

# MeasureSafe 36B

## Advanced RCD Compliance Testing Unit

**MeasureSafe 36B is the easiest to use, most cost effective, capable and reliable hand held digital RCD compliance testing unit available. No complex dials or knobs to adjust, just simple push buttons enable selection of advanced tests or simple auto tests. Designed and manufactured in Australia to world standards.**

The Measuresafe 36B is designed to test a variety of RCD devices including Type I, including to AS3003 requirements, Type II and AFCI safety switches.

MeasureSafe is easy to use – just plug it into the power outlet connected to an RCD circuit and press the test button. The unit will automatically test the RCD and report the mains voltage along with the current and time taken to trip on alternative tests. Alternatively service personnel with more advanced knowledge can set up their own test conditions.

RCD devices are built to a range of specifications depending on the installation application and will break the mains electrical circuit when an imbalance is detected between the active and neutral current supplied to the circuit (ie. there is a leakage current to earth). The current and time thresholds for tripping the RCD (which are designed into each RCD device) must operate before the leakage current poses a life threatening hazard to personnel operating attached equipment.

The MeasureSafe 36B can test all currently available RCD's by simulating various earth leakage problems. In addition the MeasureSafe 36B will also report the mains voltage and incorrect wiring of outlets. Suspect equipment can also be tested whilst in operation to provide earth leakage operating margins to identify nuisance tripping problems or faulty equipment.

In order to properly test both the trip current and the trip time two separate tests must be performed. The trip time is measured when the RCD trip current is applied to the RCD, the time taken to trip is then measured. The trip current is measured by slowly incrementing the leakage current from 5 mA until the RCD trips, then the current at which the unit tripped, is recorded. Both test results are displayed and recorded.

If the type selection is for type I with AS3003 test procedure, the unit will start testing to type I characteristics and each time the RCD is reset the next phase of the test will be performed. This allows for easy compliance to AS3003. At the end of the testing sequence the unit will display the results. The trip time during the 6 timing tests is initiated in random positions of the mains waveform, complying with the requirements of AS3003. This allows the timing test for Type I to be done in less than 19 seconds and provide true random trip timing.

The Measuresafe 36B has the ability to test AFCI, (Arc Fault Circuit Interrupters) these protective switches look for arcing circuits such as faulty electric blankets yet allowing the normal arc from switches. The MeasureSafe 36B has the ability to simulate an arc fault and test these protective devices.

The MeasureSafe 36B has an I-Test and T-Test button this can be used to manually select a particular type of test, either current trip test (I-test) or time trip test (T-Test). If neither is selected then the unit will intelligently alternate between the two tests each time it powers up. This provides minimal operator setup for each test. Totally automatic testing is performed by simply plugging in to an RCD equipped outlet and when the ready screen is displayed the test button is pressed.

A unique selectable, "test slope" feature for testing the worst case response time, is available on the MeasureSafe 36B. This enables the RCD to be repeatably tested. Once selected this will become the default setting for future tests but can easily be reset. The selectable RCD type is used to test the trip time and current, of the different RCD type categories. There is also a "custom type" setting to enable the selection of a customised value.

After power up the M36B will check to make sure there is an earth connection then also check to make sure the socket is correctly wired.

The MeasureSafe will record up to 4000 test results for later downloading to a PC via USB. Each result will record a unique test ID, the date and time, the mains voltage, the RCD type, the testing slope and the result for that test. These extensive tests make the MeasureSafe 36B one of the most comprehensive device of its type available.



# SPECIFICATIONS

Mains Voltage Accuracy:	+/-0.5%
Tripping Current Accuracy:	+/- 0.1mA
Trip Time Accuracy:	0-400mS ± 100uS
Loading Slope Phase angle	Selectable 0, 90, 180, 270 Degrees
Result storage	4000 Results
Control Processor	Advanced 32 bit ARM Processor
RTC	The unit has a built in battery backup real time clock for time and date stamping of test results
Test Leakage Current Range:	2mA to 80mA in 0.25mA steps
Internal fuse	2A 250Vac
Operating Voltage:	85-265VAC 50-60 Hz
Test Time:	90sec maximum depending upon trip current of the RCD.
Test Current:	Incremented test sequence from 5mA until RCD trips or fails.
Display	2 line OLED display showing mains voltage, RCD trip time, RCD trip current and any RCD faults. OLED for maximum viewing angle
Power Supply:	Powers up from mains source.

Operational Temperature:	0°C to +60°C
Storage Temperature:	-20°C to +70°C
Dimensions H x W x L :	140 x 123 x 40mm
Weight:	275g Unit only
RCD type Selection	Type I – 10mA Type I – AS3003 – 10.5mA Type II – 30mA AFCl - 30mA Testing current Type Custom selectable 1-50mA
Internal Memory	512Kbit data Flash
Downloading	The results can be down loaded using a simple free application software interface, via USB.
Power inlet	IEC socket
Approvals	C-tick CE
Service & calibration:	By manufacturer only
Fault Reports:	Incorrect mains wiring (active and neutral swapped), no earth connected, RCD fails to trip.
Calibration Requirement:	Every 12 months
Other Requirements:	Warranty Void and Test Results not guaranteed if the case tamper seal damaged or removed.
Warranty Period	Limited Life time warranty

## Ordering Information

Available from:

Extron Design Services Pty. Ltd.  
[www.Extrondesign.com.au](http://www.Extrondesign.com.au)  
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