Verification of the Rapid Test Master Modules

Calibration Overview:
The Rapid Test master modules contain no calibration adjustments and uses micro controllers for highly stable and repeatable operations.

Verification Process:
Rapid Test recommends the use of the Power Check 1557 which incorporates an electronic settable RCD built into the functionality of the verification unit. The settable RCD allows for the selection of the trip leakage current and trip time. (Repeatable)

The Power Check will allow multiple repeatable tests with the same parameters allowing the results to be compared between the verification unit and the results from the Rapid Test master. If these results are within the tolerance range of the AS/NZS 3760:2010 the Rapid Test master is then verified.

Alternative Verification Methods:
It has been suggested that you can use a standard RCD tester to confirm the operation of Rapid Test for verification.

Unfortunately, this methodology does not produce consistent and reliable results for comparison for verification purposes.

To expand on this further:
An RCD in an electrical switchboard can trip differently each time you test it as it is an electromechanical device.

For Example: A test on an RCD by Rapid Test returns say a trip time of 15ms and the subsequent test on the same RCD by an RCD tester returns say 28ms, which one is correct? So, you test it again and Rapid Test returns 23ms and the RCD tester returns 19ms. Now we have no idea which one is correct.

Next you need to consider every tester has its own set of tolerances as per the standard +/- 8ms, the result could be a time difference of 16ms. Now add to this the RCD tolerances of a similar amount. The result is you cannot use this method to verify Rapid Test or any other RCD tester.

Field Connection to Verification Unit:
The Power Check 1557 is commonly used to test RCD's testers that have a 3 pin plug for plugging into power points. When using the unit for testing Rapid Test we need the ability to plug a Rapid Test channel into the unit.
It should be noted during the verification process the outlet on the Power Check 1557 becomes live and therefore the lead used to connect it to Rapid Test must be touch safe. It is for this reason we recommend our socket and lead as they are touch safe. This protects the technician for inadvertently contacting a live plug.

Therefore, it is unsafe to use a GPO and or SPO as these outlets will still require a plug with exposed pins to be plugged in. If this lead is plugged into the Power Check 1557 and not into the GPO/SPO there will be exposed live pins!