

2100 Electrical Test Equipment Calibrator

A compact and affordable fully featured calibrator designed for the testing of 16th Edition test equipment

DIGITAL / ANALOGUE INSULATION TESTERS : PATS : LOOP TESTERS : RCD TESTERS : INSTALLATION TESTERS



◆ The complete solution to the calibration of electrical test instrumentation

Specifically designed to reduce the calibration and test time of electrical test equipment by bringing together in one portable box all the functions needed. The internal microprocessor controls tests, operation & measurements. Test instructions, readings and settings are displayed on a large backlit LCD graphic display which makes operation simple.

◆ PC Control for automating calibration & producing calibration certificates

The 2100 Bi-directional RS232 serial interface allows direct connection to either a desk or portable PC comm. port. ProCal Lite & ProCal Calibration Software is also available to simplify and reduce the time to produce calibration certificates. A *demonstration CD* is available containing full versions* of all Transmille software.

◆ Performs calibration checks on...

Digital & Analogue Insulation Testers : Tests low resistance continuity ranges & measures current, tests insulation resistance ranges to 2G Ω , measures test voltage & current and generates AC Voltages to 400 Volts.

Optional 5kV Adaptor for calibration of Insulation Testers with *Active Guard*.

PAT Testers : Test Earth Bond resistance measurements, measures Bond Test Current, Leakage/Insulation and Load Tests

RCD Testers : Tests trip time, measures trip current and trip current duration.

- Trip current waveform is digitised for accurate analysis.
- *Immediate mode* allows timing to be started immediately on detection of current reaching trip level.
- *Zero Crossing mode* allows timing to be started from the preceding zero crossing of the mains cycle in which current reached 70% of the trip level.

Automatic measurement technique selection - for enhanced accuracy the 2100 automatically selects either True RMS measurement for time periods above 200ms or RMS peak corrected measurement for trip times less than 200ms. Using these techniques, the 2100 Electrical Test Equipment Calibrator can accurately and reliably calibrate RCD testers from a wide range of manufacturers.

LOOP Testers : Simulates 11 set values from 0.05 Ω to 1 k Ω . Also supports 2 optional external values.
Auto Loop correction for supplied loop impedance (option)

Test Functions and Features Summary

- ◆ *Insulation* : Variable to 2G Ω : Resolution 10k Ω : Max. voltage 1kV : Accuracy 0.1%
- ◆ Measurement of *Insulation Test Voltage* 50V, 100V, 250V, 500V, 1KV at 1mA / 500uA
- ◆ *Continuity Test* : 0.1 Ω to 20 Ω Resolution 0.01 Ω : Max. current 300mA : Accuracy 0.25%
- ◆ Measurement of *Earth Loop Bond Current* from 100mA to 30A
- ◆ *Loop Test* : 11 Values 0.05 Ω to 1k Ω with 2 optional external values
- ◆ *AC Voltage Output* upto 400V
- ◆ *RCD Test* : Values 20ms to 5s : Trip current adjustable from 3mA to 3A
- ◆ Measurement of *RCD Trip Current* up to 3A.
- ◆ Standard or UKAS certification available
- ◆ Bi-directional RS232 interface for direct Computer Control

NOTE : This instrument requires use of an unprotected supply or isolation transformer

Visit our website for the full range of Transmille Products

www.transmille.com

Tel: +44 (0) 1622 873334

Fax: +44 (0) 1622 871488

Email: sales@transmille.com

Website: www.transmille.com

TRANSMILLE Ltd. Unit 13 Woodfalls Ind Est, Laddingford, Kent. ME18 6DA. United Kingdom.



2100 Electrical test Equipment Calibrator

Continuity Testing

Cont. Variable Range : 0.1Ω to 20Ω
 Fixed Ranges : 100Ω ; 1kΩ
 Standard Accuracy : 1% ± 10mΩ
 High Accuracy (Option) : 0.25% ± 10mΩ
 Resolution : 10mΩ

Continuity Current Measurement
 Range : 0 to 320mA (into 1Ω)
 Accuracy : 1.3% ± 6 Counts

Insulation Testing

Range : 0 to 2GΩ (10kΩ Resolution)
 Accuracy : 10kΩ to 5MΩ 0.3% (0.1% Option)
 5MΩ to 2GΩ 3% (1% Option)
 Resolution : 10kΩ
 Max Volt/Power : 1.1kV or 1 WATT

Insulation Test Voltage Measurement
 Ranges : 50V, 100V, 250V, 500V, 1kV (0.1V Resolution)
 Current Measurement : 0.5mA, 1mA
 Accuracy : 1% ± 8 Counts

AC Voltage Output
 Range : 100V, 200V, 230V, 300V, 400V
 Accuracy : 0.2% ± 1 Counts

RCD Testing

Time Range : 20ms to 5s (10ms Resolution)
 Accuracy : ± 0.7ms

Current Range : 3mA to 3A
 Resolution : 0.01mA (to 200mA), 0.1mA (to 3A)
 Accuracy : < 190ms 5% ± 20 Counts
 : upto 5s 1.2% ± 6 Counts

Timing Modes : Immediate & Zero Crossing
 Current Modes : 1, ½ I, 2I, & 5I
 Display Modes : 0° and 180° Phase

LOOP Testing

Resistances
 0.05Ω, 0.1Ω, 0.22Ω, 0.33Ω, 0.5Ω, 1Ω, 5Ω, 10Ω, 100Ω, 1kΩ
 Resolution : 0.1mΩ (to 10Ω) ; 1mΩ (to 1kΩ)
 Accuracy : 0.5% ± 4mΩ

Auto Loop (Option)
 Maximum Correction : 2Ω
 Resolution : 100μΩ
 Accuracy : ±18mΩ
 Measurement Current : 4A

Automatically corrects
 for supplied loop
 impedance.

Order Information

Model 2100 Electrical test Equipment Calibrator
 High accuracy - improves resistance accuracy
 Extend insulation resistance to 10GΩ
 Automated loop (line-earth) measurement
 External PAT flash voltage measurement (up to 3kV)

PAT Testing

Earth Bond Resistance
 Values : See Loop Values
 Accuracy : 0.5% ± 4mΩ
 Resolution : 0.1mΩ (to 10Ω) : 1mΩ (to 1kΩ)

Earth Bond Current Measurements
 Ranges : 100mA, 10A, 30A
 Resolution : 1mA, 10mA, 10mA
 Accuracy : 1.5% ± 6 Counts

PAT Insulation Resistance
 Range : 100kΩ to 1GΩ (10kΩ Resolution)
 Accuracy : See Insulation Resistance

PAT Leakage
 Ranges : 240uA, 1mA, 3mA (1uA Resolution)
 Accuracy : 1.5% ± 2 Counts

PAT Leakage Test Voltage
 Range : 100V to 300V RMS (0.1V Resolution)
 Accuracy : 1.5% ± 9 Counts

Load Testing
 Ranges : S/C, O/C & 0.13kW
 Accuracy : 440Ω ± 5%

Flash Testing (Option)

CLASS 1
 Range : 1kV to 1.8kV (1V Resolution)
 Load Resistance : 600kΩ (2.5mA@1.5kV)

CLASS 2
 Range : 2kV to 3.6kV (1V Resolution)
 Load Resistance : 1.2MΩ (2.5mA@3kV)

Accuracy (Class 1&2) : 4% ± 10 Counts

Flash Current Measurement (Option)

Range : 1mA to 3mA
 Resolution : 10uA

Line Voltage Measurement

Range : 200V to 260V : 0.1V Resolution
 Accuracy : 0.8% ± 6 Counts

General Specifications

Line Power : 230V/110V 50Hz /60Hz
 Dimensions : 5.5" x 17" x 18" • Weight : 8.0kgs
 Warm-up Time : Double the time since last used
 up to 20 minutes maximum.
 Interface : RS-232

2100	Calibration Control Panel software	CCP
HIACC	Carry Case	CASE
10G	Laptop case (attaches to main case)	CASE2
AUTOL	UKAS Certificate	2100UKAS
FLASH	Standard Certificate	2100STD

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Tel: +44 (0) 1622 873334 Fax: +44 (0) 1622 871488

Email: sales@transmille.com Website: www.transmille.com

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