ZeroStat® MTR-8700

Figure 1 - ZeroStat® MTR-8700 Combo-Tester Station

Stand on the dual pad foot plate or wear wriststrap, position the switch, then PRESS the TEST plate

Shown below is the more advance MTR-8900 Combination Tester with automated tracking software

Test Station . . .Combination Dual-Heel Grounder and Wrist Strap Tester. Also tests Constant Monitoring Wrist Straps.

The **ZeroStat® MTR-8700 Combo-Tester** is an easy to use tester which measures and tests grounding devices such as wrist straps, dual line wrist straps, heel grounders, toe grounders, and shoes for proper resistance.

The **ZeroStat® MTR-8700 Combo-Tester** can be permanently attached to a wall, workstation or test stand.

While standing on the dual stainless steel foot plate and pressing the test button, the wrist strap and each foot is tested simultaneously verifying whether or not it is in specification. One test will identify if either one of the heel grounders is out of specification.

The **ZeroStat® MTR-8700** complete test station with stainless steel footplate can be ordered with the footstand at a savings as the **MTR-8725 Complete Test Station.**

The **ZeroStat® MTR-8700** Combo-Tester is powered by an AC power supply.

The electrical ranges conform to both US-EOS/ESD and European CECC standards.

The adjustable resistance limits for the **Wrist Strap** high range are: 2M, 5M, 10M, 35M, 50M, and 100M.
For the wrist strap low range specifications are: 500k and 750k.
The adjustable high range resistance limits the **Heel-Toe Grounder** are: 2M, 5M, 10M, 35M, 50M, and 100M: For the low range the resistance values are: 500k and 750k.

A **Green LED** signals the user that the wrist strap and or footwear is in specification. A **Red LED and Buzzer** alerts the user that the circuit path-to-ground resistance is either too high or too low, therefore out of specification.

The **ZeroStat® MTR-8700** system measures the wearer with a true open safe circuit of 19 volts.

RECEIVING INSPECTION:
Your Kit includes the following:

1 **ZeroStat® MTR-8700 Combo-Tester**
1 Product Bulletin
1 Dual Footplate
1 Wall Mounting Kit
Wall Instructional Sheet
AC Adapter

Optional Accessories:
Dual Foot Stand * (MTR-8725)

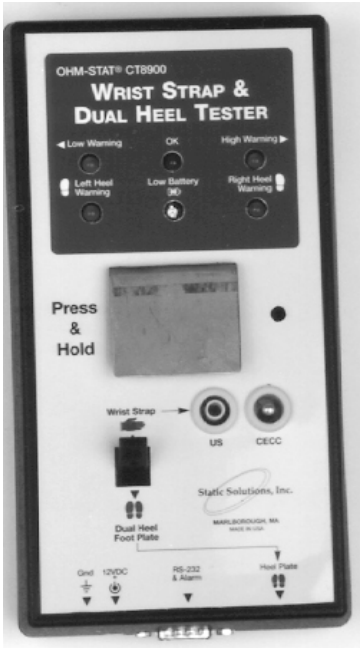


Figure 2. - ZeroStat® MTR-8700

Specifications

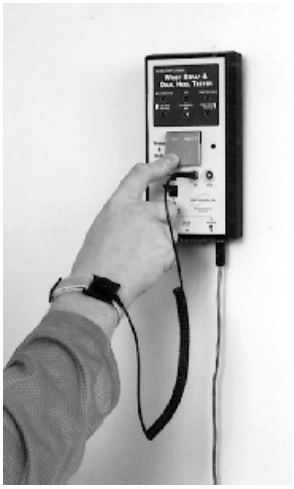
Installation Guide

1. Select a suitable site near an AC power outlet.

2. If testing footgrounders, select position for footplate.

3. If wall mounting, select a spot approximately 5 feet up from the floor.. It is encouraged to plug in the footplate lead to ensure there is enough wire available to reach tester before mounting.

4. Drill four holes .20 inch diameter (5mm) at the marked position in a 2.5" rectangular pattern. Insert the plastic wall anchors and attach screws through the hook disc into the wall.



5. Attach the enclosed adhesion strips to the mounted anchors. Peel off the adhesive backing covers to expose the adhesive. Press meter against exposed adhesive to mount meter to the wall.

6. To remove the meter from the hook and loop strips, gently lift the meter with two hands from the bottom corners.

7. The meter can also be attached to worksurfaces using two adhesive backed hook and loop strips provided.

TESTING

It is important to test wrist straps and footwear daily to ensure they function properly and to minimize charge generation on the human body which may cause damage to integrated circuits. Wrist straps and foot wear are the primary techniques used to drain and minimize electrical charges from the body. Too fast a drain will cause sparking, field generation, and failures. Too low an electrical path can cause electrical shock. Too high an electrical path can cause intergrated circuit damage. To adapt to ISO-9000 certification the results should be recorded and minitored.

WRIST STRAPS

The ZeroStat MTR-8700 Combo-Tester will verify that there is a safe and continuous electrical path between the user, wrist strap, and the ground cord. When using the meter for wrist strap testing or monitoring, the following is suggested:

1. Position the switch located on the front of the meter to the wrist strap position.

2. Put the wrist strap on with the ground cord attached. Be sure the strap is in snug contact with the wrist. Dry skin, hair, or foreign contaminants may cause failures for in-specification, well functioning wrist straps.

3. Insert the end of the ground cord into the wrist jack located on the front of the Combo-Tester case. For constant resistance monitoring wriststraps usethe stereojack marked dual line.

4. Depress and hold metal test plate until the LED illuminates.

5. If the Green "OK" LED illuminates, the wrist strap is functioning within the resistance specification range and therefore may be used to handle static sensitive devices.

6. If either the red "Too High" or red "Too Low" LED illuminates and the buzzer activates, the worker must test the wrist strap cord immediately. To test a faulty cord, leave the cord plugged into the meter and detach the wrist cord from the strap. Press the wrist strap metal snap-end of the cord against the stainless steel test plate avoiding skin contact. If the cord tests "FAIL" replace the cord.

7. If the cord passes, tighten the band cuff around wrist and retest using the cord. If it continues to fail, apply ESD hand lotion to wrist area and repeat test. Replace wristband if failure continues.

FOOTWEAR

Testing shoes or foot grounders, requires the optional MTR-8750 Foot plate, which includes dual stainless steel foot plates.

1. Position the foot plate on the floor directly in front of the Combo-Tester. Check to assure the plate does not slide when the meter is being used.

2. Insert the 3.5mm footplate ground cord stereo plug into the socket marked "Footwear" on the base of the meter.

3. Position the switch on the front of the meter to the footwear position.

4. Stand on the foot plate making sure that each foot is aligned on the left and right stainless steel pad.

5. De press and hold the metal test plate switch until an LED illuminates.

6. If the green "OK" LED lights, then the ESD shoes or foot grounders are functioning within specifications.

7. If either of the "FAIL LOW" or "FAIL HIGH" red LEDs glow along with the activation of the buzzer for either foot, then the user should check the shoe or foot grounder.

The ESD foot grounding device may be out of specification for the following reasons: poor skin-tab contact, dirt contamination, etc. If one foot passes and one foot fails the worker must replace the failed product. The failed grounding device should be checked using a 10 volt-100 volt ohm-meter such as the ZeroStat MTR-1000 Megohmmeter in order to locate the failure mode which may indicate faulty products in inventory.

Specifications

CALIBRATION - VERIFICATION

The **ZeroStat® MTR-8700 Combo-Tester** is calibrated to NIST traceable standards. In order to perform in-house verification, calibration can be performed using test leads connected to resistor of the corresonding test limits set on the MTR-8700. Any qualified, local calibration house may also be used or the unit maybe returned to Ground Zero Electrostatics for calibration for a nominal fee. For additional information contact Customer Service at (941) 751-7581

Tester Adjustments

The tester can be adjusted for various electrical resistances by opening the meter case and pressing the dip switches corresponding to the desired test ranges. These resistance ranges depend on what test standard, i.e. (EOS-CECC) the user follows. The user must know what resistance range values are acceptable for their wriststraps, shoes, and foot grounders. The MTR-8700 comes preset to EOS/ESD recommended test limits.

Limit Switch Settings

Foot Low	Switch 1	Wrist Low	Switch 2
.5M	OFF	5M	OFF
.75M	ON	75M	ON

Foot High	Sw3	Sw4	Sw5
2M	OFF	OFF	OFF
5M	ON	OFF	OFF
10M	OFF	ON	OFF
25M	ON	ON	OFF
35M	OFF	OFF	ON
50M	ON	OFF	ON
75M	OFF	ON	ON
100M	ON	ON	ON

Wrist High	Sw6	Sw7	Sw8
2M	OFF	OFF	OFF
5M	ON	OFF	OFF
10M	OFF	ON	OFF
25M	ON	ON	OFF
35M	OFF	OFF	ON
50M	ON	OFF	ON
75M	OFF	ON	ON
100M	ON	ON	ON

In the event of a meter malfunction, contact Ground Zero Electrostatics, Inc. for information regarding warranty and the correct procedure for returns. Unauthorized modifications will void all warranties.

Specifications:

Testing Range: (500,000 ohms) - 10^5 - 10^8 ohms.

Wrist Straps:

High Range: 2M, 5M, 10M, 25M, 35M 50M, 75M, 100M ohms.

Low Range: 500k, 750k ohms.

Footwear:

High Range: 2M, 5M, 10M, 25M, 35M, 50M, 75M, 100M ohms.

Low Range: 500k, 750k ohms.
Display: Red, yellow, and green LED buzzer.

Accuracy: + / - 10 %.

Weight: 1.0 lb. (454 grams).CT-8711 unit only.

Environment: 32^0F to 100^0 F (0^0 C to 38^0 C); 15% to 95% RH.

Additional Quality Products Available from Ground Zero Electrostatics, Inc.:

MTR-8900 Footstand for ComboTesters
ZS-CREAM Dissipative Hand lotion
MTR-8900 Deluxe Combination with Software
ZS-MAT Topical Anti-Stat
ZS-CLEAN Dissipative Floor Cleaner
ZS-COAT Static Dissipative Floor Finish
MTR-1000 Surface Resistance Megohmmeter
MTR-1600 Constant Floor Monitor
ZS-CRETE Dissipative Epoxy Paint
MTR-9900 NIST Calibration Box
ZS-2186 Touchless Lotion Dispenser
ZS-3614 HandSanitizer
TP-WRN-3 Aisle Warning Tape "ESD Warning"
WD-2194 Touchless Water Faucet
BM-SERIES Conductive Rubber Mats
HG-Series Footgrounders
and many more.....special requests welcomed and encouraged.

For your nearest Distributor or Technical Assistance Call
941-751-7581