

Inductance Calibration Option

IND



- 8 Precision Inductance Values
- Cost Effective Option
- Allows Calibration of RLC Meters & Bridges
- Retro-fittable option - can be added at any time to a 2000 Series calibrator

By incorporating this useful and easy to use option the work load of the calibrator can be increased to allow calibration of RLC (Resistance, Inductance and Capacitance) meters and bridges and also allows calibration of DMMs with inductance measurement ranges.

Incorporates 8 fixed values, including 19mH and 29mH for '3' range meters to allow testing of these types of meters at points which can verify their linearity at near full scale points.

Specifications

Range	Maximum Current	DC Resistance	Q	1 year Rel %
1mH	30mA	7.8Ω	1	0.5
10mH	25mA	24Ω	2.8	0.5
19mH	20mA	33Ω	3.8	0.5
29mH	20mA	41Ω	4.7	0.5
50mH	20mA	54Ω	6.1	0.5
100mH	20mA	78Ω	8.6	0.5
1H	10mA	260Ω	29	0.5
10H	1mA	950Ω	110	0.5

Measured Value Stored For Accurate Calibration

When the 2000 series inductance option is calibrated, the exact measured value of the inductors is stored in non volatile memory. This value is recalled and displayed each time a specific inductor is selected, allowing accurate calibration to be performed.

Automated Calibration of LCR Meters Using ProCal Calibration Software

By using the ProCal calibration software from Transmille, the inductor values stored in non volatile memory can be automatically downloaded and used as the nominal test value, allowing this type of calibration work to be carefully controlled. This de-skills these types of measurement and provides a way to reduce costs by allowing efficient throughput of calibration work.



Measured inductance value stored and displayed by the 2000 series calibrator

Inductance Calibration Option - Operation

Note The calibrator uses standard inductors of fixed values the nearest value available value to the entered value will be automatically selected. The example below selects 10mH.

1. Use the calibrator keypad to key in the required value, e.g. '10'



2. Key in the multiplier (if required), e.g. 'm' for milli :



3. Select H by keying SHIFT then F :



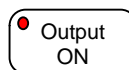
'H' is a sub function of the 'F' key, shown in the top left hand corner of the 'F' key.

① **Note** : The SHIFT key is required as the 'H' function is a sub-function of the 'F' key

4. Press the ENTER key to set the value



Ensure the calibrator output is turned ON by pressing the



key.



Note : The LED in the top left hand corner of the Output ON key will illuminate and the display will indicate ON in the left hand corner.

Note : The digital potentiometer can be used to step up or down through the inductance values once an initial inductance value has been selected.



Step Up



Step Down

① **Note** The value displayed will be the CLOSEST value available for the value entered (e.g. if 14mH was entered, 10mH would be selected). The value displayed is the calibrated value held in the non volatile calibration memory for the selected inductor.

Calibration times using the inductance option can be significantly reduced by using the ProCal calibration software available from Transmille which allows a pre-defined sequence of tests (known as a procedure) to be set up. This allows the computer to automatically step through these tests, control the calibrator, set the correct outputs and record the amount of deviation in relation to the instrument's specifications.

① **Note** : ProCal will *automatically* use the inductance value stored by the 2000 Series calibrator.

2000 Series Inductance Option Specifications

General Specifications

Range	Maximum Current	DC Resistance	Q
1mH	30mA	7.8Ω	1
10mH	25mA	24Ω	2.8
19mH	20mA	33Ω	3.8
29mH	20mA	41Ω	4.7
50mH	20mA	54Ω	6.1
100mH	20mA	78Ω	8.6
1H	10mA	260Ω	29
10H	1mA	950Ω	110

All Inductance specifications $\pm 50\mu\text{H}$.

Accuracy Relative to Calibration Standards Specifications

Range	90 day Rel %	180 Day Rel %	1 year Rel %	2 year Rel %
1mH	0.4	0.45	0.5	0.7
10mH	0.4	0.45	0.5	0.7
19mH	0.4	0.45	0.5	0.7
29mH	0.4	0.45	0.5	0.7
50mH	0.4	0.45	0.5	0.7
100mH	0.4	0.45	0.5	0.7
1H	0.4	0.45	0.5	0.7
10H	0.4	0.45	0.5	0.7

Measurement methods

L_s up to 1H

L_p from 1H to 10H

Specifications apply between 17°C and 27°C.

Outside this range an allowance of 0.18 x 1 Year Spec. per °C should be added.

Due to continuous development specifications may be subject to change.