



3636-20 CLAMP LOGGER 3637-20 AC VOLTAGE LOGGER

Environmental Measuring
Instrument



*Easy clamp current recording and
convenient, low-cost voltage recording*

Extended recording of AC current and voltage transients

32,000 data points

Only 130 grams

True RMS



- Data backup when batteries are exhausted or replaced
- Instantaneous/average recording (average over recording interval)
- Graphic display of recorded data through a computer
- Equipped with alarm output (3636-20)



ISO14001
JQA-E-90091



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



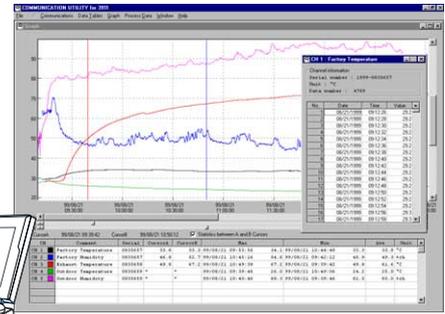
3636-20
CLAMP LOGGER
500A AC



3637-20
AC VOLTAGE LOGGER
600V AC

Analyze and Process Data on a Personal Computer

The 3911-20 Communication Base is used to transfer data to a personal computer. The 3911-20 accommodates up to 16,000 points of 16-channel data or 32,000 points of 8-channel data. It captures data from multiple loggers, then transfers data to the computer where it can be analyzed and managed.



Infrared optical communication
Approximately 500 data points/second
(Logger and 3911 must be in direct contact for communication.)

Settings for communication software
Current time, recording interval, recording start, recording method, comment, recording mode (3636-20/3637-20).
Alarm and channel selection (3636-20 only)



RS-232C
Approximately 1000 data points/second

Communication software included with the 3911-20
Compatible OS: Windows 95/98/NT4.0

Windows is a registered trademark of Microsoft Corporation

Functions

- Graph display
- Measurement data tabulation
- Printing (data, graphs)
- Scaling
- File saving (in proprietary format or text format)

3636-20/3637-20 Specifications

	3636-20 CLAMP LOGGER	3637-20 AC VOLTAGE LOGGER
Input	AC current	AC voltage
Number of input channels	2 channels	1 channel
Data recording capacity	32,000 data points (1 ch) 16,000 data points (2 ch)	32,000 data points
Measurement range	0.00 to 500.0 Arms.sin (50A/500A, 2 ranges)	0.0 to 600.0 Vrms.sin
Accuracy (50/60 Hz, 23±5°C)	±1% rdg. ±5 dgt. (logger only) ±2.5% rdg. ±8 dgt. (logger + sensor)*	±1% rdg. ±5 dgt.
Alarm output	ON when set upper/lower limits exceeded	None
Measurement system	True RMS calculation	True RMS calculation
Accessories	LR03 (AAA) alkaline batteries × 4, 9632 connection cord (for alarm output)	LR03 (AAA) alkaline batteries × 4, 9639 connection cord (for input)
Options	3911-20 Communication Base, 9650/9651 Clamp-on Sensor	3911-20 Communication Base

* 50A or 500A range when using the 9650, and 500A range when using the 9651

9650/9651 Specifications

	9650 CLAMP ON SENSOR	9651 CLAMP ON SENSOR
Rated primary current	AC100A	AC500A
Rated secondary current	AC100mA	AC500mA
Accuracy (50/60 Hz, 23±5°C)	±1.5% rdg. ±0.03% f.s. (where f.s. is rated primary current)	±1.5% rdg. ±0.03% f.s. (where f.s. is rated primary current)
Frequency response	40 Hz to 1 kHz, within ±8%	40 Hz to 1 kHz, within ±3%
Maximum rated input	130A continuous (45 to 66 Hz)	600A continuous (45 to 66 Hz)
Circuit voltage	AC 300Vrms or less (insulated conductor)	AC 600Vrms or less (insulated conductor)
Measurable conductor diameter	φ 15 mm or less	φ 46 mm or less
Cord length	Approx. 3 m	Approx. 3 m
Dimensions/mass	Approx. 46(W) × 135(H) × 21(D) mm, approx. 200 g	Approx. 77(W) × 151(H) × 42(D) mm, approx. 340 g

3636-20/3637-20 Common Specifications

Display	: Measured value, recording status, recording interval, battery condition, unit, recording in progress, preset active, average value recording, maximum value, minimum value, alarm (3636-20 only)
Recording start	: Started manually or at preset time
Recording finish	: Manual stop or until memory is full
Recording interval	: 1/2/5/10/15/20/30 seconds, 1/2/5/10/15/20/30/60 minutes
Recording methods	: One-time: Recording stops when memory becomes full. Endless: Oldest data is overwritten when memory becomes full.
Recording modes	: Instantaneous value recording, average value recording (average over the recording interval)
Interface	: Infrared optical communication (requires the 3911)
Power supply	: LR03 (AAA) × 4 alkaline batteries
Maximum rated power	: 0.1 VA
Continuous use time	: About 1 year (with a recording interval of 1 minute and instantaneous value recording) About 1 month (with average value recording)
Dimensions/mass	: Approx. 57.5(W) × 86.5(H) × 30.0(D) mm, approx. 130 g
Operating environment	: Indoors at an altitude of no more than 2000 m
Ambient use conditions	: 0 to 50°C, less than 80% rh (no condensation)
Ambient storage conditions	: -10 to 60°C, less than 80% rh (no condensation)
Applicable standards	: EMC EN61326-1: 1997+A1: 1998 Safety EN61010-1: 1993+A2: 1995 Overvoltage category I (anticipated overvoltage: 330V), pollution index 2 (3636-20) Overvoltage category III (anticipated overvoltage: 6000V), pollution index 2 (3637-20)

3911-20 COMMUNICATION BASE Specifications

Recording capacity	: Max 16,000 data points × 16 ch / 32,000 data points × 8 ch
Communication type	: Logger ↔ 3911-20: by infrared optical communication (with units in close contact) 3911-20 ↔ PC: by RS-232C connection
Power supply	: LR03 (AAA) × 4 alkaline batteries
Maximum rated power	: 0.2 VA
Dimensions/mass	: Approx. 69(W) × 92(H) × 36(D) mm, approx. 150 g
Ambient use conditions	: 0 to 40.0°C, max 80% rh (no condensation)
Ambient storage conditions	: -10.0 to 50.0°C, max 80% rh (no condensation)
Accessories	: PC communication software

3636-20 CLAMP LOGGER

3637-20 AC VOLTAGE LOGGER

The 3636-20 CLAMP LOGGER cannot be used for measurement by itself. A clamp-on sensor (sold separately) is required.

Options

- 3911-20 COMMUNICATION BASE
- 9650 CLAMP ON SENSOR (100A)
- 9651 CLAMP ON SENSOR (500A)
- 9632 CONNECTION CABLE (included with the 3636-20, 1 m)
- 9639 CONNECTION CABLE (included with the 3637-20, 3 m)
- 9637 RS-232C CABLE (9 pin-to-9 pin, null modem, 1.8 m)
- 9638 RS-232C CABLE (9 pin-to-25 pin, null modem, 1.8 m)



9650 CLAMP ON SENSOR 9651 CLAMP ON SENSOR 9639 CONNECTION CABLE 9632 CONNECTION CABLE

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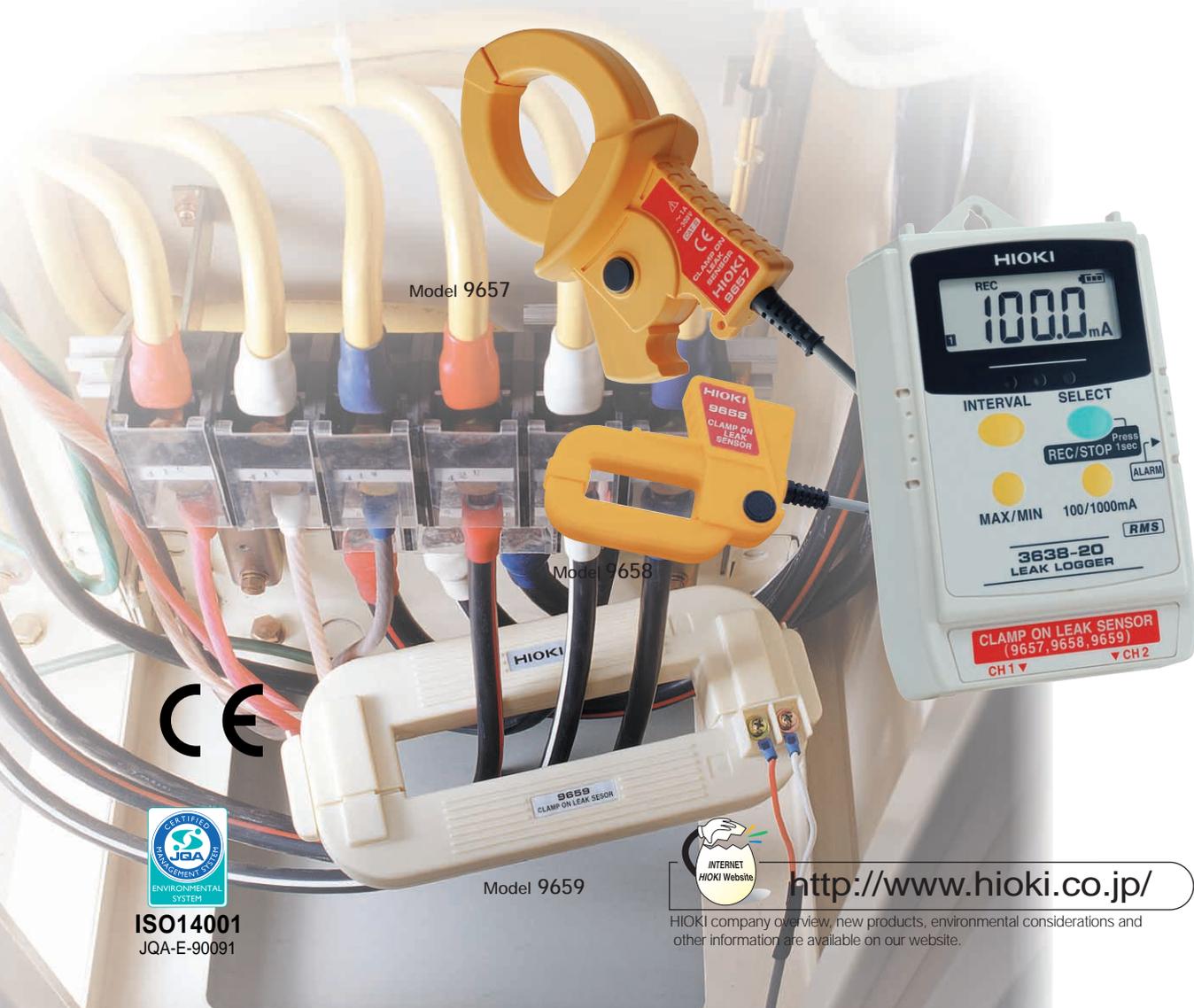
3638-20 LEAK LOGGER

DATA LOGGER



Simple Leak Current Recording with Clamp On Sensors. Easy Logging at Low Cost Recording and Monitoring Leak Current

- Select from three types of clamp on leak current sensors
- Compact, light weight (130g), two-channel recording
- High-capacity recording (32,000 data points)
Recording interval: 15 steps from 1 second to 60 minutes
- Accurate true effective value calculation even for distorted waveforms (100/1000 mA)
- Maximum or average value recording (max./ave. within recording interval)
- View recording data graphically on a PC
- Data is protected during battery discharge and replacement



Model 9657

Model 9658

Model 9659



ISO14001
JQA-E-90091



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

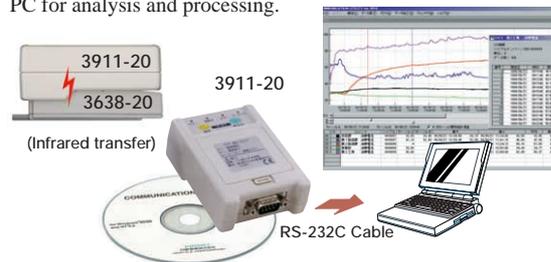
HIOKI company overview, new products, environmental considerations and other information are available on our website.

■ HIOKI 3638-20 LEAK LOGGER Specifications

Sensor models	HIOKI 9657, 9658 and 9659 CLAMP ON LEAK SENSORS
Inputs & ranges	2 channels, 100.0 and 1000 mA (manual range selection)
Instrument accuracy	±1% rdg. ±5 dgt. at 50/60 Hz, 23 ±5°C, with built-in filter for 50/60Hz
Combined accuracy at 50/60 Hz, 23 ±5°C	with 9657 or 9659 sensor ±2% rdg. ±10 dgt. (100 mA range) ±2% rdg. ±6 dgt. (1000 mA range)
	with 9658 sensor ±4.5% rdg. ±10 dgt. (100 mA range) ±4.5% rdg. ±6 dgt. (1000 mA range)
Measurement period	1 or 0.2 s (one channel only)
Recording modes	Maximum or average value
Recording interval	1, 2, 5, 10, 15, 20 or 30 s, and 1, 2, 5, 10, 15, 20, 30 or 60 min.
Recording data quantity	32,000 data points (single channel), 16,000 data points (for dual-channel recording)
Recording start / end	Manual, or at preset time / Manual, or when memory full
Recording methods	Single recording, Endless recording
Max./Min. display	Maximum and Minimum values are displayed
Alarm output	On when input crosses preset upper and lower limits (open-collector output)
Backup	Data backup is provided
Interface	Serial infrared transfer
Power supply, consumption	AAA-size alkaline batteries (LR03 × 4), 0.1 VA
Continuous operating period	One month (with power saver on, 1s measurement period)
	Ten days (with power saver off, 0.2s measurement period)
Size & weight	Approx. 57.5(W) × 86.5(H) × 30.0(D) mm (less projections), approx. 130g (including batteries)
Operating temperature & humidity	0 to 50°C, 80% RH or less (noncondensing)
Supplied accessories	AAA-size alkaline batteries (LR03 × 4), Model 9632 CONNECTION CABLE (for alarm output)

Data Analysis and Processing on a PC

Data can be transferred to a PC using the HIOKI 3911-20 COMMUNICATION BASE. Up to 16,000 data points can be collected from 16 channels, (or up to 32,000 data points can be collected from 8 channels), and then transferred to the PC for analysis and processing.



Settings that can be made from communications software: current time, recording interval, recording start, recording methods, comment, recording mode, alarm, channel selection

■ HIOKI 3911-20 COMMUNICATION BASE Specification

Recording capacity	Up to 16,000 data points × 16 channels, Up to 32,000 data points × 8 channels
Communication method	Infrared between Leak Logger and 3911-20, RS-232C serial between 3911-20 and PC
Power supply	Four AAA size alkaline batteries (LR03 × 4)
Size & weight	Approx. 69(W) × 92(H) × 36(D) mm, approx. 150 g
Supplied accessories	PC communications software
Supported operating systems	Windows 9x, NT 4.0

■ Clamp On Current Leak Sensor Specifications

Model	9657	9658	9659
Measurable conductor size	Up to 40 mm dia.	Up to 12 × 30 mm	Up to 30 × 150 mm
Rated primary current	1.0A AC		
Maximum allowable input	60A Continuous at 45 to 65 Hz	10A Continuous at 45 to 65 Hz	100A Continuous at 45 to 65 Hz
Output voltage	25 mV/A AC		
Amplitude accuracy	±1.0% rdg. ±12 μV	±3.5% rdg. ±12 μV	±1.0% rdg. ±12 μV
Residual current	5 mA (at 100A AC in)	1 mA (at 10A AC in)	30 mA (at 500A AC in)
External magnetic field effect	5 mA equiv. With 400A/m (AC), 7.5 mA max.		
Cable length	Approx. 3 m		
Voltage to ground	300 Vrms AC	150 Vrms AC	460 Vrms AC
Insulation withstand voltage	3.7 kV (for 1 min.)	2.3 kV (for 1 min.)	2.2 kV (for 1 min.)
Operating temp. & humidity	0 to 50°C, 80% RH or less (non-condensating)		
Size & weight	Approx. 74W × 145H × 42D mm, 340 g	Approx. 65W × 52H × 18D mm, 50 g	Approx. 358W × 108H × 48D mm, 2.5 kg

NOTES:

1. Voltage to ground is that voltage between a power line and earth ground in a grounding-dependent electric circuit, or the voltage between one power line and any other power line in a grounding-independent circuit.
2. Coordination of Insulation: determination of the safe and appropriate characteristics of electrical insulation of wiring and connected devices according to the operating voltage.
3. Model 9658 is suitable for coordination of insulation with circuits of up to 150V voltage to ground, up to 240V for 3P3W lines, and up to 120/240V for 3P4W lines.
4. Models 9657 and 9659 are suitable for coordination of insulation with circuits of up to 300V voltage to ground, up to 500V for 3P3W lines, and up to 277/480V for 3P4W lines.

COMMON ELECTRIC CIRCUITS and COORDINATION of INSULATION

3P-4W (3-phase, 4-wire) Voltage	3P-3W (3-phase, 3-wire) Voltage	Voltage to Ground	CATIII Recommended Impulse Withstand Voltage
120/208 V 120/240 V	240 V	150 V	2500 V
230/400 V 277/480 V	500 V	300 V	4000 V

(From EN61010-2-032, Annexes J, Table J.1)

Model 3638-20 LEAK LOGGER

■ Options

Model 3911-20 COMMUNICATION BASE
Model 9657 CLAMP ON LEAK SENSOR
Model 9658 CLAMP ON LEAK SENSOR

Model 9659 CLAMP ON LEAK SENSOR
Model 9637 RS-232C CABLE (9-pin to 9-pin crossover, 1.8 m)
Model 9638 RS-232C CABLE (9-pin to 25-pin crossover, 1.8 m)

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