PROJECTA

# DIGITAL MULTIMETER

P/No. DT830B

IS293
Issue 2 24/2/15

## BATTERY & FUSE

The low battery symbol ' ' will be displayed when the internal 9V battery is low (<7.5V), indicating that the battery should now be replaced. If the meter does not function on the DCA range, the internal 500mA fuse may have blown. To replace the battery or fuse, remove the test leads from the meter and remove the two screws from the rear cover. Replace the battery or fuse and then reassemble.

## WARRANTY STATEMENT

**Applicable only to product sold in Australia**

Brown & Watson International Pty Ltd of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, warrants that all products described in its current catalogue (save and except for all bulbs and lenses whether made of glass or some other substance) will under normal use and service be free of failures in material and workmanship for a period of one (1) year (unless this period has been extended as indicated elsewhere) from the date of the original purchase by the consumer as marked on the invoice. This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the consumer.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either BWI or the retailer from where the product was bought in order that a warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim.

In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage.

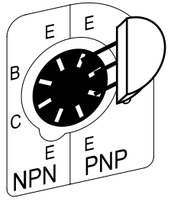
This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation.

IMPORTANT NOTE

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

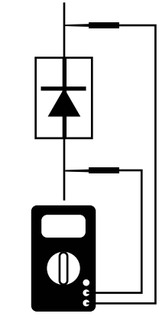
## TRANSISTOR CHECK

1. Set the Function switch to the 'hFE' setting.
2. Turn the meter 'ON'
3. Connect the component leads of the transistor to the correct pins of the transistor jack (Emitter, Base & Collector) depending on whether it is a NPN or PNP type; you may need the component specification sheets to help you identify this.
4. The meter will display the hFE measurement.



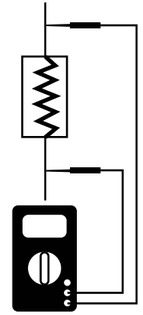

## DIODE CHECK

1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the ' ' setting.
3. Turn the meter 'ON'
4. Connect the test probes across the diode, Positive probe (RED) to the 'anode' and Negative probe (BLACK) to the 'Cathode'.
5. If the diode is functioning the meter should display the diode forward Voltage drop, usually between 500–700mV.



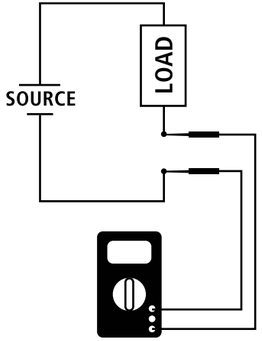
## MEASURING RESISTANCE

1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the correct 'Ω' range.
3. Turn the meter 'ON'
4. Connect the test probes across the Resistance to be measured. Ensure that the component or circuit under test in not energised.



## MEASURING DC CURRENT (UP TO 10A)

1. Connect the RED test lead to the '10ADC' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the '10A' setting.
3. Turn the meter 'ON'
4. Connect the test probes so that the meter becomes part of the circuit to be measured. Ensure that the circuit load is less than 10Amps or the meter will be damaged.



## WARNINGS

Do not exceed the meter's voltage or current limits. Use caution when testing voltages higher than 50VAC or 110VDC.

Do not use if the meter or test leads are damaged. Remove test leads before replacing the battery or fuse.

**NOTE**: The DT830B should be stored below 60°C

## SPECIFICATIONS

| | |
|---|---|
| Polarity: | Auto indication (-) |
| Voltage: | DCV: 200mV, 2000mV, 20V, 200V & 1000V |
| | ACV: 200V & 750V (45-450Hz) |
| Current: | DCA 200µA, 2000µA, 20mA, 200mA & 10A |
| Resistance: | 200Ohm, 2000Ohm, 20kOhm & 200kOhm |
| Dry cell battery check: | 1.5V (AAA, AA, C & D) & 9V |
| Diode test: | 1mA current for forward Vdrop |
| Transistor test: | hFE (0-1000) @ 3.2Vce |
| Accuracy: | < ± 1.0% full scale reading |
| Battery: | 9V Dry Cell |
| Internal Fuse: | M205 (F500mA) |
| Low battery warning: | 7.5V |
| Size: | 126mm X 69mm X 24mm |
| Weight: | 115g |

## OPERATING INSTRUCTIONS

**Controls**

The 'ON/OFF' switch is used to turn the meter 'ON'. To conserve battery power, always turn the meter 'OFF' when not in use.

The parameter to be measured is selected using the rotary 'Function' switch.

For accuracy make sure the correct range is used.

When the display shows '1' this indicates an over-range reading, use the next highest range.

**Connecting Test Leads**

There are three connection jacks, marked:

1. 10ADC
2. VΩmA
3. COM

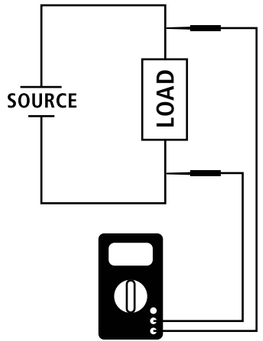
The BLACK test lead should be placed in the 'COM' jack.

For most measurements, except current over 200mA the RED test lead should be placed in the 'VΩmA' jack.

For current over 200mA but less than 10A the RED test lead should be placed in the '10ADC' jack.

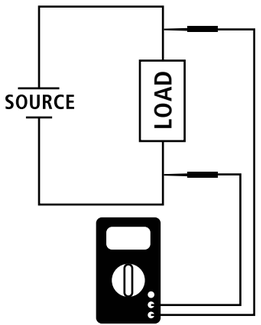
## MEASURING DC VOLTAGE

1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the correct 'DCV' range.
3. Turn the meter 'ON'
4. Connect the test probes across the Voltage to be measured.




## MEASURING AC VOLTAGE

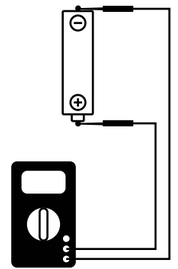
1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the correct 'ACV' range.
3. Turn the meter 'ON'
4. Connect the test probes across the Voltage to be measured.




## BATTERY CHECK (DRY CELL, 1.5V & 9V)

1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the ' ⊣⊢ ' setting.
3. Turn the meter 'ON'
4. Connect the test probes across the terminals of the battery to be measured, red probe to the (+) terminal of the battery.
5. The meter will apply a small load to the battery and display the current in mA (if the reading is close to or above the following values, the battery is in good condition:

– 1.5V battery (AAA, AA, C, D) 4.0mA
– 9V battery 25mA



## MEASURING LOW DC CURRENT (<200MA)

1. Connect the RED test lead to the 'VΩmA' jack and the BLACK test lead to the 'COM' jack
2. Set the Function switch to the correct 'DCA' range.
3. Turn the meter 'ON'
4. Connect the test probes so that the meter becomes part of the circuit to be measured. If the load current is higher than 200mA the internal fuse will blow.