

Megger.

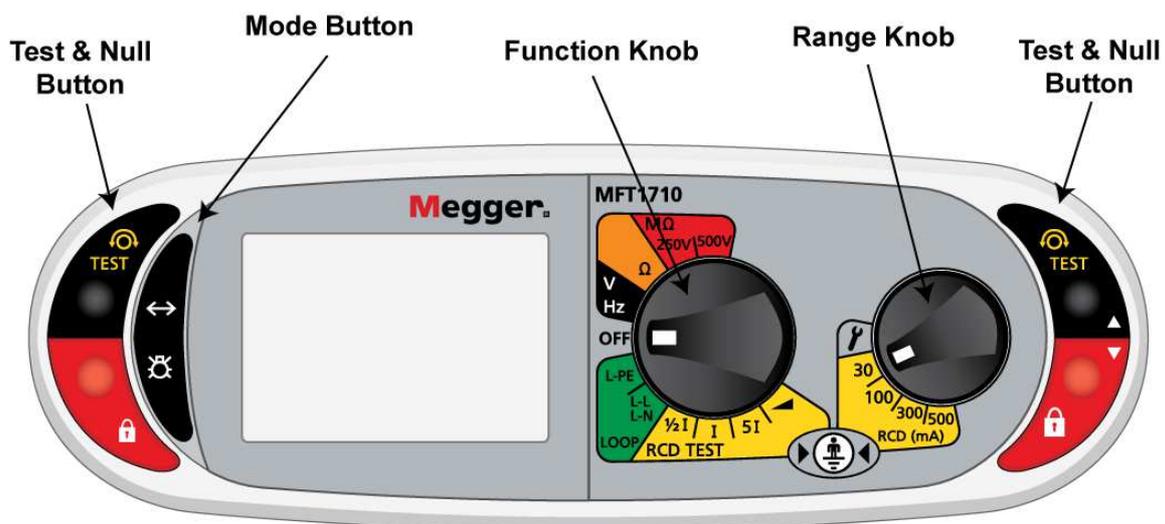
Guidance Note MFT1710 tester (Mk2)

The MFT1710 is a multifunction tester that features both 2/3 wire low current and 2 wire high current loop impedance test functions. As well as loop measurements the instrument is capable of voltage, frequency, continuity, and insulation measurements. In addition, the MFT1710 is also capable of testing Type AC, A and S RCDs.

The following diagrams / notes provide guidance for testlead and tester configuration for the primary functions for the MFT1710 installation tester.

The supplied prods and croc clips can be interchanged to suit the test the user is making.

For more detailed information regarding the instrument the Megger MFT1700 user guide or data sheet should be consulted.

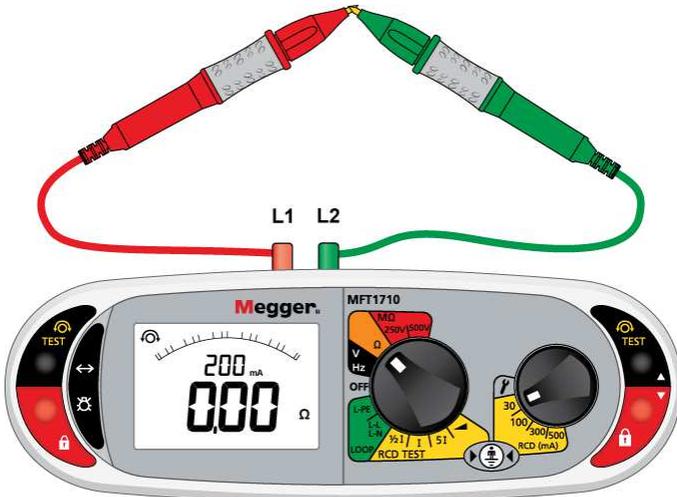


Note: IET Guidance Note 3 should be consulted before any testing is performed and safe isolation of supply must be exercised.

Screen values are for display purposes only.

Continuity

Before any continuity or R1+R2 measurements can be made with the MFT1710 the resistance of the testleads has to be 'removed' as this resistance would give false continuity readings. This simple procedure is performed using a technique called 'nulling' on the MFT1710.



First connect the **Red** testlead to the **L1** terminal on the tester followed by the **Green** lead to the **L2** terminal and switch the primary function dial to the **Orange** continuity position.

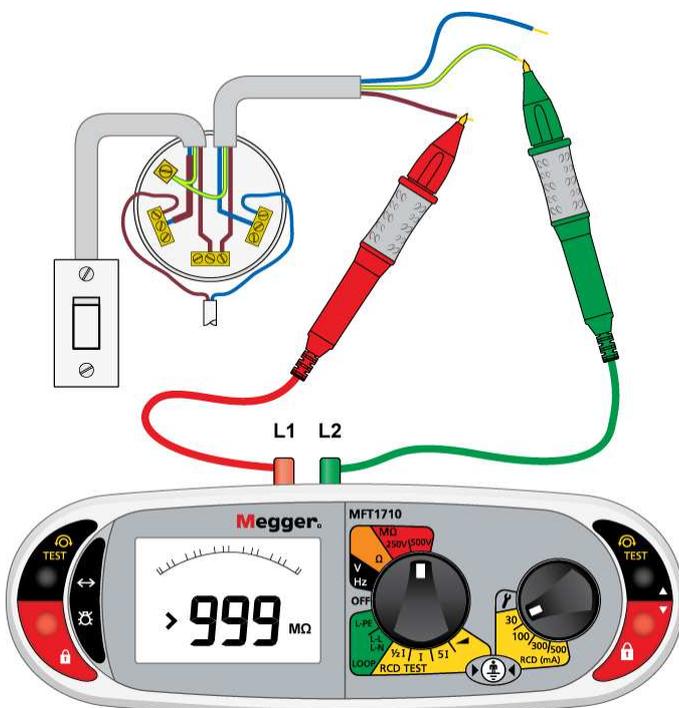
Firmly short the testleads together to create a loop. A random low Ω value will be displayed. Press either TEST button once briefly; the value will clear to display **0.00 Ω** and the Null symbol  will be visible towards the top left corner of the screen; separate and re-short the leads to ensure the tester toggles between **>99.9k Ω** and **0.00 Ω** :

The tester is now ready to perform tests.

Do not re-press the TEST button or nulling will be removed.

The nulling is stored even when the tester is switched off.

Insulation



Connect the **Red** testlead to the **L1** terminal on the tester followed by the **Green** lead to the **L2** terminal and switch the primary function dial to the appropriate insulation voltage in the **Red** section.

Select the required test voltage on the Function dial.

Connect the testleads to conductors to be tested and then press and hold either TEST button until the voltage ramps up and the reading stabilises. Once stable release the button and the final measurement will remain on the display i.e. **> 999 M Ω** .

Loop Impedance Measurements (L-PE)

The MFT1710 has the following 3 loop impedance functions on the L-PE setting:

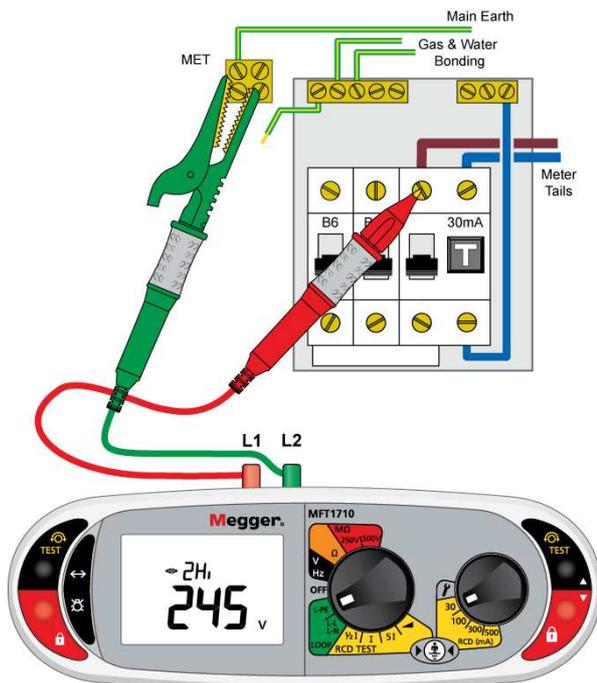
- ↔3Lo 3 wire non tripping loop for RCD protected circuits (Z_s)
- ↔2Hi 2 wire high current loop measurements (Z_e / PFC)
- ↔2Lo 2 wire non tripping loop for RCD protected circuits (Z_s)

These are selected by repeated pressing of the MODE  button to choose the required function.

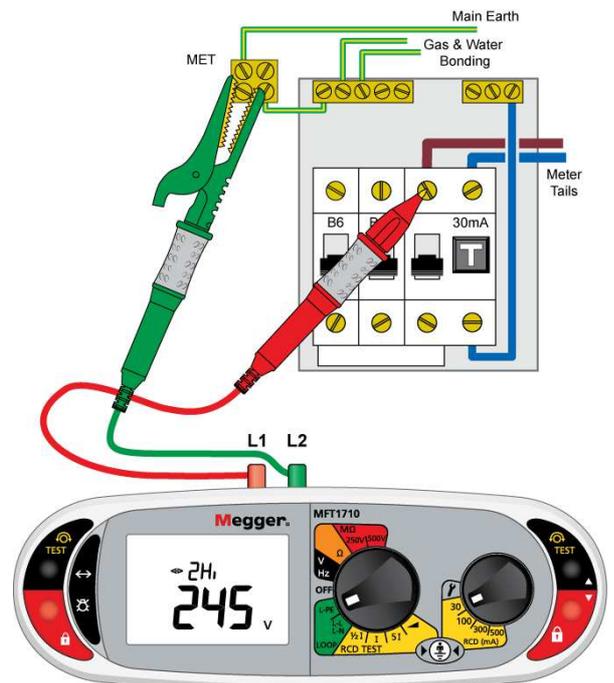
The MFT1710 has the ability to test both Z_e and PFC results at the same time on the screen, the fault current being the smaller of the two displayed measurements.

**Note: The fault current may occasionally be displayed in kA or A due to resolution.
(1000A = 1kA)**

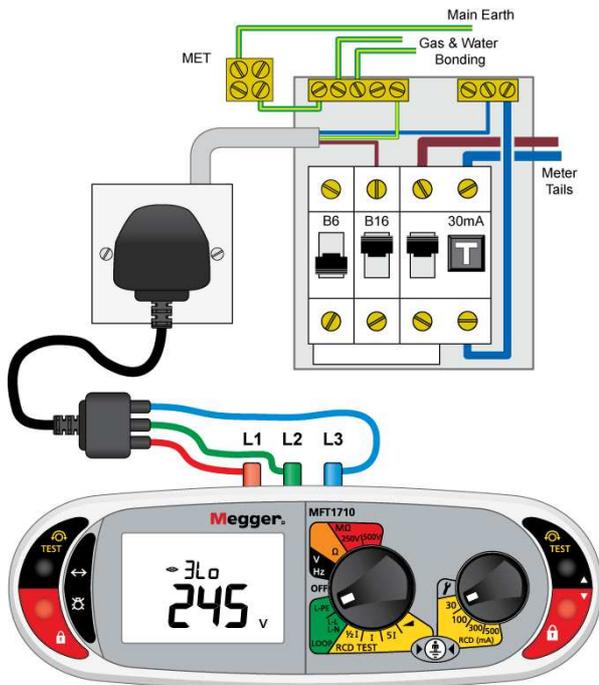
The following 4 diagrams indicate the correct instrument configuration and terminals to be used for the required **L-PE** loop tests. Once the tester is configured and the testleads are connected press either TEST button to start the test. Alternatively an auto start can be activated in the setup menu (see MFT1700 user guide)



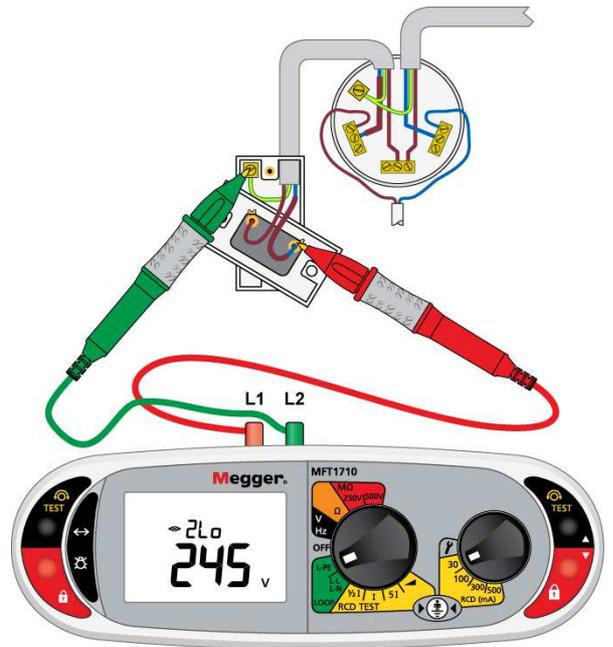
2 wire 2Hi Z_e test



2 wire 2Hi PFC test



3 wire 3Lo Zs test



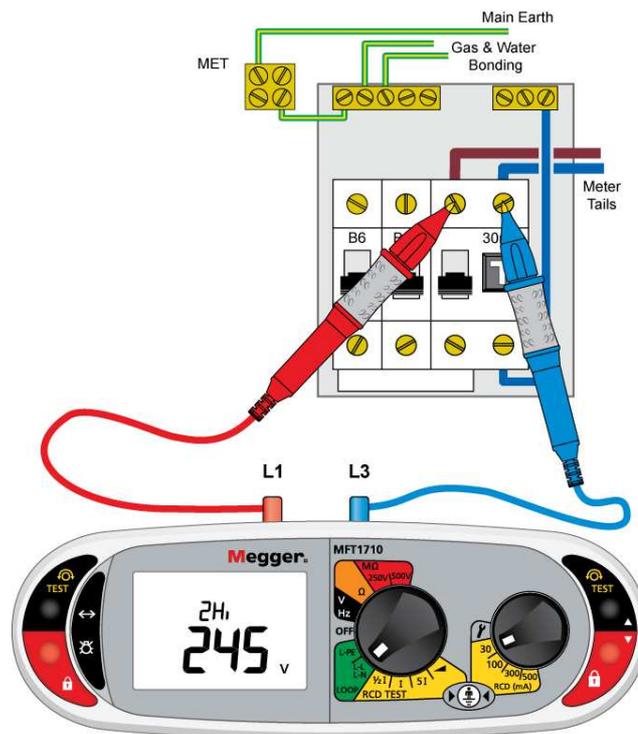
2 wire 2Lo Zs test

Prospective Short Circuit Current (PSSC)

Prospective short circuit tests are conducted using the 2 wire Hi LL/LN setting on the function dial and utilise terminals L1 and L3 only.

The short circuit current will be the smaller of the two displayed measurements.

Note: The short circuit current may occasionally be displayed in kA or A due to resolution. Once testleads are connected and the tester is configured press either TEST button to start the test.



2 wire 2Hi PSSC test

RCD Tests

The MFT1710 can test the following RCD types:

-  Type AC General RCD / RCBO
-  Type A Pulsating DC RCD / RCBO (not very common in domestic situations)
-  Selective (Time delayed) Type AC
-  Selective (Time delayed) Type A (not very common in domestic situations)

Select the required test ($\frac{1}{2}I$, I or $5I$) on the Function dial and the trip current on the Range dial. The RCD type symbol is displayed at the bottom of the screen.

To change the RCD type press and hold the MODE  button for about 2 seconds. Each subsequent press/hold of the MODE button will enable cycling through the required RCD type.

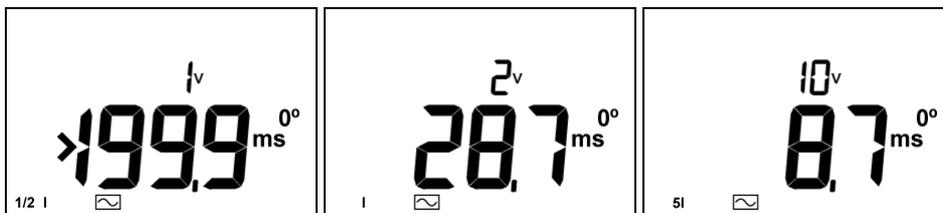
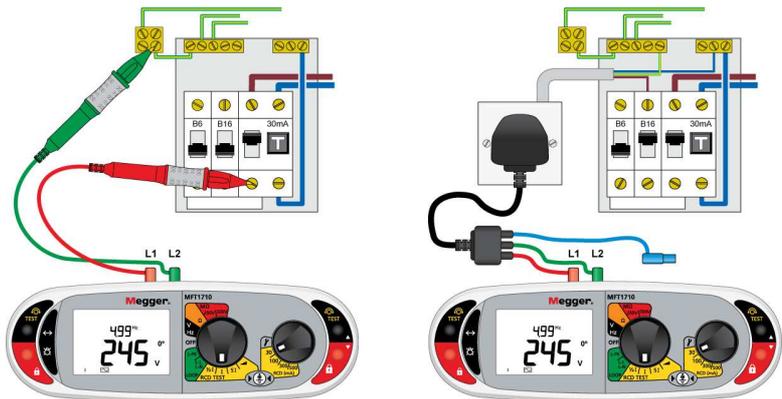
A short press of the MODE button toggles the between the 0 / 180 degrees tests.

A ramp  test function is also included on the MFT1710 that allows a test of the actual tripping current of the RCD for the checking of possible nuisance RCDs.

The MFT1710 tests the RCD using a two wire phase and earth test.

Connect the instrument Phase (L1) and Earth (L2) terminals to the RCD phase terminal and main earth terminal (or to the phase and cpc of the circuit the RCD is protecting) using either the separate leads or mains plug lead.

Press either TEST button to start the test.



Typical result screens for Type AC 30mA RCD tests
Note: the touch voltage is displayed above the trip time.