



GAUSS METER



MPI's Gauss Meter is designed to measure strong and moderate magnetic fields. It is fast and intuitive to use, with an extremely high dynamic range, measuring from 0.0 to 19,999.9 gauss in 0.1 gauss steps. Above 20000 gauss the range automatically changes, reading 20.000 to 29.999 kilogauss (20000 to 29999 gauss) in 1 gauss steps. Therefore a change as small as 0.1 gauss could be measured, for example, in a 14,000 gauss field (typical of the strongest possible field from a permanent magnet). This Gauss meter also measures AC field up to 10,000 gauss. A fast peak hold function (2 millisecond window) captures and displays any transients, whether positive or negative. In addition, either of two fast (2 millisecond) alarm functions can be selected when required. The alarm can sound either when the field exceeds a value that you set, or if the field is ever between two values you set.

How It Works

The ST-Probe measures all magnets, DC/AC electromagnets and solenoids. With the HS-Probe, parts can be rapidly scanned for residual magnetism. An alarm can be set to sound if any region exceeds a set threshold. "Peak hold" function shows the maximum magnetism.

Measures background (including Earth) field direction and strength, both DC and AC.

Using the AC adapter, meter can be left on permanently to capture the peak field value (if at least 0.002 seconds in duration); can be read at any future time.

MPI Difference

- Immediately displays the DC or AC magnetic field.
- Warm-up time is only 1/2 second, and there are no initial calibrations or adjustments required. Operates on a 9V battery or AC adapter (110-240 VAC), so the meter can be left permanently on if required.
- Can be rapidly scanned across a part to check magnetization.
- An alarm sounds only where the field magnitude exceeds the level that you set or where the field is between two levels you set. The alarm response time is 2 milliseconds, so it can be scanned quickly. The alarm can be used either to check for any residual magnetism or to sound if a magnet is out-of-spec (by setting the upper level just below the minimum acceptable field).
- When set to the Peak/Hold mode, it displays the maximum field encountered since the last time "Reset" was pressed.
- The Peak/Hold response time is also 2 milliseconds, so after scanning a surface, the meter can detect and display any very brief peak (spike) that was encountered as well as a slow one. The peak displayed includes the polarity sign, and the value will be held in memory until you reset it or turn off the meter.
- Offset, if required, is manually adjustable.
- There is also a "Relative Zero" function. Several interchangeable probe types are available, and the meter automatically detects the probe type.

Specifications

1 Axis DC/AC Gauss Meter GM2	
Range/Resolution (ST Probe):	0-19,999.9 G / 0.1 G; 20kG- 30kG /1G indicates polarity
Range/Resolution (HS Probe):	0-799.99G / 0.01G indicates polarity
Accuracy (w/ probe) 16? to 29?C:	1% of DC reading / 3% AC +/- 10 Counts / 1% peak hold

Accuracy (w/ probe) -4? to 65?C:	2% of DC reading / 4% AC +/- 10 Counts / 2% peak hold
AC Frequency Range:	45-800 Hz; 3 dB limits are 11 to 1500 Hz.
Peak Hold Speed:	2 millisec pulse is 71%, 5+ millisec pulse is 100%±1%
Output Type:	Analog DC Signal.
Output Magnitude (ST Probe):	Below 20kG, output is 0.1mV/G. Above 20kG, it is 0.01 mV/G
Output Magnitude (HS Probe):	1mV/G
Meter Size:	5.2 x 3.6 x 1.6 inches; 138 x 91 x 41 mm
Weight:	7.5 oz
Battery:	9 volt alkaline (~40 hour life with ST probe, ~ 20 with HS probe); "Low Battery" indicator

Options

There are two series of probes: ST (standard; 0.1 gauss resolution below 20 kilogauss, but with 30 kilogauss maximum range), and HS (high-stability; 0.01 gauss resolution with 799.99 gauss range).

Each series is available in three shapes: universal, axial, and transverse.

The universal can be bent (thousands of times if needed) between an axial shape (which measures the field component parallel to the cable direction) and a transverse shape (which measures the component parallel to the thin dimension of the probe).

The standard universal probe (whose tip is shown in the illustration) is included with the meter, but another series/shape can be substituted. Each probe is at the end of a 100cm flexible cable.