MAGNETIC MEASUREMENT SYSTEM

# DIGITAL GAUSSMETERS

FERRITES INDIA

www.ferrites-india.com

FERRITES INDIA

# Table Top Digital Gaussmeters

Series—DG

**The features of the Gaussmeters are as follows:**

**Modes:**

With the help of push button switches the instrument can be operated in either calibration or normal mode.

**Differential Mode:**

To facilitate measurement of small changes in a large field a differential mode is provided. Thus at any field value one can bring the scale reading to zero and measure further changes in the field on lower ranges with better differential accuracy.

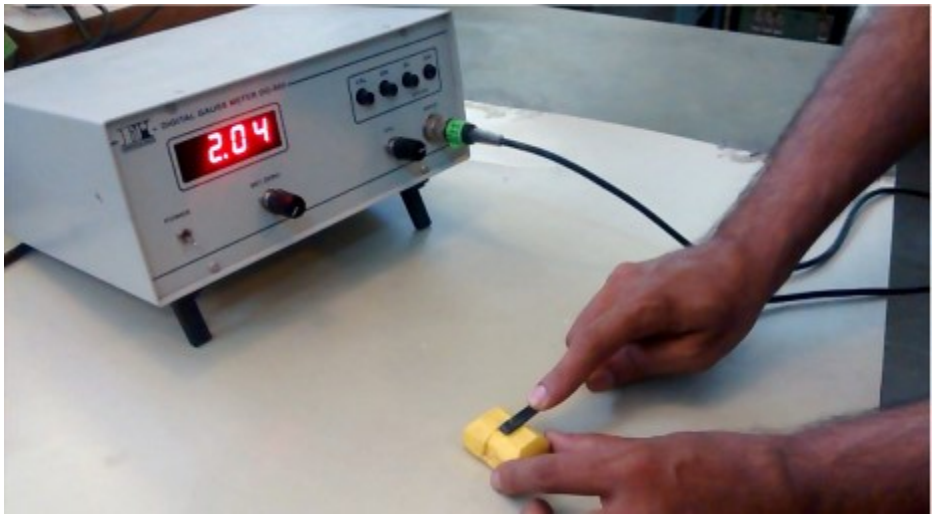
**AC Mode:**

Some models of Digital Gaussmeters are capable of measuring A.C. fields. It displays A C RMS field when operated in A C mode.

Frequency range: DC - 10 kHz

**Accuracy:**

Accuracy of the field measurement is limited only by the non-linearity of the Hall Probes which is upto 1% at kGs. The accuracy of measurement other than this is +/- (0.2% of full scale + 1 digit).



**Types:**

| Item | Type | Ranges | DC Mode | AC Mode | Differential Mode |
|---|---|---|---|---|---|
| | | | | | |
| 1 | DG-900 | 200Gs, 2kGs, 20kGs | Yes | No | No |
| 2 | DG-960 | 20Gs, 200Gs, 2kGs | Yes | No | No |
| 3 | DGM-900 | 200Gs, 2kGs, 20kGs | Yes | Yes | Yes |
| 4 | DGM-960 | 20Gs, 200Gs, 2kGs | Yes | YES | Yes |
| 5 | DG-930 | 20Gs, 200Gs, 2KGs, 20kGs | Yes | No | No |

**Sensitivity:**

The lease count of the readings on different ranges is as follows

| Range | Lease Count |
|---|---|
| 20kGs | 10Gs |
| 2kGs | 1Gs |
| 200Gs | 0.1Gs |
| 20Gs | 0.01Gs |

**Calibration:**

Digital gaussmeter is calibrated against a reference magnet. It comes with the calibration certificate traceable to NPL, Delhi.

Measurement features: AC, DC, Differential

Max reading rate: 1 rdg/s

Temperature range: Probe dependent (typically 0 °C to 75 °C )

Display resolution: To ±31/2 digits

Display units: Gauss (G)

**Probe**:

Types of Probes: Transverse Probe and Axial Probe.

Connector**:** 5 pin Radio connector style

Wire Length: 1 mtr typical. More wire length available on request.

Operating temperature range TA -40~125 °C

Storage temperature range TS -55~150 °C

Sensing Area : 1.5mm x 1.5mm

Linearity : 2%

**Interfaces:**
Analog output :
Update rate: 1 rdg/s
Connector: 2-pin screw terminal

**Power Requirements**:
230, and 240 VAC (+6%, -10%), 50 Hz or 60 Hz, 20 VA
Connector Type : 3 Pin Std Mains Cord
Size: 250 mm W × 210 mm D × 100 mm H
Weight: 2 kg (6.6 lb)

**Other Accessories**:
1. Range increase : Additional x1 and x2 range selection can be added. Max. field that can be measured can be 40kGs in x2 range.
2. Go-No Go system with relay output : Go-No Go system accepts one or two set points. Relay operates once the reading goes above upper set point or below lower set point.

FERRITES INDIA

# Hand Held Digital Gaussmeter models

## Series—HHG-30

The unit works on 9V Battery.
Output on LED display

**Modes:**

With the help of push button switches the instrument can be operated in either calibration or normal mode.

**Normal Mode:**

in this mode, the reading of the probe is displayed with reference to zero field and with appropriate sign of the polarity.

**Min Mode:**

This mode is useful while scanning the field and to know the minimum value of the field in the path of the scan. The display holds the minimum value of the reading in the scanning path.

**Max Mode:**

This mode is useful while scanning the field and to know the maximum value of the field in the path of the scan. The display holds the maximum value of the reading in the scanning path.

**Absolute Mode:**

the value of the field is displayed without any polarity.

**Accuracy:**

Accuracy of the field measurement is limited only by the non-linearity of the Hall Probes which is upto 1% at kGs. The accuracy of measurement other than this is +/- (0.2% of full scale + 1 digit).

**Set Zero :**

This mode is useful to Calibrate zero value with the help of Zero Field Cavity. It is done automatically when you press the Set Zero button.

**Units:**

The reading can be seen in mT (mili Tesla) or Gs (Gauss).

**Sensitivity:**

The Gaussmeter ranges are selected automatically.

lease count of the readings on different Units is as follows

| Unit | Full Scale | Least Count |
|---|---|---|
| Gs | 20000 Gs | 10Gs |
| mT | 2000 mT | 0.1mT |

**Mechanical Dimensions:**

Height : 180mm
Width : 90mm
Thickness : 45mm

**Wight :**

Approximately 300gms.

**Hall Probe:**

One Calibrated Hall probe is supplied along with the instrument. The user can choose from axial or radial hall probes.

**Calibration:**

Digital gaussmeter is calibrated against a reference magnet. It comes with the calibration certificate traceable to NPL, Delhi.

Measurement features: Min, Max, Hold, Absolute

Max reading rate: 10 rdg/s

Temperature range: Probe dependent (typically 0 °C to 75 °C )

Display resolution: To ±31/2 digits

Display units: Gauss (G), milli Tesla (mT)


**Probe**:

Connector**:** Probe—5 pin Radio connector style

Operating temperature range TA -40~125 °C
Storage temperature range TS -55~150 °C
Sensing Area : 1.5mm x 1.5mm
Linearity : 2%
Temperature coefficient of Hall output voltage : -0.06 %/°C
Temperature coefficient of input and output resistance : 0.3 %/°C

Size: 150 mm W × 100 mm D × 60 mm H
Weight: 05 kg

**Other Accessories:**
Additional 9V battery and Battery Charger Unit is supplied with the instrument.

FERRITES INDIA

# Hand Held Residual Gaussmeters

## Series—RMG-900

| Item | Model | Ranges | Least Count |
|---|---|---|---|
| | | | |
| 1 | RMG-900 | +/- 199 Gs | 0.1 Gs |
| | | | |
| | | | |

**The features of the Gaussmeters are as follows:**

The unit works on 9V rechargeable Battery.

**Display :**

3 1/2 digit LED Display

**Hall Probe:**

One Calibrated Hall probe is supplied along with the instrument.

**Set Zero:**

A set zero knob is provided on the front panel for manual setting.

**Dimensions** :

Apprx. 13.5 cm x 7.1 cm x 2.5 cm

**Weight**:

Approx. 0.300 kg

**Additional Accessories :**

Unit comes with one extra 9V Battery and charging unit.

Additional hall probes, even to measure axial field can be available with us.

**Calibration** :

The unit is calibrated by Helmholtz coil. Ferrites India will issue the Calibration certificate.

FERRITES INDIA

# Hall Probes

## Series—PR

| Sr. No. | Probe Type | Dimensions | Product No. |
|---|---|---|---|
| | | W (mm) x L (mm) x H (mm) | |
| | | | |
| 1 | Radial | 6mm x 120mm x 2mm | PR-RAD-A |
| 2 | Axial | 4mm x 120mm x 1.6mm | PR-AX-A |
| 3 | Radial | 4mm x 100mm x 2mm | PR-RAD-B |

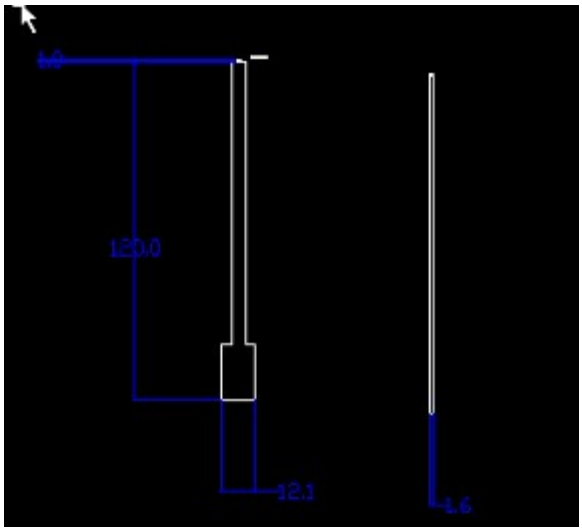
**Probe**:

Types of Probes: Transverse Probe and Axial Probe.

Connector**:** 5 pin Radio connector style

Wire Length: 1 mtr typical. More wire length available on request.

Operating temperature range TA -40~125 °C
Storage temperature range TS -55~150 °C
Sensing Area : 1.5mm x 1.5mm
Linearity : 2%



FERRITES INDIA

# Zero Field Cavity

## Series—FZ09

Field Attenuation :

In external Field of 200 Gs, the Zero Field Cavity attenuates the internal field to 0.01 Gs.

Types:

Zero Field Cavity for Radial Probes—FZ09A

Zero Field Cavity for Axial Probes—FZ09B

Mechanical Dimensions:

Diameter - 30mm

Height - 60mm

Probe insert slot - 10mm (Diam)

Weight:

0.5 kg

Calibration :

Zero reading of the zero field cavity is confirmed by checking the field inside it with digital gaussmeter which is calibrated with traceability to NPL, Delhi. Ferrites India provides calibration certificate.

FERRITES INDIA

# REFERENCE MAGNETS

## Series—FRM

Field Value :
20Gs—500 Gs—Type FRM-005K
1kGs - 2 kGs—Type FRM-01K

Mechanical Dimensions:
Diameter - 80mm
Height - 80mm
Probe insert slot - 10mm (W) x 5mm (H)

Weight:
0.5 kg

Calibration :
Zero reading of the zero field cavity is confirmed by checking the field inside it with digital gaussmeter which is calibrated with traceability to NPL, Delhi. Ferrites India provides calibration certificate.

FERRITES INDIA

# Pole Detectors

## Series—PD-900

| Sr. No. | Name | Sensitivity | N – Pole | S – Pole |
|---|---|---|---|---|
| | | | | |
| 1 | PD-900 | >= 30 Gs | Red LED | Green LED |

**Operation** :

The tip of the unit detects the field polarity.

The magnet surface is placed parallel to the unit tip.

Two 1.5V AA battery operated. Power ON Switch activates the sensors and gives visual indication in form of two LEDs placed on the arm of the unit.