



OMEGA® User's Guide

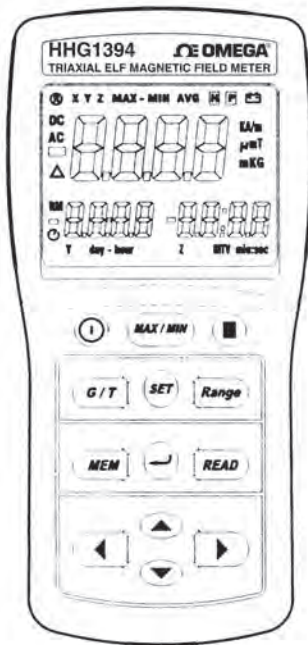
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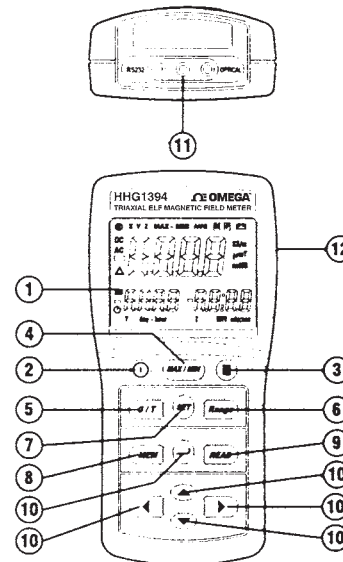
MADE IN TAIWAN

HHG1394 Magnetic Field Meter Data Logger & USB PC Interface

4. SPECIFICATIONS

Display :	Triple LCD display.
Range :	20/200/2000 milli Gauss 2/20/200 micro Tesla
Resolution :	0.01/0.1/1 milli Gauss 0.001/0.01/0.1 micro Tesla
Number of Axis :	Triple axis (X, Y, Z)
Band Width :	30Hz to 2000Hz
Accuracy :	20mG/2μT ±(3%+30d), ±(3%+3d) at 50Hz or 60HZ ±(5%+3d) at 40Hz to 200HZ -3dB at 30Hz to 2000HZ
Over-Input :	Display shows "OL"
Sampling Time :	Approx. 0.5 second
Memory Capacity :	2000 data sets (manual and continue recorder).
Battery :	6 pcs 1.5V size AAA.(Only Use Alkaline Battery)
Battery Life :	Approx. 100 hours.
Auto Power off :	Approx. 15 minutes.
Operating Temp and Humidity :	0°C to 50°C (32°F to 122°F) below 80%RH
Storage Temp and Humidity :	-10°C to 60°C below 70%RH
Weight :	Approx. 165g
Dimension :	154(L) × 72 (W) × 35(H) mm
Accessories Included :	Operation manual , batteries, USB cable, CD software.

5. NAME OF PARTS AND POSITIONS



- ① Triple LCD display.
- ② a. Power control key ①, press ① key turn on the meter, press ① key again to turn off the meter.
b. Exit auto power off function : Press ① key turn off the meter, press and hold down [H] key, then press ① key turn on the meter, until display two times, then release [H] key, exit auto power function.
c. In time setting mode, press ① key can not turn off the meter, In this condition, press ↵ key to exit time setting mode then press ① key to turn off the meter.

1. FEATURES

- ◆ Uses three internal orthogonal sensors to test a wide range of ELF magnetic fields, independent of measurement angle.
- ◆ The tester is designed to provide user a quick, reliable and easy way to measure magnetic field radiation levels around power lines, home appliances and industrial devices.
- ◆ The tester is a cost-effective hand-held instrument that was designed and calibrated to measure magnetic field radiation at different bandwidths from 30Hz to 2000Hz.
- ◆ Display micro Tesla & milli Gauss in the same tester.
- ◆ Data hold / Maximum and Minimum hold/Data memory and Read functions.
- ◆ Comply with CE.
- ◆ USB PC interface.
- ◆ U.S. Pat. No. Des. 446,135

2. APPLICATIONS

- ◆ This tester is specifically designed to determine the magnitude of magnetic filed radiation generated by power lines, computer's monitor, TV sets, video machinery and many other similar devices.

3. CAUTION OF ELECTROMAGNETIC FIELD EXPOSURE

Claims by some scientists that long term exposure to electromagnetic field may be the cause of childhood leukemia & other forms of cancer.

Complete answers to any of these and related questions are not currently available. At the present time, the most common practice is to avoid excess exposure over long period of time.

"Prudent Avoidance" as stated by the Environmental Protection Agency (EPA) USA is recommended.

- ③ Data hold control key [H] .

- ④ Maximum and Minimum reading record control key (MAX/MIN) :
Press SET key select display to shown the triaxial total magnetic field and day-hour, min:sec reading mode. Press Range key to select desired measurement range then press MAX/MIN key to step through the maximum and minimum readings. Press and hold down MAX/MIN key 2 seconds to exit MAX/MIN mode.

- ⑤ Magnetic field units select key (G/T) :
Press G/T key to select milli-gauss (mG) or micro-tesla (μT) units.

- ⑥ Measurement range select key (Range) :
Press Range key to enter manual range select mode, LCD will shown the Ⓢ mark, press Range key again will cycle through select desired ranges. Press and hold down Range key 2 seconds, exit and back to autorange mode.

- ⑦ Setting key (SET) :
a. Press SET key to step through the triaxial total magnetic field reading and independent three single-axis magnetic field readings.
b. Press and hold down SET key, unit beeper voice two times then release SET key to enter data logging interval time setting mode, then press ▲ and ▼ key to setting the desired time (1 to 255 seconds). Press ◀ or ▶ key to enter the date and time setting mode, then press ▲ ▼ ◀ or ▶ four keys until the display shown the correct time, press ↵ key to store the time in memory.

- ⑧ Data memory control key (MEM) :
a. Single data memory : Press MEM key each time to store the display reading and memory location in memory.
b. Continuity data memory : Setting the logging interval. (see ⑦ b). Press and hold down MEM key until beeper voice two times then release MEM key to enter this mode, the display "M" mark flashing one time, store one sets reading to memory. Press ↵ key to stop logging.

⑨ Viewing logged reading control key (READ) :

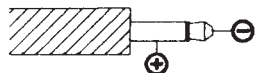
- a. Press READ key to viewing logged readings mode. Press ▲ or ▼ keys to scroll through the readings. Press ⏏ key to exit this mode.
- b. Press and hold down READ key until beeper voice two times then release READ key to enter viewing of continuous logged readings, the display "R" mark flashing one time, recall one sets memory reading and memory location number to display. Press ⏏ key to exit this mode.

⑩ Scroll keys (▲ ▼ ◀ ▶) and enter (⏏) control key :

- ▲ : Press to increase the display setting.
- ▼ : Press to decrease the display setting.
- ◀ : Press to move left the display setting.
- ▶ : Press to move right the display setting.
- ⏏ : Press to store the setting time to memory and exit setting mode. In continuous data memory and read mode, press ⏏ key to exit this modes.

⑪ USB PC optical interface connector.

⑫ AC adaptor input jack (DC 9V).



6. MEASURING PROCEDURE

- 1). Press ⏏ key to turn on the meter.
- 2). Press G/T key to select desired measuring magnetic field units.
- 3). Press Range key to select desired measuring ranges.

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- 4). Due to the magnetic interference of the environment, the display reading may show the reading before testing, for example the reading would lower than 0.5m Gauss. This is not malfunction of the tester.
- 5). With the tester in hand, move slowly towards to the object under measurement until it is physically touched.
 - ※ Notice how the field intensity increases as you move closer to the object.
- 6). If the power of object was turned off during the measurement, the reading of tester should return to zero, unless there is the electromagnetic from other sources are detected.

7. DATALOGGING (METER)

- 1). To clear Datalogger memory :
Press ⏏ key to turn off the meter, press and hold down the (MEM) key then press ⏏ key one time to turn on the meter, until the display shows the CLR then release the MEM key.
- 2). Press MEM key each time to store logged display reading and memory location in memory.
- 3). Continuous data logging :
 - a. Set the logging interval. Press and hold down SET key 2 seconds, then press ▲ and ▼ keys until the display shows the logging interval desired time (1-255 seconds) then press ⏏ key to select.
 - b. Press and hold down MEM key 2 seconds, to start logging.
 - c. Press ⏏ key to stop logging.
 - d. Download the continuity logged data to PC or direct reading from the display.

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8. RECOMMENDATION

It is recommended to measure the presence of the electromagnetic field inside and outside of your home and business locations regularly.

As "hot spots" are detected by the tester, re-arrangement of the living and working areas is lightly recommended. Always try the best to avoid long term exposure in the strong electromagnetic field.

9. BATTERY REPLACEMENT

- 1). When the left corner of the LCD display shows "⏏", replacement of the battery is then needed.
- 2). Open the battery cover at the back of tester and remove the battery.
- 3). Replace with four AAA-size alkaline batteries and reinstate the cover.

10. USB INTERFACE, SOFTWARE INSTALLATION and OPERATION

- For the detailed instruction, please refer to the content of attached CD-ROM, which has the complete instruction of USB interface, software operation and relevant information.
- USB protocol : are enclosed within the content of CD-ROM, please open the CD-ROM for details.

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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's Warranty adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence. The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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