

Title : Testing fixed wired or 3-phase equipment

When testing fixed wired or 3-phase equipment, a number of safety tests can be carried out by powering the safety analyser from a normal mains supply provided this is at the same earth reference as the fixed wired equipment (single or three phase)

Tests that can be carried out this way are:

- Point to Point Earthbond test
- Enclosure leakage
- Patient Leakage
- Patient Auxiliary Leakage
- Patient Leakage Mains on Applied Parts.

Due to the fix connection of the device under test (DUT), the safety analyser is not able to measure; Earth leakage nor will the safety analyser be able to measure under single fault conditions (unless the earth and neutral are physically interrupted at the switch board or mains panel).

To measure Earth Leakage, a current clamp can be used provided the earth wire is separated from the Live and Neutral wires.

Be aware ; Secondary Earth Connections

Be aware that some fixed wired equipment is bolted into the floor which might cause an external earth path. Some safety analysers (including the Rigel 266/277/288) will warn for secondary earth connections should this happen.

To follow the correct IEC 60601-1 requirements, the fixed wired equipment would have to be disconnected from the mains however, this is not considered a practical option. Therefore, testing following the suggestions above would ensure the DUT is electrically safe.

When in doubt, always refer to the manufacturers recommendations.

End.