HIOKI

3240

CARD Hi TESTER

取扱説明書

はじめに

このたびは、日置"3240カード ハイ テスタ"を選定いただき、誠にありがとうございます。この製品を十分にご活用いただき、末長くご使用いただくためにも、まず取扱説明書をよくお読みの上、ご使用ください。

サービスに関するお問い合わせ：最寄りの営業所まで

日置電機株式会社

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測定範囲（23°C±5°C 80%RH以下 ただし結露しないこと）
〔Measuring range (23°C±5°C 80%RH or less no condensation)〕

ファンクション (Function)	レンジ (Range)	確度 (Accuracy)	備考 (Remarks)
直流電圧 (DCV)	200.0mV	±2.0 %rdg ± 4dgt	約 (Approx) 100MΩ 以上
	2.000V	±0.7 %rdg ± 4dgt	約 (Approx) 12MΩ
	20.00V	±1.3 %rdg ± 4dgt	約 (Approx) 11MΩ
	200.0V	〃	〃
	500V	〃	〃
交流電圧 (ACV)	2.000V	±2.3 %rdg ± 8dgt	約 (Approx) 12MΩ (40～500Hz)
	20.00V	〃	約 (Approx) 11MΩ (〃)
	200.0V	〃	〃 (〃)
	500V	〃	〃 (〃)
抵抗 (Ω)	200.0 Ω	±2.0 %rdg ± 4dgt	※開放端子電圧 0.45V以下 (or less)
	2.000k Ω	〃	〃
	20.00k Ω	〃	〃
	200.0k Ω	〃	〃
	2000 k Ω	〃	〃
	20.00MΩ	±5.0 %rdg ± 4dgt	1.80MΩ～10.00MΩ 〃
		±10 %rdg ± 4dgt	10.01MΩ～20.00MΩ 〃
導通（しきい値） (Continuity)		(1.5k～15kΩ)以下 (or less) (約1msec 応答)	開放電圧約 1.5V (Open circuit voltage: Approx)
数字残り (Remainder)		3dgt以下 (or less)	

※開放端子電圧＝(open terminal voltage)

保証書

形名 3240	製造番号
保証期間 購入日 年 月より1ヶ年間	

この製品は、当社の厳格な検査基準にお届けしたものですが、万一、取扱中に故障が発生した場合、裏面の保証規定により保証期間中に限り、無償修理いたします。
お客様
ご住所

〒□□□-□□ TEL

ご芳名 様

※保証書は日本国内のみ有効です。また保証書の再発行はいたしませんので大切に保存してください。

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English

⚠ IN HIGH POWER CIRCUIT AREA (DISTRIBUTION TRANSFORMER AND BUS BAR) BEFORE ATTEMPTING ANY MEASUREMENT, DOUBLE CHECK THAT THE RANGE SWITCH IS AT THE CORRECT POSITION.
IF THE RANGE IS INCORRECTLY SET A DANGEROUS ARC OF EXPLOSION WOULD OCCUR

WARNING
This instrument is designed to prevent accidental shock to the operator when properly used. However, no engineering design can render safe an instrument which is used carelessly. Therefore, this manual must be read carefully and completely before making any measurement. Failure to follow direction can result in a serious or fatal accident.

Precautions
- Check the position of the function switch by referencing the display before making a measurement. Be sure to keep the test lead off the object being measured before changing the switch.
- If the batteries are weak, mark 🔋 lights. When this happens, replace the batteries.
- Be sure to turn off the power after use.
- Avoid storing the instrument in locations where temperature or humidity is excessively high and dew is formed.
- When short-circuited in positions ACV and Ω, "−" may be displayed. This does not indicate the abnormal condition of the instrument.
- Never wet the unit or perform adjustment with wet hands.
- Do not use benzine or alcohol for cleaning, and avoid placing the unit near heat source (such as an soldering iron), or the case may be deformed or discolored.
- Appliances that generate noise or magnetic fields, and rapid changea in temperature, Will make the display unstable, causing measurement errors. (This is especially true at ranges higher than 200 kohm.)
- Since the 200 mV DC range has an input resistance of 100 kohms or higher, uncertain values will be displayed when no inputs are applied. This, however, is not a problem if "0" is displayed when the test leads are shorted.

Buzzer Function
The buzzer sounds when the function switch is used, current flows, and the range is increased while the V function is used.

Operation
I. Measuring DC voltages See Fig. I ⚠ Maximum input voltage is 500 V DC.
1. Set the function switch to DCV.
2. Connect the test leads to the circuit to be measured.
3. Read the display.

Note: • "−" (minus sign) is displayed when the polarity of the test leads is reversed.
• Use the test leads with the normal polarity when measuring a voltage that includes spike pulses (such as horizontal output signal of a TV set).

II. Measuring AC voltages See Fig. II ⚠ Maximum input voltage is 500 V AC.
1. Set the function switch to ACV.
2. Connect the test leads to the circuit to be measured.
3. Read the display.

Note: It is not necessary to consider the polarity of the test leads.

III. Measuring Resistance See Fig. III ⚠ Overload input is 250 V AC/DC.
1. Set the function switch to Ω.
2. Connect the test leads to the circuit to be measured.
3. Read the display.

Note: Be sure to turn off the power of the circuit to be measured before connecting the leads.

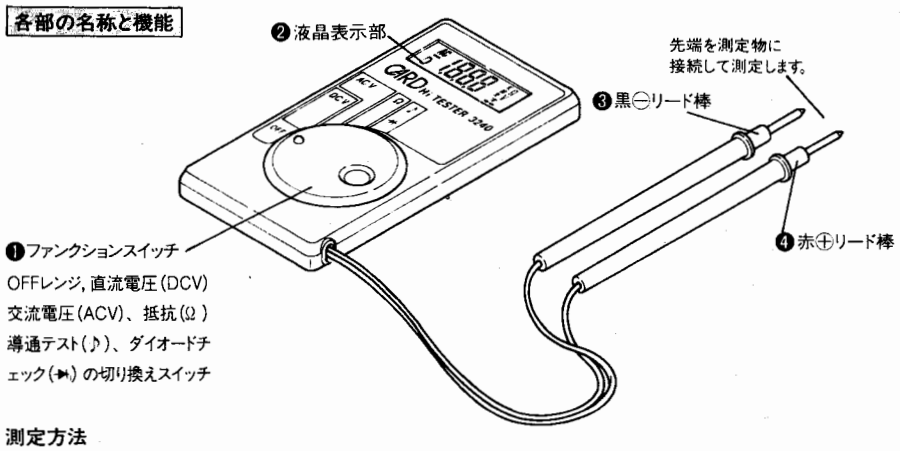
IV. Conductivity Test See Fig. IV
1. Set the function switch to ♪, ⊣⊢.
2. Connect the test leads to the circuit to be tested.
3. Conductivity is good when the buzzer beeps and the mark "🔊" is displayed.

V. Diode Test See Fig. V
1. Set the function switch to ♪, ⊣⊢.
2. 3. With a normal diode, the display shows the forward voltage of the diode when the Black test lead is connected to the cathode of the diode and the Red test lead to the anode; it displays 1200 to 1800 when the test leads are reversed.
4. When the test leads are open, the display reads 1200 to 1800.

Notes on Battery Replacement See Fig VI
The battery used in this instrument is optional. (IF the monitor battery suplied for inspection is exhausted, the replacement should be made at the user's expense even within the guarantee period.)
(1) To replace the battery, remove the test lead from the circuit measured and turn off the power.
(2) Taking out the instrument from the case, loosen the screw of the battery cover located at the lower left of the rear side to remove the screw and cover.
(3) Observing correct pole polarity, replace two batteries.
- Keep infants off the batteries.
- Do not throw the batteries into fire.

GENERAL SPECIFICATIONS
Measuring method: Integration
Display: 3-1/2 digits, white liquid crystal, 10 mm character height, maximum "1999", with unit symbols (decimal point, m, V, K, M, Ω, AC, 🔋, 🔊, "−")
Range change: Full-automatic
Input over indication: The maximum digit "1" blinks.
Polarity indication: Automatic switching mark "−" lights.
Weak battery indication: Mark 🔋 lights at 1.25V ±0.1V or less.
Sampling rate: 2/second
Operating temperature/humidity: 0°C to 40°C, 80% RH or less (no condensation)
Storing temperature/humidity: −20°C to 60°C, 70% RH or less (no condensation)
Temperature characteristics: Zero drift: ±0.5 dgt/°C or less
Gain drift: ±600 ppm/°C or less
Power supply: LR-44 (x 2)
Battery life (continuous hours): Approx. 80 hours
Power consumption: 4 mW typ.
Withstand voltage: 2kV AC, one minute between input terminal and case exterior
Dimensions/weight: Approx. 108H x 54W x 8D mm (excluding protrusion), approx. 60g
Accessory: Case
Maximum overlead
V: 700V DC or DC + AC peak (one minute)
Ω/**conductive:** 250 V AC/DC (one minute)

各部の名称と機能



表示部は測定値，単位，記号，小数点を表示します。

❶Function switch
❸⊖ Lead test (Black)
❷Display
❹⊕ Lead test (Red)

❶Funktionsschalter
❸⊖ Prüfleitung (rot)
❷Anzeige
❹⊕ Prüfleitung (suhwarz)

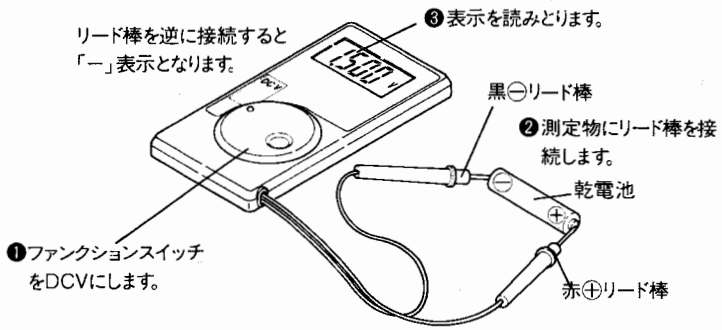
❶Selettore di funzione
❸⊖ Filo de prova (nero)
❷Quadrante
❹⊕ Filo de prova (rossso)

❶Commutateur de fonction
❸Conducteur d'essai (noir)
❷Cadran d'affichage
❹⊕ Conducteur d'essai (rouge)

測定方法

Ⅰ 直流電圧(DCV)測定(fig Ⅰ)

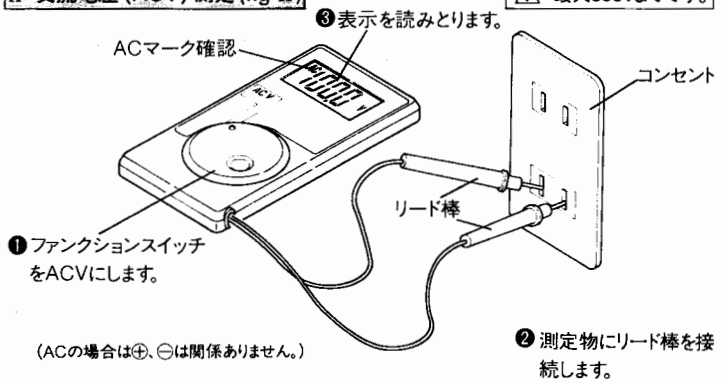
⚠ 最大500Vまでです。



注）テレビの水平出力のようなスパイクのある電圧は、正極性で測定してください。

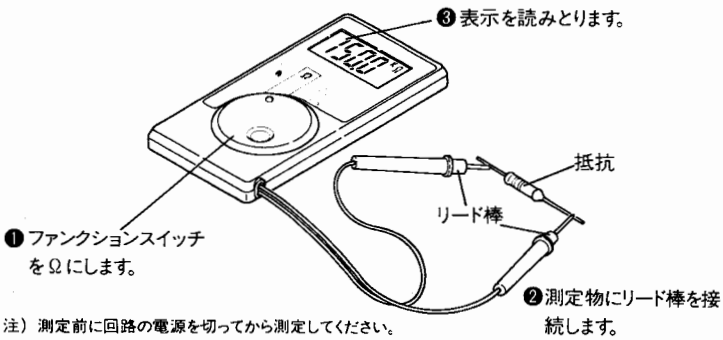
Ⅱ 交流電圧(ACV)測定(fig Ⅱ)

⚠ 最大500Vまでです。



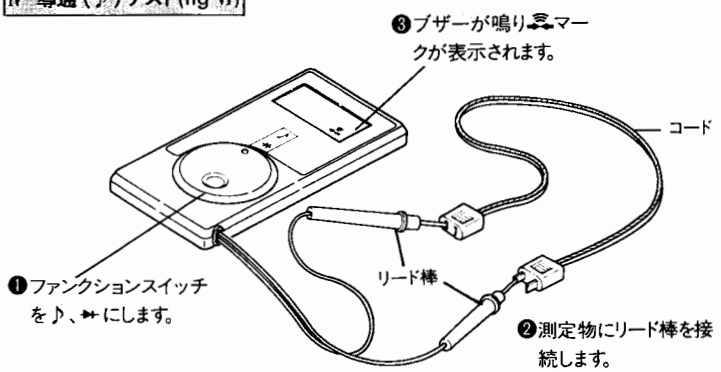
Ⅲ 抵抗(Ω)測定(fig Ⅲ)

⚠ 最大過負入力AC/DC 250Vまでです。

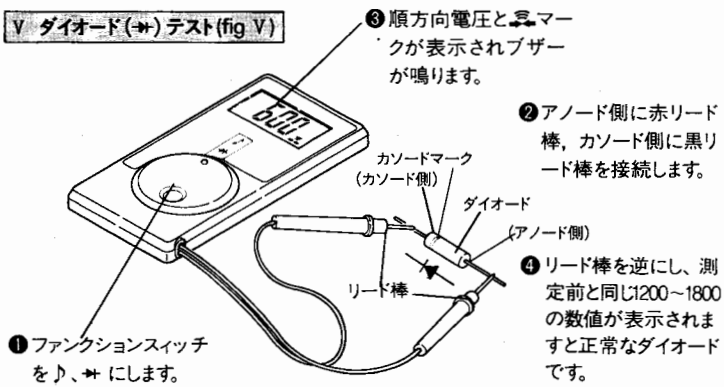


注）測定前に回路の電源を切ってから測定してください。

Ⅳ 導通(♪)テスト(fig Ⅵ)

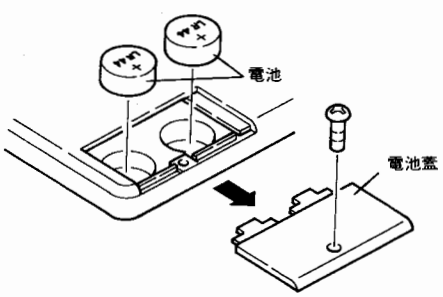


Ⅴ ダイオード(⇥)テスト(fig Ⅴ)



Ⅵ 電池交換(fig Ⅵ)

❶交換の際はテストリードを被測定回路からはずし電源をOFFにします。
❷ケースから本体を取り出し、裏側左下の電池蓋のねじをはずしてから電池蓋を取ります。
❸電池は極性に注意しながら2個同時に交換してください。



注）● 電池を取り出した場合、電池は幼児の手が届かない所に保管してください。
● 電池は火中に投入しないこと。