

HIOKI

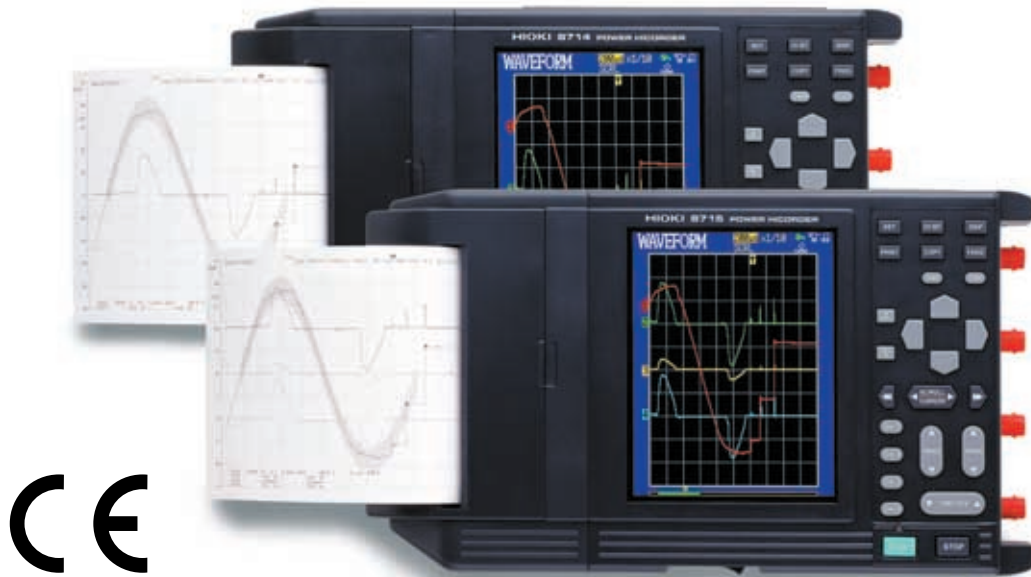
2000



Do you ever worry about power failure?

8714-01, 8715-01 POWER HiCORDER

Recorders 



Introducing easy-to-use power monitoring recorders!

See what you've been missing!

- ★ Capture Spikes, Sags, and Surges
- ★ Monitor and record power anomalies and fluctuations easily, even unattended
- ★ Analyze Leakage Currents as well as AC/DC Current up to 2000amps
- ★ True-RMS with Trigger Function
- ★ 250 Micro Second Transient Waveform Capture
- ★ Memory Card Port for long Term Recording



<http://www.hioki.co.jp/>

HIOKI company overview, new products, environmental considerations and other information are available on our website.



Record power anomalies accurately with simple operation !

■ What a Power Recorder Does

There are many power-quality concerns in today's PC-based businesses, and detecting power anomalies is important for maintaining factory facilities and equipment.

The 8714-01 and 8715-01 POWER HiCORDERs are monitoring recorders that can capture instantaneous power drop-outs, brown-outs, spikes and sags, and record voltage changes with simple operation, and even monitor and record while totally unattended.

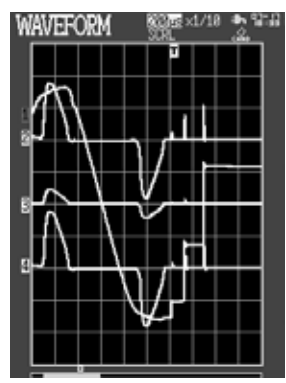
The compact B5 size and 1.5 kg (8714-01) weight provide excellent portability among worksites.



■ Simple Setup

[Features]

1. Simple setup. No worries about operability.
2. Accepts direct input of line voltages up to 400 V, and up to 1000 V AC/ 2000 V DC with the use of 9332 DIFFERENTIAL PROBE accessory.
3. Voltage and current can be simultaneously measured on four isolated channels.
4. Data immediately before an anomaly occurs can be stored and recorded.
5. High quality data printouts on site.
6. High-speed A/D converter stores data in memory, providing simple recording of events that cannot be recorded by a pen recorder.
7. Two measurement functions are available: Waveform Measurement Mode (memory mode), and RMS Trend Measurement Mode (RMS recorder & memory).
8. HIOKI clamp-on probes (voltage-output type) can be directly connected.



Voltage and current waveform example

■ Example

To monitor the current waveform on a 220 V power line.

[Setup]

Measurement mode is set to **Waveform**, time axis to 2 ms. Recording length is set to 20 division.

[Channel setup]

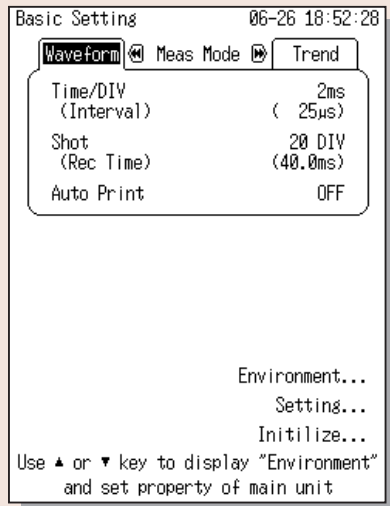
For current waveforms, after selecting a clamp-on probe for the input type from **Mode**, select the range of the clamp. Here, we select **9010** and **100A**.

Set the range of the clamp-on probe in the same way.

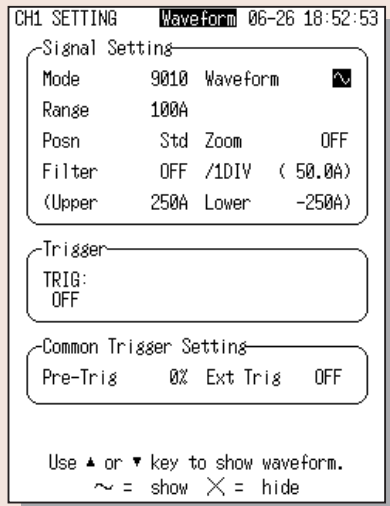
[Starting Measurement]

Clamp the probe around the conductor to be measured.

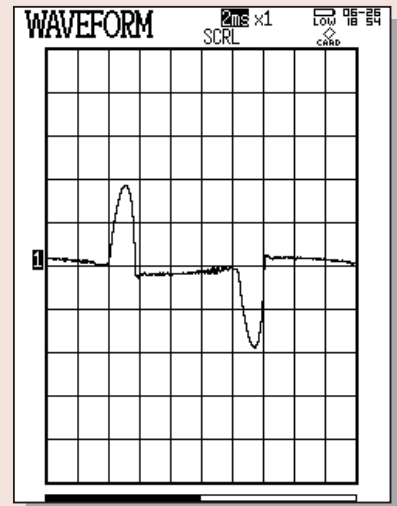
Press the **START** button. The current waveform is displayed on the screen. To stop measuring, press the **STOP** button.



Setup Screen



Channel Setup Screen



Current Waveform Example

Two models: the two-channel (8714-01) and four-channel (8715-01)

(accuracy at 23 ±5 °C/ 73 ±9 °F is guaranteed for one year)

| 8714-01, 8715-01 POWER HiCORDER Basic Specifications | |
|---|---|
| Measurement Mode | Waveform Measurement mode (Power Waveform Observation), RMS Trend Measurement mode (RMS Observation) |
| Input types and number of channels | 8714-01: 2 analog channels (standard capability) 8715-01: 4 analog channels (standard capability) |
| Maximum sampling rate | 400 k samples/s (all channels, simultaneously) |
| Memory capacity | 8714-01: continuous 2-channel measurement (12-bit analog) × 64 kilo-words/ ch 8715-01: continuous 4-channel measurement (12-bit analog) × 64 kilo-words/ ch |
| External memory | PC Card TYPE II slot × 1 : SRAM card (max.32 MB), Flash ATA card (max.528 MB), MS-DOS format. Memory contents: Settings, measurement data (binary or text format, capable of partial save between A-B cursors), screen data |
| Backup function | Clock, waveform data and settings Battery life approx. 5 years (at 25°C/ 77°F). |
| Environment conditions (no condensation) | Operation: +5 to 40 °C (41 to 104 °F), 35 to 80% rh Storage: -10 to 50 °C (14 to 122 °F), 35 to 80% rh |
| Power supplies | 9418-10 AC ADAPTER (12V DC ±10 %) 9447 BATTERY PACK (Ni-MH, AC adapter has priority when used in combination w/battery pack, fast recharge possible with AC adapter) |
| Power consumption | 15 VA max. |
| Continuous operation time | Approx. 3 hours (with 9447 BATTERY PACK, trigger standby at 23 °C/ 73 °F) |
| Charging time | Approx. 2 hours fast charge with power switch OFF (at 23 °C/ 73 °F) |
| Dimensions | Approx. 280 (11.02) W × 170 (6.69) H × 52 (2.05) D mm (inch) |
| Mass | 8714-01: Approx. 1.5 kg/ 52.9 oz. 8715-01: Approx. 1.6 kg/ 56.4 oz. (without batteries) |
| Supplied accessories | 9418-10 AC ADAPTER (1), 9234 RECORDING PAPER (1), 9197 CONNECTION CORD (2 with 8714-01), (4 with 8715-01), Blank BOX (1), Shoulder strap (1) |
| Recording and Display Section | |
| Display | 5.7-inch, 240 × 320 STN color LCD, with Japanese/English selector |
| Recording paper | 112 mm (4.4 inch) × 18 m (59 feet), thermal paper roll |
| Recording area | 100 mm f.s. for waveforms (up to ten 10-mm divisions) |
| Recording speed | up to 1 mm/s (0.039 inch/s) |
| Trigger Function (only for anomalous waveform measurement and instantaneous power fluctuation recording) | |
| Trigger source | ON/OFF at analog input channels 1 and 2 (channels 1 to 4 in 8715- 01), external source |
| Anomalous waveform triggers | Level trigger: At preset voltage level, on either rising or falling edge Window trigger: At entry or exit from preset upper and lower limits Voltage drop trigger: Especially for 50/60-Hz commercial power, when peak voltage falls below preset value Period trigger: When period of rising or falling edge of measured signal exceeds preset period Waveform judgment trigger: Especially for 50/60-Hz commercial power, to monitor signals outside of judgment range in real time (when 20-ms/frame rate is not applicable) |
| Power fluctuation measurement triggers (valid only when instantaneous waveform measurement is enabled) | RMS level trigger: At preset effective value, on either rising or falling edge RMS window trigger: At entry or exit from preset upper and lower limit levels Voltage drop trigger: Especially for 50/60-Hz commercial power, when peak voltage falls below preset value |
| Pre-Trigger | Appends five steps of 0 to 100 % to the record and record length before trigger |
| Level setting resolution | 0.5 % when full scale is equivalent to ten frames |
| Trigger filter | OFF/ON (0.5-frame fixed filter width) |

| Input section (Select from voltage, 9010, 9018, 9132, 3283, 3284, 3285 and 9322) | |
|--|--|
| Measurement ranges | Voltage : 100, 200, and 400 V line 9010 : 10, 20, 50, 100, 200, and 500 A 9018 : 10, 20, 50, 100, 200, and 500 A 9132 : 20, 50, 100, 200, 500, and 1000 A 3283 : 10 and 100 mA, 1, 10, and 200 A 3284 : 20 and 200 A 3285 : 200 and 2000 A 9322 : 400 and 600 V line |
| Accuracy | ±0.5 % f.s. |
| Frequency characteristic | DC to 50 kHz ±3 dB |
| Others | Input terminal: Insulated BNC terminals Maximum allowable input: 450 V AC or DC (upper voltage which when applied to between input pins does not damage them) Maximum grounding voltage: 450V AC or DC (upper voltage which when applied to input channel casing or between input channels does not damage them) Low-pass filter: 500 Hz/ 5 kHz |
| Waveform Measurement (Power Waveform Observation) Mode | |
| Time axis | 200 and 400 μs, 1, 2, 5, 10, and 20 ms/ division, Nine steps of time axis magnification/reduction from 1/50 to × 10 |
| Sampling rate | 1/80 of time axis range |
| Recording length | 20, 50, 100, 200, or 400 division |
| Others | Normal and magnified voltage axis, Left-right waveform scrolling Automatic, manual and partial (between A-B cursors) printing |
| RMS Trend Measurement (RMS Fluctuation Measurement) Mode | |
| Measurement objective | Commercial mains power (50/60 Hz) |
| Time axis | 10 or 30 second; 1, 2, 5, 10, or 30 minutes; or 1hour per division, 1 division = 80 samples, with five steps of time axis magnification/reduction, from 1/50 to × 10 |
| Sampling period | 250 μs (fixed) |
| Recording length | Continuous measurement only (up to 200 division of data are stored internally) |
| RMS accuracy | ±3 % f.s. |
| Waveform display area | 75 to 125 V rms (standard) for 100-V line 150 to 250 V rms (standard) for 200-V line 275 to 525 V rms (standard) for 400-V line Clamp 0 A rms to input f.s. (rms) |
| Others | Voltage axis: standard, magnified Left-right waveform scroll Automatic, manual, partial (between A-B cursors) printing Hybrid recording: Can be turned on/off for each channel (prints logging data for each division together with waveform) |
| RMS Trend Measurement (Instantaneous Waveform Measurement) Mode | |
| Time axis | 200 and 400 μs, 1, 2, 5, 10, and 20 ms/division, Nine steps of time axis magnification/reduction from 1/50 to × 10 |
| Sampling rate | 1/80 of time axis range |
| Recording length | 20, 50, 100, or 200 division |
| Others | Standard or magnified voltage axis Left-right waveform scroll |
| Other Functions | |
| Auxiliary Functions | Typical setting printouts include input range, trigger time, etc., cursor measurement, start condition retention, auto setup, auto saving, list printing (w/ optional printer), power-save function, DMM function (numerical voltage display). |
| DMM Function | Display update rate: 1 s Display contents: RMS value (only measuring DC and 50/60 Hz) Display digit: 4 (last digit 0 to 4 is rounded down, 5 to 9 is rounded up) Voltage ranges: Auto-select only (five ranges from 10 mV to 100 V/div.) Accuracy: ±3 % rdg, ±5 dgt. |

Composition of options * designated products are not CE-Mark compliant

Current

Analyzes distortion leakage current



3283 CLAMP ON LEAK HiTESTER
 AC current: 10 and 100 mA, 1, 10, and 200 A
 Frequency: 30 to 1000 Hz
 Clamp aperture: 33-mm dia.

Accessories to connect with HiCORDER

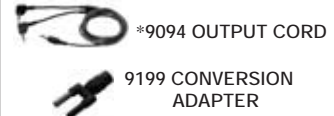


AC/DC Clamps with Enhanced Analysis Capabilities



3284, 3285 CLAMP ON AC/DC HiTESTER
 AC/DC current: 20/200 A (3284), 200/2000 A (3285)
 AD/DC voltage: 30/300/600 V
 Frequency ranges: 10/100/1000 Hz
 Clamp aperture: 33-mm dia. (3284), 55-mm dia. (3285)

Accessories to connect with HiCORDER



Records Current Waveform



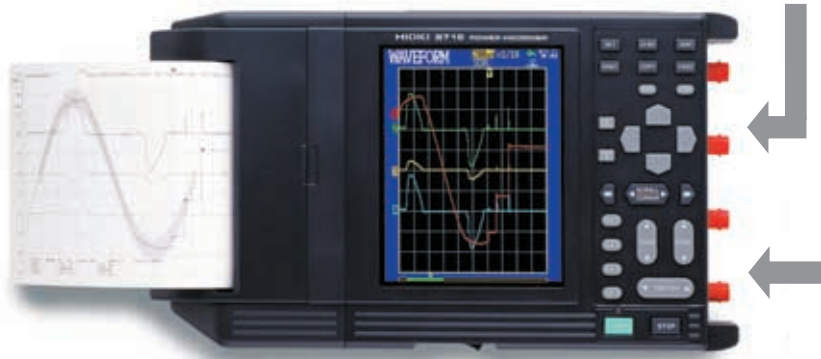
9010-10 CLAMP ON PROBE
 Current range: 10, 20, 50, 100, 200, and 500 A AC
 Frequency band width: 40 Hz to 1 kHz
 Output: 200 mV AC f.s.
 Clamp aperture: 46-mm dia.



9018-10 CLAMP ON PROBE
 Current range: 10, 20, 50, 100, 200, and 500 A AC
 Frequency band width: 40 Hz to 3 kHz
 Output: 200 mV AC f.s.
 Clamp aperture: 46-mm dia.



*** 9132-10 CLAMP ON PROBE**
 Current range: 20, 50, 100, 200, 500, and 1000 A AC
 Frequency band width: 40 Hz to 1 kHz
 Output: 200 mV AC f.s.
 Clamp aperture: 55-mm dia.



8714-01 POWER HiCORDER
8715-01 POWER HiCORDER

Voltage

Records up to 450 V AC



9197 CONNECTION CORD
 (Included accessory)

For 1000 V/ DC2000 V AC



9322 DIFFERENTIAL PROBE

- Waveform monitor output function
- Detection of power line surge noise function
- Rectified RMS output of DC and AC voltages function

Need to use with 9418-10 AC ADAPTER to operate the 9322



Others



9234 RECORDING PAPER
 (18 m, 10 rolls/ 1set)



9391 CARRYING CASE
 (with space to store optional accessories)



9217 CONNECTION CORD
 (insulated BNC to insulated BNC)



***220H PAPER WINDER**
 (70 to 220 mm paper width, uses special AC adapter)

Power Supply



9447 BATTERY PACK (7.2 V at 2400 mAh)



9418-10 AC ADAPTER (12V, 2.5A)
 (Included accessory)



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