



# Model TEL1-1

## General ELCB Tester



### Features

The TEL1 is the Basic Test Equipment an Electrician cannot do without. TEL1 is a Dual Function Test Instrument utilized to Verify Electrical Wiring Connections and the Functioning of Earth Leakage / Residual Current Detectors devices by forcing the ELCB/RCD to trip. This verifies that the protection device open the mains power supply circuit when a current higher than a certain amplitude circulate into the ground /earth wire (generally around 15mA)  
This ensure the electrical installation meet safety and regulation requirements.  
The Wiring Check is reported on the Bright Neon Lights and the Key code is shown on the table located under the tester.

The table tells the user if the wires are connected correctly or not and guide the user to solve his fault, if any. However, it does not detect or show if a short circuit is present between the Neutral and Earth/Ground wires as well as does not detect or show if a swap occurred between the Neutral and Earth/Ground wires due to the fact that these wires are connected together at the supply transformer or some time, again, are connected together by a link, somewhere else in the power distribution system.

The WIRING INTEGRITY CHECKER of the TEL1 uses three Large and Bright Neon Lights to detect and display voltage conditions on and between powered electrical wires. These neon lights will lit according to a different sequence related to the wiring conditions of the electrical system. The table located under the tester shows the wiring conditions.

The Residual Current Detector or Earth Leakage Circuit Breaker Tester injects and simulate a Ground/Earth Fault current into the Earth/Ground wire to trip the device under test. The fault current can be increased by rotating the switch to the new higher value to force the device to trip.

Once selected by the rotary switch, the user press the TEST button to inject the current. When the current is Flowing into the Earth/Ground wire, the  $I_{EARTH}$  LED lit, confirming that current is still flowing into the Earth/Ground wire. Power Resistors are utilized to inject the current and No Phase shift is introduced between voltage and current. When rotating the selector, different resistors are selected by the rotary switch, this in turn, change the current selection. The User need to select the current on the rotary switch and then, press the TEST button shortly to inject the Fault Current. This ensure the fault current is only temporary injected into the system.

An Example on How to use the device is as follow: Rotate the switch anti-clockwise to the lowest current setting. Plug the tester into the wall socket. The wiring check will now indicate the wiring condition of the system as seen from the plug. Verify the Neon lights against the table. If the wiring is correct, carry on with the next test. If the wiring is not correct, then you need to solve the problem before continuing. If the wiring is correct, then you are ready to test the ELCB/ RCD sensitivity. Press TEST for a short time and check the  $I_{EARTH}$  LED while pressing. If the  $I_{EARTH}$  and the Neons lights are now OFF, that mean the ELCB/RCD tripped. If the lights are still ON, then, stop pressing the Test button and increase the selected fault current and press Test again.  $I_{EARTH}$  LED lit when current is going into the Earth/Ground wire. Most domestic breakers trips around 15mA of sensitivity.

The TEL1 help the user finding the sensitivity at which the ELCB/RCD trips.

Specify plug type when ordering:

- TEL1-1 110V
- TEL1-2 220V
- TEL1-3 230V
- TEL1-4 240V

### Wiring Check Table

● = ON			○ = OFF	CONDITION
A	B	C		
●	●	●		WIRING OK
●	●	○		NO EARTH (GROUND)
○	●	●		NO NEUTRAL
○	○	○		NO LINE
○	○	●		REVERSED LINE / EARTH
●	○	○		REVERSED LINE / NEUTRAL
DOES NOT DETECT N-E SWAPPED				

### Specifications

Nominal Voltage System	110V-220V-230V-240Vac available - User Selectable at purchase.
System Voltage Frequency	50-60Hz
Wiring Check Accuracy	Table Valid for Voltage within 5% of nominal voltage. If voltage differs from Nominal Voltage System by more than 5%, table may be incorrect.
Earth / Ground Current Simulator Accuracy	Current is set by Selected Resistors and therefore Proportional to Voltage. Resistance Accuracy is 10% Maximum.
Overall Rating	Intermittent Rated (Press TEST Shortly). DO NOT KEEP PRESSING TEST.
Resistance Rating	Current Injection System uses Resistors which are Not Continuously Rated.
Case Material	ABS
Safety Standard	EN 61010-1 EN 61326-1

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