

Residual Current Device (Safety Switch) Instruction Manual

WHAT IS A RESIDUAL CURRENT DEVICE (RCD)

RCD's are often known by other names, eg., earth leakage detectors, earth leakage circuit breakers (ELCB) or safety switches.

A RCD is an electrical safety device designed to immediately switch the electricity off when electricity "leaking" to earth is detected at a level harmful to a person using electrical equipment. A RCD offers a high level of personal protection from electric shock. Fuses or overcurrent circuit breakers do not offer the same level of personal protection against faults involving current flow to earth.

Circuit breakers and fuses provide only equipment and wiring protection and operate only in response to an electrical overload or short circuit. Short circuit current flows to earth via an installation's earthing system cause the circuit breaker to trip, or fuse to blow, disconnecting the electricity from the faulty circuit. However, if the electrical resistance in the earth fault current path is too high to allow a circuit breaker to trip (or fuse to blow), electricity can continue to flow to earth for an extended time. RCDs (with or without an overcurrent device) detect a very much lower level of electricity flowing to earth and immediately switch the electricity off.

RCDs have another important advantage - they reduce the risk of fire by detecting electrical leakage to earth in electrical wiring and accessories. This is particularly significant in older installations. RCDs work on the principle "What goes in must come out". They operate by continuously comparing the current flow in both the Active (supply) and Neutral (return) conductors of an electrical circuit.

If the current flow becomes sufficiently unbalanced, some of the current in the Active conductor is not returning through the Neutral conductor and is leaking to earth.

RCDs are designed to operate within 10 to 50 milliseconds and to disconnect the electricity supply when they sense harmful leakage, typically 30 milliamps.

The sensitivity and speed of disconnection are such that any earth leakage will be detected and automatically switched off before it can cause injury or damage. Analyses of electrical accidents show the greatest risk of electric shock results from contact between live parts and earth.

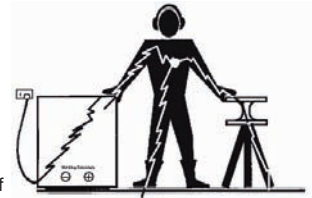
Contact with live parts may occur by touching:

- bare conductors;
- internal parts of an appliance; or
- external parts of an appliance that have become "live" because of an internal fault.

Contact with earth occurs through normal body contact with the ground or earthed metal parts.

An RCD will significantly reduce the risk of electric shock, however, an RCD will not protect against all instances of electric shock. If a person comes into contact with both the Active and Neutral conductors while handling faulty plugs or appliances causing electric current to flow through the person's body, this contact will not be detected by the RCD unless there is also a current flow to earth.

On a circuit protected by an RCD, if a fault causes electricity to flow from the Active conductor to earth through a person's body, the RCD will automatically disconnect the electricity supply, avoiding the risk of a potentially fatal shock.



TESTING YOUR SAFETY SWITCH

Commencing upon every use, it is essential that the safety switch is tested to ensure it is functioning correctly, we strongly recommend that this procedure is conducted without fail.

1. Plug your Jackson RCD device into a fixed 240VAC power wall socket outlet and switch on, - your Jackson RCD device should be connected directly to a socket outlet only, do not connect your RCD device to an extension cord.
2. To set the Jackson RCD into the ON position, press the green "RESET" button. The "RED ON" illuminator will then transform from a clear colour to a red colour.
3. Press the "TEST" button, doing this will make your Jackson RCD device trip immediately, and will remove the flow of power to the connected appliance, it then will change the "RED ON" illuminator to a clear colour, if this occurs it confirms that your Jackson RCD device is operational, if your Jackson RCD device does not trip as per the explanation above please contact us for assistance and a replacement or you can return the product to the place of purchase for replacement.
4. Upon tripping you must reset your Jackson RCD to the "ON" position, press the green "RESET" button, the "RED ON" illuminator will transform from a clear colour to a red colour.

If your Jackson RCD device does not operate correctly in accordance with instructions provided, you must stop using the device and either contact us directly or return the product to the place of purchase for exchange.

IMPORTANT NOTES

- Your Jackson RCD device is not designed for outdoor use, INDOOR USE ONLY.
- Electricity can be dangerous, the use of an RCD device should not be regarded as a substitute for basic electrical safety precautions.
- You must unplug all equipment to achieve isolation before any inspection or repair of that equipment is attempted.
- Please seek advice from an electrical contractor or Jackson Industries if the RCD device repeatedly trips, or fails to trip in accordance with the instructions provided.
- Never immerse your Jackson RCD device in water, and do not expose the unit to rain.
- Do not connect your RCD device to an extension cord.
- You must take proper care of your RCD device, take care not to drop on hard surfaces.



RCD99



RCD899



RCD99HD