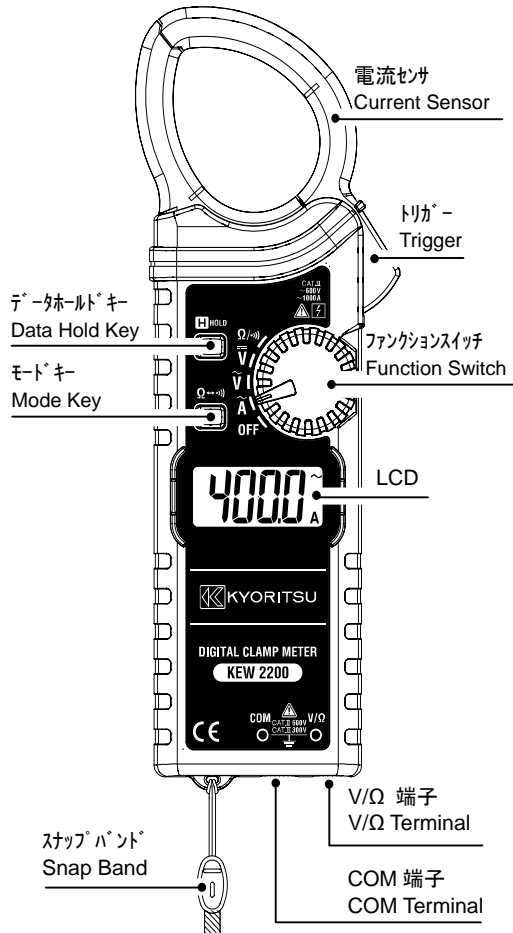


# 取扱説明書

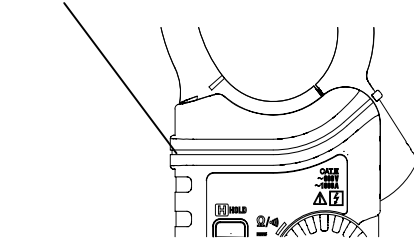
## INSTRUCTION MANUAL

### デジタルクランプメーター DIGITAL CLAMP METER

# KEW2200



本体のバリア / Barrier of Instrument body



測定コードのバリア / Barrier of Test Leads

キャップ / Cap



**警告**  
本製品を使用する前に、必ずこの取扱説明書をよく読んで理解してください。

**WARNING**  
Read through and understand the instructions contained in this manual before using the instrument.

この説明書に記載されている事項を断り無く変更する事がありますのでご了承ください。

本製品には保証書が添付されておりますので、保証期間中の故障については保証規定をお読みになりご利用ください。

### 保証規定

保証期間中に生じた故障は、以下の場合を除き無償で修理いたします。

1. 取扱説明書によらない不適切な取扱い、使用方法、保管方法が原因で生じた故障。
2. お買い上げ後の持ち運びや輸送の間に、落下させるなど異常な衝撃が加わって生じた故障。
3. 弊社のサービス担当者以外の改造、修理、オーバーホールが原因で生じた故障。
4. 火災、地震、水害、公害およびその他の天変地異が原因で生じた故障。
5. 傷など外観上の変化。
6. その他弊社の責任とみなされない故障。
7. 電池など消耗品の交換、補充。
8. 保証書のご提出がない場合。

### ◎ご注意

弊社で故障状態の確認をさせていただき、上記に該当する場合は有償とさせていただきます。電池の消耗、測定コードの断線ではないことを確認してから、輸送途中に損傷が生じないように十分に梱包を施し、弊社サービスセンターまたは販売店宛にお送りください。

〒797-0045 愛媛県西予市宇和町坂戸 480

共立電気計器株式会社

サービスセンター 修理グループ

TEL. 0894-62-1172

FAX. 0894-62-5531

## 保証書

This warranty is valid only in Japan.

KEW 2200	製造番号
保証期間	ご購入日 年 月 日より 1年間

共立製品をお買い上げいただきありがとうございます。保証期間内に通常のお取扱いで万一故障が生じた場合は、裏面の保証規定により無償で修理いたします。本書を添付の上ご依頼ください。

お名前 \_\_\_\_\_  
ご住所 〒 \_\_\_\_\_

お電話番号( )-( )-( )

- ◎保証規定をよくお読みください。
- ◎本保証書は日本国内でのみ有効です。
- ◎本保証書の再発行はいたしかねますので、大切に保管してください。

販売店名 \_\_\_\_\_

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サービスセンター	〒797-0045 愛媛県西予市宇和町坂戸 480
お客様相談グループ	☎0120(62)1172 (固定電話専用) FAX. 0894(62)5531 ☎0570(00)1172 (その他電話、有料)
修理グループ	☎0894(62)1172 FAX. 0894(62)5531

www.kew-ltd.co.jp

## JAPANESE / ENGLISH

### 1. 仕様 / Specification

精度保証 / Accuracy guaranteed  
レンジの100%以下 / 100% or less of range  
温度 / Temperature 23 ± 5°C  
湿度 / Humidity 45 - 75%

#### ACA (オートレンジ / Auto Range)

レンジ / Range	精度 / Accuracy
40A	0.00, 0.03-41.99A ±1.4 %rdg ±6dgt (50/60Hz)
400A	32.0-419.9A ±1.6 %rdg ±6dgt (45-65Hz)
1000A	320-1049A

入力保護電流 / Input protective current : AC1200A

#### ACV (オートレンジ / Auto Range)

レンジ / Range	精度 / Accuracy
4V	0.000, 0.005-4.199V ±1.8 %rdg ±7dgt (45-65Hz)
40V	3.20-41.99V ±2.3 %rdg ±8dgt (65-500Hz)
400V	32.0-419.9V
600V	320-629V

#### DCV (オートレンジ / Auto Range)

レンジ / Range	精度 / Accuracy
400mV	±0.0-±419.9mV *1
4V	±0.320-±4.199V ±1.0%rdg ±3dgt
40V	±3.20-±41.99V
400V	±32.0-±419.9V
600V	±320-±629V

\*1: 精度保証外 / Accuracy is not guaranteed

ACV/DCV 入力インピーダンス / input impedance  
: >100MΩ (400mV Range)  
: 11MΩ (4V Range)  
: 10MΩ (40/400/600V Range)

#### 抵抗 / Resistance (オートレンジ / Auto Range)

レンジ / Range	精度 / Accuracy
400Ω	0.0-419.9Ω ±2.0%rdg ±4dgt
4kΩ	0.320-4.199 kΩ
40kΩ	3.20-41.99 kΩ
400kΩ	32.0-419.9 kΩ
4MΩ	0.320-4.199 MΩ ±4.0%rdg ±4dgt
40MΩ	3.20-41.99 MΩ ±8.0%rdg ±4dgt
導通 Cont.	0.0-419.9Ω ブザーしきい値 / Bz threshold value 50 ± 30Ω

開放電圧 / Open-loop voltage  
: <3.4V (400Ω / Cont Range)

共立電気計器株式会社

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

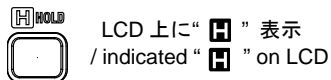
: 0.7V typ (4kΩ Range)  
 : 0.47V typ (40k - 40MΩ Range)  
 入力保護電圧 / Input protective voltage  
 : AC/DC600V 10 秒間 / 10 sec

- 動作方式 / Measuring method  
2重積分方式 / Dual integration
- 入力オーバー表示 / Over-range indication  
OL
- 測定周期 / Measurement cycle  
毎秒 2.5 回 / 2.5 times per second
- 適応規格 / Applicable Standards  
IEC/EN 61010-1/ 61010-2-032/ 61010-031  
汚染度 2 / Pollution degree 2  
屋内使用 / Indoor use  
高度 2000m 以下 / Altitude up to 2000m  
電流測定部 / Current measurement section  
CAT.III 600V  
電圧測定部 / Voltage measurement section  
CAT.II 600V / CAT.III 300V  
EN61326 (EMC)  
RF 電磁界 3V/m において精度の 5 倍以内  
In the radio-frequency electromagnetic field of  
3V/m, accuracy is within five times the rated  
accuracy.
- 耐電圧 / Withstand voltage  
AC5320Vrms 5 秒間 電流センサと外装間  
AC3540Vrms 5 秒間 電気回路と外装間  
AC5320Vrms 5sec between Current sensor  
and enclosure  
AC3540Vrms 5sec between circuit and enclosure
- 絶縁抵抗 / Insulation resistance  
>100MΩ / 1000V 電気回路と外装間  
between enclosure and electrical circuit
- 動作温湿度範囲  
0~40°C 相対湿度 85%以下 (結露しないこと)  
Operating Temperature and humidity range  
0 to 40°C 85%RH or less (no condensation)
- 保存温湿度範囲  
-20~60°C 相対湿度 85%以下 (結露しないこと)  
Storage Temperature and humidity range  
-20 to 60°C 85%RH or less (no condensation)
- 電源 / Power source  
DC3V: 単 4 形乾電池 × 2 / R03/LR03 (AAA) × 2
- 消費電流 / Current consumption  
< 3mA
- 連続使用時間 / Battery life  
約 350 時間 (ACA、連続、無負荷)  
/ Approx. 350 hours (ACA, continuous, no load)
- 外形寸法、質量 / Dimension, Weight  
190(L) × 68(W) × 20(D)mm  
approx. 120g (電池含 / including batteries)
- 付属品 / Accessories  
測定コード / Test leads Model 7107A 1set  
電池 / Battery R03(AAA) 2pcs  
取扱説明書 / Instruction manual 1pce

携帯ケース / Carrying case Model 9160 1pce  
 スナップバンド / Snap band 1pce

## 2. その他の機能 / Other Function

- データホールド / Data Hold  
ホールドキーを押すと測定値が保持されます。  
解除は再度ホールドキーを押します。  
Press the Data Hold Key to freeze the reading.  
Press the Data Hold Key again to release the  
freezing display.

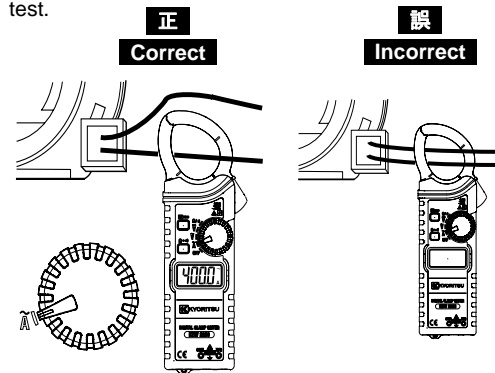


- 電池電圧低下表示 / Low battery indication  
2.3±0.15V 以下で LCD 上に“B”表示  
indicated “B” on LCD at 2.3±0.15V or less
- スリープ機能 / Sleep Function  
スイッチ/キー操作後約 10 分でスリープ状態。  
データホールドキーを押しながら電源 ON でスリ  
ープ機能解除 (LCD に“PFFF”が 2 秒間表示)。  
Automatically powered off in about 10min after.  
To disable the sleep function, power the  
instrument on with the Data Hold Key pressed.  
(indicated “PFFF” for about 2 seconds on LCD)

## 3. ACA 測定 / Measurement

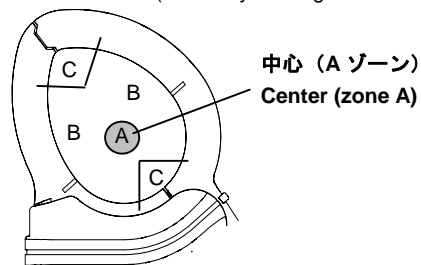
**△ 危険 / DANGER**  
 測定を行うときは、必ず測定コードを本体から外し  
 てください。  
**Never measure current while the test leads are  
 inserted into the V/Ω and/or COM Terminals.**

トリガーを押して電流センサ先端を開き被測定導  
 体 (最大φ33mm) が電流センサの中心になるように  
 クランプしてください。  
 Press the trigger to open the Current Sensor and  
 clamp the one conductor (Dia. 33mm max.) under  
 test.



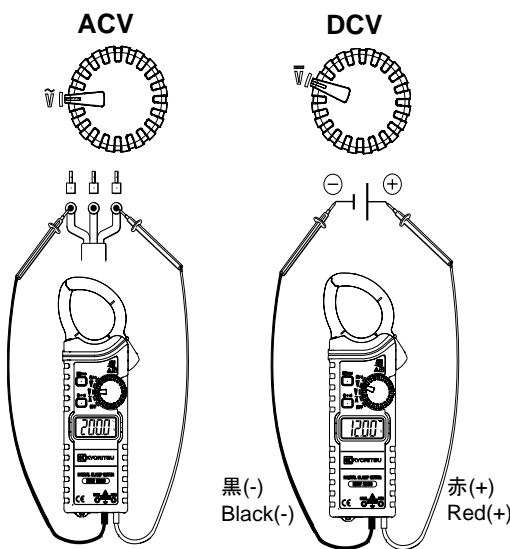
## 注記 / NOTE

精度保証は電流センサの中心 (A ゾーン) で測定し  
 たときが対象です。B ゾーンでは精度に 4% を追加  
 します。C ゾーンの測定値は参考値 (精度保証外)  
 です。  
 Measurement accuracy is guaranteed when the  
 measured object is placed at the center (zone A)  
 of the Current Sensor. In zone B, 4% of tolerance  
 should be added to the specified accuracy. In zone  
 C, measured values should be considered as  
 reference values (Accuracy is not guaranteed).



## 4. ACV/DCV 測定 / Measurement

**△ 危険 / DANGER**  
 600V 以上の電位回路では、絶対に測定しないでく  
 ださい。  
**Never make measurement on a circuit in which  
 voltage over 600V exists.**

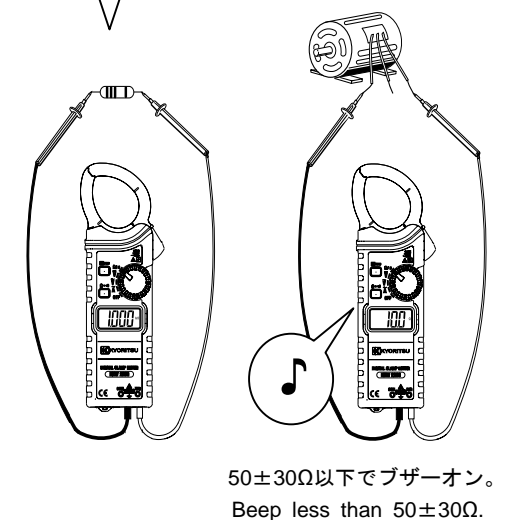
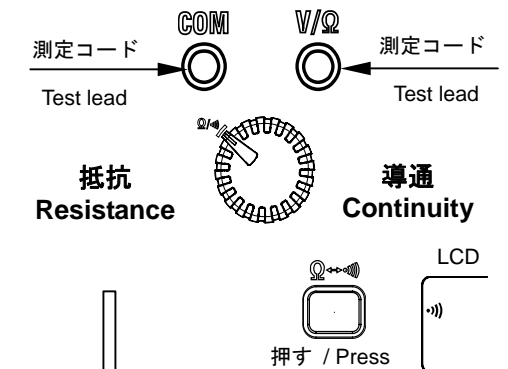


## 注記 / NOTE

DCV 測定において、測定コードを逆接続すると、  
 LCD 上に“—”が表示されます。  
 If the connection is reversed, the LCD indicates the  
 “—” mark (DCV measurement).

## 5. 抵抗 (導通) 測定 Resistance(Continuity) Measurement

**△ 警告 / WARNING**  
 測定の前には、本体に電圧が印加されないよう被測  
 定物 (回路) の電源を切ってください。  
**Never use the instrument on an energized  
 circuit.**



## 注記 / NOTE

測定コードがオープン状態では“OL”を表示します。  
 LCD indicates “OL” when the test leads are open.

## ENGLISH

### 6. Safety Warnings

This instrument has been designed, manufactured and tested according to IEC 61010: Safety requirements for Electronic Measuring apparatus, and delivered in the best condition after passed the inspection. This instruction manual contains warnings and safety rules which must be observed by the user to ensure safe operation of the instrument and retain it in safe condition. Therefore, read through these operating instructions before using the instrument.

#### **⚠ WARNING**

- Read through and understand the instructions contained in this manual before using the instrument.
- Keep the manual at hand to enable quick reference whenever necessary.
- The instrument is to be used only in its intended applications.
- Understand and follow all the safety instructions contained in the manual.
- It is essential that the above instructions are adhered to.
- Failure to follow the above instructions may impair the protection provided by the instrument and test leads, and may cause injury, instrument damage and/or damage to equipment under test.

The symbol **⚠** indicated on the instrument means that the user must refer to the related parts in the manual for safe operation of the instrument. It is essential to read the instructions wherever the symbol **⚠** appears in the manual.

**⚠ DANGER** is reserved for conditions and actions that are likely to cause serious or fatal injury.

**⚠ WARNING** is reserved for conditions and actions that can cause serious or fatal injury.

**⚠ CAUTION** is reserved for conditions and actions that can cause injury or instrument damage.

- Marks listed below are used on this instrument.
- ⚠** User must refer to the manual.
- Instrument with double or reinforced insulation
- ⚡** Indicates that this instrument can clamp on bare conductors when measuring a voltage corresponding to the applicable measurement category, which is marked next to this symbol.

~ AC

**—** DC

**⏚** Ground (Earth)

**⚡** This instrument is subject to WEEE Directive (2002/96/EC). Please contact our dealer near you at disposal.

### Measurement Category

#### **CAT.II**

Primary electrical circuits of equipment connected to an AC electrical outlet by a power cord.

#### **CAT.III**

Primary electrical circuits of the equipment connected directly to the distribution panel, and feeders from the distribution panel to outlets.

#### **CAT.IV**

The circuit from the service drop to the service entrance, and to the power meter and primary over current protection device(distribution panel).

**Current measurement section of this instrument is designed for CAT.III 600V and Voltage measurement section is for CAT.III 300V / CAT.II 600V respectively. Test leads 7107A with the Cap is designed for CAT.IV 600V / CAT.III 1000V and without the Cap is for CAT.II 1000V.**

#### **⚠ DANGER**

- Never make measurement on a circuit in which voltage over AC/DC600V exists.
- Do not attempt to make measurement in the presence of flammable gasses. Otherwise, the use of the instrument may cause sparking, which can lead to an explosion.
- Never attempt to use the instrument if its surface or your hand is wet.
- Do not exceed the maximum allowable input of any measuring range.
- Never open the Battery cover during a measurement.
- To avoid electrical shock by touching the equipment under test or its surroundings, be sure to wear insulated protective gear.
- Never measure current while the test leads are inserted into the input terminals.
- Barriers on the instrument body and the test leads provide protection to keep your fingers and hands from touching an object under test. Keep your fingers and hands behind the barriers during measurement.

#### **⚠ WARNING**

- Never attempt to make measurement if any abnormal conditions, such as broken case and exposed metal parts are found on the instrument

or test leads.

- Verify proper operation on a known source before use or taking action as a result of the indication of the instrument.
- **Firmly attach the Caps to the test leads when performing measurements at CAT.III or higher test environment. When KEW2200 and the test leads are combined and used together, whichever is lower category & voltage to earth either of them belong to is applied.**
- Do not rotate the Function Switch while the test leads are being connected.
- Do not install substitute parts or make any modification to the instrument. For repair or re-calibration, return the instrument to your local distributor from where it was purchased.

#### **⚠ CAUTION**

- Use of this instrument is limited to domestic, commercial and light industry applications. If equipments generating strong electromagnetic Interference or strong magnetic fields due to large currents exist nearby, malfunctions of the instrument may be caused.
- Set the Function Switch to an appropriate position before starting measurement.
- Firmly insert the test leads.
- The LCD shows some readings at the ACV and the DCV ranges even while the test leads are open. And, it may show some digits instead of 0 when short-circuiting the test leads. However, these phenomena don't affect measurement results.
- This instrument isn't dust & water proofed. Keep away from dust and water.
- Be sure to power off the instrument after use. When the instrument will not be in use for a long period, place it in storage after removing the batteries.
- Do not expose the instrument to the direct sun, high temperature and humidity or dewfall.
- Use a cloth dipped in water or neutral detergent for cleaning the instrument. Do not use abrasives or solvents.

### 7. Battery Replacement

#### **⚠ WARNING**

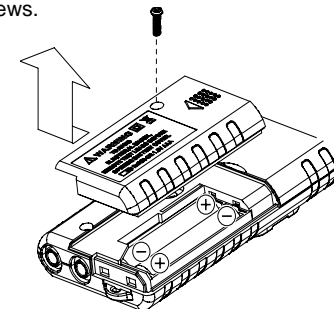
- Replace the batteries when a Low Battery Voltage warning "**⚡**" mark(< 2.3±0.15V) is indicated on the LCD. Otherwise, precise measurement cannot be made. Note that when the battery is completely exhausted, the LCD goes blank without showing "**⚡**" mark.

- Do not try to replace the batteries if the surface of the instrument is wet.
- Disconnect the test leads from the object under test and power off the instrument before opening the Battery Compartment Cover for Battery replacement.

#### **⚠ CAUTION**

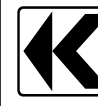
- Do not mix old and new batteries.
- Install batteries in correct polarity as indicated in the Battery Compartment.

- (1) Set the Function Switch to "OFF" position.
- (2) Unscrew and remove the Battery Compartment Cover on the bottom of the instrument.
- (3) Replace the batteries observing correct polarity. Use new two R03/LR03 (AAA) 1.5V batteries.
- (4) Install the Battery Compartment and tighten the screws.



#### **DISTRIBUTOR**

Kyoritsu reserves the rights to change specifications or designs described in this manual without notice and without obligations.



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