Clear Thinking with Kewtech

Insulation Resistance testing

KEWTECH

Instrument: Select Insulation function and the appropriate voltage (see table below).

BS 7671 2018 AMD2 regulation 643.3.1 states:

The insulation test should be measured between:

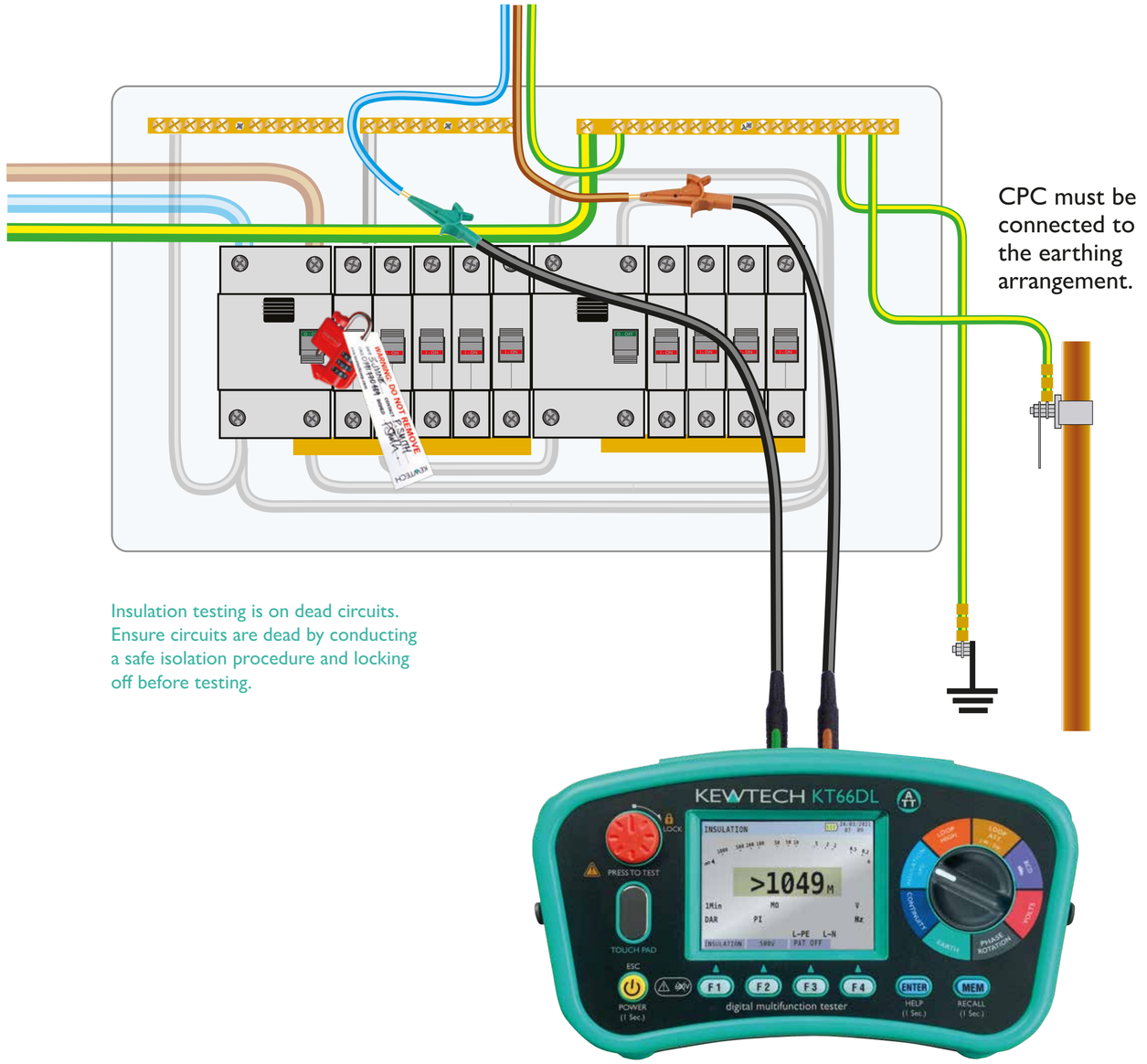
- Live conductors
- Live conductors and the protective conductor connected to the earthing arrangement. During this measurement the line and neutral conductors may be connected together

Where connected electrical equipment may be damaged or influence the result when tested at the recommended test voltage, regulation 643.3.3 allows for a two-step procedure:

1. When cables are first installed, an insulation resistance test should be carried out between all live conductors and between live conductors and earth. This must be done at voltage according to table below, before any electrical equipment is connected.
2. Following the connection of electrical equipment, a test at 250 V DC shall be applied between live and the protective conductor. The test result must be greater than 1 MΩ.

For both steps, it is essential that the CPC is connected to the installation's earthing arrangement.

Circuit nominal voltage (V)	Test voltage DC	Min. insulation resistance (MΩ)
SELV & PELV	250 V	0.5 MΩ
Up to and including 500 V with the exception of SELV & PELV, but including FELV	500 V	1.0 MΩ
Above 500 V	1000 V	1.0 MΩ



Insulation testing is on dead circuits. Ensure circuits are dead by conducting a safe isolation procedure and locking off before testing.

Kewtech 'Clear Thinking' diagrams are schematics to aid the understanding of electrical testing. Ensure proper safety procedures are taken before any testing

Johnny Ace says:

Remember to first test at 500 V DC with all electrical equipment disconnected including SPDs, RCDs & RCBOs that may be damaged or could effect the result.