Gaussmeter/Teslameter
Model 2100

Features

- Single Button Zeroing
- User Select Sampling Period 100ms to 2.5 Seconds
- External "Peak" Reset
- Zero Gauss Chamber Included
- Factory Set Default Mode
- Analog, Dual Limit HI/GO/LO - TTL and RS-232 Outputs Standard
- IEEE-488 Interface Option
- Hall Probe Correction
- Rack Mount Option
- High Accuracy
- 12 Measurement Ranges
- Autoranging
- Measurement Functions AC, DC, Peak
- Modes: Normal, Limits, Relative and Temperature
- Frequency Response - Wide Bandwidth
- Measurement Unit Selection Gauss or Tesla
- Compact Size
- 32 Character Backlit Display

Description

The Model 2100 Gaussmeter is a fully featured, high end Gaussmeter with a low cost Gaussmeter price. It is a compact, high accuracy, microprocessor controlled flux density measuring instrument. The Model 2100 is capable of measuring static (DC), alternating (AC), or pulsed magnetic fields. Twelve measurement ranges allow the operator to configure the meter for maximum resolution and accuracy from 300mG (30 microTesla) to 300 kG (30 Tesla). Selecting primary measurement functions is quick and easy with dedicated front panel function keys. An easy to use menu allows access to user defined parameters such as upper and lower magnetic limits and relative magnetic measurements. Remote meter configuration is completely accessible using the built-in RS 232 Interface or optional IEEE-488 Interface.

Model 2100 Gaussmeter Probes

The Model 2100 is designed to allow maximum flexibility in the use of Hall Probes. Probes supplied for the Model 2100 use a memory chip (EEPROM) that automatically allows the Model 2100 to correct for Hall Probe Element inaccuracies. Probes incorporating temperature sensors are also available. These probes will provide automatic temperature compensation in conjunction with the user defined Hall Probe Temperature Correction feature. The Model 2100 is compatible with probes not using a memory chip (EEPROM). Eight selectable Hall Probe Excitation Currents are available. With a simple connector conversion and a new calibration number, many probes manufactured by Magnetic Instrumentation Inc., can be used with this unit without returning it to our factory. However, for optimum accuracy the probe can be returned for installation of a memory chip (EEPROM). Magnetic Instrumentation Inc. offers a wide selection of both axial and transverse probes to measure many different magnet configurations. A probe data sheet is available on request.

Specifications

Accuracy: DC Specifications ± (% of reading + % of range)

Range	**Design Spec.**	**Certified To**	**Range**	**Design Spec.**	**Certified To**
300 kG	0.050+0.020	0.100+0.050	3000 G	0.060+0.020	0.120+0.050
30 kG	0.050+0.020	0.100+0.050	300 G	0.080+0.020	0.160+0.050

AC (RMS) Specifications ± (% of reading + % of range)
(Depending on hall probe frequency response)

Range	10 Hz - 20 Hz	20 Hz - 100 Hz	**Frequency** 100 Hz To 1000 Hz	1000 Hz To 5000 Hz	5000 Hz To 20k Hz
300 kG	1.400 +0.500	0.700+0.500	0.700+0.500	0.700+0.500	0.800+0.500
30 kG	1.400+0.500	0.700+0.500	0.700+0.500	0.700+0.500	~
3000 G	1.600+0.500	0.900+0.500	0.900+0.500	~	~
300 G	2.00+0.500	1.300+0.500	~	~	~

PEAK MODE Specifications ± (% of reading + % of range)

Range	**Rise Time To Peak** >1000 micro-seconds	200 To 1000 micro-seconds	100 To 200 micro-seconds
300 kG	0.700+0.200	0.800+0.200	0.900+0.200
30 kG	0.700+0.200	0.900+0.200	1.000+0.200
3000 G	0.900+0.300	1.000+0.300	1.500+0.300
300 G	1.100+0.500	~	~

Probe Current Specifications ± (% of value)

Value	**Design Spec.**	**Certified To**	**Value**	**Design Spec.**	**Certified To**
100 mA	0.050	0.080	-100 mA	0.100	0.130
50 mA	0.060	0.090	-50 mA	0.110	0.140

25 mA	0.070	0.100	-25 mA	0.120	0.150
12.5 mA	0.080	0.110	-12.5 mA	0.130	0.160

Average Time Constant: (Display Rate)
This interval may be set from 100 ms to 2500 ms, in 100 ms intervals. (0.4 to 10 times per second)

Display Resolution:
4 3/4 Digits (1 part out of 32,000)

Operating Temperature Range:
0ºC to +50ºC

Storage Temperature Range:
-20ºC to +70ºC

Temperature:
±1.0°C + Accuracy of probe thermistor

Analog Output:
±2% of reading + 10mV + accuracy of selected function

Power Requirements:
110 VAC, 220 VAC at 10W or ±9VDC at 5W operation

Dimensions:
Length: 12.00 in (305 mm)
Width: 6.70 in (170 mm)
Height: 2.25 in (57 mm)

Weight:
6 lb (2.7 kg, not including probe)

Specifications subject to change without notice.