

User Manual

Model E100 Gauss Meter




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1 Introduction

Thank you for purchasing the E100 Gauss Meter from Anaheim Scientific. The E100 is a magnetic field meter designed to measure extremely low frequencies (**ELF**) of 30 to 300Hz.

1.1 The E100 Features:

- Readings in micro-Tesla or milli-Gauss
- Data hold (HOLD)
- Maximum hold (MAX)
- Range display (20,200,2000)
- Low battery indicator “”
- Over load display “OL”

1.2 The E100 Applications

- This meter is applied to measuring electromagnetic fields of extremely low frequency (**ELF**) of 30 to 300Hz.
- It is capable of measuring the electromagnetic field radiation intensity that is produced from electric transmission equipment, power lines, microwave ovens, air conditioners, refrigerators, computer monitors, video/audio devices and so forth.
- The magnetic field unit is Tesla (T), Gauss (G), milli-Gauss (mG) or micro-Tesla (μT)
 - $1\text{ T} = 10,000\text{ G}$
 - $1\text{ G} = 1,000\text{ mG}$
 - $1\mu\text{T} = 10\text{ mG}$

2 Safety Summary




CAUTION

Adhere to the following conditions for safe and effective usage of this meter

- Do not operate the meter in an environment filled with combustible gas, liquids, dust or fibers
- In order to avoid reading incorrect data, please replace the battery immediately when the symbol "⊕-⊖" appears on the LCD
- In order to avoid damage caused by contamination or static electricity, do not touch the circuit board before taking adequate precautions
- Operating Environment: This instrument has been designed for usage within an environment of Pollution Degree 2
- Operation Altitude: Up to 2000M
- Operating temperature & humidity: 5°C to 40°C, below 80% RH.
- Storage temperature & humidity: -10°C to 60°C, below 70%.
- In the case of prolonged storage, it is preferable to remove the battery from the meter.
- Avoid shaking the meter, particularly while in operation.
- For cleaning the instrument use a soft dry cloth. Never use a wet cloth, solvents or water, etc.

- Weather conditions outside the specified limits and improper handling may adversely affect the accuracy and function of the meter.

3 Compliance Statements

	<p>Caution: This symbol indicates that the equipment and its accessories are subject to special collection and disposal procedures</p>
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4 Product Contents and Inspection

This unit is tested prior to shipment. It is therefore ready for immediate use upon receipt. An initial physical inspection should be made to ensure that no damage has been sustained during shipment.

Inspect the packing box on receipt for any external damage. If any external damage is evident, remove the instrument and visually inspect its case and parts for any damage. If damage to the instrument is evident, a description of the damage should be noted on the carrier's receipt and signed by the driver or carrier agent. Save all shipping packaging for inspection.

Forward a report of any damage to the agent through which the unit is procured.

Retain the original packing in case subsequent repackaging for return is required. Use of the original packing is essential.

After the mechanical inspection, verify the contents of the shipment. The items included in this package are:

- E100 Meter
- User manual
- 9V battery
- Carrying case

5 Electromagnetic Fields

Safety precautions should be taken against electric appliances in places including medical institutions, schools and residential districts, where people usually stay for a long time, to prevent patients, babies and senior citizens from exposure to high electromagnetic waves.

An electromagnetic wave simply means the wave motion of the electromagnetic field (**EMF**). The change in electric fields produces magnetic fields, and the change in magnetic fields can also generate electric fields. The fluctuation of correlation between each other is known as "electromagnetic waves", which

is a form of energy similar to light and heat that can be transmitted either by radiation in the air or by an electric conductor.

It is suggested that rearrangements should be made in homes and work locations where electromagnetic fields are strongly detected in order to avoid prolonged exposure to excessive electromagnetic fields.

6 Identifying Parts

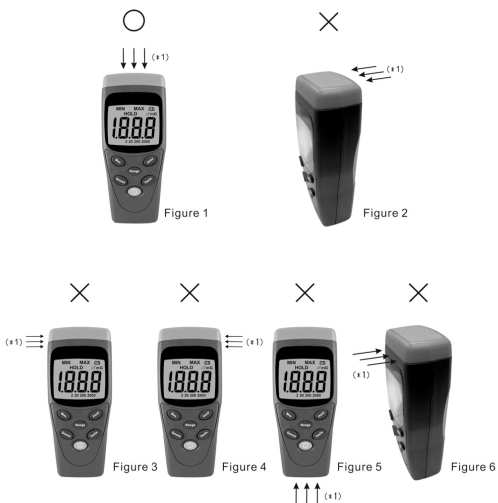


1. Sensor position
2. LCD
3. Power on/off
4. Maximum hold button
5. Data hold button
6. mG unit select button
7. μ T unit select button
8. Range select button
9. Battery cover

7 Device Operation

Press  to power on.

- Select **Gauss** for mG unit or **Tesla** for μT unit.
- Position the front (refer to Figure 1) of the meter to measure the electromagnetic waves. Try to change the measurement angle or position to obtaining the highest reading value (please refer to Figure 2 to 6).
- Read the measured value. The display of "OL" on the left highest position indicates there is an overload on the reading. Please press **Range** to select a higher range to measure again.
- Due to the environmental magnetic field factors, this magnetic field meter might display a reading value that is lower than 0.5mG prior to measuring. This is not a malfunction of the device.
- To permanently lock and keep the reading displayed on the LCD, press **Hold** or press **Hold** again to unlock.
- To retain the maximum value, press **Max** and the reading value displayed on the LCD will keep updating to the maximum value.



(*) Indicates the incoming electromagnetic wave

- Figure 1 indicates the correct measurement direction for the electromagnetic wave.
- Figure 2, 3, 4, 5 and 6 indicate the incorrect measurement direction for the electromagnetic wave.

8 Specifications

Display	3-1/2 digits LCD, maximum reading 1999
Range	200/2000 mG, 20/200 μ T
Resolution	0.1/1 mG or 0.01/0.1 μ T
Frequency response	30Hz to 300Hz
Sensor	Single Axis
Accuracy	$\pm(2.5\% \pm 6\text{dgt})$ at 50Hz/60Hz
Over Load Indicator	LCD displays "OL"
Sample Rate	2.5 times per second
Battery	9V
Battery Life	Approximate 100 hours
Weight	About 170g
Dimensions	130(L) x 56(W) x 38(H)mm

9 Service, Repairs, Calibration

- The following are instructions regarding policies for servicing, repairing or calibrating Anaheim Scientific products. Turnaround time is usually less than ten (10) working days unless expedited service is requested and pre-arranged.
- Send an email to service@anaheimscientific.com requesting an RMA number specifying your request for either service/repair and/or calibration with your product's model number.
- Once you receive a reply from service@anaheimscientific.com, you will be asked to ship prepaid to the address below. Package the unit carefully using filler or bubble wrap, and if possible, ship in the original box. Ship each unit separately. (Anaheim Scientific is not responsible for any shipping damage that may occur.)
- Include a packing list with each unit shipped stating what type of service is required and include the return shipping information: name, address and telephone number.
- If the unit is in warranty, please provide the following: proof of purchase or copy of the original invoice.
- If the unit is out of warranty, prepayment is required by Check, Money Order or Credit Card.
- Return all merchandise to Anaheim Scientific with pre-paid shipping. The flat-rate repair charge for Non-Warranty Service does not include return shipping. Return shipping to locations in North American is included for Warranty Service.

- For overnight shipments and non-North American shipping fees please contact Anaheim Scientific

Anaheim Scientific
ATTN: Service/Repair
22820 Savi Ranch Parkway
Yorba Linda, CA 92887

www.anaheimscientific.com

10 Limited Two-Year Warranty

- Scientific warrants to the original purchaser that its products and the component parts thereof, will be free from defects in workmanship and materials for a period of two years from date of purchase.
 - Anaheim Scientific will, without charge, repair or replace, at its option, defective product or component parts. Returned product must be accompanied by proof of the purchase date in the form of a sales receipt.
- To help us better serve you, please complete the warranty registration for your new instrument via our website www.anaheimscientific.com
- Exclusions: This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. The warranty is void if the serial number is altered, defaced or removed.
- Anaheim Scientific shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages. So the above limitation or exclusion may not apply to you.
- This warranty gives you specific rights and you may have other rights, which vary from state-to-state.

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