

卡片型测试仪 CARD HITESTER 使用说明书

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HIOKI 中国电子信息产品污染防治管理办法−对应 电子信息产品污染控制指示表 【3244-50 卡片型万用表】 有毒有害物质及元素 多溴联 铅 汞 镉 六价铬 多溴联苯 苯醚 (Pb) (Cd) (Cr^{6+}) (PBB) (Hg) (PRDE) 主机部分 实装电路板 0 0 Ο Ο 0 X 0 电阻器 X Ο 0 \cap 0 0 0 0 0 0 单旋可变电阻计 Х 振荡器 Х 0 0 0 0 0 |其它 |外部分流器 9081 × | 〇 | 〇 | 〇 0 \cap O: 对应部件的所有均质材料中,相对应的有毒有害物质的含量均 低于 SJ/T 11363-2006 标准规定的限值。

×: 至少此部件的均质材料中,相对应的有毒有害物质的含量高于 SJ/T 11363-2006 标准规定的限值。

环境保护使用期限

此标志中的年数,列于2006年2月28日公布的【电子信息产品污染 防治管理办法】,是基于 SJ/T 11364-2006【电子信息产品污染控制 标识要求】、在中华人民共和国制造进口的电子信息产品适用的环境保护使用 期限。只要遵守使用说明书上记载的、此产品安全与使用方面的注意事项,从 制造日算起的此年限内,就不会发生由于使用产品引起有害物质外泄、突然变 异,而对使用者身体及财产造成严重影响的事件。【环境保护使用期限】不是 安全使用期限。产品不适合继续使用,需要废弃时,请遵守电子信息产品回收. 再利用相关的法律·规定,感谢您的配合。

注:此年数为【环境保护使用期限】,并非产品的品质保证期限。与电池等附 属品一同包装的情况下,产品与附属品的环境保护使用期限可能会有所不 同。

3244E998-00 09-08

感谢您选择 HIOKI 书,以便随时使用。 "3244-50 卡片型测试仪"。为了您能充分而持久地使用本产品,请妥善保管使用说明

概要

本仪器是可进行电压 (直流/交流)测量,电阻测量与检测导通的卡片型数字万用表。

检查与维护

本位器送到您手上时,请检查在运输途中是否发生异常或损坏后再使用。万一有损坏或不能按照参数规定 工作时,请与销售店(代理店)或距您最近的营业所联系。

维护与服务 3.7 · **加 · 勿** 无隙本仪器的脏污时,请用柔软的布施少量的水或中性洗涤剂之后,轻轻擦拭。请绝对不要使用汽油、 清精、闪酮、乙醚、甲酮、稀释剂、以及含汽油类的洗涤剂。否则可能会产生变形和变色。 认为有故障时,请与销售品(代理局)或能是最近的管理所联系。

- 请用运输时不会破损的包装,同时写明故障内容。对于运输所造成的破损我们不加以保证。 为了防止因电池泄漏液体产生腐蚀以及本仪器损坏等现象,长时间不用时,请取出电池。

关于安全

本使用说明书中记载了安全操作本仪器,保持仪器的安全状态所需要的信息和注意事项。在使用本仪器前 请认真阅读下述与安全有关的事项。

<u>A</u>危险

本仪器是按照 IEC61010 安全标准进行设计和测试,并在安全的状态下出厂的。如果测量方法有误,有 可能导致人身事故和仪器的故障。另外,按照本使用说明书记载以外的方法使用本仪器时,可能会损坏 本仪器所配备的用于确保安全的功能 请熟读使用说明书,在充分理解内容后进行操作。万一发生事故,除了本公司产品自身的原因以外概不 负责。

安全记号				
\triangle	表示使用者必须阅读使用说明书中有 ① 记号的地方并加以注意。 使用者对于仪器上标示 ① 记号的地方,请参照使用说明书上 ① 记号的相应位置说 明,操作仪器。			
	■ 表示通过双重绝缘或强化绝缘进行保护的仪器。			
=	表示直流电 (DC)。			
ζ	◆ 表示交流电 (AC)。			
Ŧ	表示接地端子。			
使用说明书的注	意事项,根据重要程度有以下标记。			
<u>A 危险</u>	表示如果产生操作或使用错误,有导致使用者死亡或重伤的极高危险性。			
<u> </u>	表示如果产生操作或使用错误,有导致使用者死亡或重伤的危险性。			
<u> </u>	表示如果产生操作或使用错误,有可能导致使用者受伤或仪器损坏。			
<u>注记</u>	表示产品性能及操作上的建议。			
与标准有关的	与标准有关的记号			
CE	表示符合欧共体部长级理事会指令(EC 指令)所示的安全限制。			
X	欧盟各国有关电子电气设备废弃的法规(WEEE 指令)的标记。			

关于测量分类 (过电压分类)

本仪器适合于 CAT III (300 V), CAT II (600 V) 基准。 为了安全地使用测量仪器,IEC61010 把测量分类按照使用场所分成 CAT I~CAT IV 四个安全等级的标准。 从插座开始经由变压器等的仪器内的次级侧电路 CAT I

CAT II 带连接插座的电源线的仪器 (可移动工具,家用电器等)的初级侧电路

盲接从配电盘得电的仪器(固定装置)的初级侧电路,以及从配电盘到插座的电路 CAT III

CAT IV 律镜物的讲户电路,从讲入口到电表及初级侧讨电流保护装置(配电板)的电路

如果使用分类数值等级小的测量仪器在大数值级别的场所进行测量时,可能会导致重大事故,因此请绝对 避免这种情况。





为了您能安全地使用本仪器,并充分运用其功能,请遵守以下注意事项。

- 使用前的确认
- 在使用前,请先确认没有因保存和运输造成的故障,并在检查和确认操作之后再使用。确认为有故障时,请与销售店(代理店)或距您最近的营业所联系。
- 请在使用前确认导线的外皮有无破损或金属露出。如果有损伤,则可能会导致触电事故,请与销售店 (代理店)或距您最近的营业所联系。

▲警告

请不要淋湿本仪器,或者用湿手进行测量。否则会导致触电事故。 请勿在产生腐蚀性气体,爆炸性气体的场所中使用。否则,可能会导致本仪器损坏或引发爆炸事故。

<u>∧ 注意</u>

- 请不要在阳光直射,潮湿,结露的环境中保存和使用。否则会引起变形和绝缘老化,从而无法满足 规格要求
- 本仪器不是防尘和防水结构。请勿在灰尘较多或淋水的环境中使用。否则会导致故障。
- 在变压器或大电流电路等强磁场区域以及无线电设备等强电场区域附近,可能无法正确测量。 为了防止本仪器损坏,在搬运及使用时请避免震动,碰撞。尤其要注意因掉落而造成的碰撞

2

796TH	
测量方式	二重积分方式
测量功能	直流电压 (V),交流电压 (~ V),电阻 (Ω),检测导通 (🕵)
最大測量计数值	3 1/2 位 [4199] (500 V 量程除外) 3 位 [549] (500 V 量程)
电池使用寿命警告显示	B 标记点亮
采样率	2.5 次 / 秒
尺寸与重量	约 55W × 109H × 9.5D mm,约 60 g
附件	使用说明书,携带盒,监视器电池(主机内置)
电源	电池 CR2032 (3 VDC) × 1
耐电压	外壳 - 输入之间 AC3.7 kVrms sin (50/60Hz, 1分钟)
最大输入电压	$\begin{array}{l} \text{500V DC/AC rms (sin)} \\ \vec{\mathfrak{M}} \ 3 \ \times \ 10^6 \ V \bullet \text{Hz} \ (\text{DCV/ACV}) \end{array}$
最大同相电压	CAT III 300 V, CAT II 600 V 预计过渡过电压 4000 V
噪音除去比 (50/60 Hz)	NMRR : 〒
最大额定功率	15mVA
连续使用时间	约 150 小时 [V]
使用场所	室内,污染度2,海拔高度2000m以下
使用温,湿度范围	0℃~40℃, 80%RH以下 (没有结露)
保存温,湿度范围	-20 ℃~60 ℃, 70%RH 以下 (没有结露)
温度特性	加上测量精度 × 0.15 / ℃ (23 ℃±5 ℃ 以外)
适用标准	安全 : EN 61010 EMC : EN 61326

精度表 在23℃±5℃80%RH以下的条件下,精度保证期为1年(没有结露, 🖪 标记不点亮)

测量精度*5

 \pm 2.0% rdg. \pm 4 dgt.

 \pm 0.7% rdg. \pm 4 dgt.

 \pm 1.3% rdg. \pm 4 dgt.

 \pm 1.3% rdg. \pm 4 dgt.

 \pm 1.3% rdg. \pm 4 dgt.

 $^{*2}50 \sim 500 \text{ Hz}$

 \pm 2.3% rdg. \pm 8 dgt.

 \pm 2.0% rdg. \pm 4 dgt.

 \pm 5.0% rdg. \pm 4 dgt.

 \pm 10.0% rdg. \pm 4 dgt.

 \pm 2.0% rdg. \pm 4 dgt.

进行最后一次操作约 30 分钟之后,自动进入省电状态。
 打开电源之后,省电功能自动起动。需要从省电状态返回时,请将功能开关设为 OFF。

-旦将功能开关设为 OFF,则在通常的电源接通时,自动省电功能为有效状态。

目动省电功能的解除力法 . 将功能开关设为OFF之后,在显示全部点亮之前设为 毫。 . 显示全部点亮期间(约1秒),将功能开关从 毫 设为Ω。显示区中会显示"APS"→"OFF",自

测量直流电压 [--- V], 交流电压 [~ V] 与电阻 [Ω] 时, 自动将量程设为最佳量程。(没有手动量程的

使用之后,请将功能开关设为 OFF。自动省电状态下,只有很少的电池消耗。

量程

420.0 mV

4.200 V

42.00 V

420.0 V

500 V

4.200 V

42.00 V

420.0 V

500 V

420.0 Ω

4.200 k Ω

42.00 k Ω

420.0 k Ω

4 200 M Q

42.00 M 🖸

420.0 Ω

*1: 输入阻抗 *2: 频率范围 *3: 开路端子电压 *4: 阈值 *5: rdg. 读取值, dgt. 分辨率

功能

DCV

ACV

 $[\sim V]$

Ω

导通检测

功能

注记

Ŵ

自动省电(省电功能)

自动省电功能的解除方法

输入超出测量范围时,显示区中会显示"OF"。

请按各地区规定处理电池

动省电功能被解除

自动量程功能

更换电池

<u>^ 警告</u>

殳定。)

上溢显示



测量方法

从被测物体上拆下测量线,然后关闭本仪器的电源 将本仪器从携带盒中取下,拆下后面板的螺丝。

取出用后的电池。 请注意极性,更换为指定电池(CR2032)。 安装后面板,并可靠地拧紧螺丝。

测量前的检查

为了防止触电事故及误测量,使用前请确认以下事项。 确认工作状态,发现异常时请立即中止检查,不要继续使用本仪器

▲警告

使用前请确认本体是否有损伤之处,及测试线的绝缘层是否破损、是否有金属露出。有破损时,可能会 导致触电事故,所以请与销售店 (代理店)或最近的营业所联系。

电压测量时,测试线短路状态的显示为0V。

电阻测量、导道检测时,测试线短路状态的显示为0Ω。
 测试已知的试料(电池、工频电源、电阻器等),显示值为规定值。

注记

过负载保护

500 V DC/

ACrms (sin)

 3×10^{6} V • Hz

500 V DC/

ACrms (sin

1分钟

备注

1100 M Q DI H

约11 M Ω

约 10 M Ω

约 10 M Ω

约 10 M Ω

*1约11MΩ

约 10 M Ω

约 10 M Ω

约10MΩ

*³3.4 V 以下

0.7 V (typ.)

0.5 V (typ.)

0.5 V (typ.)

0.5 V (typ.)

0.5 V (typ.)

*³3.4 V 以下 *⁴50 Ω ± 40 Ω

确认本仪器是否按技术规格工作,需要定期点检、校正。

<u>A</u>危险

为了防止触由事故, 请遵守下述事项,

- 测量之前,请务必确认功能开关的位置。切换功能开关时,请从被测物体上拆下测量线。
- 为电阻测量或检测导通功能时,请勿输入电压。否则,可能会导致本仪器损坏,造成人身伤害事故 为防止发生电气事故,请在切断测量电路的电源之后再进行测量。
- 最大输入电压为 DC/AC 500 Vrms 或 3 imes 10⁶ V·Hz。如果超出该最大输入电压,则可能会造成本仪器损坏,导致人身伤害事故,因此请勿在这种状态下测量。
- 为了防止发生触电事故,请勿将测量线顶端与施加有电压的线路发生短路。 为了确保安全、请条必将测量线连接在新路器的次级侧上进行测量。
- 最大同相电压为 CAT III (300 V), CAT III (600 V)。请勿进行超出对地电压的测量。否则,可能会导 致本仪器损坏,造成人身伤害事故。

直流电压测量



干由洲 - ISOD -

交流电压测量

八

电阻测量

检测导通

将功能开关设为~V。
 将测量线连接到测量物体上。测量交流时,可随意连接

--, --。
 . 读取显示部的测量值。

100.0

将功能开关设为Ω。 将测量线连接到测量物体上。 读取显示部的测量值。



将功能开关设为 😴 。" 😴 "标记点亮。 将测量线连接到测量物体上。 3. 外干导诵状态时, 蜂鸣器鸣响



请勿将电池进行短路,充电,拆开或投入火中。否则可能会导致破裂,非常危险。

取出电池时,请将电池保管在儿童够不到的地方以防止竟外吞入,

1

为了避免触电事故:请在将测量线从被测物体上拆下之后,打开外壳,更换电池。更换之后,请务 必盖上盖子,并用螺丝固定之后再使用。 请注意,+,松性,请办反向插入。否则可能会导致性能降低或液体泄漏。请务必更换为指定电池。

⚠

3244-50

CARD HITESTER

INSTRUCTION MANUAL

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Introduction

Thank you for purchasing the HIOKI Model 3244-50 CARD HITESTER. To obtain maximum performance from the instrument, please read this manual first, and keep it handy for future reference.

Overview

The 3244-50 is a card-shaped digital multimeter designed to measure DC/AC voltage and resistance, and Continuity check

Inspection and Maintenance

Initial Inspection

When you receive the instrument, inspect it carefully to ensure that no damage occurred during shipping. If damage is evident, or if it fails to operate according to the specifications, contact your dealer or Hioki representative

Preliminary Checks

- Before using the instrument the first time, verify that it operates normally to ensure that the no damage occurred during storage or shipping. If you find any damage, contact your dealer or Hioki representative.
- Before using the instrument, make sure that the insulation on the test leads and probes is undamaged and that no bare conductors are improperly exposed. Using the instru-ment in such conditions could cause an electric shock, so contact your dealer or Hioki recentative for renai

Maintenance and Service

- To clean the instrument, wipe it gently with a soft cloth moistened with water or mild detergent. Never use solvents such as benzene, alcohol, acetone, ether, ketones, thinners or gasoline, as they can deform and discolor the case.
- · If the instrument seems to be malfunctioning, contact your dealer or Hioki representa-
- · Pack the instrument so that it will not sustain damage during shipping, and include a description of existing damage. We cannot accept responsibility for damage incurred during shipping.
- To avoid corrosion from battery leakage, remove the battery from the instrument if it is to be stored for a long time

Safety

This manual contains information and warnings essential for safe operation of the instru-ment and for maintaining it in safe operating condition. Before using it, be sure to carefully read the following safety precautions

🕰 DANGER

This instrument is designed to comply with IEC 61010 Safety Standards, and has been thoroughly tested for safety prior to shipment. However, mishandling during use could result in injury or death, as well as damage to the instrument. Using the instrument in a way not described in this manual may negate the provided safety features. Be certain that you understand the instructions and precautions in the manual before use. We disclaim any responsibility for accidents or injuries not resulting directly from instrument defects.

Safety Symbols

	In the manual, the \triangle symbol indicates particularly important information that the user should read before using the instrument. The \triangle symbol printed on the instrument indicates that the user should refer to a corresponding topic in the manual (marked with the \triangle symbol) before using the relevant function.	
	Indicates a double-insulated device.	
ζ	Indicates AC (Alternating Current).	

1

	Indicates DC (Direct Current).
Ţ	Indicates a grounding terminal.
The following	symbols in this manual indicate the relative importance of cautions and warning
A DANGER	Indicates that incorrect operation presents an extreme hazard that could result in serious injury or death to the user.
<u> AWARNIN</u>	Indicates that incorrect operation presents a significant hazard that could result in serious injury or death to the user.
	Indicates that incorrect operation presents a possibility of injury to the user or damage to the device.
NOTE	Indicates advisory items related to performance or correct operation of the product.
Symbols	for Various Standards
€	This symbol indicates that the product conforms to safety regulations set out by the EC Directive.
Ŕ	WEEE marking: This symbol indicates that the electrical and electronic appliance is put on the EU market after August 13, 2005, and producers of the Member States are required to display it on the appliance under Article 11.2 of Directive 2002/96/EC (WEEE).
This instrum ensure safe	nent categories (Overvoltage categories) ent complies with CAT III (300 V) and CAT II (600 V) safety requirements. T operation of measurement instruments, IEC 61010 establishes safety star ious electrical environments, categorized as CAT I to CAT IV, and called mee

surement categories. CAT I: Secondary electrical circuits connected to an AC

- electrical outlet through a transformer or similar device. CAT II: Primary electrical circuits in equipment contribution Panel
 Internal Wiring nected to an AC electrical outlet by a power cord (porta ble tools household appliances etc.) CAT III: Primary electrical circuits of heavy equipment Þ (fixed installations) connected directly to the distribution
- anel, and feeders from the distribution panel to outlets panel, and teeders from the distribution panel to object. CAT IV: The circuit from the service drop to the service entrance, and to the power meter

and primary overcurrent protection device (distribution panel). Using a measurement instrument in an environment designated with a higher-numbered category than that for which the instrument is rated could result in a severe accident, and

must be carefully avoided.

Usage Notes

Follow these precautions to ensure safe operation and to obtain the full benefits of the var ious functions **Preliminary Checks**

- Before using the instrument the first time, verify that it operates normally to ensure that no damage occurred during storage or shipping. If you find any damage, contact your dealer or Hioki representative.
- Before using the instrument, make sure that the insulation on the test leads is undamaged and that no bare conductors are improperly exposed. Using the instrument in such condi-tions could cause an electric shock so contact your dealer or Hioki representative for repair.

AWARNING

- Do not allow the instrument to get wet, and do not take measurements with we hands. The instrument may be damaged. Do not use the instrument where it may be exposed to corrosive or combustible
 - gases. The instrument may be damaged or cause an explosion.

A CAUTION

- Do not store or use the instrument where it could be exposed to direct sunlight high temperature or humidity, or condensation. Under such conditions, the in-strument may be damaged and insulation may deteriorate so that it no longer meets specifications.
- This instrument is not designed to be entirely water- or dust-proof. Do not use it in an especially dusty environment, nor where it might be splashed with liquid. This may cause damage.
- Correct measurement may be impossible in the presence of strong magnetic fields, such as near transformers and high-current conductors, or in the pres-
- ence of strong electromagnetic fields such as near radio transmitters. To avoid damage to the instrument, protect it from physical shock when transporting and handling. Be especially careful to avoid physical shock from dropping.

Names and Functions of Parts



Specification Measurement method Double integration Fu

Function	Continuity check (\underline{a})
Display	3-1/2 digits, LCD, 4199 count max. (except 500 V range)
,	3 digits, LCD, 549 count max. (500 V range)

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Battery low display	Iights		
Sampling rate	2.5 times/second		
Dimensions and mass	Approx. 55W × 109H × 9.5D mm, Approx. 60 g (Approx. 2.17"W × 4.29"H × 0.37"D, Approx. 2.1 oz).		
Accessories	Instruction Manual, carrying case, Battery (supplied with this product for monitor)		
Power supply	Battery CR2032 (3 VDC) x 1		
Dielectric strength	3.7 kVrms sin (50/60Hz for one minute) between input and case		
Maximum input voltage	500 VDC/ 500 Vrms(sin) or 3×10 ⁶ V•Hz (DCV/ACV)		
Maximum rated voltage to earth	Measurement Category III (300 V) Measurement Category II (600 V), (Anticipated Transient Overvoltage: 4000 V)		
(50/60 Hz)	NMRR:40 dB or more [V]		
Noise rejection ratio	CMRR:100 dB or more [V], 60 dB or more [~ V]		
Maximum rated power	15 mVA		
Continuous operating time	Approx.150 hours [V]		
Operating Environment	Indoors, Pollution Degree 2, up to 2000 m (6562-ft.)		
Operating temperature and humidity	0 to 40°C (32 to 104 °F), 80%RH max (no condensation)		
Storage temperature and humidity range	-20 to 60°C (-4 to 140 °F), 70%RH max (no condensation)		
Temperature characteristics	Measurement accuracy x 0.15 /°C (except 23°C±5°C)		
Standards accuracy	Safety :EN61010 EMC :EN 61326		

Accuracy Accuracy is guaranteed for 1 year at 23°C±5°C, 80%RH or less, and no condensation. Battery low display 🖪 is off. Domorka louar load pr

	Function	Range	Accuracy "	Remarks	Over load protection
		420.0 mV	±2.0% rdg. ±4 dgt.	100 M Ω or over ^{*1}	
	-	4.200 V	±0.7% rdg. ±4 dgt.	Approx. 11 MΩ	
		42.00 V	±1.3% rdg. ±4 dgt.	Approx. 10 MΩ	500 V DC/
	[•]	420.0 V	±1.3% rdg. ±4 dgt.	Approx. 10 MΩ	
		500 V	±1.3% rdg. ±4 dgt.	Approx. 10 MΩ	ACrms (sin)
			50 to 500 Hz *2		or
		4.200 V	±2.3% rdg.±8 dgt.	Approx. 11 MΩ* ¹	3×10 ⁶ V•Hz
	$[\sim V]$	42.00 V	±2.3% rdg.±8 dgt.	Approx. 10 MΩ	
		420.0 V	±2.3% rdg.±8 dgt.	Approx. 10 MΩ	
		500 V	±2.3% rdg.±8 dgt.	Approx. 10 MΩ	
		420.0 Ω	±2.0% rdg. ±4 dgt.	3.4 V or less*3	
		4.200 kΩ	±2.0% rdg. ±4 dgt.	0.7 V (typ.)	
	42.00 kΩ	±2.0% rdg. ±4 dgt.	0.5 V (typ.)	500 1/ 00/	
	Ω	420.0 kΩ	±2.0% rdg. ±4 dgt.	0.5 V (typ.)	500 V DC/ ACrms (sin) (one minute)
		4.200 MΩ	±5.0% rdg. ±4 dgt.	0.5 V (typ.)	
		42.00 MΩ	±10.0% rdg. ±4dgt.	0.5 V (typ.)	
	Continuity	420.0 Ω	±2.0% rdg. ±4 dgt.	3.4 V or less ^{*3} 50 Ω ±40 Ω ^{*4}	

*1: Input impedance *2: Frequency range *3: Open terminal voltage

*4: Threshold level *5: rdg. Displayed value, dgt. Resolution

Auto Power Save Function

Functions

- · This function automatically switches to the power save state when 30 minutes have elapsed since the last operation.
- The auto power save function is activated automatically when the power is turned on To restore from the auto power save state, turn the function switch to the OFF position once

NOTE

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To avoid battery depletion, turn the function selector OFF after use (the Auto Power Save feature consumes a small amount of current).

To Disable Auto Power Save

- 1. Move the function switch from the OFF position to the 🚊 (continuity check) position before all display segments appear.
- 2. While all display segments appear (about one second), move the function switch from \mathfrak{F} to Ω APS \rightarrow OFF is displayed, and the Auto Power Save function is disabled. Turning the function switch momentarily OFF and then back on reactivates Auto Power

When measuring a DC voltage [--V], AC voltage [-V], or resistance [W], the measure-

ment range is automatically set to the most appropriate range. Manual range setting is not

Auto-range Function

Overflow Display

When the input exceeds the measurement range, "OF" is displayed

Measurement Method

Pre-Operation inspection

To avoid the possibility of electric shock or incorrect measurement, check the following items before using the instrument.

If the operation check reveals any abnormalities, stop the check immediately and do not use the instrument

AWARNING

Before using the instrument check that the body of the instrument is not damaged. Also make sure that the insulation on the test leads is undamaged and that no bare conductors are improperly exposed. Using the instrument in such conditions could cause an electric shock accident may occur, so contact your dealer or Hioki repre-contacting for a properties.

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· For voltage measurement, short the test leads and check that 0 V is displayed.

- + For Measuring Resistance or Continuity Check, short the test leads and check that 0 Ω is displayed.
- Measure a test item with a known value (battery, AC supply, resistor, etc.) to confirm that the known value can be displayed

NOTE

Periodic calibration and inspecton is necessary in order to ensure that this instrument operates according to its product specifications.

A DANGER

- Observe the following precautions to avoid electric shock. Always verify the appropriate setting of the function selector before connecting the test leads. Disconnect the test leads from the measurement object before switching the function selector.
- Never apply voltage to the test leads when the Resistance measurement, Conti-nuity check functions are selected. Doing so may damage the instrument and result in personal injury. To avoid electrical accidents, remove power from the
- circuit before measuring. The maximum input voltage is 500 V DC/ACrms or 3 x 10⁶•V/Hz. Attempting to measure voltage in excess of the maximum input could destroy the instrument and result in personal injury or death. To avoid electrical shock, be careful to avoid shorting live lines with the test
- leads For safety, test lead connections must always be made at the secondary side o
- a circuit breaker. The maximum rated voltage between input terminals and ground is CAT III (300
- V), CAT II (600 V). Attempting to measure voltages exceeding 450 V with respect to ground could damage the instrument and result in personal injury.

Measuring DC Voltage [---- V]

. Set the function switch to --- V.

. Connect the test leads to the object to be measured. 3. Read the display.

NOTE

Connecting the leads of negative and positive side oppositely, "-" is displayed.

Measuring AC Voltage [\sim V]

1. Set the function switch to \sim V. 2. Connect the test leads to the object to be measured. When measuring AC voltage, the connect the test leads to the of polarity of leads can be ignored.
 Read the display.

To avoid electric shock when replacing the batteries, first disconnect the test leads from the object to be measured. After replacing the batteries, replace the cover and screws before using the instrument.

Be sure to insert them with the correct polarity. Otherwise, poor performance or

damage from battery leakage could result. Replace batteries only with the spec-

Battery may explode if mistreated. Do not short-circuit, recharge, disassemble

Handle and dispose of batteries in accordance with local regulations

Keep batteries away from children to prevent accidental swallowing

Remove the instrument from the case, and remove the screws on the rear panel

Being careful about the polarity, insert the new battery (CR2032) of the specified type.

- special handling may apply.

DECLARATION OF CONFORMITY

386-1192, Japar

ClassB equipment Portable test, measuring and monitoring equipment used in low-voltage distribution systems

HIOKI E.E. CORPORATION

Director of Quality Assurance

3244E999-00

Atsashi Mizam

Manufacturer's Name: HIOKI E.E. CORPORATION

Manufacturer's Address: 81 Koizumi, Ueda, Nagano

The above mentioned product conforms to the following product specifications:

The product herewith complies with the requirements of the Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC.

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Product Name: CARD HITESTER

EN61010-031:2002

Model Number: 3244-50

Safety: EN61010-1: 2001

EMC: EN61326-2-2:2006

Supplementary Information

19 June 2009

ΗΙΟΚΙ

Remove the test leads from the test item, and power the instrument off.

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Measuring Resistance [Ω]

1 Set the function switch to Q

Replacing Battery

∕<u>^</u>WARNING

ified type.

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or dispose of in fire.

. Remove the used battery.

CALIFORNIA. USA ONLY

Replace the rear panel and fasten the screws.

See www.dtsc.ca.gov/hazardouswaste/perchlorate

Continuity Check [🔶]

2. Connect the test leads to the object to be measured 3 Read the display

Connect the test leads to the object to be measure
 Conductivity is good when the buzzer sounds.

1. Set the function switch to 3. The 3. Indication appears.