海洋儀器®

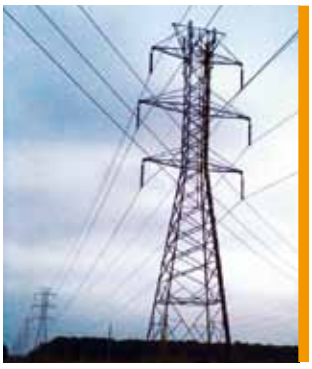
致力于电子测试、维护领域!

MAGNETIC FIELD HiTESTER FT3470-51/-52

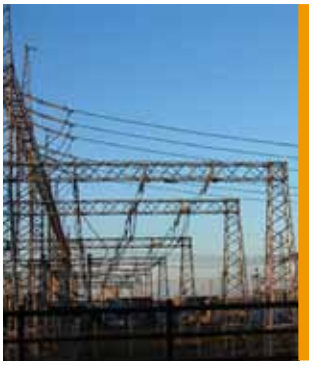
Environmental Measuring Instruments

Complies with ICNIRP 2010

Providing robust support for 3-axis magnetic flux density measurement



Measurement of environmental magnetic fields



Measurement of magnetic fields in the vicinity of electrical power equipment

Compliance testing of household appliances

Your one-stop solution for magnetic field measurement

The FT3470-50 Series complies with the ICNIRP 2010 guidelines as well as other relevant standards for evaluation testing.

1. International guidelines

ICNIRP 2010 compliant.

The guideline value has been changed to **200 μT** (for public exposure) at 50/60 Hz.
The FT3470-50 Series completely supports related measurements.

2. Magnetic field measurement methods

The FT3470-50 Series complies with IEC 62110/IEEE 644 as well as IEC 62233.

3. Magnetic field measuring instrument requirements

The FT3470-50 Series complies with IEC 61786.

Measurement underneath transmission lines

The memory function is helpful when using the standard-defined measurement method for averaging readings taken at three different heights. The FT3470-50 series can also be used to take measurements at substations, underground lines, and pole-mounted transformers.

Long-term measurement and waveform observation

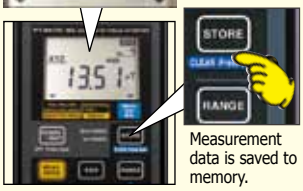
Using the output function, the FT3470-50 series can be combined with the MEMORY HiCORDER MR8880-20 to observe waveforms, allowing the capture of level and waveform output.

<Convenient functionality>

Memory function

The instrument can store up to 99 measurement data points in its memory.

Data can be stored up to memory No. 99.

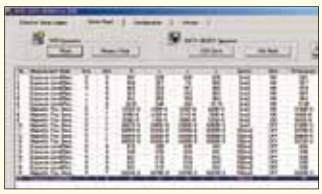


Measurement data is saved to memory.

Saved data can be checked and deleted on-site.

Checking data on a computer

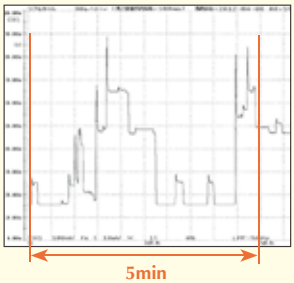
The bundled application software can be used to check measurement data.
Compatible OS : Windows XP, Vista, 7
Functions : RMS logger, batch export and tester setup
Storage format : CSV format



Batch capture: Measurement data recorded using the instrument's memory function can be imported to a computer with a single operation.

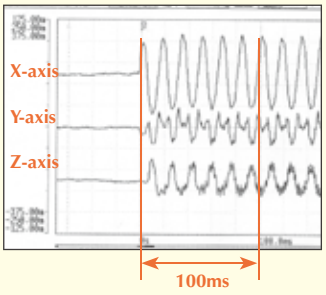
Level output

The level output function allows RMS values to be recorded with a recorder or logger, making it useful for applications involving observation of data over extended periods of time.



Waveform output

You can also observe magnetic field waveforms by connecting the instrument to an oscilloscope or recorder.



Features

1. Simple operation for easy measurement

Procedure for measuring magnetic flux density (in microteslas)

1 Set the mode Magnetic flux density mode covers the entire range from 10 Hz to 400 kHz.

The operation mode switches with every push.

2 Position the probe

3 Measure the magnetic flux density

ADVANTAGE The FT3470-50 series can also be used to measure exposure levels as defined by IEC/EN 62233 (compliant with the ICNIRP 2010 guidelines).

2. User-selectable display units

T (Tesla)
SI unit of magnetic flux density
*1μT=10mG

A/m
SI unit of magnetic field strength

G (Gauss)
Unit of magnetic flux density

ADVANTAGE The FT3470-50 series can use different units of magnetic flux density as required by the applicable standard or regulation.

3. Two 3-axis sensors

Select from two differently sized sensors according to the needs of your application.

100cm² Sensor

Ships with the **FT3470-51 and FT3470-52**
Standard sensor for use with the IEC/EN 62233 standard.
φ122×295Lmm, 220g

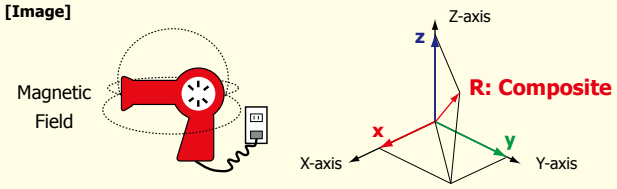
3cm² Sensor

Ships with the **FT3470-52**
Enables detailed analysis of magnetic field distribution for measurement targets.
□27×165Lmm, 95g

ADVANTAGE The X-, Y-, and Z-axes of Hioki's 3-axis sensors are labeled, making it easy to identify the direction of magnetic fields.

What is Three-Axis Measurement?

[Image]

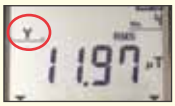


The area of magnetic influence that occurs around an object through which a current is passing is termed a magnetic field. Because the values obtained when measuring a magnetic field vary with direction due to the field's directionality, it is necessary to measure all three axes of the magnetic field.

The FT3470-50 Series is capable of accurate measurement because **it measures three axes simultaneously** and calculates the composite (R) value. It can also **measure each axis (X, Y, and Z) separately**.

R:Composite [XYZ]

X-axis measurement [X]



Y-axis measurement [Y]

Z-axis measurement [Z]

Specifications

Measurement accuracy will be maintained when the tester and sensor are used in an environment where the temperature is 23°C ±5°C and humidity is 80% RH or less with no condensation

■ Basic specifications

Magnetic flux density	10Hz to 400kHz/ 10Hz to 2kHz/ 2kHz to 400kHz
Exposure level	General Public/ Occupational
Indicated axes	X, Y, Z/ R (measured axes: X, Y, Z)
Measurement method	True RMS
Range switching	Auto/ manual
Display update rate	Slow function off: 250msec. Slow function on: 2sec. (Slow function: Functionality for applying the 1-sec RMS value integration time required by IEC/EN 62233)
Crest factor	3 or less But exposure level (occupational) for r1 is 1.45 or less.
Function	Switching magnetic flux density (T, A/m, G), Slow function, Maximum value hold, Memory function (99 measurements), Auto power off, Buzzer sound
Interface	USB1.1
Storage environment	-10 to 50°C, 80% RH or less (no condensation)
Operating environment	0 to 40°C, 80% RH or less (no condensation)
Period of guaranteed accuracy	1 year
Power supply	Four LR6 alkaline batteries 1.5V, Rated power supply voltage DC1.5V×4, AC adapter 9445-02
Continuous usage	Approx. 10 h (with sensor connected, continuous, low load operation)
Dimensions	100W×150H×42D mm (3.94"W×5.91"H×1.65"D)
Mass	830g (29.3 oz)
Applicable standards	Safety EN61010 EMC EN61326, EN61000-3-2, EN61000-3-3
Standard compliance	IEC61786

■ Output

Output mode		Magnetic flux density (T), Exposure level (%)
Output type	MON	Waveform output for each axis (X, Y, Z)
	REC	Composite RMS value level output (output via the X-axis) Exposure level output (output via the X-axis)
Output accuracy	MON	±3.5% rdg.± 10mV
	REC	±3.5% rdg.± 3mV (±5.0% rdg.±3mV when the exposure level is or exceeds 1kHz)
Output rate		0.1 mV/display value count An output rate based on the magnetic flux density unit T is used.

■ Magnetic flux density accuracy specifications

FT3470-51/52 (with 100cm² Sensor)

Measurement items	Range	Measurement mode	Prescribed accuracy range	Measurement accuracy
X Y Z	r0	10Hz-400kHz 10Hz-2kHz 2kHz-400kHz	0.050 to 2.000 μT	±3.5% rdg.± 0.5% f.s. (50Hz to 100kHz when in 10Hz-400kHz mode)
	r1		0.50 to 20.00 μT	
	r2		5.0 to 200.0 μT	
	r3		0.050 to 2.000 mT	
R	r0	10Hz-400kHz 10Hz-2kHz 2kHz-400kHz	0.100 to 3.464 μT	±3.5% rdg.± 0.5% f.s. (50Hz to 100kHz when in 10Hz-400kHz mode)
	r1		1.00 to 34.64 μT	
	r2		10.0 to 346.4 μT	
	r3		0.100 to 3.464 mT	

FT3470-52 (with 3cm² Sensor)

Measurement items	Range	Measurement mode	Prescribed accuracy range	Measurement accuracy
X Y Z	r0	10Hz-400kHz 10Hz-2kHz	0.200 to 2.000 μT	±3.5% rdg.± 0.5% f.s. (50Hz to 100kHz when in 10Hz-400kHz mode)
		2kHz-400kHz	0.050 to 2.000 μT	
	r1	10Hz-400kHz 10Hz-2kHz 2kHz-400kHz	0.50 to 20.00 μT	
	r2		5.0 to 200.0 μT	
	r3		0.050 to 2.000 mT	
R	r0	10Hz-400kHz 10Hz-2kHz	0.400 to 3.464 μT	±3.5% rdg.± 0.5% f.s. (50Hz to 100kHz when in 10Hz-400kHz mode)
		2kHz-400kHz	0.100 to 3.464 μT	
	r1	10Hz-400kHz 10Hz-2kHz 2kHz-400kHz	1.00 to 34.64 μT	
	r2		10.0 to 346.4 μT	
	r3		0.100 to 3.464 mT	

■ Exposure level (General Public/ Occupational)

Measurement items	Range	Measurement mode	Measurement accuracy
X, Y, Z	r0	0.50 to 20.00 %	±3.5% rdg. ±0.5% f.s. for smoothed edge 50 Hz to 1 kHz operation ±5.0% rdg. ±0.5% f.s. for smoothed edge 1 kHz to 100 kHz operation
	r1	5.0 to 200.0 %	
R	r0	1.00 to 34.64 %	
	r1	10.0 to 346.4 %	

*Smoothed edge: Exposure level is here defined as the time doman evalution introduced in IEC/ EN 62233 applied to the magnetic flux density indicated in the ICNIRP 2010 Guidelines.)

Ordering Information

MAGNETIC FIELD HiTESTER FT3470-51

Packing contents:
Magnetic Field HiTester FT3470-50, 100cm² Sensor, AC Adapter (9445-02 or 9445-03 (EU)), Instruction manual, CD (PC application software), USB cable, LR6 alkaline battery×4, Carrying Case


FT3470-50 100cm² Sensor

MAGNETIC FIELD HiTESTER FT3470-52

Packing contents:
Magnetic Field HiTester FT3470-50, 100cm² Sensor, 3cm² Sensor, AC Adapter (9445-02 or 9445-03 (EU)), Extention Cable 9758, Output Cable 9759, Instruction manual, CD (PC application software), USB cable, LR6 alkaline battery×4, Carrying Case


FT3470-50 100cm² Sensor 3cm² Sensor

■ Options

Extension Cable 9758 (1.5m, for connecting a sensor and the instrument)
Output Cable 9759 (1.5m, with three BNC jacks on the output end)
AC Adapter 9445-02
AC Adapter 9445-03 (EU)


9758 9759 9445-02

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