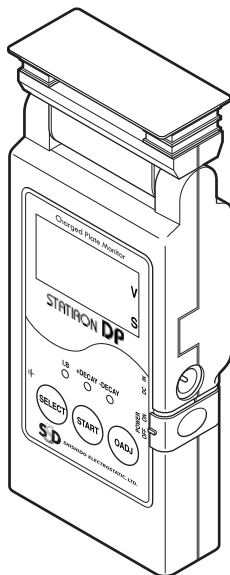


Charged Plate Monitor STATIRON DP



Thank you for purchasing the Statiron DP. Please read this manual before using the product in order to fully understand its functions. Also make sure to store this manual so that it can be referred to in the future.

Functions

The charged plate monitor Statiron DP is a portable measuring device for measuring the potential of plates and attenuation times of voltages applied to plates.

You can easily apply voltages and measure attenuation using the built in transformer.

Characteristics

1. The Statiron DP is a portable charged plate monitor. It can simply and easily measure attenuation.
2. Enables you to take measurements in narrow locations by rotating the sensor head.
3. With the plate, you can carry out ionizer balance checks.

Safety Precautions

This device is a precision electrical instrument. For the sake of safety, be sure to follow the instructions described in this manual. ⚠ mark are precautions that must be followed in order to use the product safely.



Danger

This device does not conform to explosion-proof specifications. Do not install it in locations where flammable gases or solvents are handled, such as painting booths etc. Doing so may result in fire or explosion.



Caution

This device is a precision electrical instrument. Avoid installing it in wet, oily, hot, and humid locations. In particular, avoid locations of high humidity and condensation. There is a possibility of fire due to breakdown.

Installation

- Do not use this device in the following locations, as doing so may cause malfunctions.
 - Locations subject to high or low temperature, or high humidity
 - Dusty locations
 - Locations where the device may be exposed to organic solvents such as thinner
 - Locations where the device may be exposed to corrosive gas
 - Locations subject to flames or explosions
 - Locations subject to frequent vibrations
 - Locations subject to sudden changes in temperature or humidity
 - Locations subject to condensation
 - Locations where the device may be exposed to water or oil

Maintenance

- Regularly remove any built-up dirt etc. from the charged plate. Built-up dirt can cause insulation faults.
- Make sure to turn the main power of the device OFF before cleaning.

Handling

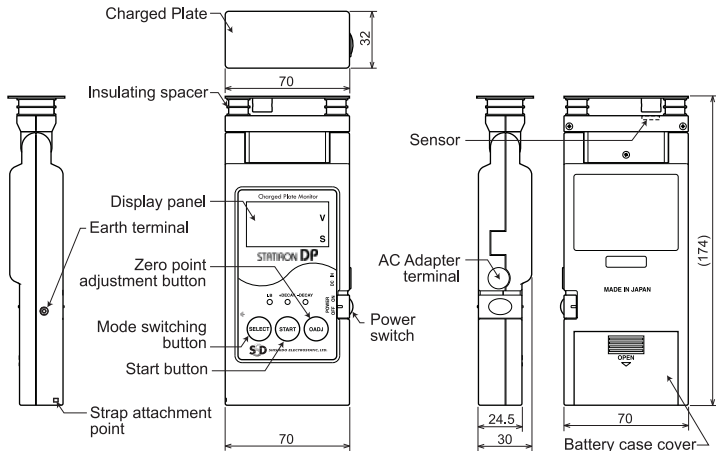
- Make sure to connect the earth wire to an appropriate place. Accurate measurements are not possible if the earth wire is not connected.
- Do not touch or insert foreign materials into the sensor portion of this device.
- Do not blow ionized air directly into the opening of this device.
- Do not place heavy objects on the LCD display of this device.
- Do not disassemble or modify the device.
- The device may affect medical devices such as hearing aids or pacemakers.
- Do not insert any foreign objects into the device. Doing so may result in a short circuit or current leakage, and cause fire or electrocution.
- The battery discharges a small amount of electricity even when the device is turned off. If you do not intend to use this device for an extended length of time, remove the battery.
- If the device emits any abnormal odors or sounds, smoke, or heat, turn OFF the main power immediately, and contact your point of purchase. Failure to do so may result in fire or a short circuit.
- Do not remove name plates or labels.
- Do not do anything with the device that is not described in this manual.

Items Included With the Device

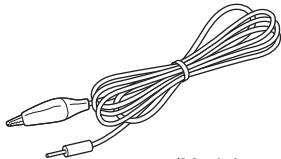
Confirm that the following items are included with the device before using it for the first time.

- Instruction manual/warranty (this document)

- Main Device

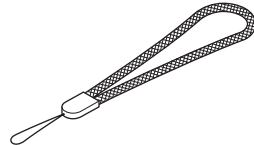


- Earth Lead (x 1)



(Model number:
ODP-GNDCL)

- Strap (x 1)

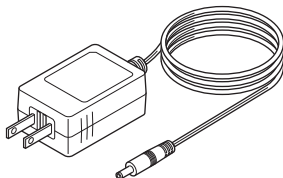


(Model number:
ODZ4-STRAP)

- Battery (AA type 1.5V alkaline dry cell battery) x 2

- Soft case (Model number: ODP-SFTCS) x 1

- AC adapter (optional)



(Model number: ODP-PLT)

Important Points About Taking Measurements

Grounding

This product requires a ground connection. Do not use this product without grounding. If it is not reliably grounded, accurate measurements cannot be obtained.



Caution

If the meter contacts or is too close to a large charged body, there is the danger of an electrical discharge. This may cause a breakdown of the device.

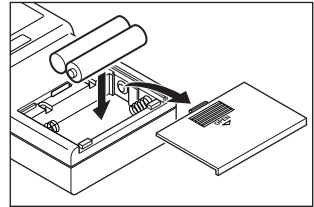
Preparation

1. Insert the battery.

Remove the battery case cover and insert AA dry cell batteries. Replace the cover.

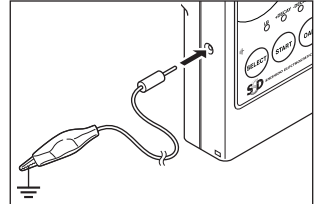
NOTE

- If you are using the optional AC adapter, remove the rubber cap from the adapter terminal before attaching the AC adapter.



2. Connect the earth lead to the earth terminal, and reliably ground the earth lead.

Connect the earth lead securely to the terminal, and connect the clip on the end of the earth lead to a grounded object. To obtain accurate measurements, the earth terminal must be grounded.



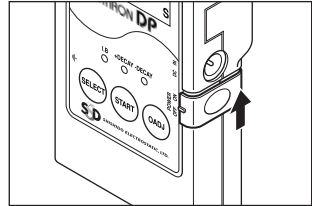
Measurement Procedure

Measuring Ion Balance

You can measure ion balance (offset voltage) using the Statiron DP.

1. Turn the meter on.

Slide the power switch to the ON position.
The device emits a beeping sound and activates.

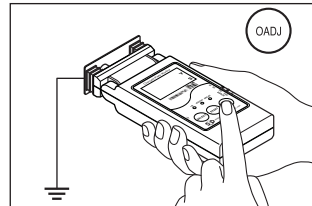


2. Zero point adjust the meter.

Bring the plate into contact with a grounded body and press the OADJ button.

NOTE

- Zero point adjustment is reset when you turn the meter off.



3. Set the mode you want to use.

Each time you press the SELECT button, the meter scrolls through the modes in the order shown in the table on the right.

To measure offset voltage, use the I.B mode.

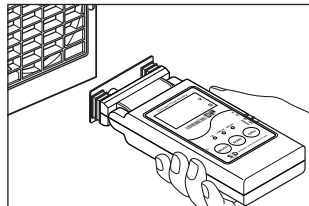
Mode	LED display
I.B Mode	I.B
+DECAY Mode	+DECAY
-DECAY Mode	-DECAY

4. Point the plate at the measurement location.

The potential on the ion balance is measured.

NOTE

- If the display panel blinks "+1" or "-1", the charged voltage has exceeded the measurable range (over-range). If this occurs, stop measuring immediately, as this may cause damage to the meter.



5. To turn the meter off, slide the power switch to the OFF position.

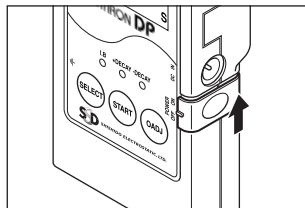
Measuring Attenuation

You can measure static electricity attenuation in the DECAy mode. The +DECAy mode measures positive attenuation, and the -DECAy mode measures negative attenuation.

1. Turn the meter on.

Slide the power switch to the ON position.

The meter emits a beeping sound and activates.

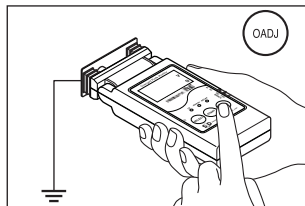


2. Zero point adjust the meter.

Bring the plate into contact with a grounded body and press the OAJD button.

NOTE

- Zero point adjustment is reset when you turn the meter off.



3. Set the mode you want to use.


The meter changes modes each time you press the SELECT button. You can measure attenuation in either the +DECAy mode or -DECAy mode.

The default setting measures attenuation from 1000V to 100V (+1000V to +100V or -1000V to -100V).

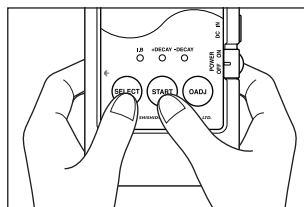
You can switch between the 1000V to 100V attenuation measurement mode and the 1000V to 50V attenuation measurement mode (+1000V to +50V or -1000V to -50V) by pressing the START button three times for less than one second, while holding down the SELECT button.

When you change modes, the LCD panel displays the new mode as shown at right for two seconds, then returns to the normal measurement display.

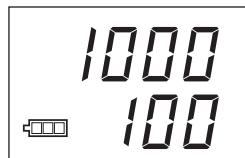
NOTE

- In the 1000V to 50V attenuation measurement mode, the outline of the battery power icon () blinks.

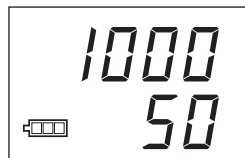
Press the START button 3 times for less than 1 second while holding down the SELECT button.



1000V to 100V attenuation measurement mode:

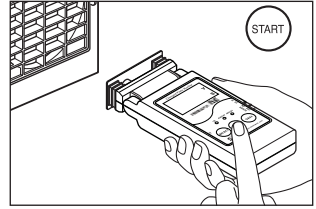


1000V to 50V attenuation measurement mode:



4. **Point the plate at the location you want to measure and press the START button.**

A voltage is applied to the plate and the meter measure the attenuation time.

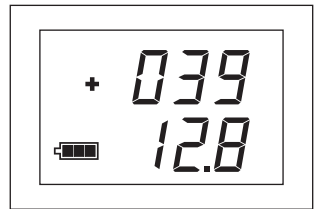


NOTE

- If the display panel blinks "+1" or "-1", the charged voltage has exceeded the measurable range (over-range). If this occurs, stop measuring immediately, as this may cause damage to the meter.

5. **When measurement is finished, the meter emits a beeping sound and displays the attenuation time.**

The attenuation time is displayed at the bottom of the LCD panel (units: seconds).



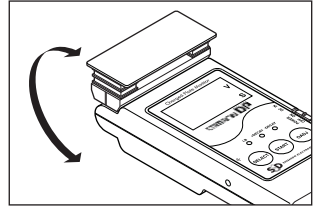
6. **To turn the meter off, slide the power switch to the OFF position.**

Adjustment and Maintenance

Rotating the Sensor Head

You can rotate the sensor head of the meter. This enables you to easily take measurements in narrow locations etc. that were previously difficult to access.

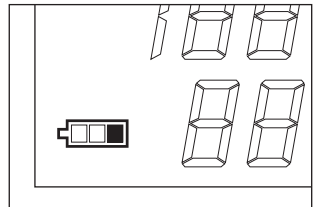
The sensor head rotates in 45° increments. When rotating the head, stop at angles where the sensor head clicks into place.



Battery Indicator

The remaining battery charge is displayed on the lower left of the display panel.

When the battery power icon shows one unit left, replace the battery.

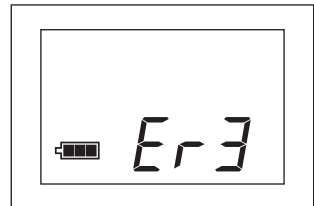


Error Display

If for some reason a sufficient voltage (+1000V or -1000V) is not applied to the plate, an error message such as that shown at right is displayed and a continuous beeping sound is emitted. If this occurs, the insulating spacers may be dirty or moistened. Clean and dry the insulating spacers.

If the display does not change after cleaning and drying the spacers, there may be a problem with the transformer or the sensor. Contact the sales office where you purchased the product.

Insufficient voltage:

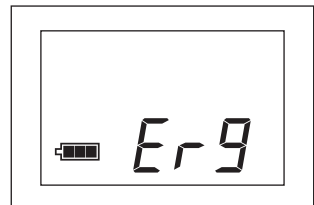


The signal detection method of the meter is an oscillating chopper method.

If for some reason the sensor stops oscillating, an error message like that shown in the illustration on the right is displayed, and the meter emits a beeping sound every second.

If this occurs, restart the meter. If the error message continues to be displayed after restarting the meter a number of times, the sensor may be faulty. Contact the sales office where you purchased the product.

Faulty sensor:



Troubleshooting

If the device does not operate correctly, it may be the result of one of the following.

The display panel is not active when the power is turned on.

Cause 1	The battery has not been installed, or the positive and negative terminals have been connected the wrong way around.
Remedy 1	Correctly install the battery.
Cause 2	The battery has been completely drained.
Remedy 2	Replace the battery with a new one.

The plate voltage attenuates rapidly.

Cause	The insulating spacers are dirty, moist, or have oil on them.
Remedy	Clean and dry the insulating spacers.

The display does not change when approaching the measurement location.

Cause	The sensor is faulty.
Remedy	If an error message is displayed or you cannot hear an oscillating sound from the sensor, the sensor must be replaced. Contact the sales office where you purchased the product.

Specifications

Signal detection method	Oscillating chopper method
Display refresh frequency	0.2 seconds
Measurable potential range	0 - $\pm 1999V$ (resolution: 1V)
Measurement time range	0.0 - 99.9 sec
Continuous operating .limit	Approximately 6 hours (with alkaline battery, I.B mode)
Sensor head rotation angle	180° (stops every 45°)
Display	LCD display
Polarity display	+ polarity/- polarity display
Mode switching	Switch modes by pressing SELECT button
Battery check	Remaining charge displayed in display panel
Battery	Two AA batteries, AC adapter (optional)
Operating temperature/ humidity range	10 - 40°C, 60%RH or less, non-condensing
Measurement accuracy	$\pm 10\%rdg \pm 2$ digit
Dimensions	70 mm x 30 mm x 174 mm (W x D x H)
Plate dimensions	70 mm x 32 mm
Static electricity capacity	12pF \pm 1pF
Weight	Approximately 240g (including battery)

Warranty

Valid for: 1 year after delivery

Product name	Charged Plate Monitor STATIRON		
Model	DP	Serial number	
Date of Delivery			Inspection Stamp

1. If any malfunctions or damage occur to the product due to any of the following reasons, a charge will be incurred for repairing or replacing the product.
2. Malfunctions or damage occurring to the product due to misuse or improper storage.
 - Malfunctions or damage occurring to the product due to repairs or modifications conducted by a party other than SHISHIDO ELECTROSTATIC or a company specified by SHISHIDO ELECTROSTATIC.
 - Malfunctions or damage occurring to the product due to fire, natural disasters, or other acts of providence.
 - Other malfunctions or damage occurring to the product deemed not to be the responsibility of SHISHIDO ELECTROSTATIC.

For any queries relating to the product, contact the sales office where you purchased the product.

SHISHIDO ELECTROSTATIC, LTD. <http://www.shishido-esd.co.jp/>

HEAD OFFICE MARUNOUCHI BLDG. 9F-918, 4-1, MARUNOUCHI 2-CHOME, CHIYODA-KU, TOKYO, 100-6309

**SALES DEPARTMENT TOKYO
BRANCH EXPORT DIVISION**
3-3, HIGASHI-YUKIGAYA 1-CHOME,
OTA-KU, TOKYO, 145-0065
TEL: +81-3-3727-0161 FAX: +81-3-3727-0342

SENDAI BRANCH
KIMACHI HOME PLAZA 101,
5-26, KASHIWAGI 1-CHOME, Aoba-KU,
SENDAI, MIYAGI-PREF, 981-0933
TEL: +81-22-271-6231 FAX: +81-22-271-6232

OSAKA BRANCH
OSAKA ORUGAN BLDG. 2F-203, 4-2,
TANIMACHI 1-CHOME, CHUO-KU,
OSAKA, 540-0012
TEL: +81-6-6949-3712 FAX: +81-6-6949-3707

HOKURIKU BRANCH
KA62, KAWAJIRI, TSUBATA-MACHI,
KAHOKU-GUN, ISHIKAWA-PREF,
924-0334
TEL: +81-76-289-5717 FAX: +81-76-289-5737

NAGOYA BRANCH
RAINBOW TSURUMAI 6F, 1-2,
TSURUMAI 2-CHOME, SHOWA-KU,
NAGOYA, AICHI-PREF, 466-0064
TEL: +81-52-884-5565 FAX: +81-52-883-3077

SHIN YOKOHAMA FACTORY
7-21, CHIGASAKI-HIGASHI 4-CHOME,
TSUZUKI-KU, YOKOHAMA,
KANAGAWA-PREF, 224-0033
TEL: +81-45-948-4410 FAX: +81-45-948-4415

FUKUOKA BRANCH
DAI10 UEMURA BLDG. 8F-A, 6-4,
TAKASAGO 2-CHOME, CHUO-KU,
FUKUOKA, FUKUOKA-PREF, 810-0011
TEL: +81-92-531-7485 FAX: +81-92-526-7326

SHIN-MIYAGI FACTORY
47-1, AZA-SHIN-ISHIZAWAMAE,
MINAMI-GO, ISHIKOSHI-MACHI, TOME,
MIYAGI-PREF, 989-4703
TEL: +81-228-34-4410 FAX: +81-228-34-4409