

# Operation of Calibration Unit for Workstation Continuous Monitors



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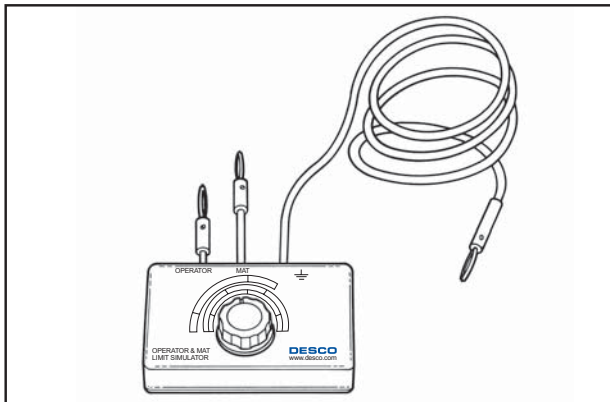


Figure 1. Item #98220 Calibration Unit.

## Description

The Desco item #98220 calibration unit is designed to simplify the process of calibrating Workstation Continuous Monitors. The unit allows the user to quickly and easily verify whether a tester is operating within specifications. The 98220 is a passive device and requires no power source. The Calibration Unit can be used at the workstation virtually eliminating any downtime. Continuous Monitor Compliance Verification per Table 3 of ANSI/ESD S20.20 and per ESD TR53 is "Manufacturer defined".

Remove the calibration unit from the carton and inspect for shipping damage. Each unit should include the following:

- 1 Calibration unit, item #98220
- 1 Alligator clip
- 1 09782 stacking snap banana jack adapter
- 1 Certificate of Calibration

## Calibration Test Procedures

The calibration unit is specifically designed for use in calibration of Desco brand continuous monitors. The following step by step procedures will cover calibration for specific models. The procedures will not cover adjustment of the test equipment. For detailed information regarding adjustment of specific Desco brand testers contact our Customer Service Department at 909-627-8178 (Chino, CA) or 781-821-8370 (Canton, MA).

### Calibration of the Item #19225

#### Testing Operator

**Step 1:** Connect the calibration unit's banana plug wire marked with ground symbol to a known ground.

**Step 2:** Insert the calibration unit's banana plug marked "Operator" into the jack marked "Monitored User Ground" on the 19225 tester. See figure 2.

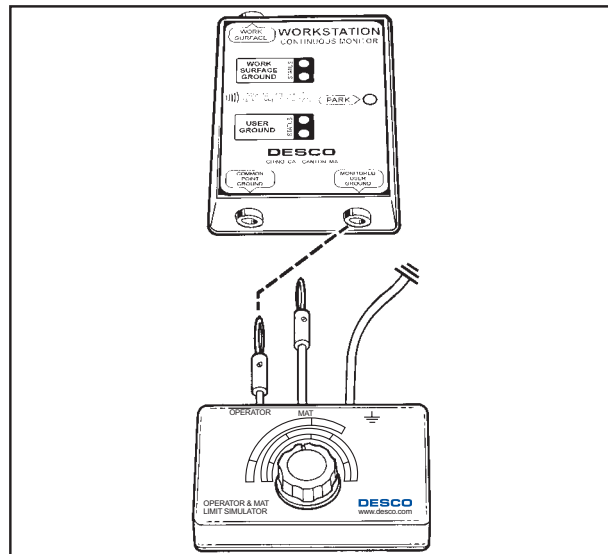


Figure 2. Connecting test lead from 98220 to 19225.

**Step 3:** Start the calibration unit's selector switch at the full counterclockwise position. When testing Operator, test only first four limits on the calibration unit. Rotate selector switch to LOW LIMIT FAIL position; the red light on the 19225 will light and alarm.

**Step 4:** Rotate selector switch clockwise to the LOW LIMIT PASS position of the green sector. The 19225's green Operator LED should turn on.

**Step 5:** Rotate selector switch clockwise to the HIGH LIMIT PASS position at the end of the green sector. The 19225's green Operator LED should remain on.

**Step 6:** Rotate the selector switch clockwise to the HIGH LIMIT FAIL position. The green Operator LED should turn off and the red operator LED should turn on and alarm.

**Step 7:** Disconnect calibration unit from 19225.

#### Testing Mat

**Step 1:** Make sure the calibration unit's banana plug wire marked with ground symbol is connected to a known ground.

**Step 2:** Insert the calibration unit's banana plug marked "Mat" into the jack marked "Work Surface" on the 19225. See figure 3.

**Step 3:** Rotate calibration unit's selector switch to MAT FAIL at far clockwise position. The 19225 Work Surface red LED should turn on and alarm.

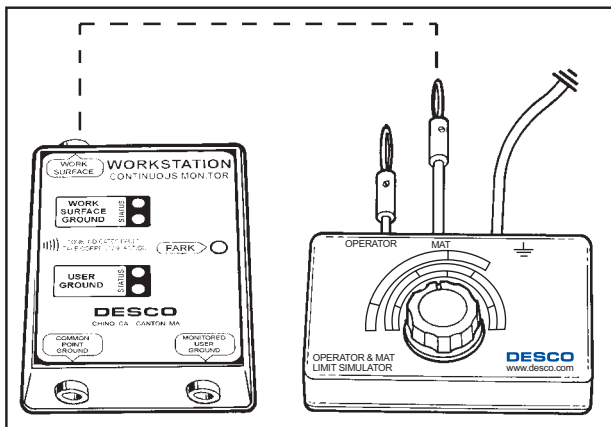


Figure 3. Testing 19225 work surface PASS AND FAIL.

**Step 4:** Rotate selector switch counterclockwise to MAT PASS position. The 19225 Work Surface green LED should turn on.

### Calibration of the Item #19232/19233

**Prior to calibration of the 19232/19233, disconnect Remote Jacks (if used) from the unit. Remote Jacks may cause intermittencies in calibration. Leave mat connection to 19232/19233 in place**

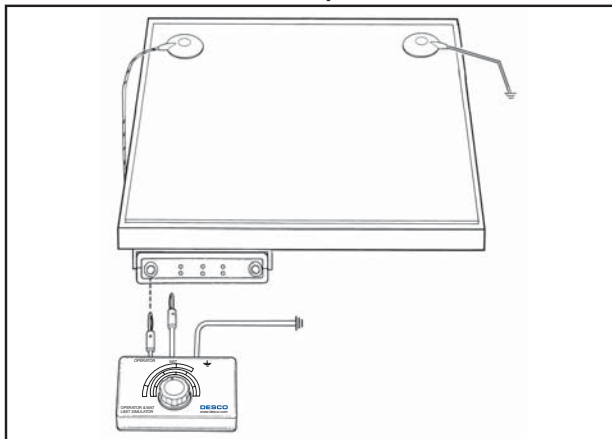


Figure 4. Connecting test lead from 98220 to 19232/19233.

**Step 1:** Connect calibration unit's banana plug marked with ground symbol into a known ground.

**Step 2:** Insert the calibration unit's banana plug marked "Operator" into the "OP1" jack on the 19232/19233. See figure 4.

**Step 3:** Start selector switch at the full counterclockwise position. When testing the Operator circuit, test only first four limits on the calibration unit. Rotate selector switch to LOW LIMIT FAIL position. The OP1 red Operator LED will light and alarm.

**Step 4:** Rotate selector switch clockwise to the LOW LIMIT PASS position of the green sector. The OP1 green Operator LED should turn on.

**Step 5:** Rotate selector switch clockwise to the HIGH LIMIT PASS position at the end of the green sector. The OP1 green Operator LED should remain on.

**Step 6:** Rotate the selector switch clockwise to the HIGH LIMIT FAIL position. The OP1 green Operator LED should turn off and the red Operator LED should turn on and alarm

**Step 7:** Repeat this procedure for Operator (2) on the OP2 jack.

### Testing 19232/19233 Worksurface for "Pass" and "Fail"

**Step 1:** Insert the calibration unit's banana plug marked with the ground symbol into a known ground. (Use alligator clip if required.)

**Step 2:** Connect the 09782 adapter to the banana plug marked "Mat" on the calibration unit. Disconnect the 19232/19233's mat connection and re-install to calibration unit's adapter. See figure 5.

**Note:** Adapter must be isolated from grounded mat.

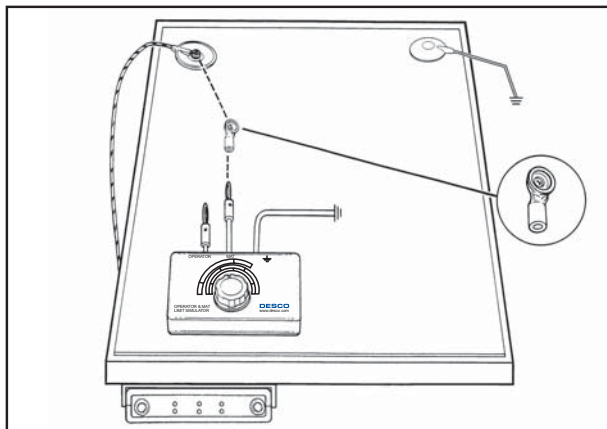


Figure 5. Testing 19232/19233 worksurface for "PASS" and "FAIL" ranges as indicated on calibration unit.

**Step 3:** Turn selector switch to MAT FAIL at far clockwise position. The Work Surface red LED should turn on and alarm.

**Step 4:** Turn selector switch to MAT PASS position. The Work Surface green LED should turn on.

## Calibration of the Item #19212

### Testing Operator

**Step 1:** Connect the calibration unit's banana plug wire marked with ground symbol to a known ground.

**Step 2:** Insert the calibration unit's banana plug marked "Operator" into the jack marked "Operator" on the 19212 tester. See figure 6.

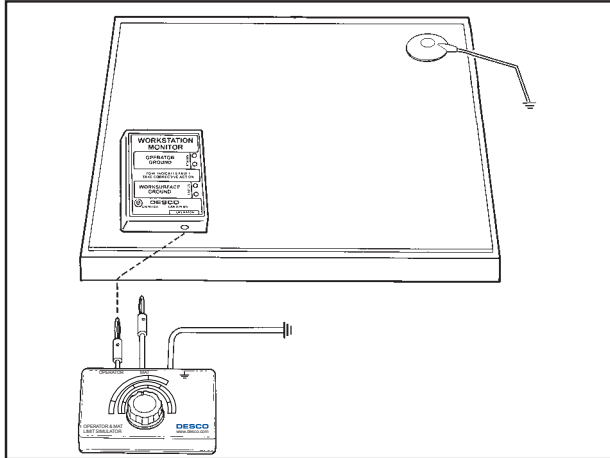


Figure 6. Connecting test lead from 98220 to 19212.

**Step 3:** Start the calibration unit's selector switch at the full counterclockwise position. When testing Operator, test only first four limits on the calibration unit. Rotate selector switch to LOW LIMIT FAIL position; the red light on the 19212 will light and alarm.

**Step 4:** Rotate selector switch clockwise to the LOW LIMIT PASS position of the green sector. The 19212's green Operator LED should turn on.

**Step 5:** Rotate selector switch clockwise to the HIGH LIMIT PASS position at the end of the green sector. The 19212's green Operator LED should remain on.

**Step 6:** Rotate the selector switch clockwise to the HIGH LIMIT FAIL position. The green Operator LED should turn off and the red operator LED should turn on and alarm.

**Step 7:** Disconnect calibration unit from 19212.

### Testing Mat

**Step 1:** Make sure the calibration unit's banana plug wire marked with ground symbol is connected to a known ground.

**Step 2:** Connect the 09872 adapter to the banana plug marked "Mat" on the calibration unit. Disconnect the 19212 from the mat and re-install to calibration unit's adapter. See figure 7.

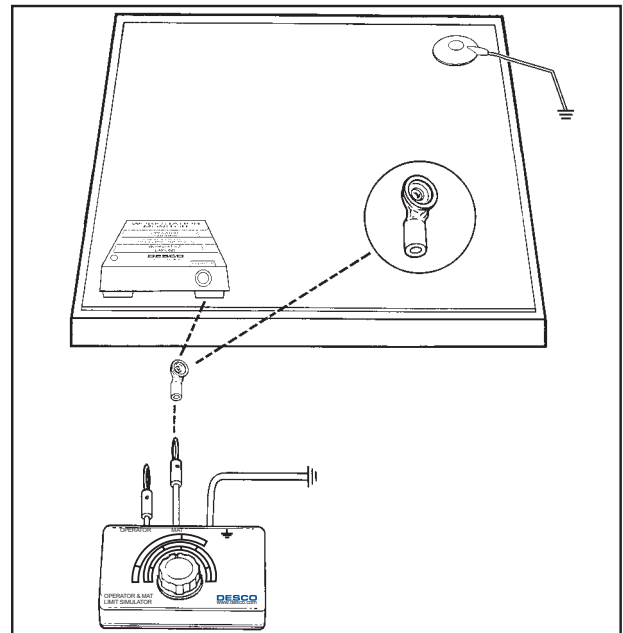


Figure 7. Testing 19212 work surface PASS AND FAIL.

**Step 3:** Rotate calibration unit's selector switch to MAT FAIL at far clockwise position. The 19212 Work Surface red LED should turn on and alarm.

**Step 4:** Rotate selector switch counterclockwise to MAT PASS position. The 19212 Work Surface green LED should turn on.

## Calibration of the Item #19226/19227

### Testing Operator

**Step 1:** Connect the calibration unit's banana plug wire marked with ground symbol to a known ground.

**Step 2:** Insert the calibration unit's banana plug marked "Operator" into the jack marked "Operator" on the 19226/19227 tester. See figure 8.

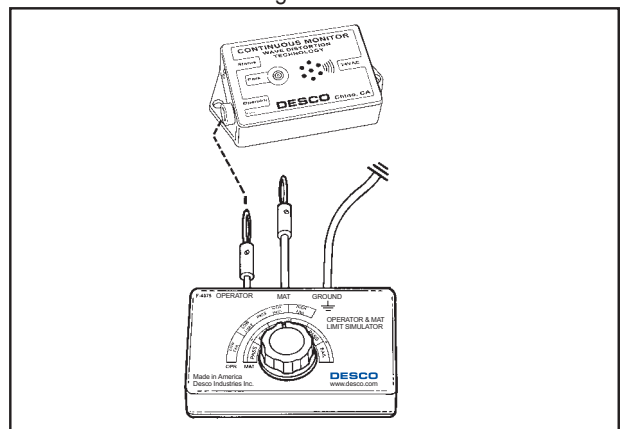


Figure 8. Connecting test lead from 98220 to 19226/19227.

**Step 3:** Start the calibration unit's selector switch at the full counterclockwise position. When testing Operator, test only first four limits on the calibration unit. Rotate selector switch to LOW LIMIT FAIL position; the red light on the 19226/19227 will light and alarm.

**Step 4:** Rotate selector switch clockwise to the LOW LIMIT PASS position of the green sector. The 19226/19227's green Operator LED should turn on.

**Step 5:** Rotate selector switch clockwise to the HIGH LIMIT PASS position at the end of the green sector. The 19226/19227's green Operator LED should remain on.

**Step 6:** Rotate the selector switch clockwise to the HIGH LIMIT FAIL position. The green Operator LED should turn off and the red operator LED should turn on and alarm.

**Step 7:** Disconnect calibration unit from 19226/19227.

### Testing Mat

**Step 1:** Connect the Calibration Unit's banana plug wire labeled "GROUND" to a known ground.

**Step 2:** Connect a tinned wire to the Calibration Unit's banana plug labeled "MAT." Insert the other end of the wire to the monitor's green terminal block labeled "MAT".

**Step 3:** Rotate the Calibration Unit's knob switch to the MAT FAIL 10M position. The monitor's red "WORKSURFACE GROUND" LED should illuminate and the alarm should sound.

**Step 4:** Rotate the selector knob counter-clockwise to the MAT PASS 10M position. The monitor's "WORKSURFACE GROUND" green LED should illuminate.

### Specifications

Weight: 6.8 oz.  
Length: 4 1/2 inches  
Width: 1 3/16 inches

### Limited Warranty

Desco expressly warrants that for a period of one (1) year from the date of purchase, Desco Calibration Units will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a unit will be tested, repaired or replaced at Desco's option, free of charge. Call our Customer Service Department at 909-627-8178 (Chino, CA) or 781-821-8370 (Canton, MA) for a Return Material Authorization (RMA) and proper shipping instructions and address. Please 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 Desco factory. Warranty replacements will take approximately two weeks.

If your unit is out of warranty, call our Customer Service Department at 909-627-8178 (Chino, CA) or 781-821-8370 (Canton, MA) for a Return Material Authorization (RMA) and proper shipping instructions and address. Desco will quote repair charges necessary to bring your unit up to factory standards.

### 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 Desco 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.