



**GENERAL INFORMATION**

The 1810D is the Basic test Equipment an Electrician cannot do without. 1810D is a Dual Function Test Instrument used to Verify electrical Wiring Connections and the Functioning of Earth leakage / Residual current detector devices by forcing the ELCB/RCD to trip.

This verifies that the protection device opens the mains power supply circuit when a current higher than a certain amplitude flows into the ground/earth wire. This ensures the Electrical installations meet safety and regulation requirements.

**FEATURES**

- 2000mS readout for testing latest delay action breakers
- Fully programmed operation
- Accurate digital read out of tripping time
- Two LED lamps give quick check for correct wiring
- Operates from mains supply. No need for batteries
- Compact, lightweight and simple to operate
- Zero cross circuitry permits testing at 0° and 180° portion of sine wave. At these two tests minimum (best) and maximum (worst) trip times will be displayed
- Data hold function to freeze the digital trip time display allows for easy readout and eliminates the possibility of reading error



**SPECIFICATIONS**

Measuring Ranges	
Trip Current Settings	5mA 10mA 30mA 100mA 300mA 500mA
Test current	
No Trip Test	50% of circuit breaker trip current selected
Trip Test	100% of circuit breaker trip current selected
Fast Trip Test	250mA regardless of circuit breaker trip current selected
Fault Trip Time	2000ms (40ms for Fast Trip)
Operational Voltage	220V/230V/240V AC±10% 50/60Hz

Accuracy	
Test Current	±3% at 220V 230V 240V AC
Test Current Duration (limiter incorporated)	2000mS±5% for Trip and NO Trip Tests
	40ms±5% for Fast Trip Test
Trip Time (Measurement Accuracy)	±2% reading ±3 digit

**INCLUDED ACCESSORIES:**

Carrying Case, Test Report, Instruction Manual

**FEATURES**

- Intelligent microprocessor chip control : High accuracy, reliability and stability
- RCD/ELCB Test Wiring Check
- Phase angle selection : The RCD test can be selected to start from a positive (0°) or a negative (180°) half cycle
- Contact voltage alarm : When the contact voltage is larger than the selected limit value during the RCD test, the RCD test will be stopped
- Auto data hold : After RCD test, the measurement results are kept displayed
- Over range indication
- AUTO RAMP test
- Battery powered : 1.5V AA alkaline battery (6 pcs).
- Auto Power Off function : The instrument will be power off automatically after no operation for 5 minutes
- Fuse safeguard
- Double or reinforced Insulation for safe design
- Backlight function
- LINE-NEUTRAL voltage measurement
- LINE-PHAS-EARTH voltage measurement : Display L-PE input voltage
- Frequency measurement



**TECHNICAL SPECIFICATIONS**

Measurement Range and Measurement Accuracy (Temperature : 23±5°C; Humidity : 45%~75% RH; Altitude ≤2000m)

**Voltage Measurement Function:**

Function	Voltage Range	Frequency Range	Display Resolution	Accuracy Error
VOLTS	30V ~ 600V	45Hz ~ 65Hz	1V/1Hz	±3%rdg ±3dgt (Frequency display is for reference only)

**RCD Test Function:**

Function	Voltage (AC)	Trip Current (I $\Delta$ n)	Trip Time (MAX)	Accuracy	
				Trip Current	Trip Time
×1/2	230V (Tolerance: -15% ~ +10%)	10/20/30/100/300/500mA	2000mS	Tolerance: -10% ~ 0%	±2%rdg ±2dgt
×1		10/20/30/100/300 mA	1000mS	Tolerance: 0% ~ + 10%	
		500mA	300mS		
×5		10/20/30mA	40mS		
AUTO RAMP Test	Frequency: 50Hz	10/20/30/100/300/500mA	(RAMP increase step 10%) I $\Delta$ n from 20% ~ 110% 300* 10mS	Tolerance: -10% ~ +10%	

**Measurement Range (Function)**

- VOLTS----- Voltage measurement, 30V~600V, 45Hz~65Hz
- ×1/2----- Non-tripping test, check RCD sensitivity
- ×1----- Measure trip time
- ×5----- Measure fast trip time at I $\Delta$ n × 5 trip current
- AUTO RAMP test----- Measure trip current

**Application Standard:**

IEC 61010-1 CAT III 600V, Pollution Degree 2  
IEC 61557-1, 6  
IEC 61010-2-31

**Product Size :** 160mmx70.5mmx100mm

**Product Weight :** About 400g

**RCD Test Operating Voltage:**

230V/50Hz (voltage range : 195~253V)

**Standard Accessories:**

Test lead (1.5 meters) 1 pc  
User manual 1 pc  
Shell/strap/cloth bag1 set

**Working Environment:**

Temperature : 0°C~40°C  
Relative humidity : ≤80%RH  
Altitude : ≤2000 meter

**Storage Condition:**

Temperature : -20°C~60°C  
Relative humidity : ≤75%RH



**Safety Standards**

- **Instrument Operation :** IEC/EN 61557-1  
IEC/EN 61557-6
- **Safety :** IEC/EN 61010-1 CAT III (300V)  
- instrument.
- IEC/EN 61010-2-31 CAT III (600V) test lead
- Protection degree : IEC60529 (IP54)

**TECHNICAL SPECIFICATIONS**

Accuracy of trip Current (IEC/EN 61557-6)

Function	Accuracy of trip current
x 1/2	- 10% ~ 0
x 10	0 ~ 10%
x 5	
AUTO RAMP	- 10 ~ 10%

**MEASUREMENT SPECIFICATION**

Function	Rate Voltage (AC)	Trip Current Settings (1 $\Delta$ n)	Trip time	Accuracy	
				Trip Current (mA)	Trip time (mS)
x 1/2	230V +10% -15% 50Hz	10/20/30/ 200/ 300/500mA	1000ms	-8% ~ -2%	0.6% + 4dgt
x 1			1000ms		
x 5			200ms	+2% ~ +8%	
DC Test	(10/20/30/ 200/300/ 500mA) +6mA dc	1000ms	-10% ~ +10%		
AUTO RAMP Test	10/20/30/200 300/500mA	Goes up by 10% from 20% to 110% of 1 $\Delta$ n. 300ms x 10	-8% ~ +8%		

**MEASUREMENT SPECIFICATION**

- **Operating temperature/ humidity :** 0 ~ 40°C  $\leq$  80%RH
- **Storage temperature/ humidity :** -20°C ~ 60°C  $\leq$  75%RH
- **Allowable altitude height :**  $\leq$  2000m
- **LCD display :** 3-1/2 digits display
- **Operating voltage :** 230V 50Hz + 10% - 15%
- **Grounding Resistance :** Maximum 50 $\Omega$
- **LED indication :** P-E/ P-N LED green light means wiring correct.  
Red light means wiring wrong.
- **Product size :** 165 x 140 x 80mm
- **product net weight :** 575G (Without test lead)

**Accessories :** Manual, Test leads, Carrying Case

**Optional Accessories :** Separate Test Leads with Crocodile Clips

\*Technical Specifications & Appearance are subject to change without prior notice



## CONTACT DETAIL



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