



How do I test my RCD's?

Under [Australian Standards](#) and [WHS regulations](#), two tests are required on a regular basis to ensure the correct function and operation of your [installed RCD's](#). A Push Button test and a Trip Time test.

Push Button tests are exactly what they sound like. Each RCD has a test button, and in accordance with Australian Standards that test button needs to be pushed to simulate a fault on a 6-monthly basis. This not only "exercises" the RCD, but ensures the RCD will switch off the power to that circuit in the event of an incident. If the RCD does not trip when the test button is pushed, the RCD requires urgent replacement as it will not operate in the event of an incident. No formal competency or training is required to complete a Push Button RCD test.

Trip Time tests check the speed the RCD operates in the event of an incident. Australian Standard 3760:2010 stipulates maximum trip times to reduce the impact of an electric shock. Specialist test equipment is used by either a technician deemed competent or an electrician, to measure the trip time when a fault is simulated. A technician deemed competent will simulate a fault from a power socket outlet on each circuit, whilst an electrician will simulate a fault directly at the switchboard. Whilst both methods will identify RCD faults, the practice of simulating faults directly at the switchboard elevates risk as the switchboard cover needs to be removed exposing a live switchboard.

What are the risks associated with electricians' completing trip time testing of RCD's live at the switchboard?

[Government Electrical Safety Departments](#) strongly recommend RCD testing is completed "in the field" by simulating a fault from a power socket on each circuit. This ensures the safety of the technician and eliminates the significant risks associated with electricians working on live switchboards. Technicians completing RCD testing in this manner cannot trip time test lighting RCD's.

The hazard risk to electricians working on live switchboards is increased because of exposure to live wiring when the switchboard cover is removed. Arc Flash is also a significant risk.

An electrician needs to use specialist equipment to simulate a fault in the electrical system by directly touching live wiring. Unless extreme care is taken, electricians can inadvertently touch live wiring directly exposing them to 240V supply or greater. Exposure can cause severe burns, other injury or even death. The mental trauma associated with an electric shock is also significant.

An Arc Flash, is the light and heat produced as part of an arcing fault, a type of electrical explosion or discharge that results from a low-impedance connection through air to ground, or another phase, in an electrical system.

Should you be looking for a solution to eliminate the risk associated with RCD testing directly at the switchboard, you may wish to check out [Rapid Test Systems](#) innovative RCD testing device, Rapid Test.



What is Rapid Test?

The Rapid Test system provides rapid RCD test functionality locally at the switchboard. It is designed to be used in conjunction with a tablet device. There is no need for a technician or electrician to safely (but slowly) locate and test individual circuits from the field to test RCD's. Using Rapid Test and the corresponding app, any individual with no electrical or technical knowledge, can safely test RCD's and record results more quickly than an electrician conducting testing at a live switchboard!

The RT Series RCD Test System is suitable for use with any existing RCD. There are 24 channel modules which provide independent RCD selection. For ease of installation they are DIN rail mounted, measuring approximately 203mm long. The Rapid Test communications bus connection is conveniently achieved allowing similar units to be quickly looped together.

The modules may be installed within a switchboard enclosure and do not need a separate enclosure of their own unless space is limited within the switchboard.

How do I install Rapid Test?

Rapid Test modules should only be installed by a qualified and licensed electrician. All wiring must be of suitable electrical rating for the installation purpose and must comply with local regulations. Connection and disconnection of Rapid Test modules should only be done with switchboard power turned off.

Only the main test unit requires 240v power. An electrician will need to connect the Line, Neutral and Earth terminals to a 240v supply in accordance with local wiring rules. It is recommended the unit is supplied from a dedicated circuit breaker where possible.

Each RCD to be tested is connected to an individual channel on the channel board. The channel assignment can be stored in the Master device by configuring it in the software.

The Rapid Test modules should be installed either horizontally base down or vertically with the terminal connections to the bottom. The modules have a DIN rail clip style base to make installation easier. Channel modules should only be installed where they are free from excessive vibration and are not subject to any impact.

NEVER ATTEMPT TO CONNECT OR DISCONNECT ANY RAPID TEST DEVICE WITH POWER TURNED ON



How do I test my RCD's using Rapid Test?

Rapid Test's 10 step process makes testing your RCD's so simple – anyone with a tablet and the Rapid Test app can do it!

1. Download the Rapid Test app from your relevant application store (Google Play, iOS App Store, Microsoft Store)
2. Power up the Rapid Test system on the switchboard with the RCD's you wish to test
3. Open the Rapid test application on your tablet so it connects to the RT master module via WIFI
4. Login to the Rapid Test application using your own secure credentials
5. Select the relevant Business / Site / Switchboard you wish to test in the application
6. Using the application, test all connected RCD's with one quick easy selection button
7. The application communicates over WIFI to the installed Rapid Test units. These units conduct the tests and will confirm the pass or fail status of each RCD test
8. Upload all captured test data to the Rapid Test data portal for complete records of test history
9. Power down the Rapid Test Master on the switchboard
10. Move to the next switchboard with Rapid Test connected RCD's and repeat steps 2-9

Total time to test all RCD's on your Rapid Test connected switchboard will depend on how many RCD's are connected on each switchboard. Each RCD takes approximately 5 seconds to test, perform data capture and upload.

Benefit Summary

Testing RCD's with the Rapid Test System eliminates the risk of ARC FLASH or ELECTROCUTION; whilst ensuring your site has an improved level of safety for your visitors, workers, or contractors.

Installing Rapid Test into the switch board allows your onsite staff to safely test both power & lighting RCD's wirelessly with the push of a button via a tablet application.

Upload testing data to a secure Asset-Portal helps manage your WHS compliance in a few mouse clicks.

Rapid Test saves you time, money & headaches! For more information, or for a no obligation demonstration of the Rapid Test capabilities, please contact Wayne Peters by email wayne@rapidtestsystems.com.au or 1300 78 1300.