



Quality and reliability is our tradition

KYORITSU

DIGITAL MULTIMETERS KEW 1051/1052/1061/1062

The Best of Reliable Multimeters with Terminal Safety Shutters

Versatile Multimeters
For Electrical and Electronic
Troubleshooting

KEW 1051/1052

Top Class Multimeters
For Laboratory and
Industrial Use

KEW 1061/1062



High Accuracy, Performance and safe design



KEW 1051



KEW 1052



KEW 1061



KEW 1062



KYORITSU ELECTRICAL INSTRUMENTS WORKS,LTD.

<http://www.kew-ltd.co.jp>

High Accuracy, High Performance and Reliable Measurements

■ Top Accuracy

- 0.02% basic DC accuracy for KEW 1061/1062.
- 0.09% basic DC accuracy for KEW 1051/1052.

■ Dual Display

- KEW 1061/1062 : 50,000 counts, Bar graph with 51 segments. White back light display.
- KEW 1051/1052 : 6,000 counts, Bar graph with 31 segments. Orange back light display.

■ Wide AC Frequency Bandwidth ※only for 1061, 1062

- KEW 1062 : ACV frequency bandwidth from 10Hz to 100kHz.
- KEW 1061 : ACV frequency bandwidth from 10Hz to 20kHz.

Advanced Functions

■ User calibration function

- Calibration and adjustment are possible by simple operation of DMM keys.
- New technology enables the adjustment for the frequency bandwidth characteristic. ※only for 1061, 1062
※A calibrator is necessary for calibration.

■ Low-pass Filter ※except for 1061

- AC measurement can be limited to low frequency, helping for instance voltage measurements in the presence of variable speed motor drivers or inverters.
- The Low-pass filter can be switched ON/OFF.

■ LowPower-Ω measurement ※only for 1062

- This function uses a test voltage which is lower than 0.7V (that is the typical junction voltage drop of semiconductors) thus it allows testing of resistors on a circuit board without unsoldering them.

■ Selection of the reading mode ※only for 1052, 1062

- Selectable TRMS or MEAN measurement. The presence of distortion in an AC signal can be confirmed, if the measured TRMS and MEAN values are different.

■ Sensor mode ※only for 1051, 1052

- The DMM measures the output voltage of an external sensor (e.g. clamp sensor, light sensor, temperature sensor, etc.) in the secondary display, while the primary display can be set to show the unit of the measured parameter (e.g. A, mA, Lux, °C) according to the conversion ratio chosen.

■ Peak Hold function ※only for 1062

- Response time : 250μs
- The instantaneous peak values can be easily captured where normally it is impossible by MIN/MAX/AVG function.

■ Auto Hold function

- The measured value is held on the display just by removing the test leads from the circuit under test. Users can remain safely concentrated on the measuring point without the need to press the Hold key.

■ Relative and Percentage calculation

- Can calculate and display Relative values or Percentage (%) against the reference measurement values.

■ TRMS Measurement

- Ensures accurate readings, avoiding errors (of up to 50%) which can occur when non-sinusoidal waveforms, created by common non linear loads such as PCs, Inverters, switch-mode power supplies, etc, are measured.

■ DC+AC TRMS Measurement ※only for 1061, 1062

- Accurate AC TRMS measurements also in the presence of superimposed DC component.
- AC and DC values are displayed simultaneously via dual display.



■ Minimum / Maximum / Average function ※except for 1051

- Can record the MIN/MAX/AVG values during the measurement process displaying the data and the elapsed time.

※The average value is shown by dividing the integrated record data by the number of recording time.

■ Duty cycle ratio measurement ※only for 1061, 1062

- The duty cycle ratio is displayed in percentage (%).

■ Decibel dBV, dBm calculation ※only for 1061, 1062

- Can perform logarithmic calculations on AC voltage.

※Reference resistance value:

4/8/16/32/50/75/93/110/125/135/150/200/250/300/500/600/800/900/1000/1200Ω

Safe and Durable Design. Wide Operating Temperature.

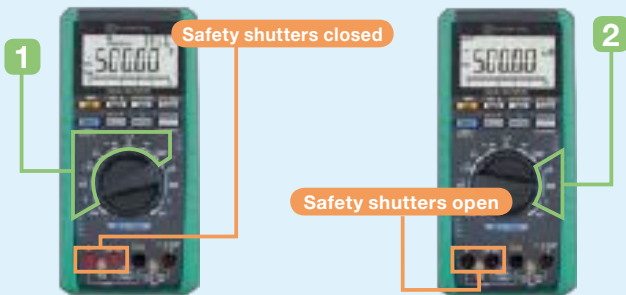
■ Complies with IEC 61010-1, CAT.IV 600V, CAT.III 1000V

■ Safety shutters to prevent incorrect test leads' insertion in current terminals

- Terminal shutters are opening or closing being linked with the rotation of the function switch.

Operation of the Safety Shutters

Safety shutters are open or closed when the appropriate function is selected because they are linked with the rotation of the function switch.



If the DMM has the function switch in position 1 (V, Ω, TEMP, etc) the safety shutters close the input terminals for the current measurements (μA, mA, A) and then the test leads cannot be plugged-in.

If the DMM has the function switch in position 2 (current measurements) then the safety shutters automatically open making it possible to plug-in the test leads in the input terminals for the current measurements (μA, mA, A).

■ Very wide operating temperature range

- From -20°C to +55°C for KEW 1061/1062
- From -10°C to +55°C for KEW 1051/1052

■ High specs UL standard fuses for extra safety

- Fuses rated at 1000V with 30kA of breaking capacity.

■ Over molding case

- Made by "Elastomer", a superior shock sustainable material. Perfectly fits to hand.

Reliable support for data management

*except for 1051

■ Large internal memory to store test data

- KEW1062: 10,000 data in Logging mode, 100 data manually saved.
- KEW1061: 1,000 data in Logging mode, 100 data manually saved.
- KEW1052: 1,600 data in Logging mode, 100 data manually saved.
- Logging interval can set from 1 sec. to 30 min.

■ Test data can be transferred to a PC or directly to a Printer*

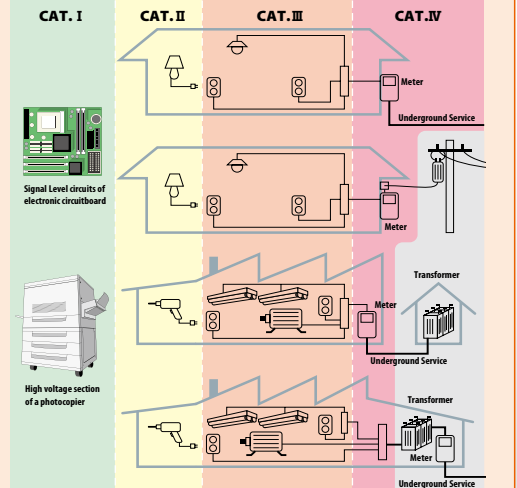
- Real-time data can be transferred and shown on a PC.
- Real-time transferring permits the saving of a considerable amount of data on a PC.
- Stored data of internal memory can be monitored by PC.

■ Data management with the software DMM Application*

- List of measured data can be converted into Graph.
- Data can be transferred to Excel** and saved as CSV file.

*Optional accessories are required, refer to last page.

**Excel is a registered trademark of Microsoft in the USA.



To protect us against overvoltage spikes, we must use instruments that meet the requirements for high protection standards.

The IEC (International Electrotechnical Commission) has prepared an International and European safety standard named IEC 61010-1 with the aim of defining the safety requirements for measuring instruments.

In particular IEC 61010-1 standard defines also the safety Measurement areas called Categories, shortly indicated with the abbreviation "CAT".

These Categories start from CAT. I to CAT. IV and the most dangerous one is the CAT. IV. The figure above shows some area examples of Measurement Categories.

| Measurement category | Description | Examples |
|----------------------|--|--|
| CAT. I | For measurements performed on circuits not directly connected to MAINS. | Signal level circuits of electronic PCBs, etc. |
| CAT. II | For measurements performed on circuits directly connected to the low voltage installation. | Appliances, portable equipment, ect. |
| CAT. III | For measurements performed in the building installation. | Distribution board, circuit breaker, ect. |
| CAT. IV | For measurements performed all the source of the low-voltage installation. | Overhead wire, cable systems, ect. |

Printer output

```
L0000 N+12.539 VDC
L0001 N+12.532 VDC
L0002 N+12.532 VDC
L0003 N+12.529 VDC
L0004 N+12.532 VDC
L0005 N+12.538 VDC
L0006 N+12.541 VDC
L0007 N+12.546 VDC
L0008 N+12.552 VDC
L0009 N+12.557 VDC
L0010 N+12.555 VDC
L0011 N+12.554 VDC
L0012 N+12.553 VDC
L0013 N+12.553 VDC
```

Printed items (from the left)

- L: Logging memory
- 4 digit numbers: Data number
- N: Normal measurement
- (O: at "OL" display)
- (B: at "Battery warning" display)
- 5 digit numbers: Measurement
- VDC: Unit (VDC is DC Voltage)

Data analysis with Excel



DMM Application software




Versatile Digital Multimeters KEW 1051/1052

General Specifications

Measurement function: DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Frequency, Temperature, Capacitor, Continuity Check, Diode Test
 Effective value (root mean square value) detection (RMS) and mean value detection (MEAN) can be switched during AC voltage measurement (KEW1052 only).
 The low-pass filter can be switched on/off during AC voltage or AC current measurement.

Other functions: Data Hold (D+H), Auto Hold (A+H), Range Hold (R+H), Maximum value* (MAX), Minimum value* (MIN), Average value* (AVG), Zero Adjustment (Capacitor, Resistance), Relative values, Save to Memory*, Auto Power Off (Approx. 20 minutes), LCD backlight. *: For model KEW1052 only

Display: 4-digit (LCD).....7-segment
 Main-display.....6000 counts
 Sub-display.....6000 counts
 Bar graph indicator.....31-segment
 Polarity Indicator.....“-“ Appears automatically when the polarity is negative.
 Overrange Indicator.....“ OL “
 Low-battery Indicator.....“  “ Appears when the batteries become low.

Measurement cycle: 5 times per second (except frequency measurement : one time per second, Resistance measurement (6MΩ/60MΩ) : 2.5 times per second, capacitor measurement (1000μF) : max.0.14 time per second)
 Bar graph display approx 25 times per second (at AC, Ω)

Operating temperature and humidity ranges:
 -10 to 55°C, 80%RH or less (no condensation) 70%RH or less at 40 to 55°C.

Storage temperature and humidity ranges: -30 to 70°C, 70%RH or less (no condensation)

Temperature coefficient: (Accuracy at 23±5°C× 0.1)/°C should be added.
 (Temperature ranges: -10 to 18°C and 28 to 55°C)

Power supply: AA-size (R6/LR6) 1.5V batteries: 4
Battery life: Approximately 300 hours (Operating hours of alkaline batteries when in DC voltage mode.)
 Note: The battery life varies depending on the operating conditions.

Withstand voltage: 6.88kVrms AC for five seconds (across input terminals and casing)

Dimensions: Approx. 192(L)×90(W)×49(D)mm
Weight: Approx. 560g (including batteries)

Applicable standards: IEC61010-1 CAT.IV 600V, CAT.III 1000V Pollution degree 2, IEC61010-031, IEC61326-1
Accessories included: Batteries : 4, Test leads : 1set (7220), Fuse (included): 440mA/1000V (8926), 10A/1000V (8927), Instruction manual: 1, Calibration Certificate

Specifications

Test conditions: Temperature and humidity: 23±5°C at 80%RH or less Accuracy: ± (% of reading + digits) Note: Each response time is a value to rated accuracy within selected range.

DC Voltage Measurement (≐V)

| Range | Accuracy | Input Impedance | Overload Protection |
|---------|----------|-----------------|--------------------------|
| 600.0mV | 0.09+2 | 10MΩ | 1000V DC 1000V rms AC |
| 6.000V | | 11MΩ | |
| 60.00V | | 10MΩ | |
| 600.0V | | | |
| 1000V | 0.15+2 | | |

NMR: 60dB or more 50/60Hz ± 0.1% CMRR: 120dB or more 50/60Hz (Rs=1kΩ)
 Response time: 1 sec max.

AC Voltage Measurement (≐V)

AC Coupling: RMS value detection, sine wave MEAN value detection and RMS value calibration (KEW1052 only)

| Range | Accuracy | | | Input Impedance | Overload Protection |
|---------|----------|----------|------------|-----------------|--------------------------|
| | 50/60Hz | 40~500Hz | 500Hz~1kHz | | |
| 600.0mV | 0.5+5 | 1+5 | 1.5+5 | 10MΩ<200pF | 1000V rms AC 1000V DC |
| 6.000V | | | | 11MΩ<50pF | |
| 60.00V | | | | 10MΩ<50pF | |
| 600.0V | | | | | |
| 1000V | | | | | |

Accuracy: At 5 to 100% of range and 1000V range is 200 to 1000V. less than 1500V peak For non-sinusoidal waveforms, add ±(2% + 2% of full scale), for Crest factor<3.
 CMRR: 60dB or more DC to 60Hz (Rs=1kΩ) 4 counts or less is corrected to 0, Response time: 2 sec max.

Resistance Measurement (Ω)

| Range | Accuracy | Maximum Measuring Current | Open Circuit Voltage | Overload Protection |
|---------|-----------------------------|---------------------------|----------------------|---------------------|
| 600.0Ω | 0.4+1 | <1.2mA | <3.5V | 1000V rms |
| 6.000kΩ | | <110μA | | |
| 60.00kΩ | | <13μA | | |
| 600.0kΩ | | <1.3μA | | |
| 6.000MΩ | 0.5+1 | <130nA | <1.3V | 1000V rms |
| 60.00MΩ | 1+2(0~40MΩ) 2+2(40~60MΩ) | | | |

Accuracy is specified after zero adjustment at 600Ω to 6kΩ (Resistance)
 Response time: 2 sec max. at 600Ω to 600kΩ, 10 sec max. at 6M to 60MΩ

Continuity Check (🔊)

| Range | Range of Operation | Measuring Current | Open Circuit Voltage | Overload Protection |
|--------|------------------------------------|-------------------|----------------------|---------------------|
| 600.0Ω | Buzzer sounds at lower than 50±30Ω | Approx.<1.2mA | <3.5V | 1000V rms |

DC Current Measurement (≐A)

| Range | Accuracy | Voltage Drop | Overload Protection |
|---------|----------|--------------|---|
| 600.0μA | 0.2+2 | <0.12mV/μA | 440mA Protected by a 440mA/1000V fuse. |
| 6000μA | | | |
| 60.00mA | | | |
| 440.0mA | | | |
| 6.000A | 0.5+5 | <0.1V/A | 10A Protected by A 10A/1000V fuse. |
| 10.00A | | | |

Response time: 1 sec max.

AC Current Measurement [RMS] (≐A)

RMS value detection, sine wave

| Range | Accuracy | | Voltage Drop | Overload Protection |
|---------|----------|-----------|--------------|---|
| | 50/60Hz | 40Hz~1kHz | | |
| 600.0μA | 0.75+5 | 1.5+5 | <0.12mV/μA | 440mA Protected by a 440mA/1000V fuse. |
| 6000μA | | | | |
| 60.00mA | | | | |
| 440.0mA | | | | |
| 6.000A | 0.5+5 | 1.5+5 | <0.1V/A | 10A Protected by A 10A/1000V fuse. |
| 10.00A | | | | |

Accuracy: At 5 to 100% of range, 10A range is 2 to 10A and 440mA range is 30 to 440mA.
 For non-sinusoidal waveforms, add ±(2% + 2% of full scale), for Crest factor<3.
 4 counts or less is corrected to 0, Response time: 3 sec max.

Diode Test (⚡)

| Range | Accuracy | Measuring Current (V=0.8V) | Open Circuit Voltage | Overload Protection |
|--------|----------|----------------------------|----------------------|---------------------|
| 2.000V | 1+2 | Approx. 0.5mA | <3.5V | 1000V rms |

Temperature Measurement (TEMP)

| Range | Accuracy | Overload Protection |
|---------------|----------|---------------------|
| -50.0~600.0°C | 2+2°C | 1000V rms |

Use optional Temperature Probe: Thermocouple Type K

Capacitor Measurement (⚡)

| Range | Accuracy | Overload Protection |
|---------|----------|---------------------|
| 10.00nF | 2+10 | 1000V rms |
| 100.0nF | | |
| 1.000μF | | |
| 10.00μF | | |
| 100.0μF | 3+5 | 1000V rms |
| 1000μF | | |

Accuracy is specified after zero adjustment at 10nF to 1μF (Capacitance)

Frequency Measurement (Hz) AC Coupling, Maximum Reading 9999

| Range | Accuracy | Input Voltage |
|----------------|----------|---------------|
| 10.00~99.99Hz | 0.02+1 | 0.2~600Vrms |
| 90.0~999.9Hz | | 0.4~600Vrms |
| 0.900~9.999kHz | | |
| 9.00~99.99kHz | | |

Selection Guide

| Model | 1051 | 1052 | 1061 | 1062 |
|-----------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Display | | | | |
| Detection method | RMS | RMS/MEAN | RMS | RMS/MEAN |
| Maximum count display | 6000 | 6000 | 50000 | 50000 |
| Dual display | ● | ● | ● | ● |
| Bar graph | 31-segment | 31-segment | 51-segment | 51-segment |
| Back light | Orange LED | Orange LED | White LED | White LED |
| Function | | | | |
| Auto hold | ● | ● | ● | ● |
| Peak hold | — | — | — | — |
| Max/Min/Ave | — | ● | ● | ● |
| REL | ● | ● | ● | ● |
| Manual memory | — | ● | ● | ● |
| Logging memory | — | ● | ● | ● |
| Communication | — | ● | ● | ● |
| Frequency response | 40Hz~1kHz | 40Hz~1kHz | 10Hz~20kHz | 10Hz~100kHz |
| Operating temperature | -10°C~55°C | -10°C~55°C | -20°C~55°C | -20°C~55°C |
| Safety standard | CAT.III 1000V CAT.IV 600V | CAT.III 1000V CAT.IV 600V | CAT.III 1000V CAT.IV 600V | CAT.III 1000V CAT.IV 600V |

| Model | 1051 | 1052 | 1061 | 1062 |
|---------------------|------------------|------------------|------------------|------------------|
| Measurement | | | | |
| DC Voltage | 600.0mV~1000V | 600.0mV~1000V | 50.00mV~1000.0V | 50.00mV~1000.0V |
| AC Voltage | 600.0mV~1000V | 600.0mV~1000V | 500.0mV~1000.0V | 50.00mV~1000.0V |
| DC Current | 600.0μA~10.00A | 600.0μA~10.00A | 500.0μA~10.000A | 500.0μA~10.000A |
| AC Current | 600.0μA~10.00A | 600.0μA~10.00A | 500.0μA~10.000A | 500.0μA~10.000A |
| AC+DC | — | — | ● | ● |
| Resistance | 600.0Ω~60.00MΩ | 600.0Ω~60.00MΩ | 500.0Ω~50.000MΩ | 500.0Ω~50.000MΩ |
| Frequency | 10.00Hz~99.99kHz | 10.00Hz~99.99kHz | 2.000Hz~99.99kHz | 2.000Hz~99.99kHz |
| Temperature | -50.0~600.0°C | -50.0~600.0°C | -200.0~1372.0°C | -200.0~1372.0°C |
| Capacitance | 10.00nF~1000μF | 10.00nF~1000μF | 5.000nF~50mF | 5.000nF~50mF |
| Duty cycle | — | — | ● | ● |
| Decibel calculation | — | — | ● | ● |
| Continuity Check | ● | ● | ● | ● |
| Diode Test | ● | ● | ● | ● |
| Low power-Ω | — | — | — | ● |

Top-Class Digital Multimeters KEW 1061/1062

General Specifications

Measurement function: DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Frequency, Temperature, Capacitor, Duty cycle ratio, Decibel (dBv, dBm), Continuity Check, Diode Test Low power-□*, Effective value (root mean square value) detection (RMS) and mean value detection (MEAN) can be switched during AC voltage or AC current measurement (KEW1062 only).
The low-pass filter can be switched on/off during AC voltage or AC current measurement (KEW1062 only).

Other functions: Data Hold (D-H), Auto Hold (A-H), Peak Hold* (P-H), Range Hold (R-H), Maximum value (MAX), Minimum value (MIN), Average value (AVG), Zero Adjustment (Capacitor, Resistance), Relative values, Save to Memory, Auto Power Off (Approx. 20 minutes), LCD backlight. *: For model KEW1062 only

Display: 5-digit (LCD).....7-segment
Main-display.....50000 counts
Sub-display.....50000 counts
Bar graph indicator.....51-segment
Polarity Indicator....."-" Appears automatically when the polarity is negative.
Overrange Indicator....."OL"
Low-battery Indicator....."⚡" Appears when the batteries become low.

Measurement cycle: 6 times per second (except frequency measurement: one time per second, Resistance measurement : four times per second, capacitor measurement (50mF): max. 0.03 time per second) Bar graph display 15 times per second

Operating temperature and humidity ranges:
-20 to 55°C, 80%RH or less (no condensation), 70%RH or less at 40 to 55°C.

Storage temperature and humidity ranges: -40 to 70°C, 70%RH or less (no condensation)

Temperature coefficient: [Accuracy at 23±5°C×0.05]/°C or less
(Temperature ranges: -20 to 18°C and 28 to 55°C)

Power supply: AA-size (R6) 1.5V batteries: 4

Battery life: Approximately 120 hours
(Operating hours of alkaline batteries when in DC voltage-mode.)
Note: The battery life varies depending on the operating conditions.

Withstand voltage: 6.88kVrms AC for five seconds (across input terminals and casing)

Dimensions: Approx. 192(L)×90(W)×49(D)mm

Weight: Approx. 560g (including batteries)

Applicable standards: IEC61010-1 CAT.IV 600V, CAT.III 1000V Pollution degree 2, IEC61010-031, IEC61326-1(EMC)

Accessories included: Batteries : 4, Test leads: 1set (7220), Fuse (included): 440mA/1000V (8926), 10A/1000V (8927), Instruction manual: 1, Calibration Certificate

Specifications

Test conditions: Temperature and humidity: 23±5°C at 80%RH or less Accuracy: ± (% of reading + digits) Note: Each response time is a value to rated accuracy within selected range.

DC Voltage Measurement (≡V)

| Range | Accuracy 1061,1062 | Input Impedance | Overload Protection |
|----------|--------------------|-----------------|--------------------------|
| 50.000mV | 0.05+10 | Approx. 100MΩ | 1000V DC 1000V rms AC |
| 500.00mV | 0.02+2 | | |
| 2400.0mV | | 0.025+5 | |
| 5.0000V | 10MΩ | | |
| 50.000V | | 0.03+2 | |
| 500.00V | | | |
| 1000.0V | | | |

NMRR: 80dB or more 50/60Hz ±0.1% (70dB or more 50/60Hz ±0.1% when 50mV Range)
CMRR: 100dB or more 50/60Hz (Rs=1kΩ) Response time: 0.3 sec. max.

AC Voltage Measurement [RMS] (∼V) AC Coupling, RMS value detection, sine wave

| Range | Upper:1061; Lower:1062; ---:Not Specified | | | | | Input Impedance | Overload Protection |
|----------|---|----------------------|--------------------|----------------------|---------------------|-----------------|-----------------------------|
| | 10~20Hz | 20Hz~1kHz | 1k~10kHz | 10k~20kHz | 20k~100kHz | | |
| 50.000mV | 2+80 ^{※2} | 0.4+40 ^{※2} | 5+40 ^{※2} | 5.5+40 ^{※2} | 15+40 ^{※2} | 11MΩ<50pF | 1000V rms AC 1000V DC |
| 500.00mV | 1.5+30 ^{※1} | 0.7+30 ^{※1} | 2+50 ^{※2} | — | — | | |
| 5.0000V | 1+30 ^{※1} | 0.4+30 ^{※1} | 1+40 ^{※1} | 2+70 ^{※2} | 5+200 ^{※2} | | |
| 50.000V | — | — | — | — | — | | |
| 1000.0V | ※2 | ※2 | 3+30 ^{※2} | — | — | 10MΩ<50pF | |

※1: At 5 to 100% of range
※2: At 10 to 100% of range
Crest factor <1.5V at 1000V range; Crest factor <3 at other range
CMRR: 80dB or more DC to 60Hz (Rs=1kΩ) Response time: 1 sec. max.

AC Voltage Measurement [MEAN] (∼V) ※1062 only AC Coupling, RMS value detection, sine wave

| Range | Accuracy | | | Input Impedance | Overload Protection |
|----------|--------------------|----------------------|--------------------|-----------------|-----------------------------|
| | 10~20Hz | 20~500Hz | 500~1kHz | | |
| 50.000mV | 4+80 ^{※2} | 1.5+30 ^{※2} | 5+30 ^{※2} | 11MΩ<50pF | 1000V rms AC 1000V DC |
| 500.00mV | 2+30 ^{※1} | 1+30 ^{※1} | 3+30 ^{※1} | | |
| 5.0000V | | | | 10MΩ<50pF | |
| 50.000V | — | — | — | | |
| 1000.0V | ※2 | ※2 | ※2 | — | — |

※1: At 5 to 100% of range
※2: At 10 to 100% of range
CMRR: 80dB or more DC to 60Hz (Rs=1kΩ) Response time: 1 sec. max.

DCV+ACV (≡+∼) AC Coupling, RMS value detection, sine wave

| Range | Accuracy (Upper:1061; Lower:1062; ---:Not Specified) | | | | | | Input Impedance | Overload Protection |
|---------|--|----------------------|--------------------|--------------------|--------------------|---------------|-----------------------------|---------------------|
| | DC,10~20Hz | DC,20Hz~1kHz | DC,1k~10kHz | DC,10k~20kHz | DC,20k~50kHz | DC,50k~100kHz | | |
| 5.0000V | 1.5+10 ^{※1} | 1+10 ^{※1} | 2+10 ^{※2} | — | — | 11MΩ<50pF | 1000V rms AC 1000V DC | |
| 50.000V | 1.5+10 ^{※1} | 0.5+10 ^{※1} | 1+10 ^{※1} | 2+10 ^{※2} | 5+20 ^{※2} | | | |
| 500.00V | — | — | — | — | — | | | |
| 1000.0V | ※2 | ※2 | — | — | — | 10MΩ<50pF | | |

※1: At 5 to 100% of range
※2: At 10 to 100% of range
Crest factor <1.5V at 1000V range; Crest factor <3 at other range
CMRR: 80dB or more DC to 60Hz (Rs=1kΩ) Response time: 2 sec. max.

Resistance Measurement (Ω)

| Range | Accuracy | | Maximum Measuring Current | Open Circuit Voltage | Overload Protection |
|----------|---------------------|----------------------|---------------------------|----------------------|---------------------|
| | 1061 | 1062 | | | |
| 500.0Ω | 0.1+2 ^{※1} | 0.05+2 ^{※1} | <1mA | <2.5V | 1000V rms |
| 5.000kΩ | | | <0.25mA | | |
| 50.000kΩ | | | <25μA | | |
| 500.00kΩ | | | <2.5μA | | |
| 5.0000MΩ | | | <1.5μA | | |
| 50.000MΩ | | | <0.13μA | | |

Accuracy is specified after zero adjustment (resistance).
Response time: 1 sec. max. at 500Ω to 500kΩ, 5 sec. max. at 5MΩ to 50MΩ

LowPower-Ω (LP-Ω) ※1062 only Maximum Reading 5000

| Range | Accuracy | Maximum Measuring Current | Open Circuit Voltage | Overload Protection |
|---------|----------|---------------------------|----------------------|---------------------|
| 5.000kΩ | 0.2+3 | <10μA | <0.7V | 1000V rms |
| 50.00kΩ | | <1.0μA | | |
| 500.0kΩ | | <0.6μA | | |
| 5.000MΩ | | <0.05μA | | |
| 50.00MΩ | | <0.05μA | | |

Continuity Check (⊞) Maximum Reading 5000

| Range | Range of Operation | Measuring Current | Open Circuit Voltage | Overload Protection |
|--------|-------------------------------------|-------------------|----------------------|---------------------|
| 500.0Ω | Buzzer sounds at lower than 100±50Ω | Approx. 0.5mA | <5V | 1000V rms |

DC Current Measurement (≡A)

| Range | Accuracy 1061,1062 | Voltage Drop | Overload Protection |
|----------|--------------------|--------------|--|
| 500.00μA | 0.2+5 | <0.11mV/μA | 440mA Protected by a 440mA/1000V fuse. |
| 5000.0μA | | <4mV/mA | |
| 50.000mA | | <0.1V/A | |
| 500.00mA | | 0.6+10 | 10A Protected by A 10A/1000V fuse. |
| 10.000A | | 0.6+5 | |

Maximum measurement current : 440mA at 500mA range
Response time: 0.3 sec. max.

AC Current Measurement [RMS] (∼A) RMS value detection, sine wave

| Range | Upper:1061; Lower:1062; ---:Not Specified | | | Voltage Drop | Overload Protection | | |
|----------|---|-----------|---------|--------------|--|------|---------|
| | 10~20Hz | 20Hz~1kHz | 1k~5kHz | | | | |
| 500.00μA | 1.5+20 | 1+20 | 0.75+20 | <0.11mV/μA | 440mA Protected by a 440mA/1000V fuse. | | |
| 5000.0μA | | | | | | 1+30 | <4mV/mA |
| 50.000mA | | | | | | — | <0.1V/A |
| 500.00mA | | | | 1.5+20 | 1+20 | — | |
| 10.000A | | | | 1.5+20 | 1+20 | 2+30 | |

Accuracy At 5 to 100% of range, At 10 to 100% of range for 10A Range
440mA at 500mA range
Crest factor<3. Response time: 1 sec. max.

AC Current Measurement [MEAN] (∼A) ※1062 only MEAN value detection, RMS value calibration

| Range | Accuracy | | | Voltage Drop | Overload Protection | |
|------------------------|----------|----------|------------|--------------|--|---------|
| | 10~20Hz | 20~500Hz | 500Hz~1kHz | | | |
| 500.00μA | 2+20 | 1.5+20 | 2+30 | <0.11mV/μA | 440mA Protected by a 440mA/1000V fuse. | |
| 5000.0μA | | | | | | <4mV/mA |
| 50.000mA | | | | | | <0.1V/A |
| 500.00mA ^{※3} | | | | — | — | |
| 10.000A | | | | 3+20 | 2+20 | 4+30 |

Accuracy At 5 to 100% of range, At 10 to 100% of range for 10A Range
440mA at 500mA range Response time: 1 sec. max.

DCA+ACA (≡+∼) Maximum Reading 5000

| Range | Accuracy (Upper:1061; Lower:1062; ---:Not Specified) | | | Voltage Drop | Overload Protection | |
|------------------------|--|--------------|------------|--------------|--|---------|
| | DC,10~20Hz | DC,20Hz~1kHz | DC,1k~5kHz | | | |
| 500.00μA | 2+10 | 1.5+10 | 1.5+10 | <0.11mV/μA | 440mA Protected by a 440mA/1000V fuse. | |
| 5000.0μA | | | | | | <4mV/mA |
| 50.000mA | | | | | | <0.1V/A |
| 500.00mA ^{※3} | | | | — | — | |
| 10.000A | | | | 2+10 | 1.5+10 | 3+10 |

Accuracy At 5 to 100% of range, At 10 to 100% of range for 10A Range
440mA at 500mA range
Crest factor<3. Response time: 2 sec. max.

Diode Test (⚡)

| Range | Accuracy 1061,1062 | Measuring Current (I _F =0.6V) | Open Circuit Voltage | Overload Protection |
|---------|--------------------|--|----------------------|---------------------|
| 2.4000V | 1+2 | Approx. 0.5mA | <5V | 1000V rms |

Temperature Measurement (TEMP)

| Range | Accuracy 1061,1062 | Overload Protection |
|-----------------|--------------------|---------------------|
| -200.0~1372.0°C | 1+1.5°C | 1000V rms |

Use optional Temperature Probe: Thermocouple Type K

Frequency Measurement (Hz)

| Range (AUTO) | Accuracy 1061,1062 |
|----------------|----------------------|
| 2.000~9.999Hz | 0.02+1 ^{※1} |
| 9.00~99.99Hz | |
| 90.0~999.9Hz | |
| 9.000~9.999kHz | |
| 9.00~99.99kHz | |
| 9.00~999.9kHz | |

※1: At 10 to 100% of input voltage or current range
※2: At 40 to 100% of input voltage or current range

Capacitor Measurement (⚡) Maximum Reading 5000

| Range | Accuracy 1061,1062 | Overload Protection |
|---------|--------------------|---------------------|
| 5.000nF | 1+5 ^{※1} | 1000V rms |
| 50.00nF | | |
| 500.0nF | | |
| 5.000μF | | |
| 50.00μF | | |
| 500.0μF | | |
| 5.000mF | 2+5 | |
| 50.00mF | 3+5 | |

※1: Accuracy is specified after zero adjustment (capacitor).

Duty cycle ratio (%)

| Range | Accuracy 1061,1062 |
|--------|--------------------|
| 10~90% | ±1% ^{※1} |

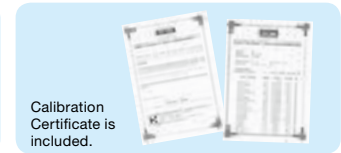
※1: At 10.00Hz to 500.0Hz, square wave At 40 to 100% of input voltage or current range

Peak Hold (P-H) ※1062 only

| Range | Resolution | Response Time Maximum |
|----------|------------|-----------------------|
| DCV, DCA | ±100 digit | >250μs |

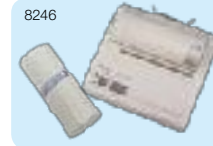
● Included Accessories

| Description | MODEL | Contents |
|-------------|-------|---------------------------------|
| Test leads | 7220 | CAT.IV 600V, CAT.III 1000V 1set |
| Fuse | 8926 | 440mA/1000V×1 |
| | 8927 | 10A/1000V×1 |



● Optional Accessories

| Description | MODEL | Contents |
|-----------------------------|-------|--|
| Alligator Clip | 7234 | CAT.IV 600V, CAT.III 1000V 1set |
| USB Communication set | 8241 | USB adaptor+USB cable+DMM Software |
| DMM Printer full set | 8249 | 8243+8246+8248 |
| Printer Communication set | 8243 | Printer Adaptor+RS232 cable |
| Printer | 8246 | Printer (paper width 112mm)+paper×1 roll |
| AC adapter for printer [EU] | 8248 | AC230V±10% |
| Thermal paper for printer | 8247 | 10 rolls |
| Thermocouple Type K | 8405 | Max. 500°C (Surface type, Point material: Ceramic) |
| | 8406 | Max. 500°C (Surface type) |
| | 8407 | Max. 700°C (Liquid, Semi-solid) |
| | 8408 | Max. 600°C (Air, Gas) |
| Clamp sensor | 8121 | AC 100A |
| | 8122 | AC 500A |
| | 8123 | AC 1000A |
| | 8146 | AC 30A |
| | 8147 | AC 70A |
| | 8148 | AC 100A |
| Banana Ø4mm Adjuster Plug | 7146 | length :190mm |
| Carrying case | 9150 | Hard Type(for the main unit with test leads and communication cable) |



<DMM Printer full set (8249)>



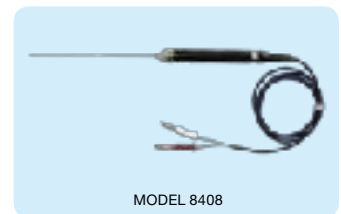
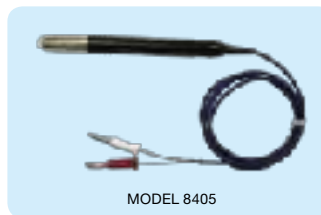
● Clamp sensor Specification

| MODEL | AC/DC current sensor | | AC current sensor | | | Leakage & AC current sensor | | |
|--------------------|--|---------------------|----------------------|-----------------------|---|---|--|--|
| | 8115 | 8121 | 8122 | 8123 | 8146 | 8147 | 8148 | |
| | | | | | | | | |
| Conductor size | φ12 | φ24 | φ40 | φ55 | φ24 | φ40 | φ68 | |
| Rated current | AC 130A / DC 180A | AC 100A | AC 500A | AC 1000A | AC 30A | AC 70A | AC 100A | |
| Output voltage | AC/DC 10mV/A | AC 500mV/100A | AC 500mV/500A | AC 500mV/1000A | AC 1500mV/30A | AC 3500mV/70A | AC 5000mV/100A | |
| Accuracy (50/60Hz) | AC ±1.0%rdg±0.4mV DC ±1.0%rdg±0.4mV (This accuracy is defined after a zero-adjustment) | ±2.0%rdg±0.3mV | | | 0~15A ±1.0%rdg±0.1mV 15~30A ±5.0%rdg | 0~40A ±1.0%rdg±0.1mV 40~70A ±5.0%rdg | 0~80A ±1.0%rdg±0.1mV 80~100A ±5.0%rdg | |
| Frequency range | 40Hz~1kHz | | | | | | | |
| Dimensions | 127(L)×42(W)×22(D)mm | 97(L)×59(W)×26(D)mm | 128(L)×81(W)×36(D)mm | 170(L)×105(W)×48(D)mm | 100(L)×60(W)×26(D)mm | 128(L)×81(W)×36(D)mm | 186(L)×129(W)×53(D)mm | |
| Weight | approx. 160g | approx. 150g | approx. 260g | approx. 360g | approx. 150g | approx. 240g | approx. 510g | |

* Other Kyoritsu clamp sensors can be used with these DMMs, please check our website for more info. * Banana φ4 mm adjuster plug (7146) is required to use these sensors with the DMMs, with the exception for the 8115.

● Thermocouple Type K Specification

| Model | Usage | Measurement temperature | Tolerance (t: measurement temperature) | Response speed |
|-------|---|-------------------------|--|------------------|
| 8405 | (Surface type, Point material: Ceramic) | Max. 500°C | ±2.5°C/t=-40°C~333°C, ±0.0075× t °C/t=333°C~500°C | approx. 1.8 Sec. |
| 8406 | Surface type | | | approx. 1.0 Sec. |
| 8407 | (Liquid, Semi-solid) | Max. 700°C | ±2.5°C/t=-40°C~333°C, ±0.0075× t °C/t=333°C~700°C | 1 Sec. or less |
| 8408 | (Air, Gas) | Max. 600°C | ±2.5°C/t=-40°C~333°C, ±0.0075× t °C/t=333°C~600°C | 0.4 Sec. |



⚠ Safety Warnings : Please read the "Safety Warnings" in the instruction manual supplied with the instrument thoroughly and completely for correct use. Failure to follow the safety rules can cause fire, trouble, electrical shock, etc. Therefore, make sure to operate the instrument on a correct power supply and voltage rating marked on each instrument.

■ For inquires or orders :



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