

COMPACT WRIST STRAP/FOOTWEAR TESTER AND TEST STATION

Installation, Operation and Maintenance



Figure 1. [99138](#) Wrist Strap and Footwear Test Station

Description

Charleswater [99138](#) Wrist Strap and Footwear Test Stations is a compact personnel grounding tester, that will test the resistance of a wrist strap and its wearer, and each foot grounder and its wearer. The instrument will indicate whether the resistance is in the range specified in EN 61340-5-1, with a simple light emitting diode indication of “pass” or “fail”.

“Wrist straps shall be checked before use. Each check shall be made with the wrist band worn in contact with the wearer’s skin and with the ground cord attached to the appropriate tester.” [EN 61340 5 1 clause 9.6 Daily checks, clause 9.6.2 Wrist strap]

“Where toe and heel straps are used as ESD footwear, once these are worn outside the EPA [ESD protected area], particularly on carpets, they are likely to accumulate fluff and become ineffective; this requires that they be checked or replaced on every visit to the EPA. ...When ESD footwear is used, it should be noted that ESD footwear alone cannot achieve protection, but needs to be used in conjunction with a suitable ESD floor.” [EN 61340-5-2 clause 5.2.8 Footwear]

“All wearers shall check that their heel and toe straps meet requirements [of Table 1 NOTE 2 – ‘When the footwear/floor systems are used as the primary means of grounding personnel, the resistance of the combination shall be determined by the ESD co-ordinator, and is recommended to be between 7,5 x 10E5 ohms and 3,5 x 10E7 ohms’]. The check shall be made before entering the EPA.” [EN 61340 5-1 Daily checks, clause 9.6.3 Non-permanent footwear]

Inspection

Remove the test unit from the carton and inspect for shipping damages.

Each [99138](#) unit should include the following:

- 1 Wrist Strap Tester
- 1 PP3 9V Alkaline Battery
- 1 Wallplate
- 1 Footplate

Procedure to test Wrist Strap

1. Wear wristband. Choose one that fits snugly or adjust it to do so.
2. Connect the ground cord securely to the band using the snap connector.
3. Connect the other end of the cord to a matching termination on the tester.
4. Push the contact plate on the tester with one or two fingers. The tester will now indicate whether the total resistance is within the acceptable range.
5. Green light and buzzer indicate that the specification is met
Green = OK
6. A red light on either High fail or Low fail indicates non-conformance.

Red = FAIL

Do not proceed in the usual manner but contact your supervisor or follow your company procedure.

Procedure to test Footwear

1. Place one foot on the test plate and depress the contact plate on the tester. The tester will now indicate whether the total resistance is within the acceptable range.
2. Green light and buzzer indicate that the specification is met
Green = OK

3. A red light on either High fail or Low fail indicates non-conformance.

Red = FAIL

Do not proceed in the usual manner but contact your supervisor or follow your company procedure.

In case of Non-Conformance

The instrument measures the resistance of the external circuit between the metal contact button and the cord connectors or the foot test plates. The wristband and cord, the plates and the footwear, the connection to the operator, the operator's body resistance and the fingertip button contact are all part of the circuit. In case of a failure being indicated, determine whether the wrist strap or the footwear alone is failing by ensuring that the other elements of the circuit are sound.

Note:

If 'battery low' light comes on, insert a new 9volt alkaline PP3 battery. The 'battery low' threshold is factory set at 6.5 volt.

Calibration

The lower and upper limits of the resistance range are factory set and calibrated using test equipment of known accuracy and standards traceable to UKAS, prior to dispatch. They should be re-checked at least once a year by the user. Use a calibration unit such as our product, Code [99140](#). We also offer a calibration service.

Specifications

Dimensions: 115 x 70 x 26mm

Mass: 0.1 kg excluding battery

Resistance Limit

Low: 750 kilohms

High: 35 megohms

Power Supply: 1 x 9 Volt PP3 cell, preferably alkaline

Mains power supply:

Input 110V - 260V

AC 50/60Hz,

Output 9V DC

100mA

Connections for ground:

4mm Banana socket/ 10mm stud

Connection for power supply:

3.5mm jack

Battery life, typical:

3500 tests, 5 seconds per test

Limited Warranty

Charleswater expressly warrants that for a period of one (1) year from the date of purchase, Charleswater Compact Wrist Strap/ Footwear Testers and Test Stations will be free of defects in material (parts) and workmanship (labour). Within the warranty period, a unit will be tested, repaired or replaced at Charleswater's option, free of charge. Call Customer Service at +44 (0) 189 266 5313 for a Return Material Authorisation (RMA) and for proper shipping instructions and address. Any unit under warranty should be shipped prepaid to the Charleswater factory. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Warranty repairs will take approximately two weeks.

If your unit is out of warranty, Charleswater will quote repair charges necessary to bring your unit to factory standards. Call Customer Service at +44 (0) 189 266 5313 for a Return Material Authorisation (RMA) and proper shipping instructions and address.

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.