

DIGITAL MULTIMETER KEW 1051 / 1052 / 1061 / 1062

The Best Reliable Multimeters with Safety Terminal Shutters

1061

For Electrical and Electronic Troubleshooting

KEW 1051 / 1052

Top Class Multimeters
For Laboratory and
Industrial Use

KEW 1061 / 1062









High Accuracy, High Performance and Reliable Measurements

■Top class Accuracy

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

Dual Display

- · 1061/1062: 50000 counts, 51 segments bar graph with white backlight display.
- · 1051/1052: 6000 counts, 31 segments bar graph with white backlight display.

Wide AC Frequency Bandwidth *1061, 1062 only

- · 1062: ACV frequency bandwidth from 10Hz to 100kHz.
- · 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. **1061, 1062 only
 *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 *1062 only

 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 *1052, 1062 only

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

Sensor mode *1051, 1052 only

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 *1062 only

- · 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.

■True RMS Measurement

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

■DC+AC True RMS Measurement **1061, 1062 only

- · Accurate AC True RMS 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 **1061, 1062 only

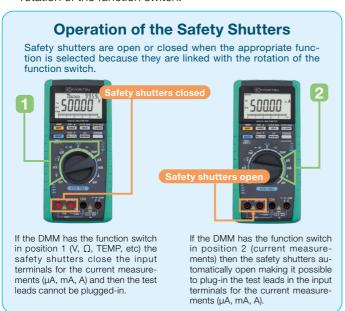
· The duty cycle ratio is displayed in percentage (%).

■ Decibel dBV, dBm calculation **1061, 1062 only

- · Can perform logarithmic calculations on AC voltage. *Reference resistance value:
 - $4/8/16/32/50/75/93/110/125/135/150/200/250/300/500/600/800/900/1000/1200\Omega$

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.



Very wide operating temperature range

- · From -20°C to +55°C for 1061/1062
- · From -10°C to +55°C for 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.

Comprehensive support for data management **except for 1051

Large internal memory to store test data

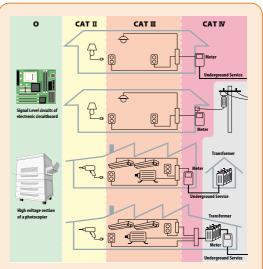
- · 1062: 10,000 data in Logging mode, 100 data manually saved.
- · 1061: 1,000 data in Logging mode, 100 data manually saved.
- · 1052: 1,600 data in Logging mode, 100 data manually saved.
- · Logging interval can set from 1 sec. to 30 min.

■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 US.



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

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 O 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
0	Measuring circuits without a MEASUREMENT CATEGORY.	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.

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
F0015	4+12.553 VDC
	< 2.553 VDC

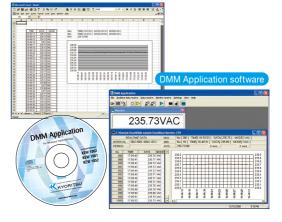
Printed items (from the left)

- ·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)





Versatile Digital Multimeters KEW 1051/1052

General Specification

DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Frequency,

Temperature, Capacitor, Continuity Check, Diode Test
Effective value (root mean square value) detection (True RMS) and mean value detection

(MEAN) can be switched during AC voltage measurement (1052 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), Ronge 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 the control of th

model KEW1052 only 4-digit (LCD)......7-segment

Main-display......6000 counts 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 (6M $\Omega/60$ M $\Omega)$: 2.5 times per second, capacitor measurement (1000 $\mu F)$:

max.0.14 time per second)

Bar graph display approx. 25 times per second (at AC, Ω)

Operating temperature and humidity range:

-10 to 55° \mathbb{C} , 80%RH or less (no condensation) 70%RH or less at 40 to 55° \mathbb{C} .

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

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

AA-size (R6/LR6) 1.5V batteries: 4

Approximately 300 hours (Operating hours of alkaline batteries when in DC voltage-mode.) Battery life:

Note: The battery life varies depending on the operating conditions.

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

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

IEC 61010-1 CAT IV 600V / CAT III 1000V Pollution degree 2, IEC 61010-031, IEC 61326-1 Batteries: 4, Test leads: 1 set (7220A), Fuse (included): 440mA/1000V (8926), Applicable standards:

Accessories:

10A/1000V (8927), Instruction manual: 1

Specification

Display:

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		10ΜΩ	
6.000V	0.09+2	11ΜΩ	1000V DC
60.00V	0.09+2		1000V DC
600.0V	1	10ΜΩ	1000V rms AC
1000V	0.15+2		

NMRR: 60dB or more 50/60Hz \pm 0.1% CMRR: 120dB or more 50/60Hz (Rs=1k Ω) Response time: 1 sec max

AC Voltage Measurement (~V) AC Coupling: True RMS value detection, sine wave MEAN value detection and True RMS value calibration (KEW1052 only)

D	Accuracy		Input Impedance	Overload Protection		
Range	50/60Hz	40 to 500Hz	500Hz to 1kHz	Input Impedance	Overload Protection	
600.0mV				10MΩ<200pF		
6.000V			1.5+5	11MΩ<50pF	1000V rms AC	
60.00V	0.5+5	1+5	1.5+5	1.5+5		1000V rms AC 1000V DC
600.0V					10MΩ<50pF	10000000
1000V			-			

Accuracy: At 5 to 100% of range and 1000V range is 200 to 1000V. less than 1500V peak For non-sinusoidal

waveforms, add \pm (2% + 2% of full scale), for Crest factor < 3. CMRR: 60dB or more DC to 60Hz (Rs=1k Ω) 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		<1.2mA	<3.5V	
6.000kΩ	0.4+1	<110µA		
60.00kΩ	0.4+1	<13µA		
600.0kΩ		<1.3µA	<1.3V	1000V rms
6.000ΜΩ	0.5+1	0.5+1		
60.00MO	1+2(0 to 40MΩ)	<130nA		
00.00/W122	2+2(40 to 60MO)			

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

Continuity Check(1)

600.0Ω Buzzer sounds at lower than 50±30Ω Approx. <1.2mA <3.5V 1000V rms	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

De contem measurement, and						
Range	Accuracy	Voltage Drop	Overload Protection			
600.0µA		<0.12mV/µA				
6000µA	0.2+2	<0.12mV/μA	440mA Protected by a			
60.00mA		<3.3mV/mA	440mA/1000V fuse.			
440.0mA		\3.311V/111A				
6.000A	0.5+5	<0.1V/A	10A Protected by A			
10.00A		~0.1V/A	10A/1000V fuse.			

Response time: 1 sec max

AC Current Measurement[True RMS](\sim A)

True RMS value detection, sine wave

D	Accı	ıracy	Voltage Drop	Overload Protection
Range	50/60Hz	40Hz to 1kHz	voliage Drop	Overload Protection
600.0μΑ			<0.12mV/µA	
6000µA			<0.12mV/μA	440mA Protected by a
60.00mA	0.75+5	1.5.5	<3.3mV/mA	440mA/1000V fuse.
440.0mA		1.5+5	<3.3mV/mA	
6.000A			<0.1V/A	10A Protected by A
10.00A			<0.1V/A	10A/1000V fuse.

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 $\pm(2\% + 2\%$ of full scale), for Crest factor<3. 4 counts or less is corrected to 0, Response time: 3 sec max

Diode Test(+(-t)-)

ı	Range	Accuracy	Measuring Current(Vf=0.6V)	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 to 600.0℃	2+2℃	1000V rms

Use optional Temperature Probe: Thermocouple Type ${\sf K}$

Frequency Measurement(Hz) AC Coupling, Maximum Reading 9999

Range	Accuracy	Input Voltage
10.00 to 99.99Hz	0.02+1	0.2 to 600V rms
90.0 to 999.9Hz		0.2 to 6000 rms
0.900 to 9.999kHz		0.4 to 600V rms
9.00 to 99.99kHz		0.8 to 100V rms

Capacitor Measurement(H)

-		- 1 1-
Range	Accuracy	Overload Protection
10.00nF	2+10	
100.0nF		
1.000µF	2+5	1000V rms
10.00µF]	1000v rms
100.0µF	3+5	
1000uF	373	

Accuracy is specified after zero adjustment at 10nF to $1\mu F$ (Capacitance).

Selection Guide

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

Model	1051	1052	1061	1062	
Measurement					
DC Voltage	600.0mV to 1000V	600.0mV to 1000V	50.000mV to 1000.0V	50.000mV to 1000.0V	
AC Voltage	600.0mV to 1000V	600.0mV to 1000V	500.00mV to 1000.0V	50.000mV to 1000.0V	
DC Current	600.0µA to 10.00A	600.0μA to 10.00A	500.00μA to 10.000A	500.00µA to 10.000A	
AC Current	600.0µA to 10.00A	600.0μA to 10.00A	500.00μA to 10.000A	500.00μA to 10.000A	
AC + DC	-	-	•	•	
Resistance	600.0Ω to 60.00MΩ	600.0Ω to 60.00MΩ 500.00Ω to 50.000MΩ		500.00Ω to 50.000ΜΩ	
Frequency	10.00Hz to 99.99kHz	10.00Hz to 99.99kHz	2.000Hz to 99.99kHz	2.000Hz to 99.99kHz	
Temperature	-50.0 to 600.0℃	−50.0 to 600.0℃ 10.00nF to 1000μF	-200.0 to 1372.0℃ 5.000nF to 50mF	-200.0 to 1372.0℃ 5.000nF to 50mF	
Capacitance	10.00nF to 1000µF				
Duty cycle	-	-	•	•	
Decibel calculation	-	-	•	•	
Continuity Check	•	•	•	•	
Diode Test	•	•	•	•	
Low power-Ω	-	-	-	•	

Top Class Digital Multimeters KEW 1061/1062

General Specification

DC Voltage, AC Voltage, DC Current, AC Current, Resistance, Frequency,

Temperature, Capacitor, Duty cycle ratio, Decibel (dBv, dBm), Continuity Check, Diode Test Low power- Ω^* , Effective value (root mean square value) detection (True RMS) and mean value detection (MEAN) can be switched during AC volt-

age or AC current measurement (1062 only).

The low-pass filter can be switched on/off during AC voltage or AC current mea-

surement (1062 only).

 $\label{eq:def-Data-Hold} \mbox{Data-Hold} \ \ (\mbox{D+H), Auto-Hold} \ \ (\mbox{A+H), Peak Hold}^* \ \ (\mbox{P-H), Range Hold} \ \ (\mbox{R-H), Maximum value} \ \ (\mbox{MAX), Minimum value} \ \ (\mbox{MIN), Average value} \ \ (\mbox{AVG), Zero-Adjustment} \ \ (\mbox{Capacitor}, \mbox{Lapacitor}) \ \ \ \mbox{Lapacitor} \ \mbox{Lapacitor} \ \ \mbox{Lapacitor} \ \mbox{La$ Other functions

Resistance), Relative values, Save to Memory, Auto Power Off (Approx. 20 minutes), LCD backlight. *: For model KEW1062 only

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 range: $-20 \text{ to } 55 \text{ $^{\circ}$C}, 80 \text{ $^{\circ}$RH or less (no condensation), } 70 \text{ $^{\circ}$RH or less at } 40 \text{ to } 55 \text{ $^{\circ}$C}.$

Storage temperature and humidity range: -40 to 70°C, 70%RH or less (no condensation) Temperature coefficient: (Accuracy at 23±5°C×0.05)/°C or less

(Temperature range: -20 to 18°C and 28 to 55°C) AA-size (R6) 1.5V batteries: 4 Power supply:

Approximately 120 hours (Operating hours of alkaline batteries when in DC voltage-mode.)

Note: The battery life varies depending on the operating conditions 6.88kV rms AC for five seconds (across input terminals and casing)

Withstand voltage: Approx. 192(L)×90(W)×49(D)mn Weight: Approx. 560g (including batteries)

Applicable standards: IEC 61010-1 CAT IV 600V / CAT III 1000V Pollution degree 2, IEC 61010-031,

IEC 61326-1(EMC)

Accessories Batteries : 4, Test leads: 1set (7220A), Fuse (included): 440mA/1000V (8926),

10A/1000V (8927), Instruction manual: 1

Specification

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			
500.00mV	0.02+2	Approx. 100MΩ		
2400.0mV] 0.02+2		1000V DC 1000V rms AC	
5.0000V	0.025+5			
50.000V		10MO	1000V rms AC	
500.00V	0.03+2	10/00/2		
1000.0V	1			

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=1kQ) Response time: 0.3 sec. max

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

Range		Upper:1061; Lower:1062; -:Not Specified Input			061; Lower:1062; -:Not Specified			Overload		
Kullge	10 to 20Hz	20Hz to 1kHz	1k to 10kHz	10k to 20kHz	20k to 50kHz	50k to 100kHz	Impedance	Protection		
50.000mV	-	-	-	-		-				
30.000mv	2+80 ^{®2}	0.4+40**2 5+40**2 5.5+40**2 15+40*		40 ^{®2}	11MΩ<50pF					
500.00mV							11M02<30pr	1000V rms		
5.0000V	1.5+30 ^{®1}	0.7+	30 ^{®1}	2+50 ^{®2}	- -	-	-		AC AC	
50.000V	1+30 ^{₩1}	0.4+	30 ^{®1}	1+40 ^{®1}	2+70 ^{®2} 5+200 ^{®2}		1+40 ^{#1} 2+70 ^{#2} 5+200 ^{#2}			1000V DC
500.00V							10MΩ<50pF	10000 DC		
1000.0V	 2	 2	3+30 ^{®2}		-		10M12<30pr			
1000.00	 2	 2	3+30 ^{®2}		-					

%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, True RMS value detection, sine wave

Range	Accuracy			Input Impedance	Overload Protection
Kange	10 to 20Hz	20 to 500Hz	500 to 1kHz	input impedance	Overload Profection
50.000mV	4+80 ^{⊕2}	1.5+30 ^{₩2}	5+30 ^{⊛2}		
500.00mV				11MΩ<50pF	
5.0000V	2+30 ^{₩1}	1+30**1	3+30**1		1000V rms AC
50.000V	2+30	1+30	3+30		1000V DC
500.00V				10MΩ<50pF	
1000.0V		※ 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, True RMS value detection, sine wave

	Accuracy (Upper:1061; Lower:1062; -:Not Specified)						Overload	
Range	DC,10 to 20Hz	DC,20Hz to 1kHz	DC,1k to 10kHz	DC,10k to 20kHz	DC,20k to 50kHz	DC,50k to 100kHz	Input Impedance	Protection
5.0000V	1.5+10 ^{₩1}	1+1	0#1	2+10 ^{₩2}			11MΩ<50pF	
50.000V	1.5+10**1	0.5+		1+10**1	2+10 ^{®2}	5+20 ^{®2}		1000V rms
500.00V	1.3+10	0.5+	1+10		2+10	3+20	10MΩ<50pF	AC
1000.01/	※ 2	※ 2		-	-		10M12<30pr	1000V DC
1000.0V	※ 2	※ 2		-	-			

※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	Open Circuit	Overload	
Kulige	1061	1062	Measuring Current	Voltage	Protection	
500.00Ω		0.1+2**1 0.05+2**1	<1mA			
5.0000kΩ	0.1.281		0.05+2**1	<0.25mA		
50.000kΩ	0.1+2			<25µA	<2.5V	1000V rms
500.00kΩ			<2.5µA	\2.5V	1000v rms	
5.0000ΜΩ	0.5	5+2	<1.5µA			
50.000ΜΩ	1-	+2	<0.13µA			

Accuracy is specified after zero adjustment (resistance).

Response time: 1 sec. max. at 500Ω to $500k\Omega$, 5 sec. max. at $5M\Omega$ to $50M\Omega$

LowPower-Ω(LP-Ω) *1062 only

Maximum Reading 5000

Range	Accuracy	Maximum Measuring Current	Open Circuit Voltage	Overload Protection
5.000kΩ		<10µA		
50.00kΩ	0.2+3	<1.0µA	<0.7V	10001
500.0kΩ		<0.6µA	₹0.7 ¥	1000V rms
5.000ΜΩ	1+3	<0.05µA		

uity Check(🐠)

commony chec	N(19)1		Maximo	in kedaling 5000
Range	Range of Operation 1061,1062	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)

ſ	Range	Accuracy 1061,1062	Voltage Drop	Overload Protection	
ſ	500.00µA		<0.11mV/µA	440mA Protected by a 440mA/1000V fuse.	
ſ	5000.0µA	0.2+5	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
ſ	50.000mA	0.2+3	<4mV/mA		
ſ	500.00mA		\4mv/mA		
ſ	5.0000A	0.6+10	<0.1V/A	10A Protected by A	
[10.000A	0.6+5	<0.1V/A	10A/1000V fuse.	
ŀ			<0.1V/A		

Response time: 0.3 sec. max.

AC Current Measurement [True RMS](~A)

True RMS value detection, sine wave

Range	Upper:106	1; Lower:1062; -:N	Voltage Drop	Overload	
kulige	10 to 20Hz	20Hz to 1kHz	1k to 5kHz	Vollage Diop	Protection
500.00μA				<0.11mV/µA	
5000.0μA	1.5+20	1+20	-	CO.ΠΜV/μA	440mA Protected by a
50.000mA	1+20	0.75+20	1+30	<4mV/mA	440mA/1000V fuse.
500.00mA				<4mv/mA	
5.0000A	1.5+20	1+20	_	<0.1V/A	10A Protected by A
10.000A	1.5+20	1+20	2+30	<0.1V/A	10A/1000V fuse.

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. True RMS value calibration

Range		Accuracy			Overload Protec-
Kange	10 to 20Hz	20 to 500Hz	500Hz to 1kHz	Voltage Drop	tion
500.00μA		1.5+20	2+30	<0.11mV/µA	
5000.0μA	2+20			CO.ΠΜV/μA	440mA Protected by a 440mA/1000V fuse.
50.000mA	2+20		2+30	<4mV/mA	
500.00mA					
5.0000A	3+20	2+20	4+30	<0.1V/A	10A Protected by A
10.000A	3+20	2+20	4+30	<0.1V/A	10A/1000V fuse.

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 50000

					-	
	Accuracy (Uppe	r:1061; Lower:1062;	Voltage Drop	Overload		
Range	DC,10 to 20Hz	DC,20Hz to 1kHz	DC,1k to 5kHz	vollage Drop	Protection	
500.00µA				<0.11mV/µA		
5000.0µA	2+10	1.5+10	_	CO.11mV/μA	440mA Protected by a	
50.000mA	1.5+10	1+10	1+10 1.5+10	1+10 1.5+10 <4mV/mA	< 4>/ / A	440mA/1000V fuse.
500.00mA				\4mv/mA		
5.0000A	2+10	1.5+10	-	<0.1V/A	10A Protected by A	
10.000A	2+10	1.5+10	3+10	<0.1V/A	10A/1000V fuse.	

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(+X-)

Range	Accuracy 1061,1062	Measuring Current (Vf=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 to 1372.0℃	1+1.5℃	1000V rms					
Use antional Temperature Prohe: Thermocouple Type K							

Capacitor Measurement(HF) Maximum Reading 5000

Kange	Accuracy 1061,1062	Overload Protection
5.000nF		
50.00nF		
500.0nF	1+5**1	
5.000µF		1000V rms
50.00μF		1000v rms
500.0μF	2+5	
5.000mF	3+5	
50.00mF	373	

%1: Accuracy is specified after zero adjustment (capacitor)

Frequency Measurement(Hz)

AC Coupling, Maximum Reading 9999

	*
Range (AUTO)	Accuracy 1061,1062
2.000 to 9.999Hz	
9.00 to 99.99Hz	0.02+1**1
90.0 to 999.9Hz	0.02+1
0.900 to 9.999kHz	
9.00 to 99.99kHz	 2

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

01) 0) 010 1 0110 (70)	
Range	Accuracy 1061,1062
10 to 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 Maximum Reading 5000

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

Accessories

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



Optional Accessories

Description	MODEL	Contents
Alligator clip	7234	CAT IV 600V / CAT III 1000V 1set
USB Communication set	8241	USB adapter+USB cable+DMM Software
	8405	Max. 500℃ (Surface type, Point material: Ceramic)
Th	8406	Max. 500°C (Surface type)
Thermocouple Type K	8407	Max. 700℃ (Liquid, Semi-solid)
	8408	Max. 600℃ (Air, Gas)
	8115	AC 130A / DC 180A
	8121	AC 100A
	8122	AC 500A
Clamp sensor	8123	AC 1000A
	8146	AC 30A
	8147	AC 70A
	8148	AC 100A
Banana Ø4mm adjuster plug	7146	Length:190mm
Carrying case	9154	Soft case (for the main unit with test leads and communication cable)



Clamp sensor Specification

	AC/DC current sensor	or AC current sensor			Leakage & AC current sensor			
MODEL	8115	8121	8122	8123	8146	8147	8148	
	E STATE OF THE STA	Q CE	CE CE	 	CE CE	Q CE	Q CE	
Conductor size	φ12	φ24	φ40	ф55	Ф24	ф40	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 ±1.2%rdg±0.4mV DC ±1.2%rdg±0.4mV (This accuracy is defined after a zero-adjustment)		±2.0%rdg±0.3mV			0 to 40A ±1.0%rdg±0.1mV 40 to 70A ±5.0%rdg	0 to 80A ±1.0%rdg±0.1mV 80 to 100A ±5.0%rdg	
Frequency range		40Hz to 1kHz						
Dimension	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. 140g	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

•	The microscopic Type it opening along								
Model	Usage	Measurement temprature	Tolerance (t: measurement temperature)	Response speed					
8405	Surface type (Point material: Ceramic)	Max. 500°C	±2.5℃/t=-40℃ to 333℃,	Approx. 1.8 Sec.					
8406	Surface type	Max. 500 C	±0.0075× t ℃/t=333℃ to 500℃	Approx. 1.0 Sec.					
8407	Liquid, Semi-solid	Max. 700℃	±2.5℃/t=-40℃ to 333℃, ±0.0075× t ℃/t=333℃ to 700℃	1 Sec. or less					
8408	Air, Gas	Max. 600°C	±2.5°C/t=-40°C to 333°C, +0.0075× + °C/t=333°C to 600°C	0.4 Sec.					





Safety WarningsPlease 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.

COSINUS Messtechnik - Ihr Partner für Messlösung in allen elektrischen und physikalischen Anwendungen

COSINUS Messtechnik GmbH

Rotwandweg 4 82024 Taufkirchen

Tel.: 089 / 66 55 94 - 0 Fax: 089 / 66 55 94 - 30