



## Model ML-400D MAGLAB

### Features

- Wide Measurement Range:
  - 100 to 100,000 Gauss
  - $10^3$  to  $10^6$  Maxwell-turns (Fluxmeter)
- Wide Range of Gaussmeter Probes, Helmholtz and Search Coils
- Internal Calibration Circuitry
- Simple Set-up and Operation
- Automatic Polarity Indication
- Pushbutton or Remote Electronic Zeroing (Fluxmeter)
- Up Scale and Down Scale Pushbutton Drive
- Optional 19" Rack Mount Kit

### Description

The Model ML-400D MAGLAB presents an ideal solution for dual purpose requirements where Integrating Fluxmeter or Hall Effect Gaussmeter measurements are required frequently but not simultaneously. The ML-400D is a compact, accurate and stable instrument designed for the measurement of DC or permanent magnet fields. Measurements are displayed on a 3 1/2 digit, bipolar, LED readout. A 4 1/2 digit, rear panel switch is available for expanded resolution.

The Gaussmeter mode allows measurement of DC or permanent magnet fields from 1 Gauss ( $10^{-4}$  Tesla) to 100,000 Gauss (10 Tesla). A wide range of hall probes are easily interchanged utilizing internal calibration circuitry.

The Fluxmeter mode provides measurements from  $10^3$  to  $10^6$  Maxwell-turns full scale in four ranges. Very low drift, fast zeroing and resistance to vibration and shock are some of the advantages of this instrument.

Gaussmeter or Fluxmeter measurements are selected via a nine position switch, this same switch is used to select the measurement range. Calibrate and zero controls are provided for Gaussmeter operation while a pushbutton reset switch and potentiometer drift control are used to reset and adjust drift in the Fluxmeter mode.

The front panel probe connector is compatible with many of our standard hall effect probes. Each probe is supplied with a calibration constant. Calibration of the Gaussmeter requires only an adjustment of the calibrate control to match the supplied calibration constant.

In the Fluxmeter mode, a Helmholtz or Search Coil is employed as the sensing element. In operation either the coil or the magnet must be moved to obtain readings. The output of the coil is sensed, integrated and displayed in Maxwell-turns. A high performance, chopper stabilized, operational amplifier is used to provide a low drift rate. The up scale and down scale switch is used for obtaining a reading near mid-scale when adjusting the drift control in the Fluxmeter mode.

Standard binding posts allow fast and easy connection of a wide range of Helmholtz or Search Coils. Custom Helmholtz and Search Coils are available to suit individual requirements.

The ML-400D is available in a rugged and compact bench mount enclosure with dimensions of 4" high by 8 1/2" wide by 13". A rack mount option provides for mounting in a standard electronic enclosure with 19" rack mount spacing. Input power requirements are 105-125 VAC, 60 Hz standard with optional 220 VAC, 50/60Hz operation on request. Shipping weight is approximately 12 lb.

## Specifications

### Gaussmeter:

#### Full Scale Range:

100, 1K, 10K, 100K Gauss

#### Modes of Operation:

Permanent Magnet and DC

#### Accuracy:

Gain accuracy is 0.25% of full scale.

Internal Calibration accuracy 0.1%  $\pm 1$  digit.

Accuracy listed is for 3 1/2 digit operation.

#### Analog Output:

$\pm 1$  Volt at full scale via BNC connector

Accuracy of output voltage is  $\pm 0.35\%$  of full scale reading. (Minimum 10K Ohm impedance)

### Fluxmeter:

#### Full Scale Range:

$10^3$ ,  $10^4$ ,  $10^5$ , and  $10^6$  Maxwell-turns (Volt-Seconds)

#### Modes of Operation:

Permanent Magnet and DC

#### Accuracy:

Accuracy is  $\pm 0.25\%$  of full scale  $\pm 1$  digit.

The range switching error is 0.25% of full scale. Accuracy listed is for 3 1/2 digit operation.

#### Analog Output:

$\pm 1$  Volt at full scale via BNC connector

Accuracy of output voltage is  $\pm 0.25\%$  of full scale reading. (Minimum 10K Ohm impedance)

Specifications subject to change without notice.

Verkauf und technische Beratung

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