



RIGEL MEDICAL
GMC-INSTRUMENTS GROUP

How to perform electrical safety tests?

Medical electrical safety analysers are developed with measurement circuits to simulate typical impedance and electrical characteristics of the human body. These circuits are referred to as a Body Model and are specified in electrical safety standards, including IEC 60601-1 and 62353. Leakage tests are performed by measuring leakage currents using the body model. There are various methods depending on the standard but all leakage measurements are performed from different points on a device under normal and fault conditions. Both IEC 60601-1 and 62353 require leakage tests to be performed in a variety of fault conditions e.g., earth open, neutral open, and reverse supply.

Protective earth testing is provided by measuring the resistance between the equipment under test (EUT) earth and an exposed conductive part of the enclosure. This ensures there is a low resistance current path for any potential fault currents to flow back to earth and not through the patient or user. This test is only carried out on class 1 devices as class 2 uses double insulation as its supplementary form of protection.

If you require more help, please contact us at <https://www.seaward.com/gb/enquiry/>.