

The process for nulling test lead resistance is a simple but important process which can often be overlooked. When measuring the resistance of a circuit, if the test leads aren't nulled, the resistance of the leads will also be measured in the reading. Below is a step by step guide explaining how to null out test lead resistance when using Martindale ET6000 Series multifunction testers. On completion the results are stored in the instrument for future use.



### Lead Nulling

Compensation is required to remove the test lead and instrument resistance from the measured resistance. The lead compensation is very important in order to obtain correct results when measuring low resistances. Calibration values are automatically stored after carrying out the nulling process for both : LOW  $\Omega$  and CONTINUITY.

There is a simple process for nulling the lead resistance which requires the two test leads to be connected to the instrument and shorted together. On completion of the process COMP will be displayed in the on screen status line and the values stored in the instruments memory, until the process is repeated.

See Fig 1. Lead configurations for nulling.

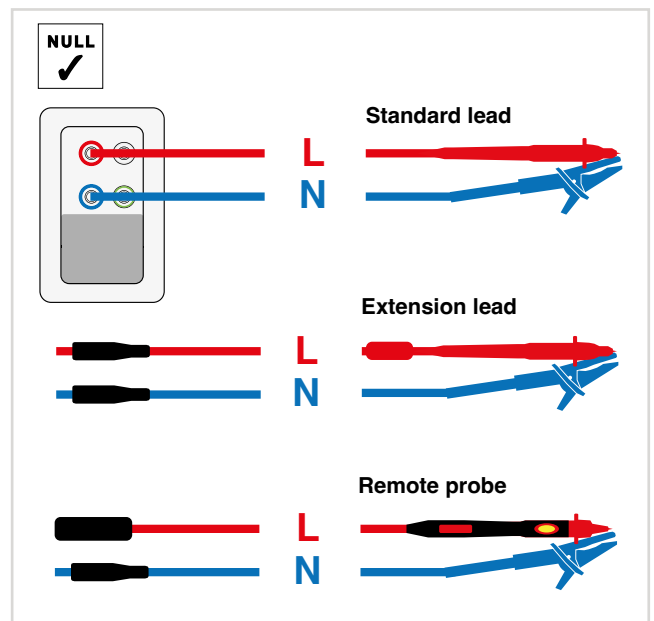


Fig 1. Lead configurations for nulling.



Fig 2. Using the Martindale accessory TL178 to null different lead configurations

### Lead Nulling Process

- ◆ Power on the instrument and select the  $\Omega$  function using the function selector switch as shown in Fig 3.
- ◆ Connect the test leads to the instrument and short the test leads together as shown in Fig 2.
- ◆ Select the continuity function “ $\Omega$ ” with the function selector switch and select the “Low” mode with the  $\blacktriangle$  $\blacktriangledown$  and  $\blacktriangleleft$  $\blacktriangleright$  navigation keys.
- ◆ Press the Zero key. After performing test lead compensation the compensated test leads indicator COMP will be displayed in the status line on the lower part of the display.
- ◆ In order to remove any test lead resistance compensation, just press the Zero key again. After removing any test lead compensation, the compensation indicator will disappear from the status line.

Further information on the operation of the ET6000 Series can be found in the full user guide which can be downloaded from the Martindale website.

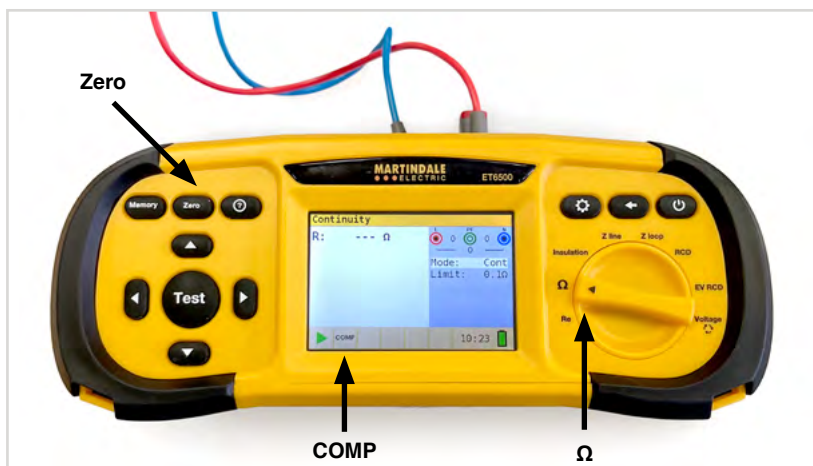


Fig 3. Front panel shot of the ET6500,  $\Omega$  function selected, zero button pressed.

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