

## EBP Continuous Monitor Operation, Installation and Maintenance



Made in the  
United States of America



Figure 1. Charleswater [99125](#) EBP Continuous Monitor (UK)



Figure 2. Charleswater [99126](#) EBP Continuous Monitor (Europe)

### Description

The Charleswater EBP Continuous Monitor confirms the integrity of the resistance path from the earth bonding point (or common ground point) to electrical or protective earth ground. It is designed to monitor equipment or protective earth ground connections.

When the EBP Continuous Monitor is plugged into an AC outlet, the green LED illuminates when both the outlet's wiring is correct and the path to protective earth ground via the equipment grounding conductor is intact. The continuous monitor provides 12 verified EBP or ground points when in PASS condition. The red LED illuminates when either the outlet's wiring is incorrect or the path to protective earth ground is defective.

The outlet ground line is tested by measuring voltage between it and the neutral line. It is normal to have a few volts of AC induced on the neutral line. If the EBP Continuous Monitor measures only a few volts, the ground line to neutral impedance is low and the ground line would make a suitable ESD ground point. If the monitor measures more than just a few volts between ground and neutral, this indicates either that they are not referenced to each other or that the outlet and associated wiring should be checked for loose connections. In this case, the EBP Continuous Monitor will sound a warning alarm and display a red FAIL indication and should not be used for an ESD grounding point until corrected.

Use the EBP Continuous Monitor to fulfill grounding compliance verification requirements of EN 61340-5-1. Electric Code (ANSI/NFPA-70)."

"For ESD control programs that use the equipment grounding conductor to ground the ESD control items it is necessary to verify the integrity of the electrical system. The values used can vary depending on the electrical code requirements in each country. However, there are certain items that should be checked for any ESD control program that uses the equipment grounding conductor. [Including] the electrical system is correctly wired to ensure that the ESD control items are attached to ground and not an energized portion of the electrical system." (User guide CLC TR 61340-5-2 2008 Verification of ESD grounding system subclause 4.4.4.1 Protective earth)

The EBP Continuous Monitor is available in the following models:

Item	Voltage	Plug
<a href="#">99125</a>	220VAC	UK
<a href="#">99126</a>	220VAC	Europe

### Packaging

- 1 EBP Continuous Monitor
- 6 10-32 x 1/4" Screws
- 6 #10 Split Washers
- 3 Banana Plug to 10mm Snap Adapters
- 1 Certificate of Calibration

### Features and Components

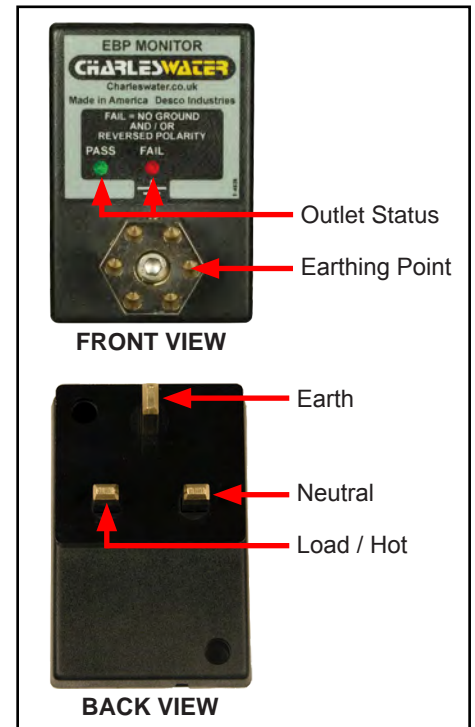


Figure 3. Charleswater [99125](#) EBP Continuous Monitor (UK) features and components

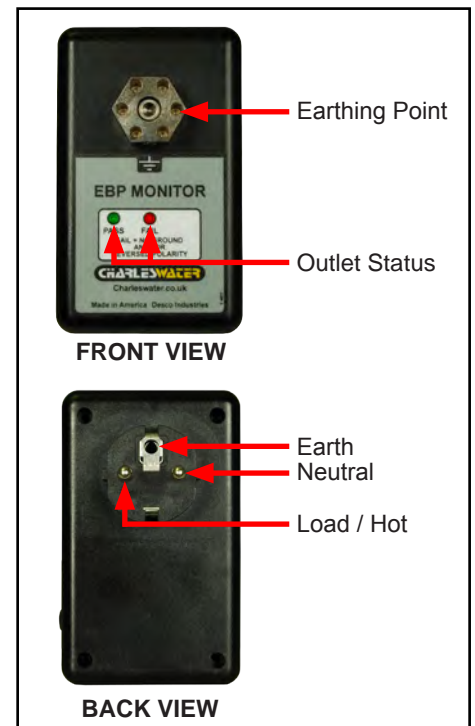


Figure 4. Charleswater [99126](#) EBP Continuous Monitor (Europe) features and components

## Operation

Plug the EBP Continuous Monitor into an outlet to see if the green PASS LED illuminates. This signifies that the outlet is correctly wired and the path to protective earth ground is intact. Use the included screws and split washers to connect ring terminals (not included) to the EBP or the banana jacks to connect banana plugs (not included) (see Figure 5). The included banana plug to 10mm snap adapters may be used to connect 10mm snaps to the EBP.

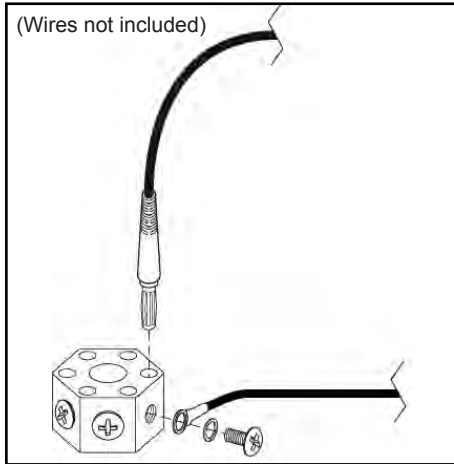


Figure 5. Installing ring terminals and banana plugs to the EBP

## TESTING THE EBP MONITOR

NOTE: The following procedure should only be done by someone familiar with voltage hazards. This procedure will work for 220VAC as long as the neutral and ground are referenced. 220VAC produced with out of phase 110VAC-Ground-110VAC will produce a FAIL result.

Isolate the ground plug from the Ground Hub Monitor by inserting the monitor into a 3 to 2 plug adapter.

**A. PASS OUTLET** - Connect a 5 kilohm resistor @ 5% tolerance between the supply ground and tester ground. The PASS LED should remain illuminated until the resistor is removed. This test confirms the PASS point for the neutral-to-ground resistance.

**B. FAIL OUTLET** - Connect a 12.5 kilohm resistor @ 5% tolerance between the supply ground and tester ground. The FAIL LED should remain illuminated until the resistor is removed. This test confirms the FAIL point for the neutral-to-ground resistance.

## Specifications

**Input Voltage:**  
220VAC  $\pm$ 15%

**Current Drain:**  
< 10mA

**Dimensions:**  
51mm x 76mm x 51mm  
(2.0" x 3.0" x 2.0") (Item [99125](#))  
69mm x 114mm x 86mm  
(2.7" x 4.5" x 3.4") (Item [99126](#))

**Operating Temperature:**  
0° - 40°C

## Limited Warranty

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

## 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 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.