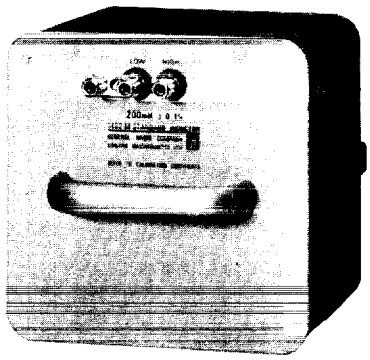
Type 1482 STANDARD INDUCTOR

- stable within ±0.01% per year
- low, known temperature coefficient
- minimized connection errors
- toroidal — free from external fields



1482-M

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 13 years, including those of inductors that traveled to national laboratories in several countries for calibration, show long-term stabilities well within ±0.01%.

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.

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Sizes of 500 μH and above have three terminals, two for the inductor leads and the third connected to the case, to provide either a two- or three-terminal standard. The 50-, 100-, and 200-μH sizes have three additional terminals for the switching used to minimize connection errors, as described in the introduction to the inductance section.

For comparing other inductors with these standards, the 1632-A Inductance Bridge is recommended.

— See **GR Experimenter** for November 1960.

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 temperature and method of measurement specified. These values are obtained by comparison, to a precision, typically, of better than ±0.005%, with working standards whose absolute values, determined and maintained in terms of reference standards periodically certified by the National Bureau of Standards, are known to an accuracy typically ±(0.02% + 0.1 μH) at 100 Hz.

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, calculated from the measured dc resistance, is given on each certificate of calibration.

Temperature Coefficient of Inductance: Approx 30 ppm per °C. Minute temperature corrections may be computed from dc resistance changes. A 1% increase in resistance, produced by a 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.

Max 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: Jack-top binding posts on ¾-in. spacing with removable ground strap.

Mounting: Aluminum cabinet with handle and rubber feet.

Dimensions (width x height x depth): 6½ x 6½ x 8 in. (165 x 165 x 205 mm).

Weight: Net, 11½ lb (5.5 kg); shipping, 13 lb (6 kg).

Catalog Number	Description	Nominal Inductance	Adjustment Accuracy (Percent)	*Resonant Frequency (kHz)	*Dc Resistance (Ohms)	*Q at 100 Hz	Milliamperes, rms for, 200 mW	Milliamperes, rms for, 3 W
	Standard Inductor							
1482-9701	**1482-A**	50 μH	±0.5	3100	0.039	0.81	2260	8770
1482-9702	**1482-B**	100 μH	±0.25	2250	0.083	0.76	1550	6010
1482-9703	**1482-C**	200 μH	±0.25	1400	0.15	0.84	1150	4470
1482-9704	**1482-D**	500 μH	±0.1	960	0.38	0.83	725	2810
1482-9705	**1482-E**	1 mH	±0.1	800	0.84	0.75	490	1890
1482-9706	**1482-F**	2 mH	±0.1	580	1.52	0.83	360	1400
1482-9707	**1482-G**	5 mH	±0.1	320	3.8	0.83	230	890
1482-9708	**1482-H**	10 mH	±0.1	220	8.2	0.77	156	600
1482-9710	**1482-J**	20 mH	±0.1	145	14.5	0.87	117	450
1482-9711	**1482-K**	50 mH	±0.1	84	36.8	0.85	74	280
1482-9712	**1482-L**	100 mH	±0.1	71	81	0.78	50	192
1482-9713	**1482-M**	200 mH	±0.1	39.0	109	1.15	43	166
1482-9714	**1482-N**	500 mH	±0.1	24.5	280	1.12	27	103
1482-9716	**1482-P**	1 H	±0.1	14.6	616	1.02	18	70
1482-9717	**1482-Q**	2 H	±0.1	10.6	1125	1.12	13.3	52
1482-9718	**1482-R**	5 H	±0.1	6.8	2920	1.08	8.3	32
1482-9720	**1482-T**	10 H	±0.1	4.9	6400	0.98	5.6	22

* Representative values. Actual values given on certificate.