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Static Surveyor

Features:

- **Maximum performance at an affordable price.** For frequent checks of grounding straps, mats and similiar equipment.
- **High speed 16 segment bar-graph display.** Accurately shows trends faster than most analogue or digital displays.
- **Pocket sized.** Great for field service.
- **Easy to use.** Aim at surface to be tested and take the reading.

Specs:

- **Range:** ± 100 volts - ± 10,000 volts

P/N	Description
99082	Static surveyor

Drawings/Technical Bulletins: PPE-5063.E

Static Surveyor Operation and Maintenance

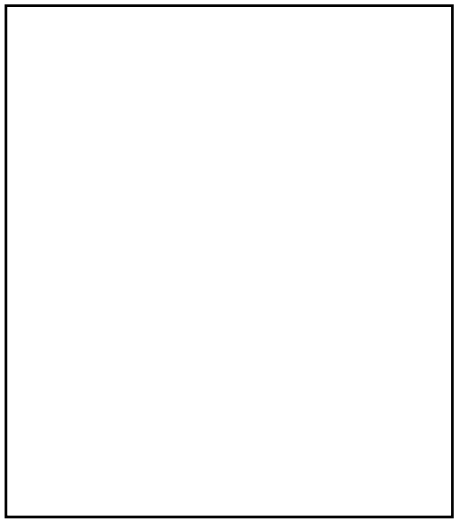

Figure 1. 99082 Static Surveyor

Description

The Charleswater Europe 99082 Static Surveyor is a portable non-contacting static charge fieldmeter which easily produces consistently accurate readings and provides years of trouble-free operation. With its high speed 16 segment bar-graph display, it quickly reads either positive or negative values up to 10 kilovolts or as low as under 100 volts. Also featured is a push-button auto-zero function.

Note: This unit is not designed to be used for measuring balance of ionizers. It is suitable for measuring static generated on materials or products.

Its accuracy is dependent upon four factors:

- Grounding of the meter via a ground cord or a grounded operator.
- The instrument must be properly zeroed.
- The distance from the front edge of the case to the target or surface under examination must be accurately controlled.
- The target must be large relative to the measurement distance. The area should be at least 13 cm x 13 cm for true accuracy.

Inspection

Remove the fieldmeter from the carton and inspect for damage. Included with each unit should be:

1 9V alkaline battery

Operation

ZEROING THE STATIC SURVEYOR

1. The static surveyor needs only to be zeroed at the time you first use the instrument. It will maintain this value until the battery is changed.
2. Press the ON/ZERO button and release. The LCD display is activated and LED rangefinder lights begin to flash.
3. Ground the operator by using a wrist strap or a footgrounding device. You can also ground the unit directly via a ground cord. The case of the instrument is conductive and is the reference for the measurement.

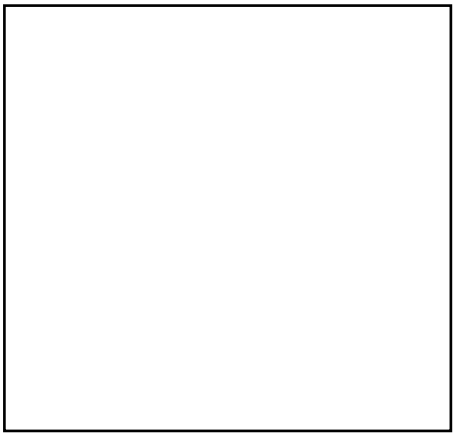

Figure 2. Zeroing the meter

4. Face the Fieldmeter away from charged objects and press the ON/ZERO button. Hold until the display reads zero. The instrument may also be zeroed by pointing it toward a known grounded surface (such as the palm of the opposite hand) and depressing the ON/ZERO button. Although you must be careful not to contact the recessed sensor plate, the amount of spacing between the instrument and the target is not critical when zeroing the instrument.

TAKING READINGS

1. Aim the Static Locator toward the target surface at a distance of 25 mm. Read the voltage of the charge surface on the display.

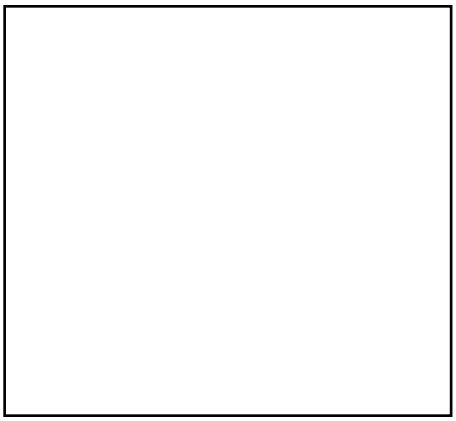

Figure 3. Taking readings with the Static Surveyor.

2. Repeat the above for additional measurements.
3. To turn the instrument off, press the OFF switch down.

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Operating Notes:

- The case of the instrument is made of a material which is sufficiently conductive to provide a grounding path via the person holding the instrument or a grounded wrist strap in contact with the case.

- If you press the on/zero button during operation, the meter begins the auto zero function and displays the value. If you do not complete the auto zero operation, the meter is not correctly zeroed.

- For extended monitoring of materials, a +9 volt power supply (such as Radio Shack #273-1552) may be substituted for the battery.

Measurement Accuracy

The accuracy of measurement is dependent on a stable ground reference and the 25 mm measuring distance as previously noted. It is also dependent on the "aspect ratio," relating the size of the object to be measured to the measurement distance. This ratio should be at least 3 for best accuracy, i.e. the object's area should be at least a 75 mm square when measuring at a 25 mm distance. Accurate measurements may be made at other measurement distances by scaling the meter range and observing the proper aspect ratio. For example, at a measurement distance of 75 mm, multiply the meter reading by 3 to give the range of 0 to 5997kV. For accuracy, the object being measured at this distance should be at least a 225 mm square.

Maintenance

BATTERY REPLACEMENT

The unit should be off while replacing the battery. Normal battery life is about 40 hours. Replacement type is equivalent NEMA 1604. An alkaline type is recommended where longest service life is important. Remove the battery when storing the instrument for an extended period of time.

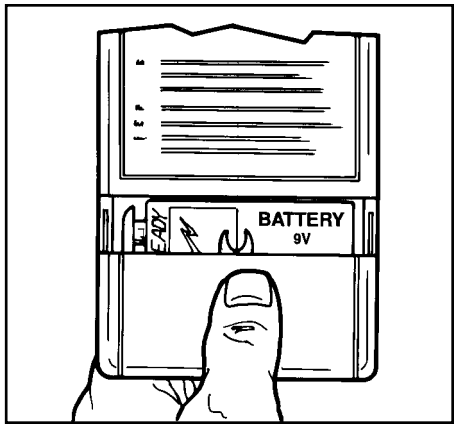

Figure 4. Replacing batteries.

NOTE: After you change the battery you will need to re-zero the meter.

CLEANING

If the 99082 is used in a dirty or dusty environment, it may be necessary to clean the sensor to ensure proper operation.

Calibration

Charleswater Europe 99082 is calibrated to factory standards and no other maintenance than replacing battery is required. The case has been sealed and BREAKING THE SEALS WILL VOID THE WARRANTY. If for any reason you believe the meter is not working correctly, contact the Charleswater Europe factory for assistance.

Recommended Reading

SEMI E43-95, RECOMMENDED PRACTICE FOR MEASURING STATIC CHARGE ON OBJECTS AND SURFACES. Published by Semiconductor Equipment Materials International (SEMI), San Francisco, CA, (415) 940-6904.

Specifications

Display:
16 segment LED bar graph

Range:
±100 volts to ±10,000 volts (±10kV at one inch)

Accuracy:
±10% at the trip point

Resolution:
1/2 decade

Battery:
9 volt, NEMA 1604, alkaline recommended

Battery Life:
Up to 40 hours continuous operation

Dimensions:
10.7 x 6.1 x 2.3 cm

Weight:
113 gm including battery

Limited Warranty

Charleswater Europe expressly warrants that for a period of one (1) year from the date of purchase, the Charleswater Europe 99082 Static Surveyor will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a unit will be tested, repaired or replaced at Charleswater Europe's option, free of charge. Call Customer Service at 00 44 (0) 1892-665313 for a Return Material Authorisation (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of date of purchase. Any unit under warranty should be shipped prepaid to the Charleswater Europe factory. Warranty repairs will take approximately 2-3 weeks.

If your unit is out of warranty, Charleswater Europe will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at 00 44 (0) 1892-665313 for a Return Material Authorisation (RMA) and proper shipping instructions and address. Ship your unit prepaid to the Charleswater Europe factory.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability

In no event will Charleswater Europe or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

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