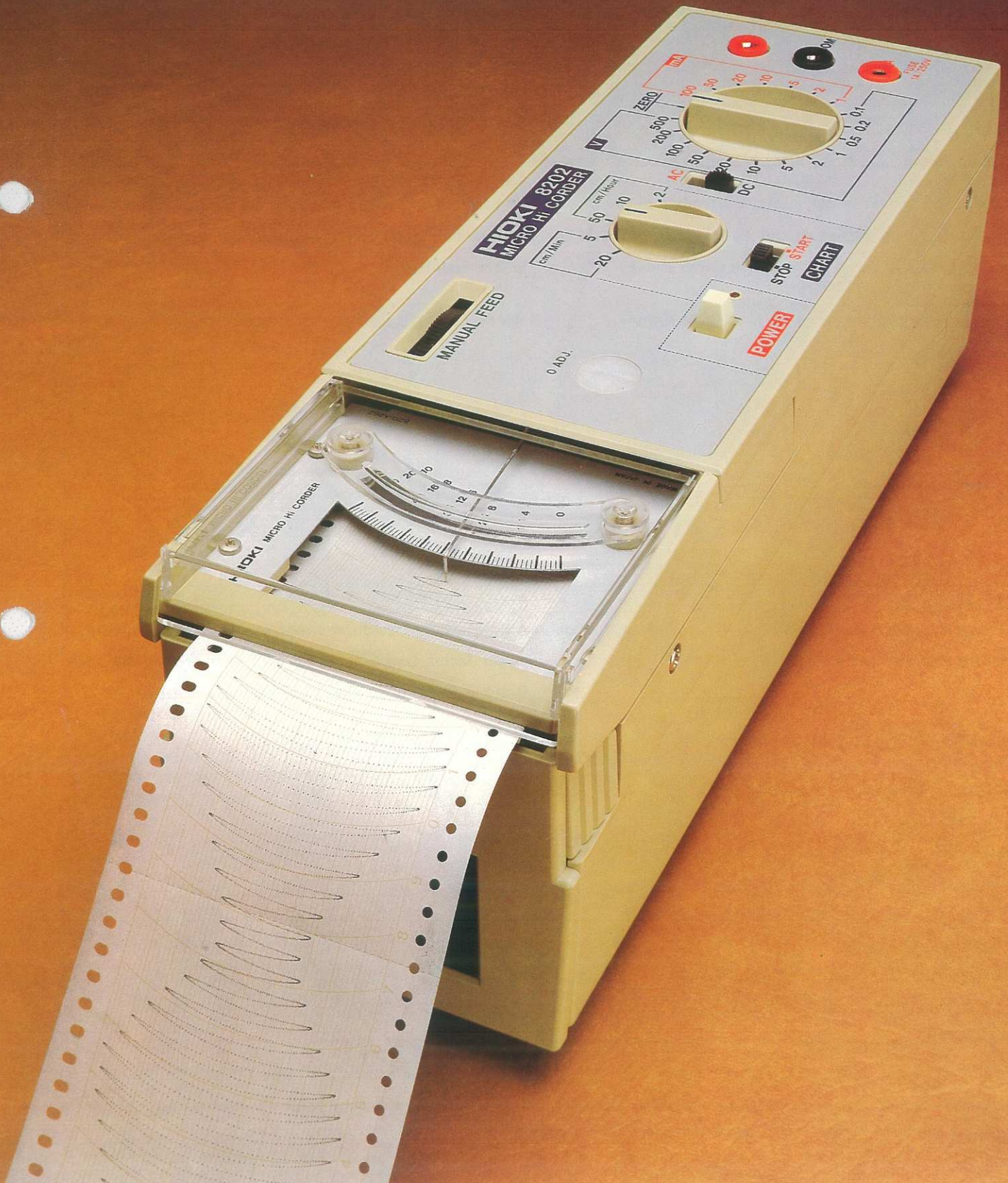


8200 SERIES MICRO HI CORDER

**HIOKI**

8 2 0 1  
8 2 0 2

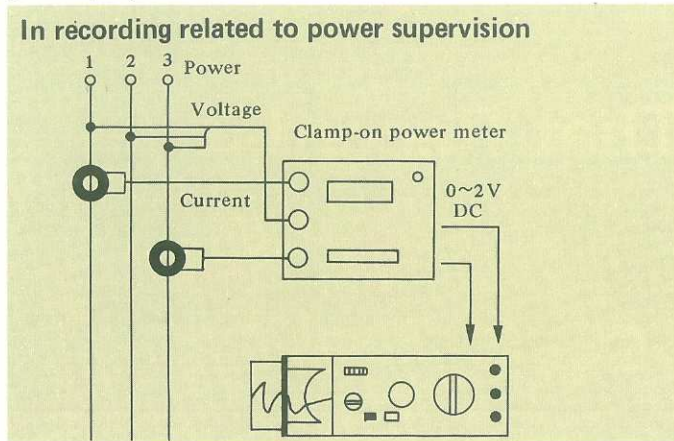
An Electronic Tester That Records



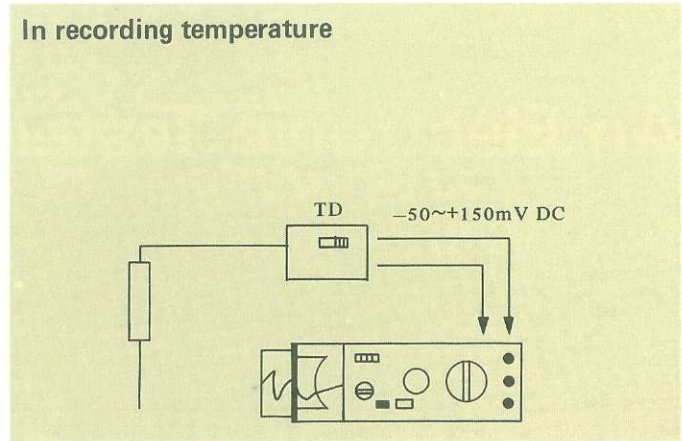
# Simple to handle and very portable.

Applicable to a wide range of uses

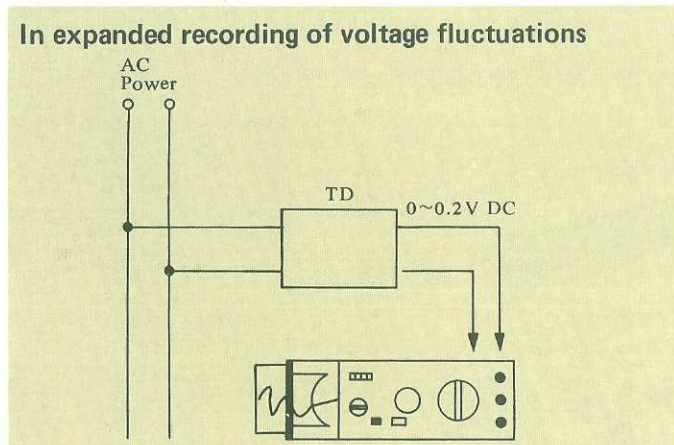
[Example]



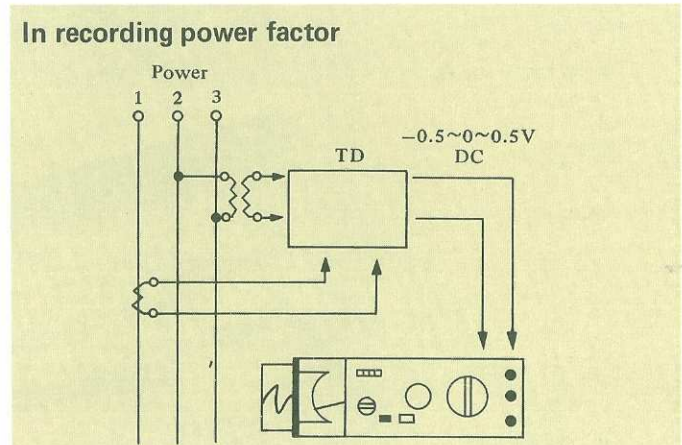
By using a clamp-on power meter, a recording of the power used by electrical appliances can be obtained and used in improving efficient use of power and in power saving.



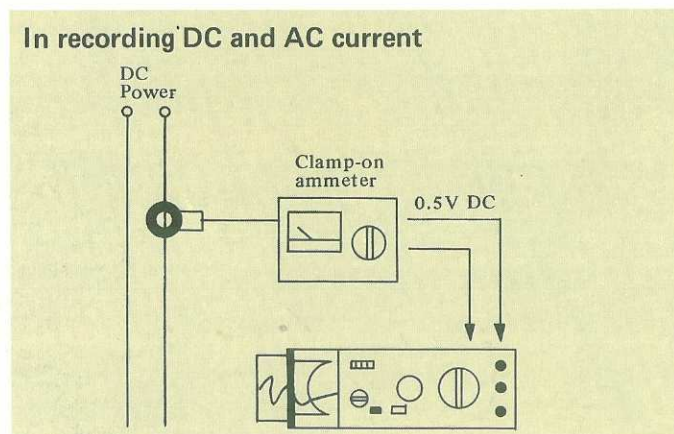
By using a temperature transducer, recordings of the temperature of cooling and heating devices can be made and put to use in their maintenance.



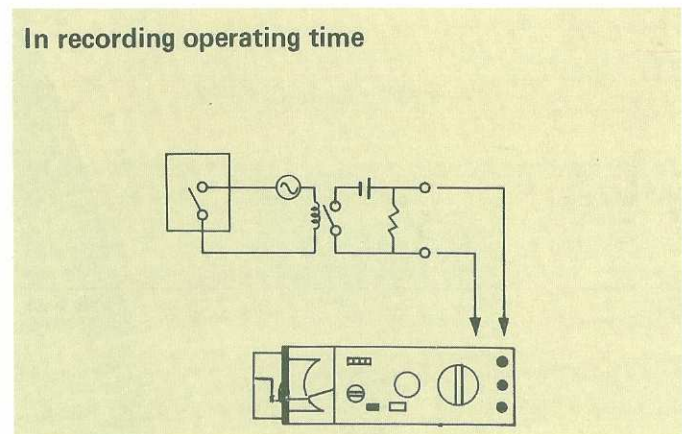
A voltage expanding transducer is used and voltage fluctuation levels are expanded and recorded.



A power factor transducer can be used in obtaining a record of power factor variations to be used in improving the power factor in electrical appliances and equipment.



By using together with a clamp-on ammeter, it is possible to study the amount of current used by DC motors and to record the amount of current consumed by other electrical appliances.



By using a simple switching circuit operating time can be recorded. The calculation of accumulated operating time is carried out from recording length for input voltage.

# Simple to operate. There are plenty of speeds and

## Stable measurements can be obtained

There is a high ( $1M\Omega$ ) input resistance on the voltage range.

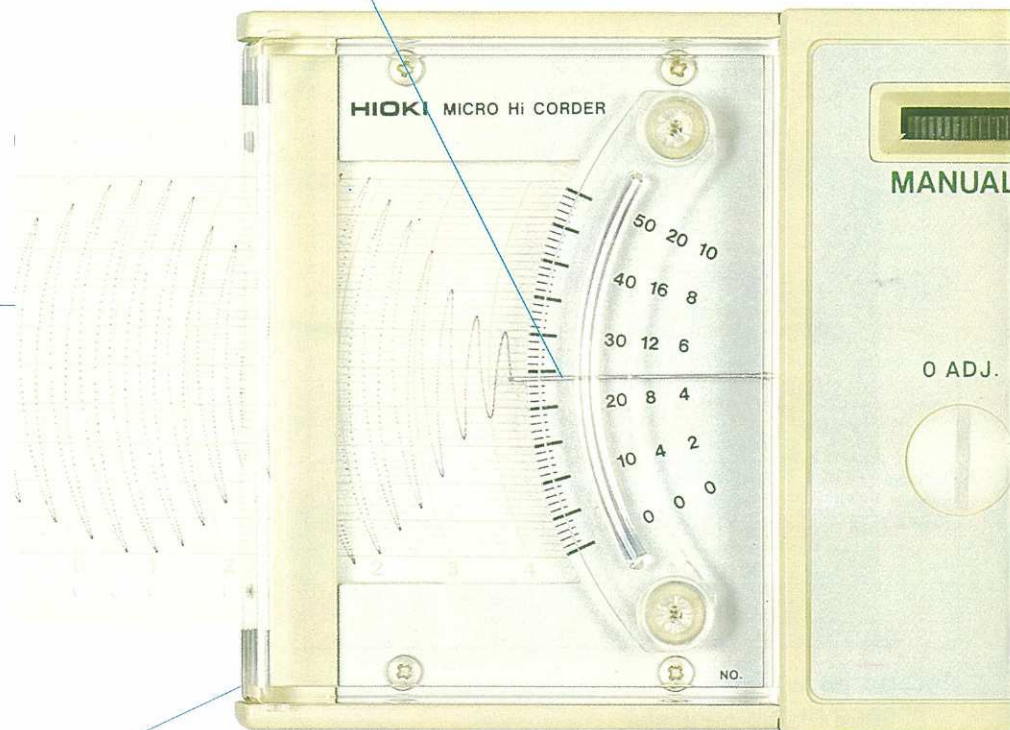
On the current range, voltage drop is low at 10mV (8201) and 50mV (8202) and, as with the voltage range, measuring ability is outstanding.

## Can record phenomena which involve sudden fluctuations

Recording break point frequency has been considerably increased to 32 times a second so that it is possible to also record phenomena involving comparatively sudden fluctuations which were not able to be recorded with ordinary direct movement type dotting recorders.

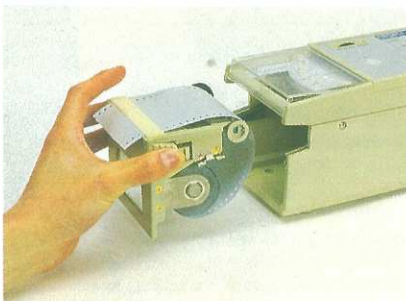
## Ready to record at any time

Because it is an electric discharge type recorder, a clear recording can be obtained at any time by simply switching it on. The recording paper does not readily deteriorate and is easy to store and to copy.



## Recording paper is easy to change

The cartridge type paper holder is able to be changed quickly and easily.



## ■ Specifications

### ● Measuring Ranges

#### 8201

##### DC Voltage:

10 · 20 · 50 · 100 · 200 · 500mV  
1 · 2 · 5 · 10 · 20 · 50V

##### DC Current

0.1 · 0.2 · 0.5 · 1 · 2 · 5 · 10mA

##### Maximum Allowable Input:

Voltage: 100V rms/1 minute (10mV range)

Current: 0.2A/250V fuse

#### 8202

##### DC, AC Voltage

0.1 · 0.2 · 0.5 · 1 · 2 · 5 · 10 · 20 · 50 · 100 · 200 · 500V

##### DC, AC Current

1 · 2 · 5 · 10 · 20 · 50 · 100mA

##### Maximum Allowable Input:

Voltage: 1000V dc or peak ac/1 minute (0.1V range)

Current: 1 A/250V fuse

Frequency Response for AC Ranges:  
20Hz~40kHz (within -3dB)  
(at 1V range)

# anges for a wide range of uses.

## Multi-speed

There are five recording speeds, from 20 cm/min, which picks up signal situations as small as 1 Hz, to the 2 cm/hr speed which will run continuously for a month. Choose the most suitable speed for the job.

### Operating period:

At 20cm/min.	1.2hrs
At 5cm/min.	5hrs
At 50cm/hr.	1.2days
At 10cm/hr.	6.2days
At 2cm/hr.	31.2days

## Multi range

Handy AC and DC current and voltage ranges are provided, making it easy to record directly (on the 8202 model only).

On the 8201, select the 10mV ~ 50V voltage range and 0.1mA ~ 10mA current range and on the 8202 the 0.1V ~ 500V voltage range and the 1~100 mA current range, according to the purpose for which the recorder is to be used.

## Operates on either commercial electric power or car batteries.

8200 Series recorders have both commercial power and battery power (12V DC) sources built in.

The 12V DC power source is insulated against the input circuit and there is a power shut off circuit to afford protection in the case of a voltage drop when measuring and to guard against excessive discharge.

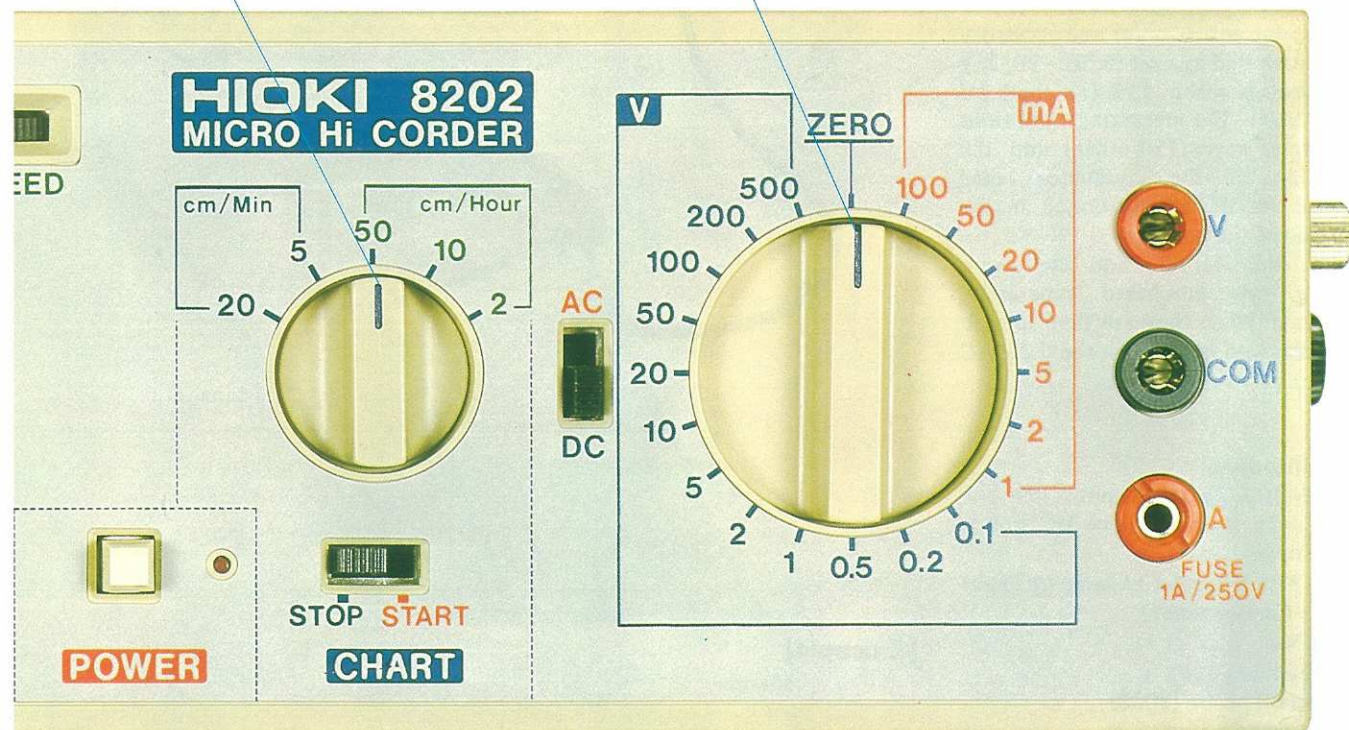


Photo 8202 (Actual size)

- **General**
- Recording Width:**  
50mm arc recording
- Operating System:**  
Direct-acting dot recording
- Recording System:**  
Electric discharge recording
- Chart Paper:**  
70mm x 15mm rolled
- Chart Drive:**  
Pulse motor
- Chart Speeds:**  
5 · 20cm/min., 2 · 10 · 50cm/hr.
- Zero Setting:**  
Setting possible anywhere across entire recording width

- Frequency Response:**  
70% at 1Hz
- Input Resistance:**  
Voltage range: 1MΩ constant
- Voltage Drop:**  
8201: 10mV constant (at current ranges)  
8202: 50mV constant (at current ranges)  
However, the protective circuit resistance is excepted.
- Maximum Common Mode Voltage:**  
1000V dc or peak ac
- Accuracy:**  
DC → ±2% F.S.  
AC → ±3% F.S.

- Temperature:**  
0 ~ 45°C
- Power Supply:**  
110 ~ 120V, 210V ~ 230V, 230V ~ 250V AC, 50/60Hz (within 10VA) or 12V DC (approx. 7W)
- Dimensions:**  
94H x 96W x 280Lmm (Body)
- Weight:**  
Approx. 1.7kg
- Accessories:**  
Input cord, Chart paper (9073), Spare fuse

# Ideal for current supervision applications

## Current recorder

Current recorders 8202-20 and 8202-21 are designed for energy saving uses, including the determination of the amount of current used by electrical appliances and in the supervision and control of current in electric power lines.

Since the number of dots per second in 32, small and rapid variations in the signals recorded are not missed. At a recording speed of 2cm/hr the paper will last for 31.2 days and at 20cm/min continuous recording for 1.2 hr is possible.

A handy carrying case is also available as a special accessory.

If the current recorder and accessory are purchased as a set (8202-20, 21), accuracy is within  $\pm 3\%$  (on the 0.2V AC range). The measuring conditions are sine waves (50/60Hz) and the position of the conductor being tested should be positioned in the middle of the core.

When the recorder and the clamp probe are purchased separately, accuracy when they are then used in combination is  $\pm 6\%$  (on the 0.2V AC range).

### Specifications

8202-20 AC power supply

8202-21 Both AC and DC power supply

(With Recorder + Clamp-on probe + Carrying case)

### Recorder

Same as 8202

### Clamp-on probe (9008)

#### Measuring Ranges:

10 · 20 · 50 · 100 · 200 · 500  
A AC

#### Output Voltage and Accuracy.

200mV AC (F.S.) Within  $\pm 3\%$

Frequency: 50/60Hz

Max. Input Voltage: 600V AC

Dielectric Strength: 1500V AC

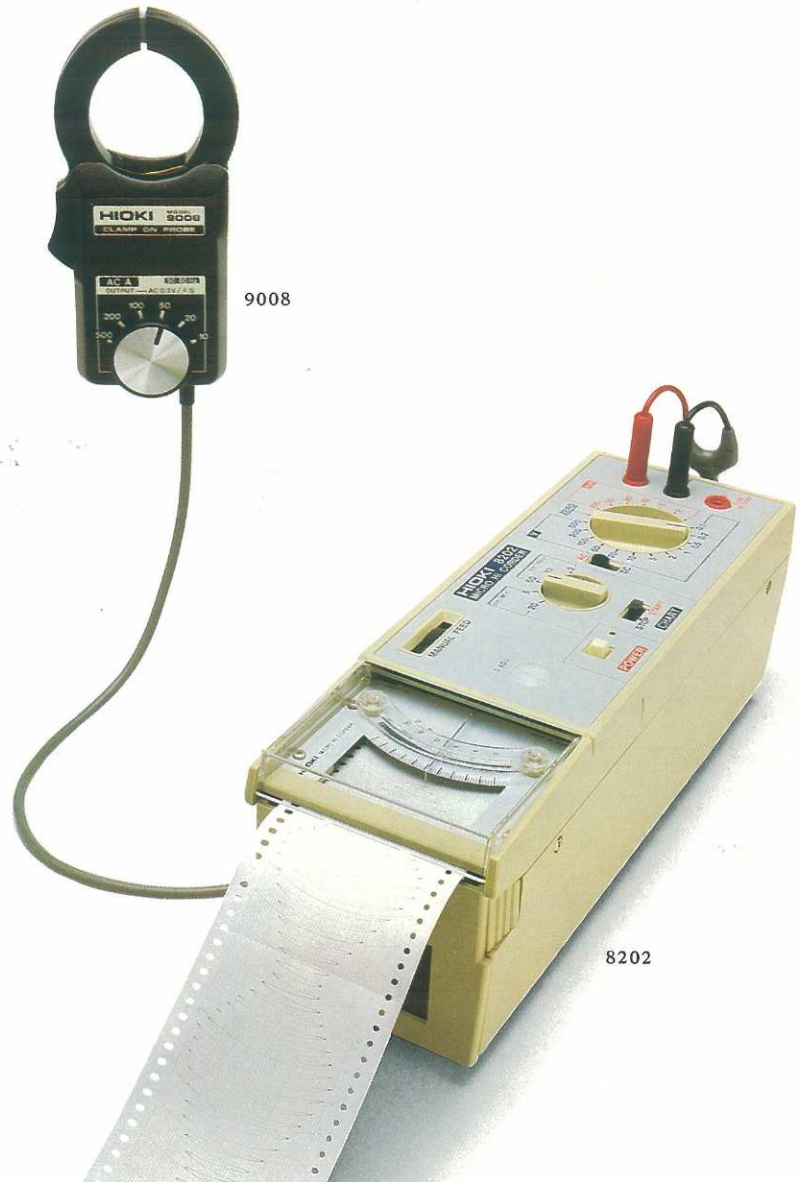
(one minute)

May Dia. of DUT: 46 mm

Dimensions: 152H x 80W x 33Dmm

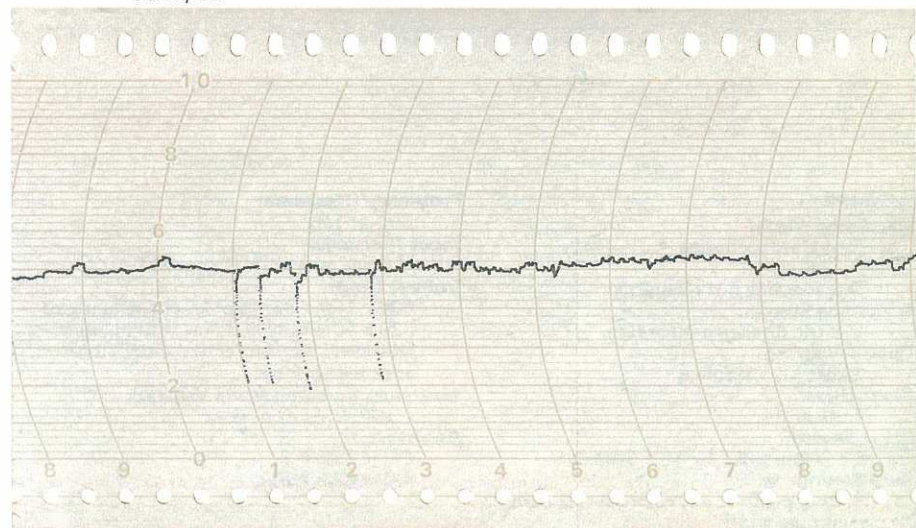
Weight: Approx. 400g

Accessories: Chart paper, Spare fuse

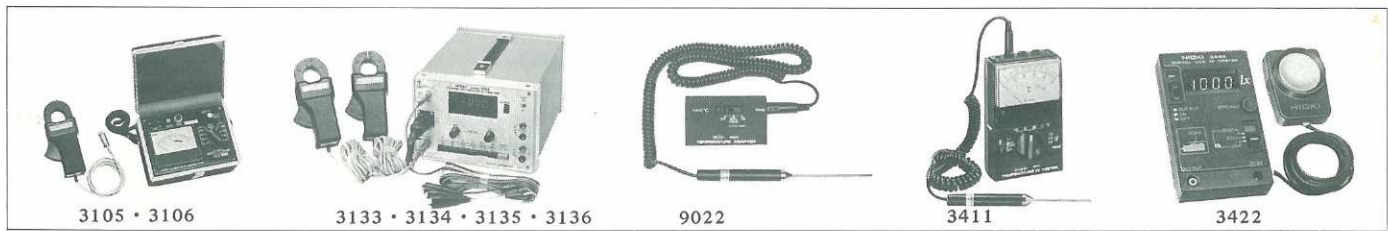


### [Example]

50cm/hr.



Selection guide to combination with other HIOKI instruments.  
(For details, see the catalogue for each individual instrument.)



	Name of Product	Ranges	Output (Max. full scale)	Remarks
Voltage and Current	3105	DC.AC25·50·250·500V DC.AC25·50·100·250A	0.5V DC or 0.5V AC	
	3106	DC.AC25·50·250·500V DC.AC100·250·500·1000A	"	
	9008	AC10·20·50·100·200·500A	200mV AC	
	TD-A TD-V	AC A AC V (Note 1)		
	TD-V-51 " 52 " 53 " 54	75V ~ 125V 150V ~ 250V 300V ~ 400V Combine with TD-V-51,52,53	0.2V DC " " "	(Note 1)
Single phase power	3131	5·10·20·50·100kW(400V) 2.5·5·10·25·50kW(200V) 1·2·4·10·20kW(100V) AC V: 100·250·500V AC A: 10·25·50·250A	1 V DC	
	3132	20·50·100·200·500kW (400V) 10·25·50·100·250kW(200V) 4·10·20·40·100kW(100V) AC V: 100·250·500V AC A: 50·100·250·500· 1000A	1 V DC	
	TD-W-1 TD-Var-1	(Note 1)		
3-Phase power (3φ3W)	3133	20·200 kW 20·200 kvar AC V: 200·500V AC A: 20·200A	2 V DC	
	3134	200·1000 kW 200·1000 kvar AC V: 200·500V AC A: 200·1000A	2 V DC	
	TD-W-3 TD-Var-3	(Note 1)		
3-Phase power (3φ4W)	3135	20·200 kW 20·200 kvar AC V: 200·600V AC A: 20·200A	2 V DC	
	3136	200·1000 kW 200·1000 kvar AC V: 200·600V AC A: 200·1000A	2 V DC	

	Name of Product	Ranges	Output (Max. full scale)	Remarks
3-Phase power (3φ 4w)	TD-W-4 TD-Var-4	(Note 1)		
	Power factor	TD-PF-1B Single phase 110V, 5A -0.5 ~ 1 ~ 0.5 TD-PF-3B 3-phase 110V, 5A -0.5 ~ 1 ~ 0.5	-0.5 ~ 0 ~ +0.5V DC -0.5 ~ 0 ~ +0.5V DC	(Note 1)
Fre- quency	TD-F-A	110V 45 ~ 55 Hz or 55 ~ 65 Hz 220V 45 ~ 55 Hz or 55 ~ 65 Hz	1 V DC 1 V DC	(Note 1)
		Temperature	3411 -50°C ~ 0°C 0°C ~ 50°C 50°C ~ 150°C 9022 -50°C ~ 150°C	100mV DC -50mV ~ 150mVDC
Illumination	3422	20,200, and 2,000 lux	200mV DC	

Note 1: TD-Transducer, Made to order

Please indicate the No. when ordering

Recorders

- 8201 - 00 AC power supply
- 01 Both AC · DC power supply
- 10 With 9086; AC power supply
- 11 Both with 9086; AC · DC power supply
- 8202 - 00 AC power supply
- 01 Both AC · DC power supply
- 10 With 9086; AC power supply
- 11 Both with 9086; AC · DC power supply

Current recorder

- 8202 - 20 AC power supply (With 9008, 9086)
- 8202 - 21 AC · DC power supply (With 9008, 9086)

Chart paper

9073

Input cord

9093

Accessories available

9008 Clamp-on probe

Ranges: 10 · 20 · 50 · 100 ·  
200 · 500A AC  
Output: 200mV AC (F.S)  
Accuracy: Within ±3%  
Frequency: 50/60Hz  
May dia. of DUT: 46mm  
Dimensions: 152H x 80W x  
33Dmm, 400g



9086 Carrying case



# HIOKI

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