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Find the *IET / General Radio 1482-L* at our website: *Click HERE*

Primary Standard Inductor

1482 Series

The 1482 is an accurate, highly stable standard of self-inductance for use as a low frequency reference or working standard in the laboratory. Records extending over 40 years, including those of inductors that traveled to national laboratories in several countries for calibration, show long-term stability well within ±0.01%., typically much lower.

- A standard for national laboratories
- Stability within ±0.01% per year; typically much better
- Values from 10 µH to 10 H
- Standard for quality factor
- Low, known temperature coefficient
- Self-shielding toroidal design



Model 1482 Precision Inductor

Each inductor is a uniformly wound toroid on a ceramic core. It has a negligible external magnetic field and hence essentially no pickup from external fields. The inductor is resiliently supported in a mixture of ground cork and silica gel, after which the whole assembly is cast with a potting compound into a cubical aluminum case. Sizes of 1 mH and above have three terminals, two for inductor leads and the third connected to the case, to provide either a two- or three-terminal standard. The 100 µH size has three additional terminals for the switching used to minimize connection errors.

SPECIFICATIONS

Inductance Range: See table.

Accuracy of Adjustment: See table.

Calibration: A certificate of calibration is provided with each unit, giving measured values of inductance at 100, 200, 400, and 1000 Hz, with test conditions and method of measurements specified. These values are obtained by comparison, to a precision, typically, of better than ±0.005%, with standards whose absolute values, traceable to the International System of Units (SI), are known to an accuracy typically of ±(0.02%+0.1 µH) at 100 Hz; ±(0.1%+0.1 µH) for the 1482-B

Stability: Inductance change is less than ±0.01% per year.

DC Resistance: See table for representative values. A measured value of resistance at a specified temperature is given on the certificate of calibration.

Low-Frequency Storage Factor Q:

See table for representative values of Q at 100 Hz (essentially from dc resistance). An individual value of Q is given on each certificate of calibration.

Temperature Coefficient of Inductance: Approximately 30 ppm/°C. Small temperature corrections may be computed from resistance changes.

A 1% increase in resistance, produced by temperature increase of 2.54°C corresponds to 0.0076% increase in inductance.

Resonant Frequency: See table for representative values. A measured value is given on the certificate of calibration.

Maximum Input Power: For a rise of 20°C, 3 W; for precise work, a rise of 1.5°C, 200 mW. See table for corresponding current limits.

Terminals: 5-way binding posts with ¾-in spacing with removable ground strap.

Dimensions: 16.6 cm H x 16.6 cm W x 20.4 cm D (6.5" x 6.5" x 8 ").

Weight: 5.3 kg (11.5 lb) net, 6 kg (13 lb) shipping.

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Primary Standard Inductor

1482 Series

Description	Nominal Inductance	Adjustment Accuracy (%)	*Resonant Frequency (kHz)	*dc Resistance (Ω)	*Q at 100 Hz	mA rms for: 200 mW	3 W
1482-AA	10 µH	±1%	4500	0.03	0.75	2500	9000
1482-A	50 µH	±0.5	3100	0.039	0.81	2260	8770
1482-B	100 µH	±0.25	2250	0.083	0.76	1550	6010
1482-C	200 µH	±0.25	1400	0.15	0.84	1150	4470
1482-D	500 µH	±0.1	960	0.38	0.83	725	2810
1482-E	1 mH	±0.1	800	0.84	0.75	490	1890
1482-F	2 mH	±0.1	580	1.52	0.83	360	1400
1482-G	5 mH	±0.1	320	3.8	0.83	230	890
1482-H	10 mH	±0.1	220	8.2	0.77	156	600
1482-J	20 mH	±0.1	145	14.5	0.87	117	450
1482-K	50 mH	±0.1	84	36.8	0.85	74	280
1482-L	100 mH	±0.1	71	81	0.78	50	192
1482-M	200 mH	±0.1	39.0	109	1.15	43	166
1482-N	500 mH	±0.1	24.5	280	1.12	27	103
1482-P	1 H	±0.1	14.6	616	1.02	18	70
1482-Q	2 H	±0.1	10.6	1125	1.12	13.3	52
1482-R	5 H	±0.1	6.8	2920	1.08	8.3	32
1482-T	10 H	±0.1	4.9	6400	0.98	5.6	22

*Representative values. Actual values given on certificate

ORDERING INFORMATION

1482-9700 1482-AA Standard Inductor, 10 µH
1482-9701 1482-A Standard Inductor, 50 µH
1482-9702 1482-B Standard Inductor, 100 µH
1482-9703 1482-C Standard Inductor, 200 µH
1482-9704 1482-D Standard Inductor, 500 µH
1482-9705 1482-E Standard Inductor, 1 mH
1482-9706 1482-F Standard Inductor, 2 mH
1482-9707 1482-G Standard Inductor, 5 mH
1482-9708 1482-H Standard Inductor, 10 mH
1482-9710 1482-J Standard Inductor, 20 mH
1482-9711 1482-K Standard Inductor, 50 mH
1482-9712 1482-L Standard Inductor, 100 mH
1482-9713 1482-M Standard Inductor, 200 mH
1482-9714 1482-N Standard Inductor, 500 mH
1482-9716 1482-P Standard Inductor, 1 H
1482-9717 1482-Q Standard Inductor, 2 H
1482-9718 1482-R Standard Inductor, 5 H
1482-9720 1482-T Standard Inductor, 10 H

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