



# OUTLET TEST UNIT - OTU

A01022

A01113

1000V/415V/110V

**Operation Manual**

Version 1.1

## Outlet Test Unit - OTU Manual

Part number: A01022 – Standard OTU  
A01113 – Phase Reversed OTU

Version: 1.1  
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# Index

|                                     |    |
|-------------------------------------|----|
| OVERVIEW .....                      | 4  |
| 1. FEATURES .....                   | 4  |
| 2. FEATURES .....                   | 5  |
| 3. CONNECTIONS .....                | 6  |
| 4. DECONTACTOR WIRING .....         | 7  |
| 5. OTU LAYOUT .....                 | 8  |
| 6. OTU LAYOUT .....                 | 9  |
| 7. BASIC ENCLOSURE DIMENSIONS ..... | 10 |
| 8. OPERATION .....                  | 10 |
| 9. PILOT TEST .....                 | 10 |
| 10. EARTH LEAKAGE TEST .....        | 11 |
| 11. ERROR CONDITIONS .....          | 12 |
| 12. GENERAL RECOMMENDATIONS .....   | 13 |

# Overview

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The Outlet Test unit (OTU) is designed to provide the statutory Earth Leakage test on an outlet without opening the cubicle. The test incorporates a highly accurate timer to record the time taken to isolate the power to the outlet.

## 1. Features

The unit provides:

- Checking of earth leakage device for accurate operation
- Timing of the power interrupt to the outlet, not just the earth leakage device
- Multiple test results displayed on-screen
- Earth continuity test for both pilot earth short and pilot open
- Phase rotation indication
- Loss of phase detection
- Multiple earth fault current settings
- Battery operation (charger included)
- 3 hrs continuous EL testing before recharge is required
- Self power-off after 5 minutes of no line-side power or if battery runs flat to maintain battery health
- Light weight polycarbonate enclosure (5.1 kg)
- Trip settings 1000V:  
1A, 500mA, 300mA, 100mA & 30mA
- Trip settings 415V:  
1A, 500mA, 300mA, 100mA & 30mA
- Trip setting 110V:  
30mA

## 2. Features

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- Trip setting 110V:  
30mA

### 3. Connections

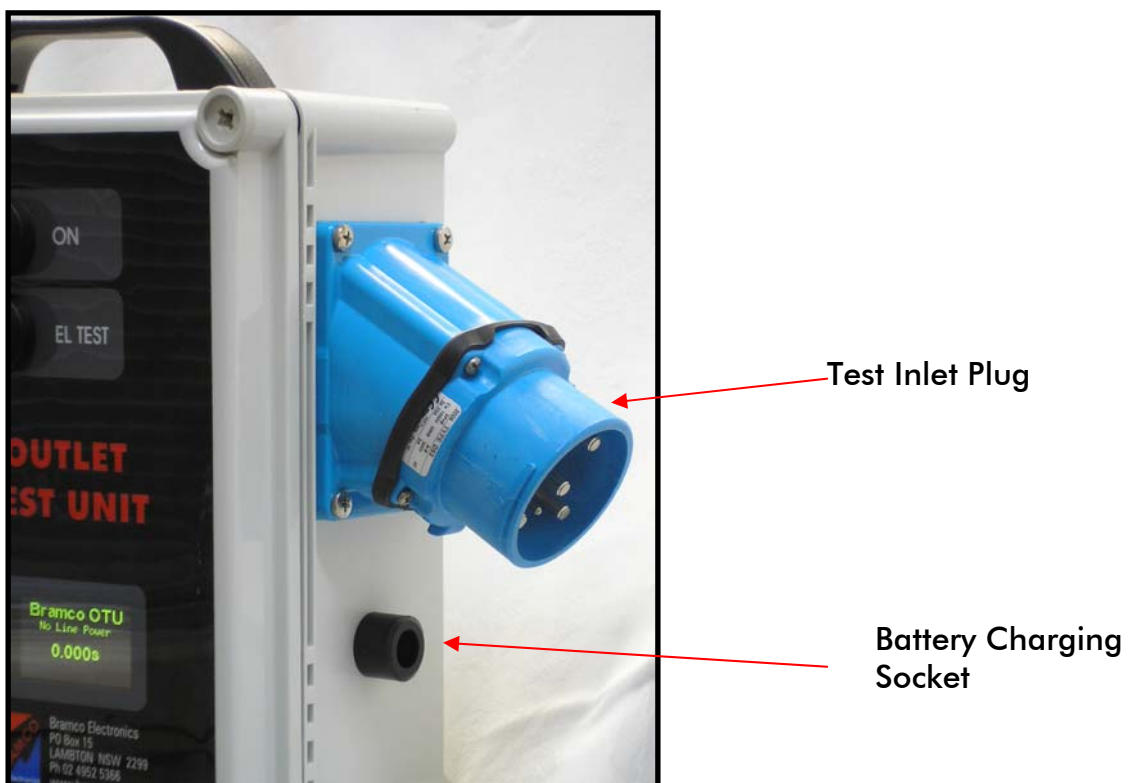
To recharge the battery, connect the supplied battery charger to the battery charging socket (see diagram).

Any outlet to be tested should be connected to the test inlet plug.

Resistive earth faults are applied to the following phases, dependent on Current Selector Switch settings:

- 1000V (Current Selector 1): Phase C (A01022)  
Phase A (A01113)
- 415V (Current Selector 2, positions 1 - 5):  
Phase B (A01022 & A01113)
- 110V (Current Selector 2, position 6):  
Phase A (A01022)  
Phase C (A01113)

Note that the A01022 and A01113 models apply EL faults to different phases.

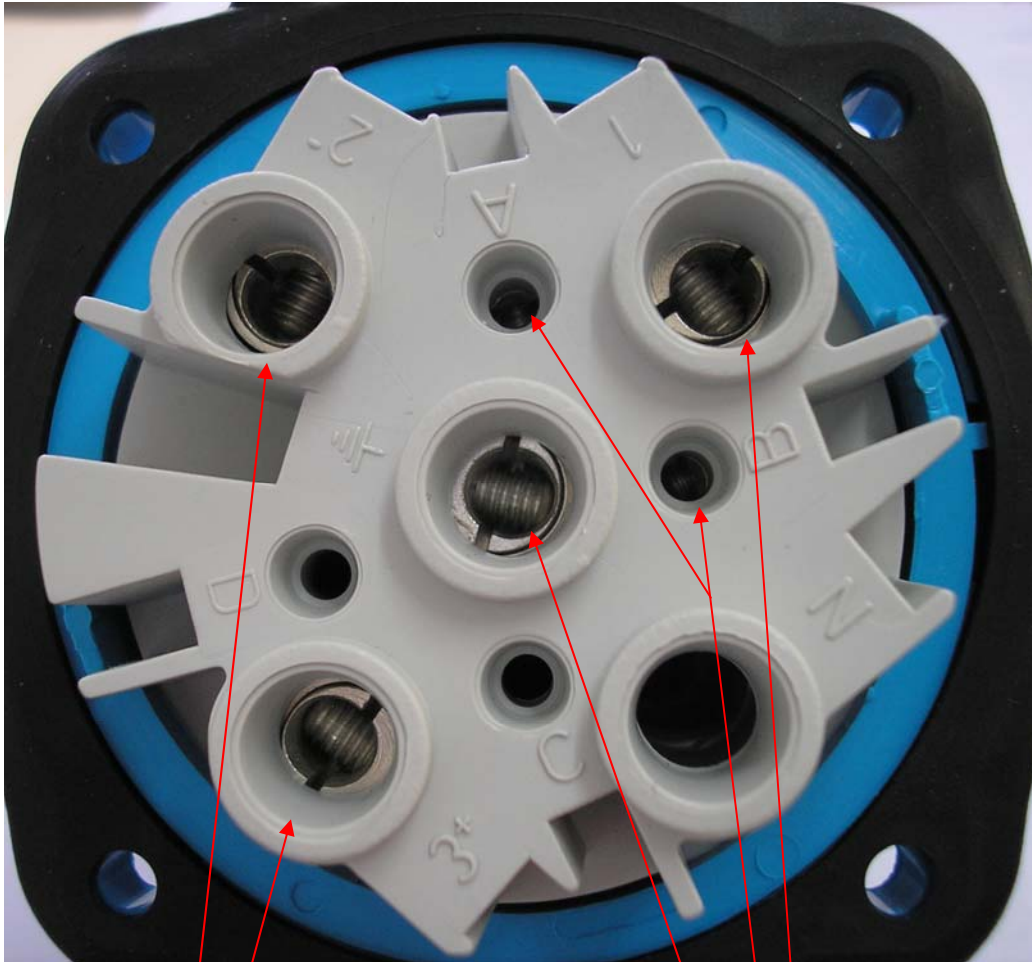


## 4. Decontactor Wiring

Parts required:

- Maréchal socket outlet #3134223972
- Maréchal standard handle #313A013

One set is supplied with the unit.



Phase B (pin 2)

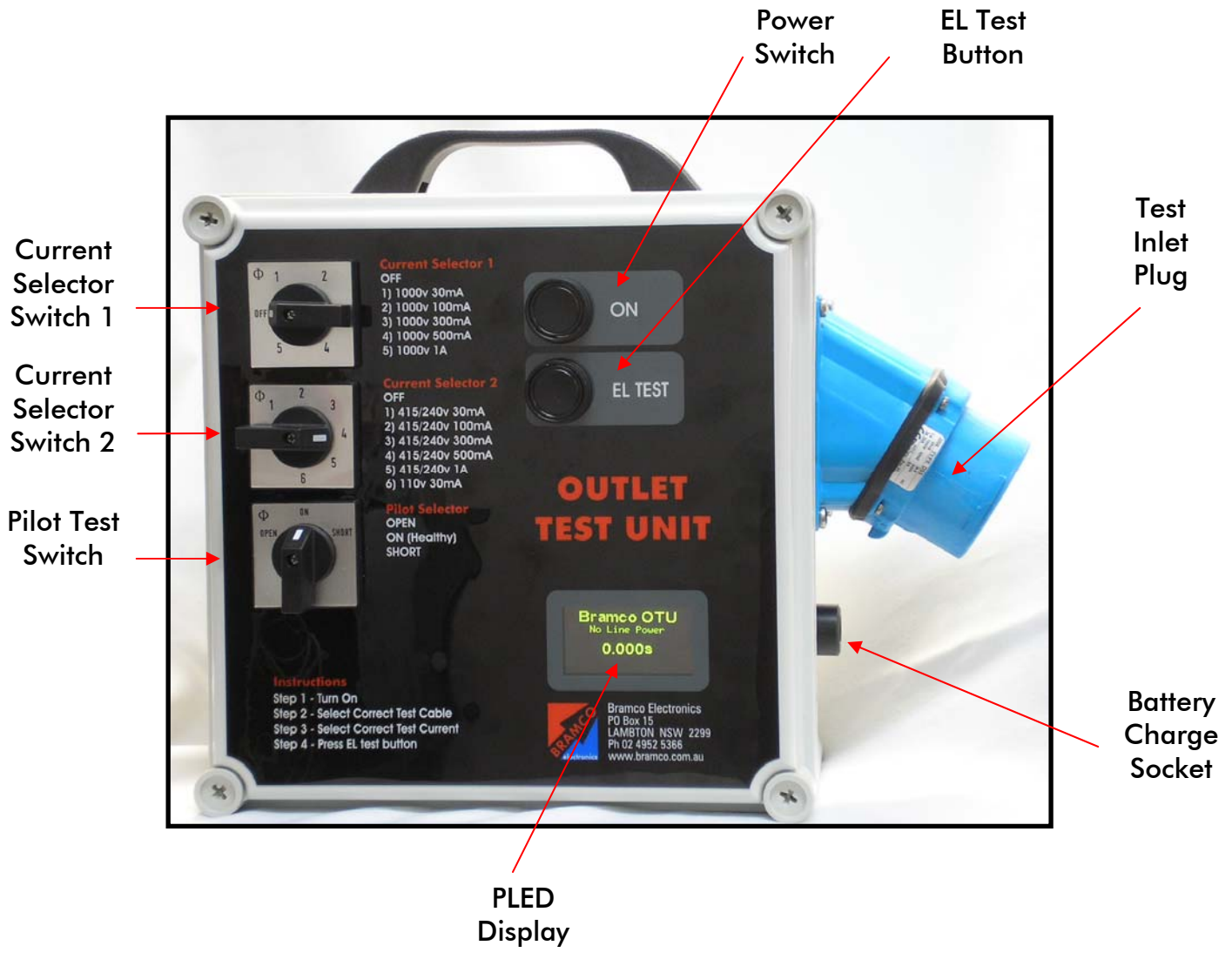
Phase C (pin 3)

Phase A (pin 1)

Pilot (pins A and B)

Earth/Neutral

# 5. OTU Layout



## 6. OTU Layout

Line Indication

Phase Rotation



Last Test Time

Error Message  
Area

Previous Three Test Results

## 7. Basic Enclosure Dimensions

- Main Enclosure: 280 x 280 x 132mm
- With handle, switches and test inlet: 308 x 370 x 160mm

## 8. Operation

Before carrying out any tests, the battery should be charged using the charger supplied.

Plug charger into 240VAC outlet and connect to OTU charge socket. Charger LED will glow steadily while charging then flash when fully charged.

**NOTE:** No testing may be performed while the OTU is being charged.

## 9. Pilot Test

- Connect cable to OTU.
- Plug cable into power outlet.
- Turn on OTU.
- Turn Pilot Switch to ON position.
- Turn on power outlet.
- Check screen for:
  - a. Power on
  - b. Phase rotation / Lost phase indication
- Turn Pilot Switch to OPEN (witness loss of power).
- Turn Pilot Switch to ON and turn on power outlet.
- Turn Pilot Switch to SHORT (witness loss of power).
- Return Pilot Switch to ON position.

## 10. Earth Leakage Test

Resistive earth faults are applied to the following phases, dependant on Current Selector Switch settings:

- 1000V (Current Selector 1): Phase C (A01022)  
Phase A (A01113)
- 415V (Current Selector 2, positions 1 - 5):  
Phase B (A01022 & A01113)
- 110V (Current Selector 2, position 6):  
Phase A (A01022)  
Phase C (A01113)

Note that the A01022 and A01113 models apply EL faults to different phases.

**NOTE:** For Current Selector Switch 1 settings to function, Selector 2 must be in the OFF position. For Selector 2 settings to function, Selector 1 must be in the OFF position.

1. Connect test cable & turn on OTU.
2. Set trip test current and voltage on Current Selector Switch.
3. Turn on power outlet.
4. Press Earth Leakage Test button.
5. Witness power loss.
6. Record time from screen.

**NOTE:**

- a. The time recorded is the total time for the Earth Leakage Relay and the contactor/circuit breaker to operate. Thus it is the time taken to completely isolate all power from the outlet.
- b. If the power is not tripped within 5 seconds the unit will cease timing. Check the setting on the Earth Fault Relay and the setting

on test unit to ensure the correct current setting has been selected and try the test again.

- c. The OTU will automatically disconnect the resistive fault after a one second time-out period.
- d. The OTU has thermal over-temperature protection fitted. In event of an over-temperature trip the screen will indicate 'Over Temperature'.

If a timeout result occurs despite other indications that the contactor has been tripped, check to see that all three phases have opened on the contactor/circuit breaker. Your unit will only record the trip time if all three phases are de-energised COMPLETELY.

## 11. Error Conditions

There are four error conditions that may occur:

1. **Phase rotation error**  
This will occur if three phases are detected, but are not in a detectable and consistent phase order. Screen will display 'Phase Error' in the phase rotation area.
2. **Battery low**  
If the battery is becoming flat; the screen will show 'Recharge Battery' in the error message area.
3. **Battery flat**  
If the battery runs completely flat, the screen will display 'BATTERY FLAT, SWITCHING OFF' and the unit will switch off. Recharge the battery.
4. **Thermal Overload**  
If the resistive load array overheats, the screen will display 'Over Temperature' in the error message area, and the unit will not perform any EL tests. Simply wait for the unit to cool before attempting to reapply a fault.

## 12. General Recommendations

Your unit should be inspected, checked and tested six monthly for insulation deficiencies, calibration and correct operation by a representative of Bramco Electronics or our authorised agent. Should the unit require repair this should only be carried out at an authorised Workshop.