

Limit Comparator - Instructions for Use



Made in America



Figure 1. Item [50422](#) X3 Limit Comparator

DESCRIPTION

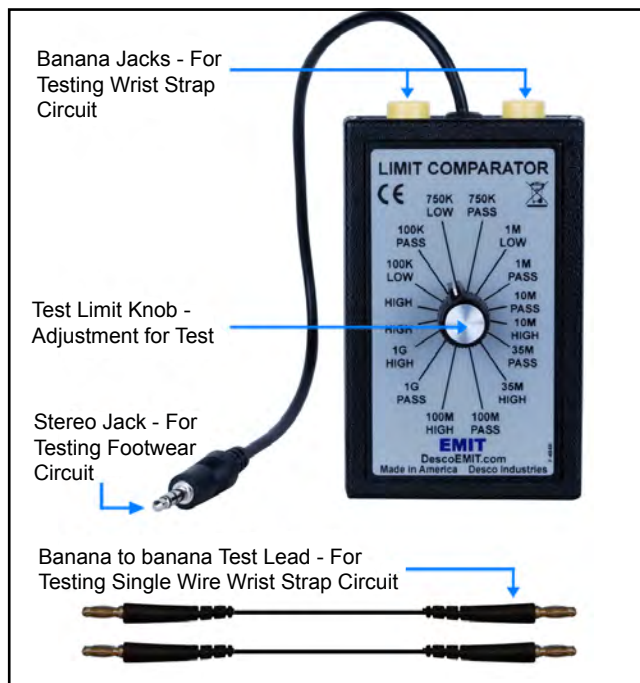


Figure 2. Limit Comparator features and components

PACKAGING

- 1 Limit Comparator
- 2 Test Leads, Banana to Banana
- 1 NIST Certificate of Calibration

OPERATION

Testing Footwear Circuit, refer to figure 1.

To complete the footwear test, you will need to test the low and high limits. Refer to the dipswitch setting on the left side of the testers for footwear test ranges. Manufacturer's suggested default test range is 750K low and 35Meg high for the US and Europe.

Do not power down tester, remove stereo cable from bottom right jack of tester labeled "FOOTPLATE" and connect the stereo lead from model [50422](#) to the jack labeled "FOOTPLATE".

Testing Low Circuit – If the tester's low range is set to 750K. Set the knob on model [50422](#) to the "750K LOW" position. Touch the TEST contact on the tester and you should get a red LED for the left and right foot. Disregard the test result for the wrist strap, if the wrist strap circuit is on.

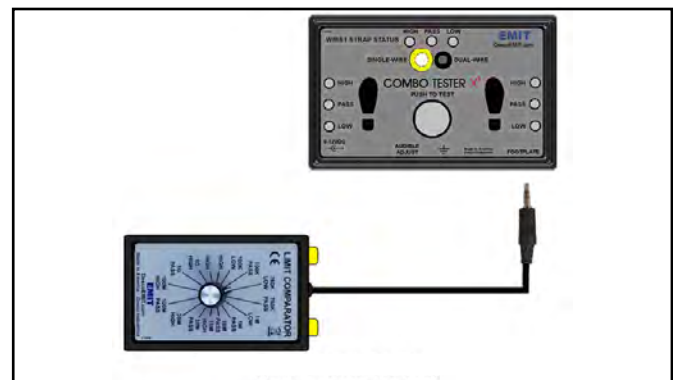


Figure 3. Footwear Test Setup

Set the knob on model [50422](#) to "750K Pass", touch the TEST contact on the tester and you should get a green LED for the left and right of the foot.

Testing High Circuit – If the tester’s high range is 35Meg. Set the knob on model [50422](#) to “35M PASS”, touch the TEST contact on the tester and you should get a green LED for the left and right feet. Set the knob on model [50422](#) to “35M HIGH”, touch the TEST contact on the tester and you should get a yellow LED for both the left and right feet. If the limit is set to 1Gig on the tester, test at 1Gig on model [50422](#), same for 10Meg and 100Meg. Disregard the test result for the wrist strap, if the wrist strap circuit is on.



Figure 3a. Footwear Status LED's

Testing Wrist Strap Circuit, refer to figure 2

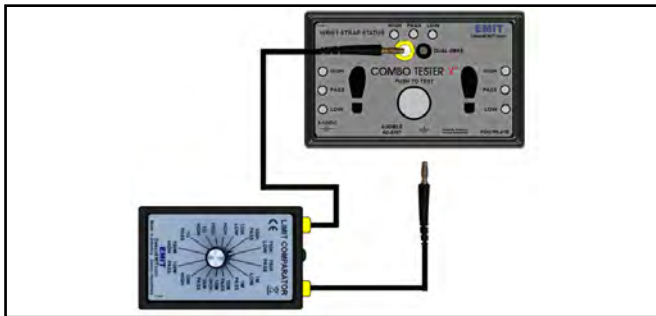


Figure 4. Wrist Strap Test Setup

To complete the wrist strap test, you will need to test the low and high limits. Refer to the dipswitch setting on the left side of the testers for wrist strap test ranges. Manufacturer’s suggested default test range is 750K low and 10Meg high for the US and 750K to 35Meg for Europe.

Do not power down the tester. Using the 2 banana leads included with model [50422](#). Attach 1 of the banana leads to the right side banana jack on model [50422](#) and connect the other end to the ground symbol jack on the tester. Connect the last banana jack to the left banana jack of model [50422](#) and the other end to the “SINGLE – WIRE” banana jack. Note be sure FOOTPLATE lead is removed.

Testing Low Circuit - If the tester’s low range is set to 750K. Set the knob on model [50422](#) to the “750K LOW” position. Touch the TEST contact down on the tester and you should get a red LED for the Wrist strap. Disregard the test result for the footwear. Set the knob on model [50422](#) to “750K Pass”, touch the TEST contact on the tester and you should get a green LED for the wrist strap.

Testing High Circuit – If the tester’s high range is 10Meg. Set the knob on model [50422](#) to “10M PASS”, touch the TEST contact on the tester and you should get a green LED for the wrist strap. Set the knob on model [50422](#) to “10M HIGH”, touch the TEST contact on the tester and you should get a yellow LED for the wrist strap. If the limit is set to 35Meg on the tester, test at 35Meg on model [50422](#). Disregard the test result for the footwear.



Figure 4a. Wrist Strap Status LED's

SPECIFICATIONS AND DIMENSIONS

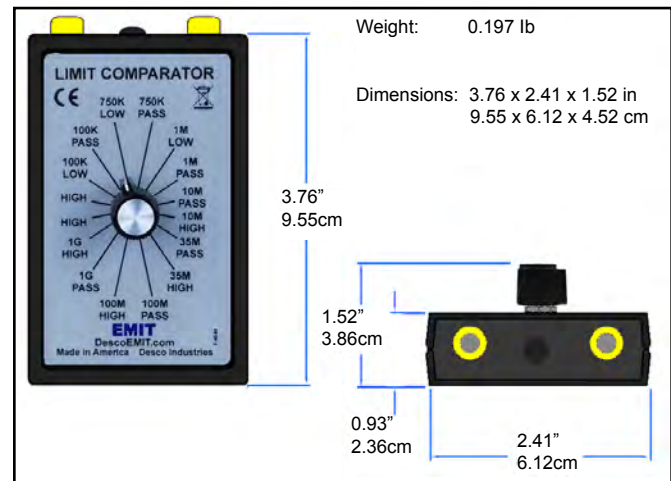


Figure 5. Limit Comparator specifications and dimensions

Testers limit comparator will calibrate:

- [50404](#) - SmartLog X3 w/Dual Foot Plate, Keypad, & Barcode Reader, 120V
- [50430](#) - SmartLog X3, w/Dual Foot Plate, Keypad & Barcode Reader, Software, 120V
- [50431](#) - SmartLog X3, w/Dual Foot Plate, Keypad & Barcode Reader, No Software, 120V
- [50432](#) - SmartLog X3 w/Dual Foot Plate, Keypad, & Barcode Reader, Euro Specs
- [50434](#) - SmartLog X3 w/Dual Foot Plate, Laser Scanner, Software, Euro Specs, CE Approved
- [50730](#) - SmartLog X3, Solid State, Keypad, Reader, Software, 120V
- [50731](#) - SmartLog X3, Solid State, Keypad, Reader, No Software, 120V
- [50732](#) - SmartLog X3, Solid State, Keypad, Reader, Software, Asia

- [50733](#) - SmartLog X3, Solid State, Keypad, Reader, No Software, Asia
- [50734](#) - SmartLog X3, Solid State, Laser Scanner, Software, Euro
- [50735](#) - SmartLog X3, Solid State, Laser Scanner, No Software, Euro
- [50407](#) - Dual Independent Footwear and Wrist Strap Tester, USA Standard
- [50413](#) - Dual Independent Footwear and Wrist Strap Tester, Euro Standard

CALIBRATION

There are no user adjustments on model [50422](#). Each value is a fixed resistor load, any model [50422](#) that falls out of specification will need to be sent to factory for repair. Using a DVM (digital voltmeter), set the meter to read ohms. The limit that the knob is set on can be measured using the DVM connected between Banana 1 to Banana 2 and connected between Conductor 1 and Conductor 2. Refer to figure 6.

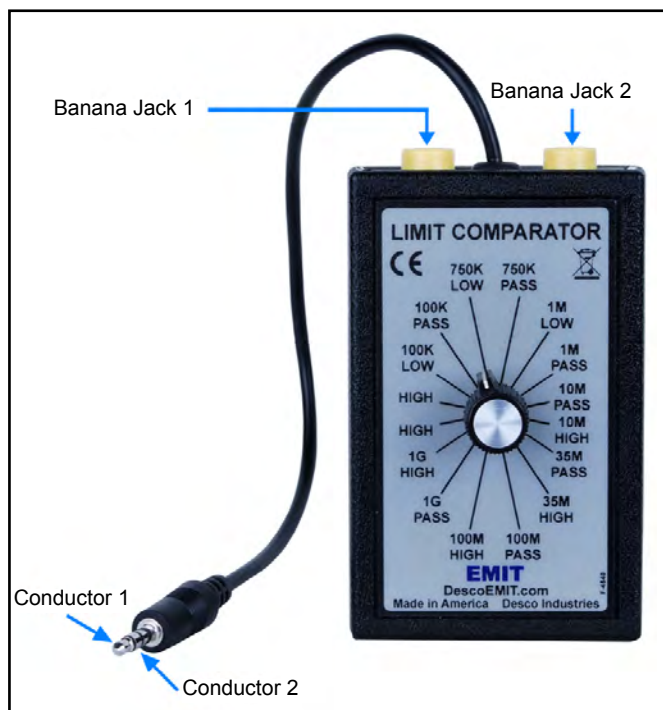


Figure 6. Test Points

50422 LIMIT	NOMINAL RESISTANCE	% TOLERANCE OF NOMINAL RESISTANCE
100K FAIL LOW	89K	±2%
100K PASS	110K	±2%
750K FAIL LOW	675K	±2%
750K PASS	825K	±2%
1M FAIL LOW	909K	±2%
1M PASS	1.10M	±2%
10M PASS	9.09M	±2%
10M FAIL HIGH	11.09M	±2%
35M PASS	31.09M	±2%
35M FAIL HIGH	37.89M	±2%
100M PASS	90.9M	±2%
100M FAIL HIGH	112.9M	±2%
1G PASS	812.9M	±2%
1G FAIL HIGH	1.213G	±2%

Limited Warranty

EMIT expressly warrants that for a period of five (5) years from the date of purchase, EMIT Limit Comparators will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a credit for purchase of replacement EMIT products, or, at EMIT's option, the product will be repaired or replaced free of charge. If product credit is issued, the amount will be calculated by multiplying the unused portion of the expected five year life times the original unit purchase price. 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 EMIT 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 EMIT 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.