

# Calibration Unit for Testers Installation, Operation and Maintenance



Made in the  
United States of America



Figure 1. Charleswater [99090](#) Calibration Unit

## Description

The Charleswater [99090](#) Calibration Unit is designed to verify whether a tester is operating within specifications. The Calibration Unit is a passive device and requires no power source. The Calibration Unit is manufactured with industry accepted test ranges for both wrist straps and foot grounders. Both the wrist strap and footwear pass range is set to 750K to 35M. The Charleswater Calibration Unit is calibrated to NIST traceable standards.

The Charleswater [99090](#) Calibration Unit is to be used with the following items:

Item	Description
<a href="#">225221</a>	Portable Wrist Strap Tester
<a href="#">99037</a>	Combo Tester
<a href="#">99038</a>	Combo Tester with Stand and Foot Plate

## Packaging

- 1 Calibration Unit
- 2 Test Leads with Banana Plug Terminals
- 1 Certificate of Calibration

## Operation

### WRIST STRAP TESTER

1. Plug one of the included test leads into the black banana jack labelled "E" on the Calibration Unit. Connect the opposite end of the test lead into the yellow banana jack located on the [225221](#) Portable Wrist Strap Tester.

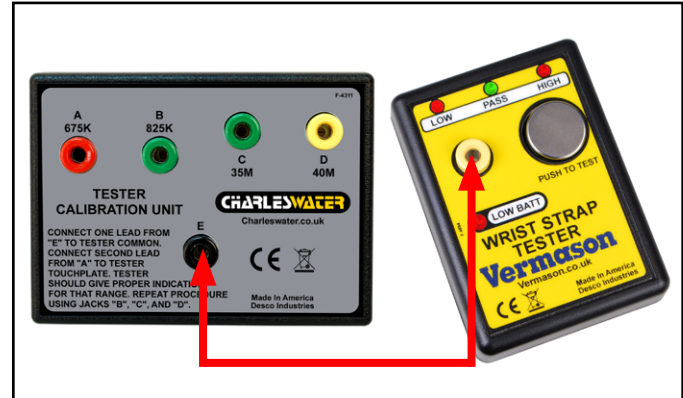


Figure 2. Connecting the test lead from banana jack "E" on the Calibration Unit to the banana jack on the Portable Wrist Strap Tester

2. Connect the second test lead to the red 675K banana jack labelled "A" on the Calibration Unit. Touch the opposite end of the test lead to test plate on the Wrist Strap Tester and press down to activate the test. Be sure not to touch the banana plug or test plate with your skin.
3. Observe the response from the Portable Wrist Strap Tester. The alarm should sound, and the LOW LED should illuminate red.
4. Repeat the procedure for test points B (825K), C (35M) and D (40M). The expected test results can be found in the following table:

Test Point	Resistance Value	Tester LED	Buzzer
A	675K	FAIL LOW	ON
B	825K	PASS	OFF
C	35M	PASS	OFF
D	40M	FAIL HIGH	ON

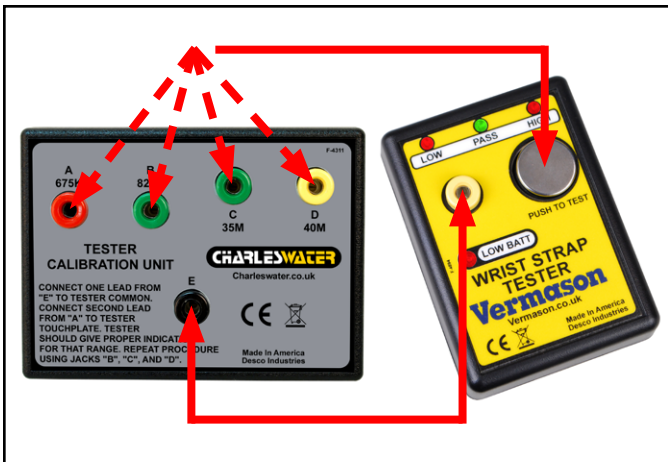


Figure 3. Verifying the calibration of the Wrist Strap Tester

## COMBO TESTER

### Testing the Wrist Strap Circuit

1. Plug one of the included test leads into the black banana jack labelled "E" on the Calibration Unit. Connect the opposite end of the test lead into the yellow banana jack labelled "WRIST STRAP" on the Combo Tester. Toggle the switch to the "WRIST STRAP" position.

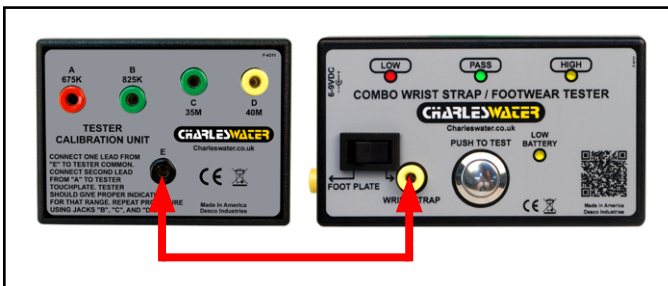


Figure 4. Connecting the test lead from banana jack "E" on the Calibration Unit to the WRIST STRAP banana jack on the Combo Tester

2. Connect the second test lead to the red 675K banana jack labelled "A" on the Calibration Unit. Touch the opposite end of the test lead to the Combo Tester's test switch, and press it down to activate the test. Be sure not to touch the banana plug or test plate with your skin.
3. Observe the response from the Combo Tester. The alarm should sound, and the LOW LED should illuminate red.
4. Repeat the procedure for test points B (825K), C (35M) and D (40M). The expected test results can be found in the following table.

Test Point	Resistance Value	Test Output
A	675K	FAIL LOW
B	825K	PASS
C	35M	PASS
D	40M	FAIL HIGH

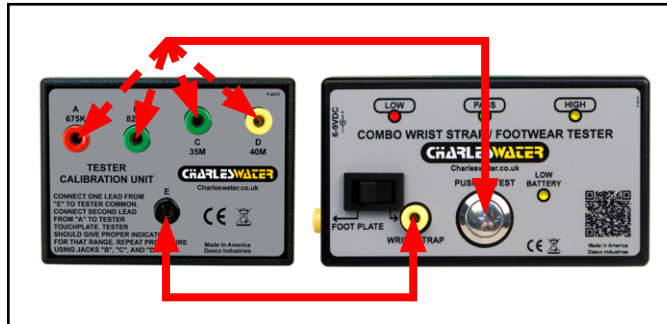


Figure 5. Verifying the calibration of the wrist strap circuit in the Combo Tester

### Testing the Footwear Circuit

1. Plug one of the included test leads into the black banana jack labelled "E" on the Calibration Unit. Connect the opposite end of the test lead into the yellow banana jack labelled "FOOT PLATE" on the Combo Tester. Toggle the switch to the "FOOT PLATE" position.



Figure 6. Connecting the test lead from banana jack "E" on the Calibration Unit to the FOOT PLATE banana jack on the Combo Tester

2. Connect the second test lead to the red 675K banana jack labelled "A" on the Calibration Unit. Touch the opposite end of the test lead to the Combo Tester's test switch, and press it down to activate the test. Be sure not to touch the banana plug or test plate with your skin.
3. Observe the response from the Combo Tester. The alarm should sound, and the LOW LED should illuminate red.
4. Repeat the procedure for test points B (825K), C (35M) and D (40M). The expected test results can be found in the following table.

Test Point	Resistance Value	Test Output
A	675K	FAIL LOW
B	825K	PASS
C	35M	PASS
D	40M	FAIL HIGH

## Specifications

Accuracy	±5 %
Dimensions	3.2" L x 4.4" W x 0.9" H (8.1 cm x 11.2 cm x 2.3 cm)
Weight	4 oz (0.1 kg)
Country of Origin	United States of America

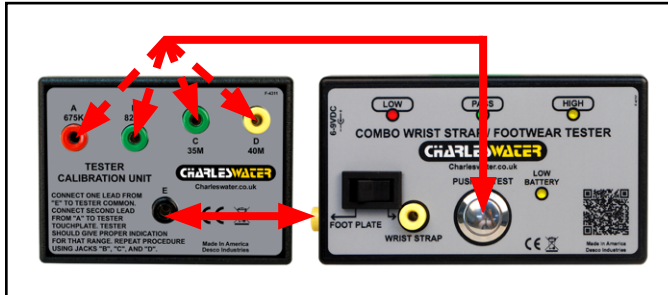


Figure 7. Verifying the calibration of the footwear circuit in the Combo Tester

### Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See the Desco Europe Warranty - [DescoEurope.com/Limited-Warranty.aspx](https://DescoEurope.com/Limited-Warranty.aspx)