

STUDY OF THE ROLE OF THE EARTH & A RESIDUAL CURRENT CIRCUIT-BREAKER



QUICK-H is a set of modules (H250mm) for studying the role of the earth and an RC circuit-breaker.

The synoptic diagrams on the modules show the path of electrical energy from a transformer substation and a house. Resistive dipoles, for insertion in the modules, allow students to simulate two earth resistance values and two fault resistance values.

To prevent any risk of electrocution to the student, the modules operate at extra-low voltage using an isolating transformer to standard NFC61558.

OBJECTIFS PÉDAGOGIQUES

- Make students aware of electrocution risks in the event of indirect contact.
- Make students aware of risks related to the quality of the earth.
- Explain the role of the RC circuit-breaker 30mA in a domestic installation.

TEACHING RESOURCES STUDENT & TEACHER

Proposed Practical Works

- Operation of a thermal-magnetic circuit-breaker: rating, breaking capacity, tripping curve, and symbols.
- Operation of an RC circuit-breaker: rating, tripping time, and symbols.
- Physiological effects of the current: risk areas, risk according to the current, and dangerous voltages.
- Maximum resistance of the earth.

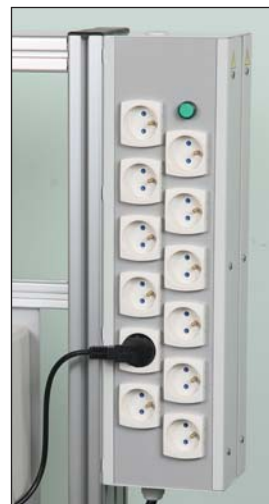
Comprises

- 1 Transformer module 230V AC, 24V AC. A printed diagram shows the public network, with its medium/low voltage transformer substation, and the neutral to earth connection in this substation.
 - 2 Modules of transmission lines from the transformer substation to a domestic installation.
 - 2 Modules with the RC circuit-breaker 30mA, and a washing machine simulation.
 - 1 Module with a printed diagram of a person, equipped with a LED on the heart. If a dangerous leakage current flows, the LED comes on.
 - 1 Dipole support module. Two earth resistances (100 ohms and 5 ohms), 2 fault resistances (10 ohms and 2 kohms) and four blanks so you can use your own resistance values.
 - 1 set of safety leads for carrying out the different practical works.
 - 1 frame with wheels (H x W x D): 1610 x 940 x 500mm equipped with rack for cords (30 fingers)
 - 1 single-phase power console:
 - 1 thermal magnetic circuit breaker (16A)
 - 1 Emergency stop push button with key
 - 1 Push button + LED indicator
 - 1 230V single-phase output on 4mm safety terminals
 - 2 230Vac sockets (2P + E) + 12 230Vac sockets (2P + E), at the back
- Mains power supply 230V - 50/60Hz. 3-metre lead with plug 2P+E.

ref. QUICK-HPLUS

ref. QUICK-H

without frame and console



Sockets on the back of the console for connecting the modules

