KYORITSU
SINCE
1940
JAPAN
QUALITY & SUPPORT THAT YOU CAN RELY ON

KYORITSU

Test and Measuring Instruments

CATALOGUE 2013~14

Japan

Quality and reliability is our tradition

KYORITSU®

New Products

KEW2500 NEW

P24

DC MILLIAMP CLAMP METER

Measures DC 4-20mA signals without breaking the loop

P56

NEW KEW6305

POWER METER

Compact Power meter for cost saving through Energy monitoring

KEW4202 NEW

P41

EARTH CLAMP METER

Easy Earth /ground resistance measurement just clamp-on conductor Wireless communication with Android application

CONTENTS

Safety Warnings

Please read the “Safety Warnings” in the instruction manual supplied with the instrument thoroughly and completely for safety 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.

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CE
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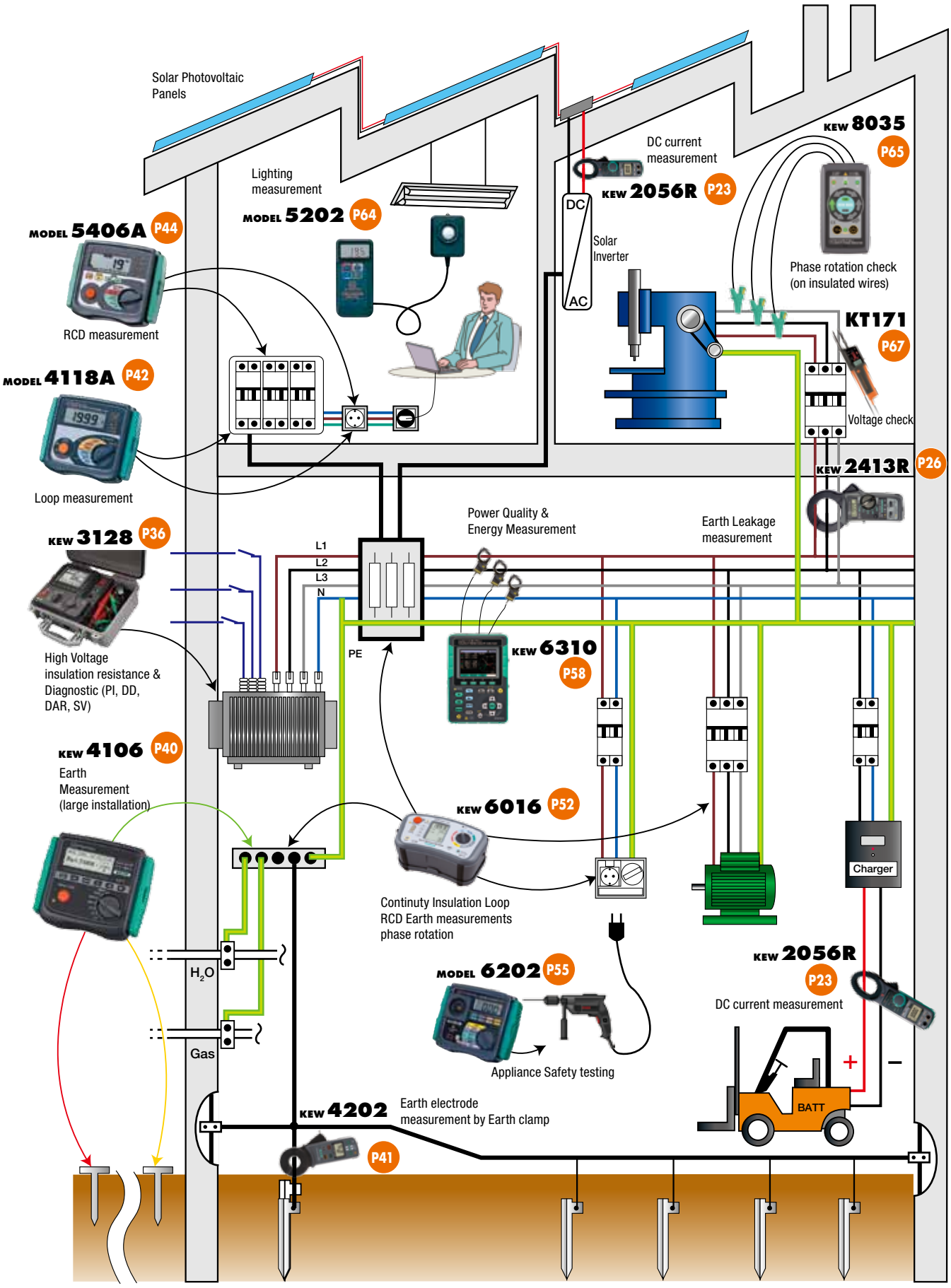
APPLICATIONS

INDUSTRIAL



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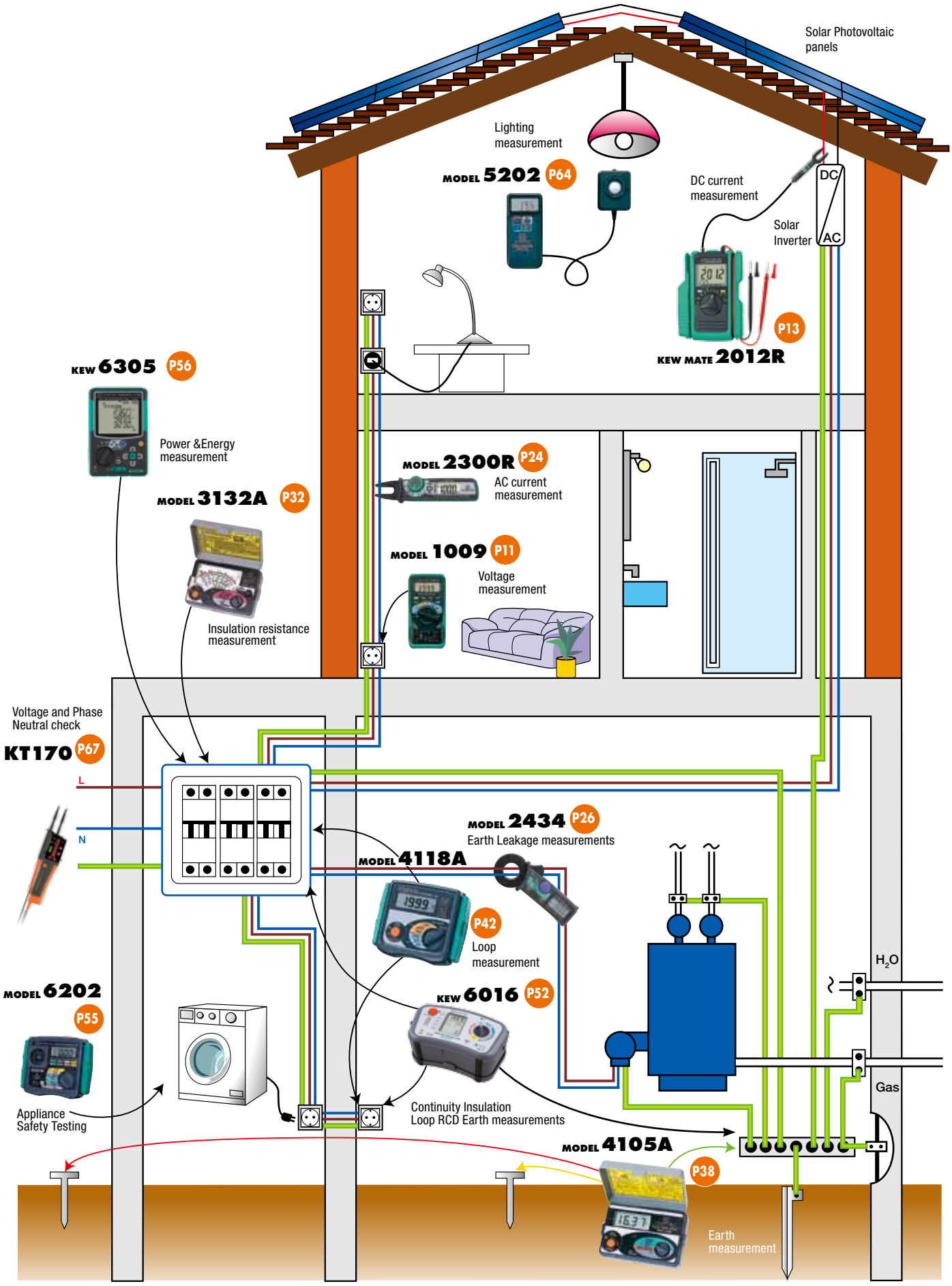
RESIDENTIAL



MULTIMETERS

MULTIMETERS

MULTIMETERS

Selection Guide of Multimeters

	Analogue Multimeters		Digital Multimeters							
	1109S	**1110**	**1018 1018H**	**1030**	**1009**	**1011 1012**	**1051 1052**	**1061 1062**	**2000 2001**	**2012R**
Appearance										
Detection method (TRUE RMS)	–	–	–	–	–	✓ (1012)	✓	✓	–	✓
Maximum count display	–	–	4000	4000	4000	6040	6000	50000	3400	6039
DC Basic accuracy	±3% of FS	±3% of FS	0.8%	0.8%	0.6%	0.5%	0.09%	0.02%	1.5%	1.0%
Frequency response	30~20kHz	50~5kHz	50~400Hz	50~400Hz	50~400Hz	40~1kHz	40~1kHz	10~20kHz(1061) 10~100kHz(1062)	50~400Hz	45~400Hz
Measurement										
DC V Max	1000V	600V	600V	600V	600V	600V	1000V	1000V	600V	600V
DC V Resolution	0.002V	0.005V	0.1mV	0.1mV	0.1mV	0.1mV	0.1mV	0.001mV	0.1mV	0.1mV
AC V Max	1000V	600V	600V	600V	600V	600V	1000V	1000V	600V	600V
AC V Resolution	0.2V	0.2V	0.001V	0.001V	0.1mV	0.001V	0.1mV	0.01mV(1061) 0.001mV(1062)	0.001V	0.001V
DCA (DC A)	250mA	300mA	–	–	10A	10A	10A	10A	60A(2000) 100A(2001)	120A
ACA (AC A)	–	–	–	–	10A	10A	10A	10A	60A(2000) 100A(2001)	120A
DC+AC (DC+AC)	–	–	–	–	–	–	–	✓	–	–
Resistance (Ω)	20MΩ	300KΩ	40MΩ	40MΩ	40MΩ	60MΩ	60MΩ	50MΩ	34MΩ	60MΩ
Continuity buzzer	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
Battery test	–	✓	–	–	–	–	–	–	–	–
Diode test	–	–	✓	✓	✓	✓	✓	✓	–	✓
Capacitance	–	–	200μF	100μF	100μF	4000μF	1000μF	50mF	–	40μF
Frequency (Hz)	–	–	10kHz	200kHz	10MHz	10MHz	99.99kHz	99.99kHz	(ACA 10kHz) (ACV 300kHz)	(ACA 400Hz) (ACV 300kHz)
Duty cycle ratio (DUTY)	–	–	✓	✓	✓	✓	–	✓	–	–
Temperature (°C)	–	✓	–	–	–	✓ (1011)	✓	✓	–	–
Decibel (dB)	✓	–	–	–	–	–	–	✓	–	–
Low power-Ω (LP-Ω)	–	–	–	–	–	–	–	✓ (1062)	–	–
Function										
Dual display	–	–	–	–	–	–	✓	✓	–	–
Bar graph	–	–	–	–	–	✓	✓	✓	✓	✓
Back light	–	–	–	✓	–	–	✓	✓	–	–
Data hold (DATA HOLD)	–	–	✓	✓	✓	✓	✓	✓	✓	✓
Auto hold	–	–	–	–	–	–	✓	✓	–	–
Peak hold (PEAK HOLD)	–	–	–	–	–	–	–	✓ (1062)	–	–
Max/Min/Ave (Max/Min Ave)	–	–	–	–	–	✓ (No Ave)	✓ (1052)	✓	–	–
REL (REL)	–	–	✓	✓	✓	✓	✓	✓	–	–
Manual memory	–	–	–	–	–	–	✓ (1052)	✓	–	–
Logging memory	–	–	–	–	–	–	✓ (1052)	✓	–	–
Communication (USB)	–	–	–	–	–	–	✓ (1052)	✓	–	–
Other										
Operating temperature	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	-10~55°C	-20~55°C	0~40°C	0~40°C
Measurement categories	–	CAT.Ⅲ 300V CAT.Ⅱ 600V	CAT.Ⅲ 300V	CAT.Ⅲ 600V	CAT.Ⅲ 300V	CAT.Ⅲ 300V CAT.Ⅱ 600V	CAT.Ⅳ 600V CAT.Ⅲ 1000V	CAT.Ⅳ 600V CAT.Ⅲ 1000V	CAT.Ⅲ 300V CAT.Ⅱ 600V	CAT.Ⅲ 300V CAT.Ⅱ 600V
Power source	R6Px2,6F22x1	R6P x 2	LR-44 x 2	LR-44 x 2	R6P x 2	R6P x 2	R6P x 4	R6P x 4	R03 x 2	R03 x 2
Dimensions (L)x(W)x(D)mm	150x100x47	140x94x39	107x54x10	190x39x31	155x75x33	161x82x50	192x90x49	192x90x49	128x84x24(2000) 128x92x27(2001)	128x92x27
Weight(Approx.)	330g	280g	70g	100g	260g	280g	560g	560g	210g(2000) 220g(2001)	220g
Accessories: Test leads	7210A	7066A	–	–	7066A	7066A 8216(1011)	7220A	7220A	–	–
Accessories: Fuse	8901x2	8923x2	–	–	8923x1 8919x1	8918x1 8919x1	8926x1 8927x1	8926x1 8927x1	–	–
Accessories: Case	–	9013	9115(1018) 9114(1018H)	9130	–	–	–	–	–	–

ANALOGUE MULTIMETERS

KEW 1109S

DC AC V | DC A | Ω | dB

- Mirrored scale for easy and accurate reading.
- Output terminal to cut off DC component when measuring AC voltage.
- Safety designed input terminals and test leads.

	1109S
DC V	0.1/0.5/2.5/10/50/250/1000V(20kΩ/V) ±3% of FS
AC V	10/50/250/1000V(9kΩ/V) ±3% of FS
DC A	50μA/2.5/25/250mA ±3% of FS
Ω	2/20kΩ/2/20MΩ ±3% of scale length
Decibel	-10~+62dB
hFE	0~1000(Ω × 10) ±3% of scale length
Power source	R6P(AA)(1.5V) × 2　6F22(9V) × 1
Dimensions	150(L) × 100(W) × 47(D)mm
Weight	330g approx.
Accessories	7210A(Test leads)　8901(Fuse[0.5A/250V]) × 2 R6P(AA) × 2　6F22 × 1 Instruction manual
Optional	9168(Carrying case)

CE

MODEL 1110

DC AC V | DC A | Ω | •)) | °C

- High sensitivity DC20kΩ/V.
- 1m drop-proof heavy duty designed taut-band movement.
- Can measure line voltage up to AC 600V.(Voltage to ground MAX AC300V) (Protected by 600V ceramic fuse against accidental overload)
- Continuity buzzer, battery check, LED check, temperature measurement function.
- Skeleton type robust and clear case with carrying handle furnished as standard accessory.

	1110
DC V	0.3V(16.7kΩ/V) ±3% of FS 3/12/30/120/300/600V(20kΩ/V) ±3% of FS
AC V	12V(9kΩ/V) ±4% of FS 30/120/300/600V(9kΩ/V) ±3% of FS
DC A	60μA/30/300mA ±3% of FS
Ω	3/30/300kΩ ±3% of scale length
Continuity buzzer	Buzzer sounds below 100Ω
Battery Test	1.5V(0.7~2V) ±3% of FS (10Ω load)
Temperature	-20°C~+150°C ±3% of scale length(0°C~+100°C) ±4% of scale length(other ranges) (with the use of Temperature probe 7060)
LED	10mA approx. at 0Ω (at 3V of battery voltage)
Maximum circuit voltage	600V AC/DC (between line/neutral) 300V AC/DC (against earth)
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 CAT.Ⅱ 600V Pollution degree 2 IEC 61010-031, IEC 61326-1
Power source	R6P(AA)(1.5V) × 2
Dimensions	140(L) × 94(W) × 39(D)mm
Weight	280g approx.
Accessories	7066A(Test leads)　8923(Fuse[F500mA/600V]) × 2 R6P(AA) × 2　9103(Carrying case)　Instruction manual
Optional	7060(Temperature probe)

MODEL 1009

DC V | DC A | Ω | •)) | ⊣⊢ | ⊣⊢ | Hz | DUTY | DATA HOLD | REL | AUTO POWER OFF

- Display : 4000 counts.
- Auto range and manual range selector provided. (with range hold feature)
- Resistance range provides audible continuity test.
- Automatically turns power off in about 30 minutes to conserve battery life.
- Direct current measurement up to 10A AC and DC.
- With Holster.

	1009
DC V	400mV/4/40/400/600V(Input impedance 10MΩ) ±0.6%rdg±4dgt(400mV/4/40/400V) ±1.0%rdg±4dgt(600V)
AC V	400mV/4/40/400/600V(Input impedance 10MΩ) ±1.6%rdg±4dgt(20~400mV) ±1.3%rdg±4dgt(4/40V) ±1.6%rdg±4dgt(400/600V)
DC A	400/4000μA/40/400mA/4/10A ±2.0%rdg±4dgt(400/4000μA) ±1.0%rdg±4dgt(40/400mA) ±1.6%rdg±4dgt(4/10A)
AC A	400/4000μA/40/400mA/4/10A ±2.6%rdg±4dgt(400/4000μA) ±2.0%rdg±4dgt(40/400mA/4/10A)
Ω	400Ω/4/40/400kΩ/4/40MΩ ±1.0%rdg±4dgt(400Ω/4/40/400kΩ/4MΩ) ±2.0%rdg±4dgt(40MΩ)
Continuity buzzer	400Ω(Buzzer sounds below 70Ω)
Diode test	1.5V Release Voltage : Approx. 0.4mA test current
Capacitance test	40/400nF/4/40/100μF
Frequency	5.12/51.2/512Hz/5.12/51.2/512kHz/5.12/10MHz
DUTY	0.1~99.9%(Pulse width/Pulse period) ±2.5%±5dgt
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-031 IEC 61326-1
Power source	R6P(1.5V) × 2 (Auto power off : approx. 30 minutes)
Dimensions	155(L) × 75(W) × 33(D)mm
Weight	260g approx.
Accessories	7066A(Test leads) 8919(Ceramic fuse[10A/600V]) × 1 8923(Ceramic fuse [0.5A/600V]) × 1 R6P × 2 Instruction manual

photo : 1012

KEW 1011/1012

1012: TRUE RMS | DC V | DC A | Ω | •)) | ⊣⊢ | ⊣⊢ | Hz | DUTY | °C | 1011: DATA HOLD | MAX/MIN | REL | AUTO POWER OFF

- 6040 counts with Bar Graph display
- MIN/MAX function enables to record min & max value
- REL(relative value) function
  Saving the initial value at the start of measurement as a reference value (= zero)
  The difference between the later measured values and the reference value is indicated on the display
- Temperature measurement, selectable for °C and °F (KEW 1011)
  supplied with K-type temperature probe (8216):
  -50~300°C (-58~572°F)
- True RMS can measure and indicate distorted waveforms (KEW 1012)
- DUTY function
  (It is possible to measure Pulse width / Pulse period)

	1011	1012
DC V	600.0mV/6.000/60.00/600.0/600V (Input impedance :10MΩ, 100MΩ only 600mV) ±0.5%±2dgt(600.0mV/6.000/60.00/600.0V) ±0.8%±3dgt(600V)	
AC V	6.000/60.00/600.0/600V (Input impedance :10MΩ) ±1.0%±3dgt(6.000/60.00/600.0V) ±1.5%±3dgt(600V)	6.000/60.00/600.0/600V (Input impedance :10MΩ) ±1.5%±5dgt(6.000V) ±1.2%±3dgt(60.00/600.0V) ±1.5%±5dgt(600V)
DC A	600/6000μA/60/600mA/6/10A ±1.2%±3dgt(600/6000μA/60/600mA) ±2.0%±5dgt(6/10A)	
AC A	600/6000μA/60/600mA/6/10A ±1.5%±4dgt(600/6000μA/60/600mA) ±2.2%±5dgt(6/10A)	
Ω	600Ω/6/60/600kΩ/6/60MΩ ±1.0%±2dgt(600Ω/6/60/600kΩ/6MΩ) ±2.0%±3dgt(60MΩ)	
Continuity buzzer	0~600Ω(Buzzer sounds below 100Ω)	
Diode test	2.8V release voltage : Approx. 0.4mA test current	
Capacitance test	40/400nF/4/40/400/4000μF	
Frequency	10/100/1000Hz/10/100/1000kHz/10MHz	
DUTY	0.1~99.9%(Pulse width/Pulse period) ±2.0%±2dgt(~10kHz)	
Temperature	-50~300°C(-58~572°F) (with the use of Temperature probe 8216)	—
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 CAT.Ⅱ 600V Pollution degree 2 IEC 61010-031 IEC 61326	
Power source	R6P(1.5V) × 2 (Auto power off : approx. 15 minutes)	
Dimensions	161(L) × 82(W) × 50(D)mm	
Weight	Approx. 280g	
Accessories	7066A(Test leads) 8216(K-type temperature probe)(1011 Only) 8918(Ceramic fuse[0.8A/600V]) × 1 built-in 8919(Ceramic fuse[10A/600V]) × 1 built-in R6P × 2 Instruction manual	

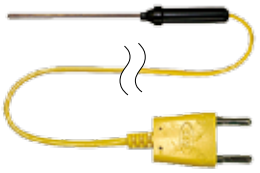
Accessories

MODEL 7066A
Test leads

MODEL 8216
Temperature probe

Range:-50~300°C (-58~572°F)

Note : KEW1011 can measure max. 700°C
In order to measure over 300°C, please use a K-type temperature probe available in the market.



DIGITAL MULTIMETERS

KEW 1018 (Soft case type)/1018H (Hard case type)

CE

DC AC V | Ω | •))) | ⊣▶⊢ | ⊣⊢ | Hz | DUTY | DATA HOLD | REL | AUTO POWER OFF

- Display : 4000 counts.
- Auto range.
- Diode test feature.
- Capacitance test feature.
- Continuity test.

	1018/1018H
DC V	400mV/4/40/400/600V(Input impedance 10MΩ) ±0.8%rdg±5dgt(400mV/4/40/400V) ±1.0%rdg±5dgt(600V)
AC V	4/40/400/600V(Input impedance 10MΩ) ±1.3%rdg±5dgt(4/40V) ±1.6%rdg±5dgt(400/600V)
Ω	400Ω/4/40/400kΩ/4/40MΩ ±1.0%rdg±5dgt(400Ω/4/40/400kΩ/4MΩ) ±2.5%rdg±5dgt(40MΩ)
Continuity buzzer	400Ω(Buzzer sounds below 120Ω)
Diode test	4V release voltage : Approx. 0.4mA test current
Capacitance test	4nF/40nF/400nF/4µF/40µF/200µF
Frequency	10/100Hz/1/10kHz (Input sensitivity Voltage:more than 1.5V)
Duty	0.1~99.9% ±2.5%rdg±5dgt(Pulse width/Pulse cycle)
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-031 IEC 61326-1
Power source	LR44(1.5V) × 2 (Auto power off : approx. 15 minutes)
Dimensions	107(L) × 54(W) × 10(D)mm
Weight	70g approx.
Accessories	LR44× 2 Instruction manual 9115(Carrying case[Soft]) 9114(Carrying case[Hard])

▲Soft case type

▲Hard case type

KEW 1030

CE

DC AC V | Ω | •))) | ⊣▶⊢ | ⊣⊢ | Hz | DUTY | ☼ | DATA HOLD | REL | AUTO POWER OFF

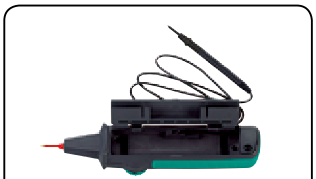
- Compact in Size, Light in Weight and Simple in Use
- Double moulding provides comfortable and good feeling in hand
- Penlight illuminates brightly the point to be measured, even in dark place
- Backlight LCD is highly visible, even in darkness
- Unique wrapping mechanism for test lead in the rear side compartment
- Unique protection mechanism for the test prod for safety
- All ranges including Ohm range are protected against overload voltage of 600V

	1030
DC V	400m/4/40/400/600V(5 range auto) ±0.8%rdg±5dgt(400mV~400V) ±1.0%rdg±5dgt(600V)
AC V	4/40/400/600V(4 range auto) ±1.3%rdg±5dgt(4/40V)(50/60Hz) ±1.6%rdg±5dgt(400/600V) (50/60Hz)
Ω	400/4k/40k/400k/4M/40MΩ(6 range auto) ±1.0%rdg±5dgt(400Ω~4MΩ) ±2.5%rdg±5dgt(40MΩ)
Continuity buzzer	Buzzer sounds when resistance is 120Ω or less.
Diode test	Test voltage approx. 0.3~1.5V
Capacitance test	50n/500n/5µ /50µ /100µF(5 range auto) ±3.5%rdg±10dgt(50nF) ±3.5%rdg±5dgt(500n~50µF) ±4.5%rdg±5dgt(100µF)
Frequency	5/50/500/5k/50k/200kHz ±0.1%rdg±5dgt (Input sensitivity Voltage : more than 1.5V[~50kHz] Voltage:more than 10V[>200kHz])
Duty	0.1~99.9% ±2.5%rdg±5dgt (Pulse width / Pulse cycle)
Data hold	The measured value can be hold by pressing Data hold button
Battery voltage warning	When the battery voltage drops to 2.4V±0.2V or less
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V IEC 61010-031 IEC 61326-1(EMC)
Power source	Button type battery LR44(SR44)(1.5V) × 2 (Auto power off : approx. 30 minutes)
Dimensions	190(L) × 39(W) × 31(D)mm
Weight	Approx. 100g (including batteries)
Accessories	9130(Carrying case) LR44(1.5V) × 2 Instruction manual

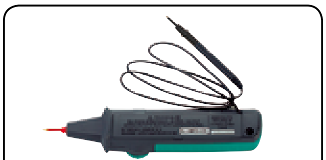
Protection cover prevents unforeseen accident

Pull up and turn.
then, cover

Wrapping mechanism for test lead in rear side compartment



Release test lead from holder.



Close the lid after taking out the test lead through upper right hand side hole.

DIGITAL MULTIMETERS

MODEL 2000 Ø6 MAX 60A /2001 Ø10 MAX 100A

KEW MATE

photo : 2001

	2000	2001
DC V	340mV/3.4/34/340/600V (Input impedance : 10MΩ) ±1.5%rdg±4dgt	
AC V	3.4/34/340/600V (Input impedance : 10MΩ) ±1.5%rdg±5dgt[50~400Hz]	
DC A	60A ±2%rdg±5dgt	100A ±2%rdg±5dgt
AC A	60A ±2%rdg±5dgt(50/60Hz)	100A ±2%rdg±5dgt(50/60Hz)
Ω	340Ω/3.4/34/340kΩ/3.4/34MΩ ±1%rdg±3dgt(0~340kΩ) ±5%rdg±5dgt(3.4MΩ) ±15%rdg±5dgt (34MΩ)	
Continuity buzzer	Buzzer sounds below 30±10Ω (Continuity buzzer works on 340Ω range only)	
Frequency	(AC A)3.4/10kHz ±0.1%rdg±1dgt (AC V)3.4/34/300kHz ±0.1%rdg±1dgt	
	(Input sensitivity Current:more than 15A Voltage:more than 30V)	(Input sensitivity Current:more than 25A Voltage:more than 30V)
Conductor size	ϕ6mm max.	ϕ10mm max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-031, IEC 61010-2-032, IEC 61326-1	
Power source	R03(DC1.5V) x 2 *Continuous measuring time : approx. 45 hours (Auto power save : approx. 10 minutes)	
Dimensions	128(L) × 87(W) × 24(D)mm	128(L) × 92(W) × 27(D)mm
Weight	210g approx.	220g approx.
Accessories	R03(1.5V) × 2 Instruction manual	
Optional	9107(Carrying case[Soft])	

DC AC V | DC AC A | Ω | •)) | Hz | DATA HOLD | AUTO POWER SAVE

- Capable of measuring AC and DC currents up to 60A(MODEL 2000) /100A (MODEL 2001) with OPEN CLAMP SENSOR.
- 3400 counts with bargraph display.
- Pocket size and heavy duty design.
- Sleep function to save battery consumption.
- Designed to international safety standard IEC61010-1 CAT. Ⅲ 300V

KEWMATE 2012R

	2012R
DC V	600.0mV/6.000/60.00/600.0V (Input impedance: approx. 10MΩ) ±1.0%rdg±3dgt
AC V	6.000/60.00/600.0V (Input impedance: approx.10MΩ) ±1.5%rdg±5dgt (45~400Hz)
DC A	60.00/120.0A ±2.0%rdg±8dgt (60A) ±2.0%rdg±5dgt (120A)
AC A	60.00/120.0A ±2.0%rdg±5dgt (45~65Hz)
Ω	600.0Ω/6.000/60.00/600.0kΩ/6.000/60.00MΩ ±1.0%rdg±5dgt (600Ω/6/60/600kΩ) ±2.0%rdg±5dgt (6MΩ) ±3.0%rdg±5dgt (60MΩ)
Continuity buzzer	Buzzer sounds below 35±25Ω
Diode test	2V ±3.0%rdg±5dgt Open-loop voltage: approx. 2.7V
Capacitance	400.0nF/4.000/40.00μF ±2.5%rdg±10dgt
Frequency	AC A: 100/400Hz ±0.2%rdg±2dgt (100Hz) ±0.1%rdg±1dgt (100~400Hz) AC V: 100/1000Hz/10/100/300.0kHz ±0.2%rdg±2dgt (100Hz) ±0.1%rdg±1dgt (1000Hz/10/100/300.0kHz) (Input sensitivity Current: more than 6A Voltage: more than 6V [~10kHz]/more than 20V [10k~300kHz])
Conductor size	ϕ12mm max.
Applicable Standards	IEC 61010-1 CAT.Ⅲ 300V, CAT.Ⅱ 600V Pollution degree 2 IEC 61010-031, IEC 61010-2-032, IEC 61326
Power source	R03 (1.5V) × 2 *Continuous measuring time:DCV: approx. 150hours, ACA: approx. 25hours(Auto power save: approx. 15 minutes)
Dimensions	128 (L) × 92 (W) × 27 (D) mm
Weight	220g approx. (including batteries)
Accessories	R03 (1.5V) × 2, Instruction manual
Optional	9107 (Carrying case [Soft])

TRUE RMS | Ø12 | MAX 120A | DC AC V | DC AC A | Ω | •)) | ⊣⊢ | ⊣⊢ | Hz | DATA HOLD | AUTO POWER SAVE

- Innovative Multhimeters with current measurements up to 120A AC/DC
- Unique Open Jaw technology for AC/DC current measurements
- Very compact and as reliable as a traditional full size multimeter

Measuring current in a Switchboard

Servicing a Forklift

Servicing a car

DIGITAL MULTIMETERS

photo : 1052

photo : 1062

KEW 1051/1052
KEW 1061/1062

TRUE RMS | CAT.IV 600V | DC AC V | DC AC A | DC+AC (1061,1062) | Ω | LP-Ω (1062) | •))) | diode | capacitor
Hz | DUTY (1061,1062) | °C | dB (1061,1062) | backlight | DATA HOLD | PEAK HOLD (1062) | MAX/MIN AVG (Except for 1051) | REL | Filter
USB (Except for 1051) | AUTO POWER OFF

- True-RMS or MEAN value detection mode can be selected *only for 1052, 1062
- DC+AC TRMS Measurement *only for 1061, 1062
  AC and DC values are displayed simultaneously via dual display.
- Fast Peak Hold response time of 250μs *only for 1062
- Low-pass filter *except for 1061
- Low Power-Ω measurements *only for 1062
- User calibration function

Safety design for industrial use

- Complies with IEC 61010-1 CAT. Ⅲ 1000V, CAT. Ⅳ 600V
- Terminal shutter to prevent incorrect test leads' insertion in current terminals
- Very wide operating temperature range
  From -20 to +55°C for 1061/1062
  From -10 to +55°C for 1051/1052

Reliable support for data management *except for 1051

- Large data internal memory
- Download data and Live Monitoring on a PC via the USB interface (Option for USB Communication set)*only for 1062

High Accuracy, High Performance and Reliable Measurements

- Top accuracy
  0.02% basic DC accuracy for 1061/1062.
  0.09% basic DC accuracy for 1051/1052.
- Dual display
  1061/1062: 50,000 counts, Bar graph with 51 segments. White back light display.
  1051/1052: 6,000 counts, Bar graph with 31 segments. Orange back light display.
- True-RMS Measurements
- Wide AC Frequency bandwidth from 10Hz to 100kHz *only for 1062

	1051	1052	1061	1062
Detection mode	RMS	MEAN/RMS (switch)	RMS	MEAN/RMS (switch)
DC V	600.0mV/6.000/60.00/600.0/1000V (Input impedance: 10MΩ [600mV/60/600/1000V], 11MΩ [6V]) ±0.09%rdg±2dgt (Basic accuracy)		50.000/500.00/2400.0mV/5.0000/50.000/500.00/1000.0V (Input impedance: Approx. 100MΩ [50/500/2400mV], 10MΩ [5/50/500/1000V]) ±0.02%rdg±2dgt (Basic accuracy)	
AC V [RMS]	600.0mV/6.000/60.00/600.0/1000V (Input impedance: 10MΩ<200pF [600mV], 11MΩ<50pF [6V], 10MΩ<50pF [60/600/1000V]) ±0.5%rdg±5dgt (Basic accuracy)		50.000/500.00mV/5.0000/50.000/500.00/1000.0V (Input impedance: 11MΩ<50pF [50/500mV/5V],10MΩ<50pF [50/500/1000V]) ±0.7%rdg±30dgt (Basic accuracy)	±0.4%rdg±30dgt (Basic accuracy)
AC V [MEAN] *	–	–	–	50.000/500.00mV/5.0000/50.000/500.00/1000.0V(Input impedance: 11MΩ<50pF [50/500mV/5V], 10MΩ<50pF[50/500/1000V]) ±1%rdg±30dgt (Basic accuracy)
DCV+ACV	–	–	5.0000/50.000/500.00/1000.0V (Input impedance: 11MΩ<50pF [5V], 10MΩ<50pF [50/500/1000V]) ±1%rdg±10dgt (Basic accuracy)	±0.5%rdg±10dgt (Basic accuracy)
DC A	600.0/6000μA/60.00/440.0mA/6.000/10.00A ±0.2%rdg±2dgt (Basic accuracy)		500.00/5000.0μA/50.000/500.00mA/5.0000/10.000A ±0.2%rdg±5dgt (Basic accuracy)	
AC A [RMS]	600.0/6000μA/60.00/440.0mA/6.000/10.00A ±0.75%rdg±5dgt (Basic accuracy)		500.00/5000.0μA/50.000/500.00mA/5.0000/10.000A ±1%rdg±20dgt (Basic accuracy)	±0.75%rdg±20dgt (Basic accuracy)
AC A [MEAN] *	–	–	–	500.00/5000.0μA/50.000/500.00mA/5.0000/10.000A ±1.5%rdg±20dgt (Basic accuracy)
DCA+ACA	–	–	500.00/5000.0μA/50.000/500.00mA/5.0000/10.000A ±1.5%rdg±10dgt (Basic accuracy)	±1%rdg±10dgt (Basic accuracy)
Ω	600.0Ω/6.000/60.00/600.0kΩ/6.000/60.00MΩ ±0.4%rdg±1dgt (Basic accuracy)		500.00Ω/5.0000/50.000/500.00kΩ/5.0000/50.000MΩ ±0.1%rdg±2dgt (Basic accuracy)	±0.05%rdg±2dgt (Basic accuracy)
LowPower-Ω *	–	–	–	5.000/50.00/500.0kΩ/5.000MΩ ±0.2%rdg±3dgt (Basic accuracy)
Continuity buzzer	600.0Ω (The buzzer turns on for resistances lower than 50±30Ω)		500.0Ω (The buzzer turns on for resistances lower than 100±50Ω)	
Diode test	2.000V ±1%rdg±2dgt Open circuit voltage: <3.5V (Approx. 0.5mA Measuring Current)		2.4000V ±1%rdg±2dgt Open circuit voltage: <5V (Approx. 0.5mA Measuring Current)	
Capacitance	10.00/100.0nF/1.000/10.00/100.0/1000μF ±2%rdg±5dgt (Basic accuracy)		5.000/50.00/500.0nF/5.000/50.00/500.0μF/5.000/50.00mF ±1%rdg±5dgt (Basic accuracy)	
Frequency	10.00~99.99/90.0~999.9Hz/0.900~9.999/9.00~99.99kHz ±0.02%rdg±1dgt (Basic accuracy)		2.000~9.999/9.00~99.99/90.0~999.9Hz/0.900~9.999/9.00~99.99kHz ±0.02% rdg±1dgt (Basic accuracy)	
DUTY	–	–	10~90% ±1%rdg	
Temperature	-50~600°C ±2%rdg±2°C (with the use of K-type Temperature probe)		-200~1372°C ±1%rdg±1.5°C (with the use of K-type Temperature probe)	
Application standards	IEC 61010-1 CAT.Ⅳ 600V, CAT.Ⅲ 1000V Pollution degree 2, IEC 61010-031, IEC 61326-1 (EMC)			
Power source	R6 (1.5V)×4 (Auto power off: approx. 20 minutes)			
Dimensions	192(L)×90(W)×49(D) mm			
Weight	Approx. 560g (including batteries)			
Accessories	7220A (Test Leads), R6×4, 8926 (Fuse [440mA/1000V])×1 (included), 8927 (Fuse [10A/1000V])×1 (included) Instruction manual			

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.

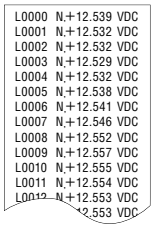
Data management with the software DMM Application*

- Stored data of internal memory can be monitored by PC.
- 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.

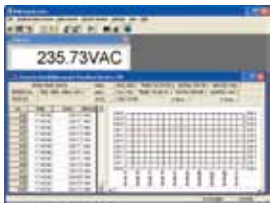
Data analysis with Excel

Printer output



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)

DMM Application software

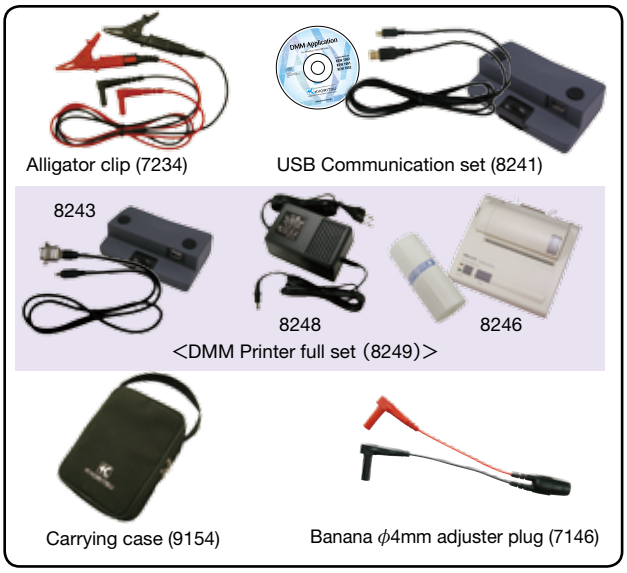


System requirements
OS: Windows®7(32/64bit)/Vista/XP
Display: XGA (Resolution 1024 x 768 dots) or more
Hard-disk: Space required 10Mbyte or more
Others: With CD-ROM drive and USB port

* Windows® is a registered trademark of Microsoft in the United States.

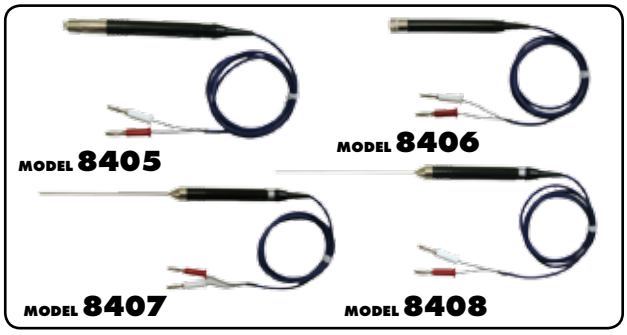
Optional Accessories

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 Adapter+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. 500ºC (Surface type, Point material: Ceramic)
	8406	Max. 500ºC (Surface type)
	8407	Max. 700ºC (Liquid, Semi-solid)
	8408	Max. 600ºC (Air, Gas)
Clamp sensor	8121	AC 100A
	8122	AC 500A
	8123	AC 1000A
	8146	AC 30A
	8147	AC 70A
	8148	AC 100A
Banana ϕ4mm Adjuster Plug	7146	length :190mm
Carrying case	9154	Soft case (for the main unit with test leads and communication cable)



Thermocouple Type K Specification

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



Clamp sensor Specification

	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	Surface type	AC 100A	AC 500A	AC 1000A	AC 30A	AC 70A	AC 100A
Output voltage	(Liquid, Semi-solid)	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

CLAMP METERS

CLAMP METERS

Selection Guide of Clamp Meters

	AC Clamp Meters										Fork Current Tester	DC Milliamp Clamp Meter
	2608A	**2805**	**2007A**	**2017**	**2031**	**2027**	**2040**	**2200**	**2002PA**	**2002R**	**2300R**	**2500**
Appearance												
Conductor size Φ	ϕ33mm	ϕ30mm	ϕ33mm	ϕ33mm	ϕ24mm	ϕ33mm	ϕ33mm	ϕ33mm	ϕ55mm	ϕ55mm	ϕ10mm	ϕ6 mm
Display	Analogue	Analogue	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital	Digital
Detection method TRUE RMS	–	–	–	–	–	✓	–	–	–	✓	✓	–
Frequency response	50/60Hz	50~400Hz	40~400Hz	45~1kHz	40~1kHz	40~1kHz	40~400Hz	45~65Hz(ACA) 45~500Hz(ACV)	40~1kHz	40~1kHz	DC 50/60Hz	DC
Measurement												
AC A Max	300A	600A	600A	600A	200A	600A	600A	1000A	2000A	2000A	100A	–
AC A Resolution	0.2A	0.2A	0.1A	0.1A	0.01A	0.1A	0.1A	0.01A	0.1A	0.1A	0.1A	–
AC A Accracy	±3% of FS	±3% of FS	±1.5%R±4D	±1.5%R±4D	±2%R±5D	±1.5%R±4D	±1.5%R±5D	±1.4%R±6D	±1%R±3D	±1.5%R±3D	±2%R±5D	–
DC A Max	–	–	–	–	–	–	–	–	–	–	100A	120mA
DC A Resolution	–	–	–	–	–	–	–	–	–	–	0.1A	0.01mA
DC A Accracy	–	–	–	–	–	–	–	–	–	–	±2%R±5D	±0.2%R±5D
AC Voltage AC V	600V	600V	750V	600V	–	600V	600V	600V	750V	750V	–	–
DC Voltage DC V	60V	–	–	–	–	–	600V	600V	1000V	1000V	–	–
Resistance Ω	10KΩ	20KΩ	4000Ω	200Ω	–	200Ω	60MΩ	40MΩ	400KΩ	400KΩ	–	–
Continuity buzzer	–	–	✓	✓	–	✓	✓	✓	✓	✓	–	–
Frequency Hz	–	–	–	–	–	–	10kHz	–	–	–	–	–
Duty cycle ratio DUTY	–	–	–	–	–	–	✓	–	–	–	–	–
Diode test	–	–	–	–	–	–	✓	–	–	–	–	–
Capacitance	–	–	–	–	–	–	–	–	–	–	–	–
Temperature °C	✓	–	–	–	–	–	–	–	–	–	–	–
Function												
Non contact voltage NCV	–	–	–	–	–	–	✓	–	–	–	✓	–
Back light	–	–	–	–	–	–	–	–	–	–	–	✓
Data hold DATA HOLD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peak hold PEAK HOLD	–	–	–	–	–	–	–	–	✓	✓	–	–
Max/Min MAX/MIN	–	–	–	–	–	–	✓	–	–	–	–	–
Relative REL	–	–	–	–	–	–	✓	–	–	–	–	–
Output OUT PUT	–	–	–	–	–	–	–	–	✓	✓	–	✓
Other												
Operating temperature	0~40°C	-10~50°C	0~40°C	-10~50°C	0~40°C	-10~50°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	-10~50°C
Measurement categories	CAT.Ⅲ 300V CAT.Ⅱ 600V	–	CAT.Ⅲ 300V CAT.Ⅱ 600V CAT.Ⅰ 1000V	CAT.Ⅲ 600V	CAT.Ⅲ 300V	CAT.Ⅲ 600V	CAT.Ⅳ 600V	CAT.Ⅲ600V(ACA) CAT.Ⅲ300V(AC/DCV) CAT.Ⅱ600V(AC/DCV)	CAT.Ⅲ 600V CAT.Ⅱ 1000V	CAT.Ⅲ 600V CAT.Ⅱ 1000V	CAT.Ⅲ 300V	CAT.Ⅱ 300V
Power source	R6P x 1	R6P x 1	R03 x 2	6F22 x 1	LR-44 x 2	6F22 x 1	R03 x 2	R03/LR03 x 2	R6P x 2	R6P x 2	R03 x 2	LR6 x 4
Dimensions (L)x(W)x(D)mm	193x78x39	220x83x40	195x78x36	208x91x40	147x58.5x26	208x91x40	243x77x36	190x68x20	247x105x49	247x105x49	161x40x30	111x61x40 (Display unit) 104x34x20 (Sensor)
Weight(Approx.)	275g	390g	260g	400g	100g	400g	300g	120g	470g	470g	110g	290g
Accessories Test leads	7066A	7067	7066A	7066A	–	7066A	7066A	7107A	7107A	7107A	–	–
Accessories Fuse	8923x2	8901x2	–	–	–	–	–	–	–	–	–	–
Accessories Case	9097	9144	9097	9079	9090	9079	9094	9160	9094	9094	9113	9096

CLAMP METERS

Selection Guide of Clamp Meters

	AC/DC Clamp Meters						Leakage Clamp Meters					
	2010	**2033**	**2046R**	**2055 2056R**	**2003A**	**2009R**	**2431**	**2432**	**2433 2433R**	**2412**	**2434**	**2413F 2413R**
Appearance												
Conductor size Φ	ϕ7.5mm	ϕ24mm	ϕ33mm	ϕ40mm	ϕ55mm	ϕ55mm	ϕ24mm	ϕ40mm	ϕ40mm	ϕ40mm	ϕ28mm	ϕ68mm
Detection method TRUE RMS	–	–	✓	✓ (2056R)	–	✓	–	–	✓ (2433R)	–	–	✓ (2413R)
Frequency response	DC 40~2kHz	DC 20~1kHz	DC 40~400Hz	DC 40~400Hz	DC 40~1kHz	DC 20~1kHz	40~400Hz	20~1kHz	20~1kHz	40~400Hz	40~400Hz	40~1kHz
Measurement												
AC A Max	20A	300A	600A	1000A	2000A	2000A	200A	100A	400A	500A	100A	1000A
AC A Resolution	0.1mA	0.01A	0.1A	0.1A	0.1A	0.1A	0.01mA	0.001mA	0.01mA	0.01mA	0.1mA	0.1mA
AC A Accracy	±1%R±2D	±1%R±4D	±2%R±5D	±2%R±5D	±1.5%R±2D	±1.3%R±3D	±2%R±4D	±1%R±5D	±1%R±5D	±1%R±3D	±2%R±4D	±1%R±2D(2413R) ±1.8%R±5D(2413F)
DC A Max	20A	300A	600A	1000A	2000A	2000A	–	–	–	–	–	–
DC A Resolution	0.001A	0.01A	0.1A	0.1A	0.1A	0.1A						
DC A Accracy	±1%R±2D	±1%R±4D	±1.5%R±5D	±1.5%R±5D	±1.5%R±2D	±1.3%R±2D						
AC Voltage AC V	–	–	600V	600V	750V	750V	–	–	–	600V	–	–
DC Voltage DC V	–	–	600V	600V	1000V	1000V	–	–	–	–	–	–
Resistance Ω	–	–	60MΩ	60MΩ	4000Ω	4000Ω	–	–	–	200Ω	–	–
Continuity buzzer	–	–	✓	✓	✓	✓	–	–	–	–	–	–
Frequency Hz	–	–	10kHz	10kHz	–	10kHz	–	–	–	–	–	–
Duty cycle ratio DUTY	–	–	✓	✓	–	–	–	–	–	–	–	–
Diode test	–	–	✓	✓	–	–	–	–	–	–	–	–
Capacitance	–	–	✓	✓	–	–	–	–	–	–	–	–
Temperature °C	–	–	✓	✓ (2056R)	–	–	–	–	–	–	–	–
Function												
Non contact voltage NCV	–	–	✓	✓	–	–	–	–	–	–	–	–
Back light	–	–	✓	✓	–	–	–	–	–	–	–	✓ (2413R)
Data hold DATA HOLD	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peak hold PEAK HOLD	–	–	✓	✓ (2056R)	✓ (Max)	✓*	–	✓	✓	–	–	✓
Max/Min MAX/MIN	–	–	✓	✓	–	–	–	–	–	–	–	–
Relative REL	–	–	✓	✓	–	–	–	–	–	–	–	–
Output OUT PUT	✓	–	–	–	✓	✓	–	–	–	✓	–	✓
Filter Filter	–	–	–	–	–	–	✓	✓	✓	✓	✓	✓
Other												
Operating temperature	0~50°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C	0~40°C
Measurement Categories	–	CAT.Ⅲ 300V	CAT.Ⅳ 600V	CAT.Ⅳ 600V	CAT.Ⅳ 600V CAT.Ⅲ 1000V	CAT.Ⅳ 600V CAT.Ⅲ 1000V	CAT.Ⅲ 300V	CAT.Ⅲ 300V	CAT.Ⅲ 300V	–	CAT.Ⅲ 300V	CAT.Ⅲ 300V
Power source	6LR61 x 1	LR-44 x 2	R03 x 2	R03 x 2	R6P x 2	R6P x 2	LR-44 x 2	R03 x 2	R03 x 2	6F22 x 1	R03 x 2	6F22 x 1
Dimensions (L)x(W)x(D)mm	142x64x26 (Display unit) 153x23x18 (Sensor)	147x59x25	243x77x36	254x82x36	250x105x49	250x105x49	149x60x26	185x81x32	185x81x32	209x96x45	169x75x40	250x130x50
Weight(Approx.)	220g	100g	300g	310g	530g	540g	120g	290g	270g	450g	220g	570g
Accessories Test leads	–	–	7066A	7066A	7107A	7107A	–	–	–	7066A	–	–
Accessories Case	9071	9090	9094	9094	9094	9094	9090	9097	9097	9072	9097	9094

* In the PEAK mode, the auto-ranging feature is disabled and measuring ranges are fixed as follows.
DC/ ACA :0-400.0A
DC/ ACV :0-400.0V

ANALOGUE/DIGITAL CLAMP METERS

MODEL 2608A

Ø33 | MAX 300A | °C | AC A | DC AC V | Ω | DATA HOLD

- DC voltage range is also available especially for checking emergency battery operated power supply.
- Can measure temperature using optional probe.
- Tear drop shaped transformer jaws for ease of use.

	2608A
AC A	6/15/60/150/300A ±3% of FS
AC V	150/300/600V ±3% of FS
DC V	60V ±3% of FS
Ω	1/10kΩ(25/250Ω mid-scale) ±2% of scale length
Temperature	-20°C~+150°C(with the use of Temperature probe 7060) ±5°C(0°C~+100°C) ±10°C(other ranges)
Conductor size	ϕ33mm max.
Frequency response	50/60Hz
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-031 IEC 61010-2-032
Power source	R6P(AA)(1.5V) × 1
Dimensions	193(L) × 78(W) × 39(D)mm
Weight	275g approx.
Accessories	7066A(Test leads) 8923(Fuse [0.5A/600V]) × 2 9097(Carrying case) R6P(AA) × 1 Instruction manual
Optional	7060(Temperature probe) 8008(Multi-tran)

MODEL 2805

Ø30 | MAX 600A | AC A | AC V | Ω | DATA HOLD

- Range switch selects only one rotary scale at a time, making it easy to take readings correctly.
- A long time seller with proven reputation world wide for its easy-to-use functions.

	2805
AC A	6/20/60/200/600A ±3% of FS
AC V	150/300/600V ±3% of FS
Ω	2kΩ(25Ω mid-scale) ±3% of scale length
Conductor size	ϕ30mm max.
Frequency response	50/400Hz
Power source	R6P(AA)(1.5V) × 1
Dimensions	220(L) × 83(W) × 40(D)mm
Weight	390g approx.
Accessories	7067(Test leads) 8901(Fuse [0.5A/250V]) × 2 9144(Carrying case) R6P(AA) × 1 Instruction manual
Optional	8008(Multi-tran)

MODEL 2007A

Ø33 | MAX 600A | AC A | AC V | Ω | •))

- Sleep function to save battery.
- Data hold function.
- Digital display with maximum 4000 counts.

	2007A
AC A	400/600A ±1.5%rdg±4dgt[50/60Hz] ±2%rdg±5dgt[40~400Hz]
AC V	400/750V ±1.2%rdg±3dgt[50/60Hz] ±1.5%rdg±4dgt[40~400Hz]
Ω	400/4000Ω ±1.5%rdg±2dgt
Continuity buzzer	buzzer sounds below 50±35Ω
Conductor size	ϕ33mm max.
Frequency response	40Hz~400Hz
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V, CAT.Ⅱ 600V, CAT.Ⅰ 1000V IEC 61010-031 IEC 61010-2-032 IEC 61326(EMC)
Power source	R03(AAA)(1.5V) × 2 *Continuous measuring time : approx. 200 hours (Auto sleep function : approx. 10 minutes)
Dimensions	195(L) × 78(W) × 36(D)mm
Weight	260g approx.
Accessories	7066A(Test leads) 9097(Carrying case) R03(1.5V) × 2 Instruction manual
Optional	8008(Multi-tran)

MODEL 2002PA/2002R

2002R
TRUE RMS | Ø55 | MAX 2000A | AC A | DC AC V | Ω
10ms
•))) | DATA HOLD | PEAK HOLD | OUT PUT | AUTO POWER SAVE

- Can measure large AC current up to 2000A.
- Peak hold function.
- 55mm-dia large tear drop shaped jaws.

photo : 2002R

	2002PA	2002R
AC A	400A(0~400A) ±1%rdg±3dgt[50/60Hz] ±2%rdg±3dgt[40Hz~1kHz] 2000A(0~1500A) ±1%rdg±3dgt[50/60Hz] ±3%rdg±3dgt[40Hz~1kHz] 2000A(1500~2000A) ±3.0%rdg[50/60Hz]	400A(0~400A) ±1.5%rdg±3dgt[45~65Hz] ±2.5%rdg±3dgt[40Hz~1kHz] 2000A(0~1500A) ±2%rdg±5dgt[45~65Hz] ±3%rdg±5dgt[40Hz~1kHz] 2000A(1501~2000A) ±4%rdg[50/60Hz]
AC V	40/400/750V ±1%rdg±2dgt[50/60Hz] ±1.5%rdg±3dgt[40Hz~1kHz]	40/400/750V ±1%rdg±2dgt[45~65Hz] ±1.5%rdg±3dgt[40Hz~1kHz]
DC V	40/400/1000V ±1%rdg±2dgt	
Continuity buzzer	buzzer sounds below 50±35Ω	
Ω	400Ω/4k/40k/400kΩ ±1.5%rdg±2dgt	
Conductor size	ϕ55mm max.	
Frequency response	40Hz~1kHz	
Output	Recorder:DC400mV against AC400A DC200mV against AC2000A	
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V CAT.Ⅱ 1000V IEC 61010-031 IEC 61010-2-032 IEC 61326-1	
Power source	R6P(AA)(1.5V) × 2 *Continuous measuring time : approx. 150 hours (2002PA) *Continuous measuring time : approx. 80 hours (2002R) (Auto power save : approx. 10 minutes)	
Dimensions	247(L) × 105(W) × 49(D)mm	
Weight	470g approx.	
Accessories	7107A(Test leads) 8201(Output plug) 9094(Carrying case) R6P(AA) × 2 Instruction manual	
Optional	8008(Multi-tran) 7014(Output cord)	

MODEL 2017

Ø33 | MAX 600A | AC A | AC V | Ω | •)))
DATA HOLD

- Tear drop shaped jaws for ease of use in tight places and crowded cable areas.
- Three functions in one unit; AC current, AC voltage and resistance.
- Resistance range provides audible continuity test.
- Frequency response from 40Hz to 1kHz on AC current and voltage ranges.

	2017
AC A	200/600A ±1.5%rdg±4dgt[50/60Hz](200A) ±1%rdg±3dgt[50/60Hz](600A) ±2%rdg±5dgt[45Hz~1kHz]
AC V	200/600V ±1%rdg±2dgt[50/60Hz] ±1.5%rdg±4dgt[45Hz~1kHz]
Ω	200Ω ±1.2%rdg±2dgt
Continuity buzzer	buzzer sounds below 30±20Ω
Conductor size	ϕ33mm max.
Frequency response	45Hz~1kHz
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V Pollution degree 2 IEC 61010-031
Power source	6F22(9V) × 1 *Continuous measuring time : approx. 200 hours
Dimensions	208(L) × 91(W) × 40(D)mm
Weight	400g approx.
Accessories	7066A(Test leads) 9079(Carrying case) 6F22 × 1 Instruction manual
Optional	8008(Multi-tran)

MODEL 2027

TRUE RMS | Ø33 | MAX 600A | AC A | AC V | Ω
•))) | DATA HOLD

- True RMS reading instrument that permits precise measurements of non-sinusoidal waveform AC current and voltage.
- Three functions in one unit; AC current, AC voltage and resistance.

	2027
AC A	200/600A(True RMS) ±1.5%rdg±4dgt[50/60Hz] (CF<3) ±2%rdg±5dgt[40Hz~1kHz](Sine wave)
AC V	200/600V(True RMS) (CF<3) ±1.5%rdg±4dgt[50/60Hz] ±2%rdg±5dgt[40Hz~1kHz]
Ω	200Ω ±1.2%rdg±4dgt
Continuity buzzer	buzzer sounds below 30±20Ω
Conductor size	ϕ33mm max.
Frequency response	40Hz~1kHz
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V Pollution degree 2 IEC 61010-031
Power source	6F22(9V) × 1 *Continuous measuring time : approx. 200 hours)
Dimensions	208(L) × 91(W) × 40(D)mm
Weight	400g approx.
Accessories	7066A(Test leads) 9079(Carrying case) 6F22 × 1 Instruction manual
Optional	8008(Multi-tran)

DIGITAL CLAMP METERS AC

MODEL 2031

Ø24 | MAX 200A | AC A | DATA HOLD | AUTO POWER OFF

- Can measure large AC current up to 200A.
- 24mm-dia tear drop shaped jaws.

	2031
AC A	20A ±2%rdg±5dgt[50Hz~1kHz] 200A ±2%rdg±5dgt[50/60Hz] ±3%rdg±10dgt[40Hz~1kHz]
Conductor size	ϕ24mm max.
Frequency response	40Hz~1kHz
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V
Power source	LR-44(1.5V) × 2 *Continuous measuring time : approx. 100 hours (Auto power off : approx. 10 minutes)
Dimensions	147(L) × 58.5(W) × 26(D)mm
Weight	100g approx.
Accessories	9090 (Carrying case) LR-44 × 2 Instruction manual
Optional	8008(Multi-tran)

KEW 2200

Ø33 | MAX 1000A | AC A | DC AC V | Ω | •)) | DATA HOLD | AUTO POWER OFF

- Ultra Slim and lightweight Handy design
- 1000A AC Clamp Meter AC40/400/1000A Auto Range.
- ϕ33mm Tear Drop Jaw easy to use in tight places.
- DMM function ACV, DCV, Ω, Continuity Buzzer.
- Fuseless electronic protection on Ω/•)) up to 600V

	2200
AC A	40.00/400.0/1000A (Auto-ranging) ±1.4%rdg±6dgt(50/60Hz) ±1.6%rdg±6dgt(45~65Hz)
AC V	4.000/40.00/400.0/600V (Auto-ranging) ±1.8%rdg±7dgt(45~65Hz) ±2.3%rdg±8dgt(65~500Hz)
DC V	400.0mV/4.000/40.00/400.0/600V (Auto-ranging) ±1.0%rdg±3dgt
Ω	400.0Ω/4.000/40.00/400.0kΩ/4.000/40.00MΩ (Auto-ranging) ±2.0%rdg±4dgt(0~400kΩ) ±4.0%rdg±4dgt(4MΩ) ±8.0%rdg±4dgt(40MΩ)
Continuity buzzer	buzzer sounds below 50±30Ω
Conductor size	ϕ33mm max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V (AC A), CAT.Ⅲ 300V/CAT.Ⅱ 600V(AC/DC V), Pollution degree 2 IEC 61010-031, IEC 61010-2-032 IEC 61326(EMC)
Power source	R03/LR03(AAA)(1.5V) × 2
Dimensions	190(L) × 68(W) × 20(D)mm
Weight	Approx. 120g(including batteries)
Accessories	7107A(Test leads), 9160(Carrying case), R03(AAA)× 2, Instruction manual
Optional	8008(Multi-tran)

KEW 2040

CAT.Ⅳ 600V | Ø33 | MAX 600A | AC A | DC AC V | Ω | •)) | Hz | DUTY | ⊣▸⊢ | DATA HOLD | MAX/MIN | REL | AUTO POWER SAVE

- CAT. Ⅳ Clamp Meters can measure the Voltage and Current in both very low and high power circuits.
- Thus, very useful for power distribution companies, power utilities and maintenance fields.
- Red LED, as "Non Contact Voltage" function, gives warning to the user on the presence of AC voltage.
- Double molding gives comfortable feeling in palm.
- 6039 counts with Bar Graph display.
- MIN./MAX. function enables to keep easily min. & max. value during measurement.

	2040
AC A	0~600.0A ±1.5%rdg±5dgt(50/60Hz) ±3.5%rdg±8dgt(40~400Hz)
AC V	6/60/600V (Auto Ranging) ±1.3%rdg±4dgt(50/60Hz) ±3.0%rdg±5dgt(40~400Hz)
DC V	600m/6/60/600V (Auto Ranging) ±1.0%rdg±3dgt
Ω	600/6k/60k/600k/6M/60MΩ (Auto Ranging) ±1%rdg±5dgt(600~6M) / ±5%rdg±8dgt(60M)
Continuity buzzer	Buzzer Sounds at 100Ω
Hz	10/100/1k/10kHz(Auto Ranging) (Input sensitivity Current:more than 50A[~1kHz] Voltage:more than 1V[~10kHz])
DUTY	0.1~99.9% (Pulse width / Pulse cycle) ±2.5%rdg±5dgt
Conductor size	ϕ33
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V IEC 61010-031 IEC 61010-2-032 IEC 61326
Power source	R03 (1.5V)(AAA) × 2 *Continuous measuring time : approx. 30 hours (Auto power save : approx. 15 minutes)
Dimensions	243(L) × 77(W) × 36(D) mm
Weight	300g
Accessories	7066A(Test leads) 9094(Carrying case) R03 × 2 Instruction manual
Optional	8008(Multi-tran)(AC only)

DIGITAL CLAMP METERS AC/DC

KEW 2003A

CAT.IV 600V | Ø55 | MAX 2000A | DC/AC A | DC/AC V | Ω | ●))) | DATA HOLD | PEAK HOLD (400ms) | OUTPUT | AUTO POWER SAVE

- Equipped to measure both AC and DC current with transformer jaws of large diameter.
- Can measure AC and DC currents up to 2000A.
- Output terminal for connection to recorders.
- AC/DC voltage, resistance measurement and continuity functions also available.

	2003A
AC A	400A/2000A(0~1000A) ±1.5%rdg±2dgt[50/60Hz] ±3%rdg±4dgt[40~500Hz] ±5%rdg±4dgt[500Hz~1kHz] 2000A(1001~2000A) ±3%rdg±2dgt[50/60Hz]
DC A	400/2000A ±1.5%rdg±2dgt
AC V	400/750V ±1.5%rdg±2dgt[50/60Hz] ±1.5%rdg±4dgt[40Hz~1kHz]
DC V	400/1000V ±1%rdg±2dgt
Ω	400/4000Ω ±1.5%rdg±2dgt
Continuity buzzer	buzzer sounds below 50±35Ω
Conductor size	ϕ55mm max.
Frequency response	40Hz~1kHz
Output	Recorder: DC400mV against AC/DC400A DC200mV against AC/DC2000A
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V, CAT.Ⅲ 1000V IEC 61010-031 IEC 61010-2-032
Power source	R6P(AA)(1.5V) ×2 *Continuous measuring time : approx. 100 hours(Auto power save : approx. 10 minutes)
Dimensions	250(L) × 105(W) × 49(D)mm
Weight	530g approx.
Accessories	7107A(Test leads) 8201(Output plug) 9094(Carrying case) R6P(AA) × 2 Instruction manual
Optional	8008(Multi-tran)(AC only) 7256(Output cord)

KEW 2009R

TRUE RMS | CAT.IV 600V | Ø55 | MAX 2000A | DC/AC A | DC/AC V | Ω | ●))) | Hz | DATA HOLD | PEAK HOLD (10ms) | OUTPUT | AUTO POWER OFF

- True RMS reading instrument ideal for accurate measurement of distorted waveforms and non-sinusoidal waveforms arising from thyristors.
- Can measure AC and DC currents up to 2000A.
- Output terminal for connection to recorders.

	2009R
AC A	400.0/2000A ±1.3%rdg±3dgt (0~400A,150~1700A)(45~66Hz) ±2.0%rdg±5dgt (0~400A,150~1700A)(20Hz~1kHz) ±2.3%rdg±3dgt (1701~2000A)(45~66Hz)
DC A	400.0/2000A ±1.3%rdg±2dgt
AC V	40.00/400.0/750V ±1.0%rdg±3dgt (45~66Hz) ±1.5%rdg±5dgt (20Hz~1kHz)
DC V	40.00/400.0/1000V ±1.0%rdg±2dgt
Ω	400.0/4000Ω ±1.5%rdg±2dgt
Continuity buzzer	Buzzer sounds below 20Ω
Hz	10~4000Hz ±1.5%rdg±5dgt (Input sensitivity Current:more than 40A Voltage:more than 10V)
Output	Recorder: DC400mV against AC/DC400A DC200mV against AC/DC2000A
Conductor size	ϕ55mm max.
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V, CAT.Ⅲ 1000V IEC 61010-031, IEC 61010-2-032, IEC 61326-1, IEC 61326-2-1
Power source	R6P (1.5V) × 2 *Continuous measuring time: approx. 15 hours (Auto power off: approx. 10 minutes)
Dimensions	250 (L) × 105 (W) × 49 (D) mm
Weight	Approx. 540g(including batteries)
Accessories	7107A(Test leads) 8201(Output plug) 9094(Carrying case) R6P(AA)(1.5V)x2, Instruction manual
Optional	7014(Output cord) 8008(Multi-tran)(AC only)

MODEL 2010

Ø7.5 | MAX 20A | DC/AC A | OUTPUT | External Power Supply

- High sensitivity, miniature AC/DC clamp meter.
- 0.1mA minimum resolution for AC current and 1mA minimum resolution for DC current.
- Output terminal for recorder connection.

	2010
AC A	200mA/2/20A ±1%rdg±2dgt[50/60Hz](200mA) ±1.5%rdg±4dgt[40Hz~2kHz](200mA) ±1%rdg±2dgt[50/60Hz](2A) ±2.5%rdg±5dgt[40Hz~2kHz](2/20A)
DC A	2/20A ±1%rdg±2dgt(2A) ±1.5%rdg±4dgt(20A)
Conductor size	ϕ7.5mm max.
Frequency response	DC 40Hz~2kHz
Output	Recorder: DC200mV against AC200mA/2/20A DC200mV against DC2/20A
Power source	6LR61(9V Alkaline battery) × 1 or AC adaptor *Continuous measuring time : approx. 20 hours (DC)/approx. 40 hours (AC)
Dimensions	142(L) × 64(W) × 26(D)mm : Display unit 153(L) × 23(W) × 18(D)mm : Sensor
Weight	220g approx.
Accessories	9071(Carrying Case) 6LR61 × 1 Instruction manual
Optional	8022(AC adaptor)(110V) 8023(AC adaptor)(220V) 7256(Output cord)

DIGITAL CLAMP METERS AC/DC

MODEL 2033

Ø24 | MAX 300A | DC AC A | DATA HOLD | AUTO POWER SAVE

- Smallest clamp meter capable of AC and DC current measurements.
- 300A auto ranging has minimum resolution of 0.01A AC/DC.
- Auto-zero function to allow one touch zero adjustment.

	2033
AC A	40/300A ±1%rdg±4dgt[50/60Hz](0~40A) ±2.5%rdg±4dgt[20Hz~1kHz](0~40A) ±1.5%rdg±4dgt[50/60Hz](20~200A) ±2.5%rdg±4dgt[20Hz~1kHz](20~200A) ±3.5%rdg[50/60Hz](200~300A) ±4%rdg[20Hz~1kHz](200~300A)
DC A	40/300A ±1%rdg±4dgt(0~±40A) ±1.5%rdg±4dgt(±20~±200A) ±3%rdg(±200~±300A)
Conductor size	ϕ24mm max.
Frequency response	DC 20Hz~1kHz
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-2-032
Power source	LR-44(1.5V) × 2 *Continuous measuring time : approx. 10 hours (Auto power save : approx. 5 minutes)
Dimensions	147(L) × 59(W) × 25(D)mm
Weight	100g approx.
Accessories	9090 (Carrying case) LR-44 × 2 Instruction manual
Optional	8008(Multi-tran)(AC only)

KEW 2046R

TRUE RMS | CAT.IV 600V | Ø33 | MAX 600A | DC AC V | DC AC A | Ω | •))) | Hz | DUTY | diode | capacitance | °C | light | DATA HOLD | PEAK HOLD 10ms | MAX/MIN | REL | AUTO POWER OFF

- Thus, very useful for power distribution companies, power utilities and maintenance fields.
- Red LED, as "Non Contact Voltage" function, gives warning to the user on the presence of AC voltage.
- Double molding gives comfortable feeling in palm.
- 6039 counts with Bar Graph display.

	2046R
AC A	0~600.0A ±2.0%rdg±5dgt(50/60Hz) ±3.5%rdg±5dgt(40~500Hz)
DC A	0~600.0A ±1.5%rdg±5dgt
AC V	6/60/600V(Auto Ranging) ±1.5%rdg±4dgt(50/60Hz) ±3.5%rdg±5dgt(40~400Hz)
DC V	600m/6/60/600V(Auto Ranging) ±1.0%rdg±3dgt
Ω	600/6k/60k/600k/6M/60MΩ(Auto Ranging) ±1%rdg±5dgt(600~6M) / ±5%rdg±8dgt(60M)
Continuity buzzer	Buzzer Sounds at 100Ω
Hz	10/100/1k/10kHz(Auto Ranging) (Input sensitivity Current:more than 50A[~1kHz] Voltage:more than 1V[~10kHz])
DUTY	0.1~99.9% ±2.5%rdg ±5dgt (Pulse width/Pulse cycle)
Capacitance test	400n/4μ/40μF(Auto Ranging)
Temperature	-50°C~+300°C(with the use of Temperature probe 8216)
Conductor size	ϕ33
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V IEC 61010-031, IEC 61010-2-032, IEC 61326
Power source	R03 (1.5V)(AAA) × 2 *Continuous measuring time : approx. 10 hours (Auto power off : approx. 15 minutes)
Dimensions	243(L) × 77(W) × 36(D) mm
Weight	300g
Accessories	7066A(Test leads) 9094(Carrying case) R03 × 2 Instruction manual
Optional	8008(Multi-tran)(AC only) 8216(Temperature probe)

KEW 2055/2056R

photo : 2056R

TRUE RMS (2056R) | CAT.IV 600V | Ø40 | MAX 1000A | DC AC V | DC AC A (2056R) | Ω | •))) | Hz | DUTY (2056R/10ms) | diode | capacitance | °C (2056R) | light | DATA HOLD | PEAK HOLD | MAX/MIN | REL | AUTO POWER SAVE (2055) | AUTO POWER OFF (2056R)

- Thus, very useful for power distribution companies, power utilities and maintenance fields.
- Red LED, as "Non Contact Voltage" function, gives warning to the user on the presence of AC voltage.
- Double molding gives comfortable feeling in palm.
- 6039 counts with Bar Graph display.

	2055	2056R
AC A	0~600.0/1000A ±1.5%rdg±5dgt(50/60Hz) ±3.0%rdg±5dgt(40~400Hz)	0~600.0/1000A ±2.0%rdg±5dgt(50/60Hz) ±3.5%rdg±5dgt(40~500Hz)
DC A	0~600.0/1000A ±1.5%rdg±5dgt	
AC V	6/60/600V(Auto Ranging) ±1.3%rdg±4dgt(50/60Hz) ±3.0%rdg±5dgt(40~400Hz)	6/60/600V(Auto Ranging) ±1.5%rdg±4dgt(50/60Hz) ±3.5%rdg±5dgt(40~400Hz)
DC V	600m/6/60/600V(Auto Ranging) ±1.0%rdg±3dgt	
Ω	600/6k/60k/600k/6M/60MΩ (Auto Ranging) ±1%rdg±5dgt(600~6M) / ±5%rdg±8dgt(60M)	
Continuity buzzer	Buzzer Sounds at 100Ω	
Capacitance test	–	400n/4μ/40μF(Auto Ranging)
Temperature	–	-50°C~+300°C (with the use of Temperature probe 8216)
Hz	10/100/1k/10kHz(Auto Ranging) (Input sensitivity Current:more than 50A[~1kHz] Voltage:more than 1V[~10kHz])	
DUTY	0.1~99.9% ±2.5%rdg ±5dgt (Pulse width/Pulse cycle)	
Conductor size	ϕ40	
Applicable standards	IEC 61010-1 CAT.Ⅳ 600V IEC 61010-031, IEC 61010-2-032, IEC 61326	
Power source	R03 (1.5V)(AAA) × 2 *Continuous measuring time : approx. 35 hours (Auto power save : approx. 15 minutes) (2055) *Continuous measuring time : approx. 10 hours (Auto power off : approx. 15 minutes) (2056R)	
Dimensions	254(L) × 82(W) × 36(D) mm	
Weight	310g	
Accessories	7066A(Test leads) 9094(Carrying case) R03 × 2 Instruction manual	
Optional	8008(Multi-tran)(AC only)	8008(Multi-tran)(AC only) 8216(Temperature probe)

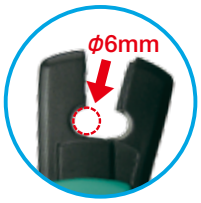
KEW 2500 NEW

DC MILLIAMP CLAMP METER

Ø6 | DC A | DATA HOLD | AUTO POWER OFF | OUTPUT

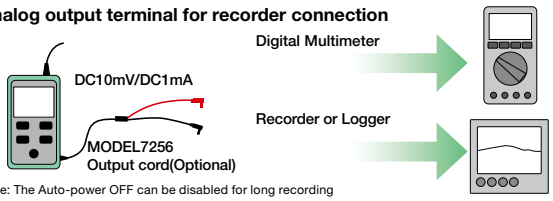
- 0.01mA resolution for DC current
- Top class measurement 0.2% accuracy
- Ø6mm clamp jaw easy to use in tight places
- Measurement from 0.01mA to 120.0mA
- Dual display with backlight shows both mA measurement and percent of 4-20 mA span
- Spotlight for illuminating measurement point
- Analog output terminal for recorder connection
- Complies with IEC61010-1 CAT.Ⅱ 300V

	2500
DC A	20/100mA(Auto ranging) ±0.2%rdg±5dgt(0.00mA～21.49mA) ±1.0%rdg±5dgt(21.0mA～120.0mA)
Conductor size	ϕ6mm max.
Analog output	Recorder: DC1000mV against DC100mA
Withstand voltage	2210V AC for 5 seconds
Applicable standards	IEC 61010-1, 61010-2-030 CAT.Ⅱ 300V IEC 61010-2-032 IEC 61326-1, 61326-2-2 IEC 60529 IP40
Operating temperature &humidity	-10～+50°C < 85%
Storage temperature & humidity	-20～+60°C < 85%
Power source	R6/LR6(AA) (1.5V) × 4
Dimensions	111(L) × 61(W) × 40(D)mm : Display unit 104(L) × 34(W) × 20(D)mm : Sensor 700mm : Sensor cable
Weight	Approx. 290g (including batteries)
Accessories	9096(Carrying case) LR6(AA) × 4 Instruction manual, Calibration certificate
Optional	7256(Output cord)



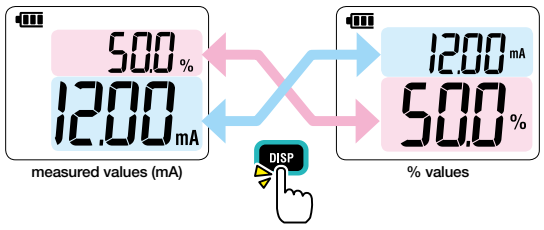
Diameter of measurable conductor : ϕ6mm max

Analog output terminal for recorder connection



Note: The Auto-power OFF can be disabled for long recording

Dual display gives simultaneous readout of % values and measured values(mA)



MODEL 2300R

KEW FORK CURRENT TESTER

TRUE RMS | Ø10 | MAX 100A | DC AC A | DATA HOLD | AUTO POWER OFF

- True RMS reading is an essential feature for accurate measurement.
- "Non Contact" voltage function indicates the presence of AC voltage by warning the user with an audible signal.
- Set the DC current range to zero in one touch with the Zero Adjust function.
- Auto Power Off.

	2300R
Current measurement	AC A 0~100.0A ±2.0%rdg±5dgt (50/60Hz) DC A 0~±100.0A ±2.0%rdg±5dgt
Crest factor	2.5
Non contact voltage	Detect AC voltage without contacting with socket wire During voltage detection, “Hi” flashes and a buzzer sounds
Maximum digit	1,049
Conductor size	Max ϕ10mm
Applicable standards	IEC 61010-1 CAT. Ⅲ 300V Pollution degree 2
Power source	R03 (AAA) × 2 (Auto power off : approx. 10 minutes) *Continuous measuring time : AC A approx. 46 hours DC A approx. 52 hours
Dimensions	161.3(L) × 40.2(W) × 30.3(D)mm
Weight	110g (including batteries)
Accessories	9113(Carrying case) R03 (AAA) × 2 Instruction manual

KEW FORK 2300R can be used in crowded connection boxes, where cables are very short, and space is too limited to clamp cables using with a traditional clamp meter.

LEAKAGE CLAMP METERS

MODEL 2431

Ø24 | MAX 200A | Resolution 0.01mA | AC A | DATA HOLD | Filter | AUTO POWER OFF

- Frequency Selector Switch to eliminate the effect of harmonics.
- Auto power-off function
- Rotary switch for easy one finger power-on and range selection.

	2431
AC A (50/60Hz)	20/200mA/200A ±3%rdg±5dgt(20/200mA/100A) ±5%rdg±5dgt(200A)
AC A (WIDE)	20/200mA/200A ±2%rdg±4dgt[50/60Hz](20/200mA/0~100A) ±5%rdg±6dgt[40~400Hz](20/200mA/0~100A) ±5%rdg±4dgt[50/60Hz](100.1~200A)
Conductor size	ϕ24mm max.
Frequency response	40~400Hz
Effect of external stray magnetic field ϕ15mm 100A	10mA AC max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-2-032
Power source	LR-44(1.5V) × 2 *Continuous measuring time : approx. 15 hours (Auto power off : approx. 10 minutes)
Dimensions	149(L)× 60(W) × 26(D)mm
Weight	120g approx.
Accessories	9090 (Carrying case) LR-44 × 2 Instruction manual
Optional	8008(Multi-tran)*

*These Multi-trans can not be used for leakage current measurement.

MODEL 2432

High Sensitive Model

Ø40 | MAX 100A | Resolution 0.001mA | AC A | DATA HOLD | 10ms PEAK HOLD | Filter | AUTO POWER OFF

- Frequency Selector Switch to eliminate the effect of harmonics.
- Three ranges: 4mA/40mA/100A.

	2432
AC A (50/60Hz)	4/40mA/100A ±1%rdg±5dgt(4/40mA) ±1%rdg±5dgt(0~80A) ±5%rdg(80.1~100A)
AC A (WIDE)	4/40mA/100A ±1%rdg±5dgt[50/60Hz] ±2.5%rdg±10dgt[20Hz~1kHz](4/40mA) ±1%rdg±5dgt[50/60Hz] ±2.5%rdg±10dgt[40Hz~1kHz](0~80A) ±5%rdg[50/60Hz] ±10%rdg[40Hz~1kHz](80.1~100A)
Maximum circuit voltage	600V AC/DC (between line/neutral) 300V AC/DC (against earth)
Conductor size	ϕ40mm max.
Frequency response	20Hz~1kHz(40Hz~1kHz:100A)
Effect of external stray magnetic field	2mA AC approx. in proximity to a 15mm-dia conductor carrying 100A AC
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-2-032
Power source	R03(DC1.5V) × 2 *Continuous measuring time : approx. 40 hours (Auto power off : approx. 10 minutes)
Dimensions	185(L) × 81(W) × 32(D)mm
Weight	290g approx.
Accessories	9097(Carrying case) R03(1.5V) × 2 Instruction manual
Optional	8008(Multi-tran) *

*These Multi-trans can not be used for leakage current measurement.

MODEL 2433/2433R

2433R | TRUE RMS | Ø40 | MAX 400A | Resolution 0.01mA | AC A | DATA HOLD | 10ms PEAK HOLD | Filter | AUTO POWER OFF

- Frequency Selector Switch to eliminate the effect of harmonics.
- Three ranges: 40mA/400mA/400A.

photo : 2433R

	2433/2433R
AC A (50/60Hz)	40/400mA/400A ±1%rdg±5dgt(40/400mA) ±1%rdg±5dgt(0~350A:2433, 0~300A:2433R) ±2%rdg(350.1~399.9A:2433, 300.1~399.9A:2433R)
AC A (WIDE)	40/400mA/400A ±1%rdg±5dgt[50/60Hz] ±2.5%rdg±10dgt[20Hz~1kHz](40/400mA) ±1%rdg±5dgt[50/60Hz] ±2.5%rdg±10dgt[40Hz~1kHz] (0~350A:2433, 0~300A:2433R) ±2%rdg[50/60Hz] ±5%rdg[40Hz~1kHz] (350.1~399.9A:2433, 300.1~399.9A:2433R)
Maximum circuit voltage	600V AC/DC (between line/neutral) 300V AC/DC (against earth)
Conductor size	ϕ40mm max.
Frequency response	20Hz~1kHz(40Hz~1kHz:400A)
Effect of external stray magnetic field	10mA AC approx. in proximity to a 15mm-dia conductor carrying 100A AC
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-2-032
Power source	R03 (DC1.5V) × 2 *Continuous measuring time : approx. 40 hours (2433) *Continuous measuring time : approx. 24 hours (2433R) (Auto power off : approx 10 minutes)
Dimensions	185(L) × 81(W) × 32(D)mm
Weight	270g approx.
Accessories	9097 (Carrying case) R03(1.5V) × 2 Instruction manual
Optional	8008 (Multi-tran)*

*These Multi-trans can not be used for leakage current measurement.

LEAKAGE CLAMP METERS

KEW 2413F/2413R

2413R: TRUE RMS, Ø68, MAX 1000A, AC A, DATA HOLD, PEAK HOLD (10/100ms), Resolution 0.1mA, OUT PUT, Filter, 2413R

- Large tranceformer jaws of 68mm diameter makes it possible to clamp on all three or four wires (3 phases) together for leakage current measurement.
- Frequency filter switch to eliminate the effect of the harmonics.
- 2 way analogue output terminal.

photo : 2413R

	2413F	2413R
AC A (50/60Hz)	200mA/2/20/200A/1000A ±1.5%rdg±2dgt(200mA/2/20A) ±2%rdg±2dgt(200A/0~500A) ±5.5%rdg(501~1000A)	200mA/2/20/200/1000A ±2.5%rdg±5dgt(200mA/2/20A) ±3.0%rdg±5dgt(200A/0~500A) ±5.5%rdg(501~1000A)
AC A (WIDE)	200mA/2/20/200A/1000A ±1%rdg±2dgt[50/60Hz] ±3%rdg±2dgt[40Hz~1kHz](200mA/2/20A) ±1.5%rdg±2dgt[50/60Hz] ±3.5%rdg±2dgt[40Hz~1kHz](200A/0~500A) ±5%rdg[50/60Hz] ±10%rdg[40Hz~1kHz](501~1000A)	200mA/2/20/200/1000A ±1.8%rdg±5dgt[50/60Hz] ±3.0%rdg±5dgt[40Hz~1kHz](200mA/2/20A) ±2.0%rdg±5dgt[50/60Hz] ±3.5%rdg±5dgt[40Hz~1kHz](200A/0~500A) ±5.0%rdg[50/60Hz](501~1000A)
Conductor size	ϕ68mm max.	
Frequency response	40Hz~1kHz	
Effect of external stray magnetic field ϕ15mm 100A	10mA AC max.	
Output	Waveform:AC200mV against the maximum value of each range (1000A range is 100mV) Recorder:DC200mV against the maximum value of each range (1000A range is 100mV)	
Crest factor	—	3.0 or Less
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-2-032	
Power source	6F22(9V) × 1 *Continuous measuring time : approx. 60 hours	
Dimensions	250(L) × 130(W) × 50(D)mm	
Weight	570g approx.	600g approx.
Accessories	9094(Carrying case) 6F22 × 1 Instruction manual	
Optional	7073(2WAY Output cord)	

MODEL 2412

Ø40, MAX 500A, Resolution 0.01mA, AC A, AC V, Ω, DATA HOLD, OUT PUT, Filter, External Power Supply, AUTO POWER OFF

- Digital clamp meter with tear drop shaped, medium size transformer jaws specially designed for leakage current measurement.
- Frequency filter switch to eliminate the effect of harmonics.

	2412
AC A (50/60Hz)	20/200mA/2/20/200/500A ±1.5%rdg±5dgt(20/200mA/2A) ±2%rdg±5dgt(20/200A) ±2.5%rdg±5dgt(500A)
AC A (WIDE)	20/200mA/2/20/200/500A ±1%rdg±3dgt[50/60Hz] ±5%rdg±5dgt[40~400Hz](20/200mA/2A) ±1.5%rdg±3dgt[50/60Hz] ±5%rdg±5dgt[40~400Hz](20/200A) ±2%rdg±3dgt[50/60Hz] ±5%rdg±5dgt[40~400Hz](500A)
AC V	600V ±2%rdg±5dgt[50/60Hz] ±5%rdg±5dgt[40~400Hz]
Ω	200Ω ±1.5%rdg±5dgt
Conductor size	ϕ40mm max.
Frequency response	40~400Hz
Effect of external stray magnetic field ϕ15mm 100A	10mA AC max.
Output	Recorder:DC200mV against the maximum value of each range (500A range is 50mV)
Power source	6F22(9V) × 1 or AC adaptor *Continuous measuring time : approx. 100 hours (Auto power off : approx. 60 minutes)
Dimensions	209(L) × 96(W) × 45(D)mm
Weight	450g approx.
Accessories	7066A(Test leads) 9072(Carrying case) 8025(Output plug) 6F22 × 1 Instruction manual
Optional	8008(Multi-tran)* 8022(AC adaptor)(110V) 8023(AC adaptor)(220V) 7256(Output cord)

*These Multi-trans can not be used for leakage current measurement.

MODEL 2434

Ø28, MAX 100A, Resolution 0.1mA, AC A, DATA HOLD, Filter, AUTO POWER SAVE

- Least affected by external stray magnetic field.
- 20mA AC max. in proximity to a 15mm-dia conductor carrying 100A AC.
- Frequency Selector Switch to eliminate the effect of harmonics.

	2434
AC A (50/60Hz)	400mA/4/100A ±2%rdg±4dgt
AC A (WIDE)	400mA/4/100A ±2%rdg±4dgt[50/60Hz] ±3%rdg±5dgt[40~400Hz]
Conductor size	ϕ28mm max.
Frequency response	40~400Hz
Effect of external stray magnetic field ϕ15mm 100A	20mA AC max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61010-2-032
Power source	R03(AAA) (1.5V) × 2 *Continuous measuring time : approx. 150 hours(Auto power save : approx. 10 minutes)
Dimensions	169(L) × 75(W) × 40(D)mm
Weight	220g approx.
Accessories	9097(Carrying case) R03 × 2 Instruction manual
Optional	8008(Multi-tran)*

*These Multi-trans can not be used for leakage current measurement.

KEW 8115

CLAMP SENSOR

Ø12 | AC MAX 130A | DC MAX 180A | DC AC A | AUTO POWER OFF

- Permits extension of the AC and DC current ranges of almost any Digital Multimeters (DMMs) without breaking the circuit under test.
- Using KEW 8115 with KEW 1051/1052 (DMM) the display can be set for direct reading in A.

	8115	
Measuring range	AC 0.1~130Arms	DC 0~±180A
Output voltage	AC 10mV/A	DC 10mV/A
Accuracy	±1.2%rdg±0.4mV (50/60Hz) ±2.5%rdg±0.4mV (40Hz~1kHz)	±1.2%rdg±0.4mV (*)
Low battery warning	2.2V±0.2V or less - Red LED flash (1.9V±0.2V - Automatically power off)	
Conductor size	ϕ12mm max.	
Operating temperature & humidity range	-10 to 55°C, relative humidity 85% or less (no condensation)	
Output impedance	Approx. 10Ω or less	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2, IEC 61010-2-032, IEC 61326-1	
Power source	DC3V (size AAA alkaline battery LR03×2pcs) Continuous use: approx. 40 hours(Auto power off: approx. 20 minutes)	
Cord length	Approx. 1,200mm	
Output connector	ϕ4mm banana plug	
Dimensions	127(L)×42(W)×22(D) mm	
Weight	Approx. 140g	
Accessories	Soft case, LR03×2, Instruction manual	

*This accuracy is defined after the completion of the KEW 8115 zero-adjustment whilst connected to a DMM.

MODEL 8112/8112BNC

Ø8 | MAX 120A | AC A

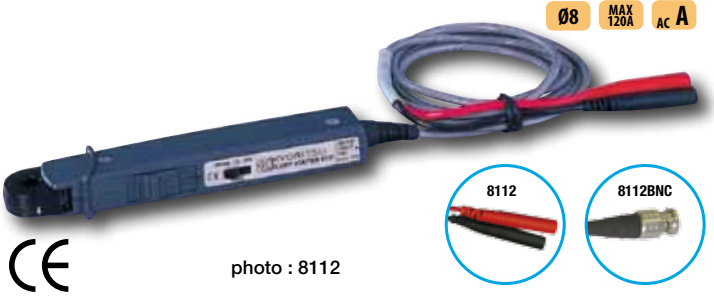


photo : 8112

Model 8112 clamp adaptor is designed to be an AC current/voltage conversion probe capable of measuring AC current from 0.1mA to 120A in conjunction with digital multimeters.

Model 8112BNC is an AC clamp adaptor designed for use with oscilloscopes. Output cord has a BNC connector which enables direct observation of current waveform on oscilloscope. Specifications are same as those for Model 8112.

		8112/8112BNC		
Range	Measuring ranges	Output voltage	Accuracy	Frequency response
200mA	AC 0~500mA	AC1V/A (1000mA→1V)	±1.5%rdg±0.2mA	50Hz~1kHz
	AC 0~1000mA		±3%rdg±0.4mA	40Hz~10kHz
2A	AC 0~20A	AC100mV/A (20A→2V)	±1%rdg±1mA	40Hz~1kHz
			±1.5%rdg±2mA	1k~10kHz
20A	AC 0~20A	AC10mV/A (120A→1.2V)	±1%rdg±0.01A	40Hz~1kHz
	AC 20~60A		±2.5%rdg	50Hz~10kHz
	AC 60~120A		±2.5%rdg	100Hz~10kHz
Conductor size	ϕ8mm max.			
Frequency response	30Hz~100kHz(-3dB)			
Applicable standard	IEC 61010-1 CAT.Ⅱ 100V Pollution degree 2(8112 Only).			
Dimensions	153(L) × 18(W) × 23(D)mm			
Weight	100g approx.			
Accessories	9057(Carrying case) Instruction manual			

MODEL 8008

MULTI-TRAN

Ø100 | MAX 3000A | AC A

Adaptor designed to increase the measuring capability of your clamp meters. With the use of the multi-tran you can not only extend current ranges but also clamp on a conductor of larger diameter.

	8008
Measuring range	0~3000A AC
Ratio/Range	10 : 1 (input to output)
Accuracy	±2% of input±0.5A
Allowable measurement time	0~1000A(continuous) 1000~1500A(10 minutes max.) 3000A(30 seconds max.)
Conductor size	ϕ100mm max.(100 × 150mm)
Frequency response	50Hz/60Hz
Safety standard	IEC 61010-1 CAT.Ⅲ300V Pollution degree 2
Dimensions	317(L) × 150(W) × 30(D)mm 45(L) × 40(W) × 10(D)mm Output coil
Weight	750g approx.
Accessories	9056(Carrying case)

*These Multi-trans can not be used for leakage current measurement.


INSULATION TESTERS

INSULATION TESTERS

Selection Guide of Insulation Testers

	Analogue Insulation Testers				Analogue Insulation/Continuity Testers	
	3165	**3166**	**3161A**	**3321A**	**3131A**	**3132A**
Appearance	 photo : 3165					
Test voltage	1 range		2 ranges	3 ranges		
Rated voltage (Max.effective scale value)	500V(1000MΩ)	1000V(2000MΩ)	15V(20MΩ) 500V(100MΩ)	250V(50MΩ) 500V(100MΩ) 1000V(2000MΩ)	250V(100MΩ) 500V(200MΩ) 1000V(400MΩ)	250V(100MΩ) 500V(200MΩ) 1000V(400MΩ)
Continuity Ω	–	–	–	–	2/20Ω	3/500Ω
AC Voltage AC V	600V	600V	600V	600V	–	600V
Back light	–	–	✓	✓	✓	–
Power source	R6P x 4	R6P x 4	R6P x 4	R6P x 6	R6P x 6	R6P x 6
Dimensions (L)x(W)x(D)mm	90x137x40	90x137x40	90x137x40	105x158x70	185x167x89	106x160x72
Weight(Approx.)	330g	330g	340g	520g	860g	560g

	Digital Insulation/Continuity Testers					
	3001B	**3005A**	**3007A**	**3021**	**3022**	**3023**
Appearance					 photo : 3021	
Test voltage	2 ranges	3 ranges		4 ranges		
Rated voltage (Max.effective scale value)	500V(200MΩ) 1000V(200MΩ)	250V(20MΩ) 500V(200MΩ) 1000V(2000MΩ)	250V(20MΩ) 500V(200MΩ) 1000V(2000MΩ)	125V(200MΩ) 250V(2000MΩ) 500V(2000MΩ) 1000V(2000MΩ)	50V(200MΩ) 100V(200MΩ) 250V(2000MΩ) 500V(2000MΩ)	100V(200MΩ) 250V(2000MΩ) 500V(2000MΩ) 1000V(2000MΩ)
Continuity Ω	200Ω	20/200/2000Ω	20/200/2000Ω	40/400Ω	40/400Ω	40/400Ω
Continuity buzzer	–	✓	✓	✓	✓	✓
AC Voltage AC V	–	600V	600V	20~600V	20~600V	20~600V
DC Voltage DC V	–	–	–	-20~-600V 20~600V	-20~-600V 20~600V	-20~-600V 20~600V
Back light	–	–	✓	✓	✓	✓
Power source	R6P x 8	R6P x 8	R6P x 8	R6P x 6	R6P x 6	R6P x 6
Dimensions (L)x(W)x(D)mm	144x93x61	185x167x89	185x167x89	105x158x70	105x158x70	105x158x70
Weight(Approx.)	460g	970g	990g	600g	600g	600g

	Analogue High Voltage Insulation Testers				Digital High Voltage Insulation Testers		
	3121A	**3122A**	**3123A**	**3124**	**3125**	**3126**	**3128**
Appearance			photo : 3123A				
Test voltage	1 range		2 ranges	Variable	4 ranges		6 ranges (Variable)
Rated voltage (Max.effective scale value)	2500V(100GΩ)	5000V(200GΩ)	5000V(200GΩ) 10000V(400GΩ)	1000V(100MΩ) 1k~10kV(100GΩ)	500V(999MΩ) 1000V(1.99GΩ) 2500V(99.9GΩ) 5000V(1TΩ)	500V(999MΩ) 1000V(1.99GΩ) 2500V(99.9GΩ) 5000V(1TΩ)	500V(500GΩ) 1000V(1TΩ) 2500V(2.5TΩ) 5000V(5TΩ) 10000V(35TΩ) 12000V(35TΩ)
AC/DC Voltage DC AC V	–	–	–	–	30~600V AC/DC	30~600V AC/DC	30~600V AC/DC
Back light	–	–	–	–	✓	✓	✓
Current	–	–	–	–	–	–	0.00nA~2.40mA
Capacitance	–	–	–	–	–	–	5.0nF~50.0μF
Power source	R6P x 8	R6P x 8	R6P x 8	Ni-Cd rechargeable battery(1.2V) x 8	LR14 x 8	LR14 x 8	Rechargeable lead storage battery (12V)
Dimensions (L)x(W)x(D)mm	200x140x80	200x140x80	200x140x80	200x140x80	205x152x94	205x152x94	330x410x180 *Instrument and Hard case
Weight(Approx.)	1000g	1000g	1000g	1500g	1800g	1800g	9000g

DIGITAL INSULATION/CONTINUITY TESTERS

MODEL 3005A

MODEL 3007A

Features (3005A/3007A)

- Bar graph to display insulation resistance.
- Displays the value of external AC voltage along with flashing symbol.
- Auto null function to automatically subtract the test lead resistance before displaying the real continuity resistance value.
- Trac-Lok mode to conserve battery life on insulation and continuity tests (Model 3007A only).
- Live circuit warning beeper.
- Releasing the test button automatically discharges the charges stored in the circuit under test.
- Backlight function to view the test results in dimly lit areas (Model 3007A only).
- 200mA continuity measuring current to IEC 61557.
- Minimum 1mA current on insulation tests to IEC 61557.

	3005A/3007A
Insulation resistance	
Test voltage	250V/500V/1000V
Measuring ranges	20MΩ/200MΩ/2000MΩ
Output voltage on open circuit	Rated test voltage +20%, -0%
Nominal current	1mA DC min.
Output short circuit current	1.5 mA DC approx.
Accuracy	±1.5%rdg±5dgt(20MΩ/200MΩ) ±10%rdg±3dgt(2000MΩ)
Continuity test	
Measuring ranges	20Ω/200Ω/2000Ω
Output voltage on open circuit	7~12V DC
Measuring current	200mA DC min.
Accuracy	±1.5%rdg±5dgt(20Ω) ±1.5%rdg±3dgt(200Ω/2000Ω)
AC voltage	
AC voltage range	0~600V AC
Accuracy	±5%rdg±3dgt
General	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-031 IEC 61557-1/2/4 IEC 60529(IP54) IEC 61326-1(EMC)
Power source	R6P(AA)(1.5V) × 8
Dimensions	185(L) × 167(W) × 89(D)mm
Weight	990g approx.(3007A) 970g approx.(3005A)
Accessories	7122B(Test leads) 9074(Cord case) 8923(Fuse[F500mA/600V]) × 2 R6P(AA) × 8 9121(Shoulder strap) Instruction manual

Accessory

MODEL 7122B
Test leads

Selection Guide

	3005A	3007A
250V test voltage	✓	✓
500V test voltage	✓	✓
1000V test voltage	✓	✓
200mA continuity range	✓	✓
Live circuit warning	✓	✓
Illuminated scale		✓
Automatic discharge	✓	✓
Trac-lok for extended battery life		✓

MODEL 3001B

	3001B
Insulation resistance	
Test voltage	500V/1000V
Measuring ranges	200MΩ(2/20/200MΩ) autoranging
Output voltage on open circuit	Rated test voltage +12%
Rated current	1~1.1mA DC approx.
Output short circuit current	1.5mA DC approx.
Accuracy	±2%rdg±1dgt
Continuity test	
Measuring ranges	200Ω(20/200Ω) autoranging
Output voltage on open circuit	600mV DC approx.
Output short circuit current	6mA approx.
Accuracy	±2%rdg±0.1Ω±1dgt
General	
Power source	R6P(AA)(1.5V) × 8
Dimensions	144(L) × 93(W) × 61(D)mm
Weight	460g approx.
Accessories	7025(Test leads) 9050(Carrying case) R6P(AA) × 8 Instruction manual

KEW 3021/3022/3023

photo : 3021

- 3 functions in one unit, insulation test with 4 voltage ranges, continuity test, AC voltage measurement.
- 200mA measuring current on continuity testing.
- Comparator function with PASS / FAIL and buzzer.
- 0Ω adjustment at continuity measuring range.
- Memory function up to 99 data.
- Backlight LCD provides easy reading in dark locations.
- Safety lock system prevents an erroneous operation

	3021				3022				3023			
Insulation resistance												
Test voltage	125V	250V	500V	1000V	50V	100V	250V	500V	100V	250V	500V	1000V
Measuring range (Auto range)	4.000/40.00/200.0MΩ	4.000/40.00/400.0/2000MΩ			4.000/40.00/200.0MΩ		4.000/40.00/400.0/2000MΩ		4.000/40.00/200.0MΩ	4.000/40.00/400.0/2000MΩ		
First effective measuring range	0.1~20MΩ	0.1~40MΩ	0.1~200MΩ	0.1~1000MΩ	0.1~20MΩ		0.1~40MΩ	0.1~200MΩ	0.1~20MΩ	0.1~40MΩ	0.1~200MΩ	0.1~1000MΩ
Mid-scale value	5MΩ		50MΩ		5MΩ			50MΩ	5MΩ		50MΩ	
Accuracy	±2%rdg±6dgt											
Second effective measuring range lower	0~0.099MΩ											
Second effective measuring range upper	20.01~200.0MΩ	40.01~2000MΩ	200.1~2000MΩ	1001~2000MΩ	20.01~200.0MΩ		40.01~2000MΩ	200.1~2000MΩ	20.01~200.0MΩ	40.01~2000MΩ	200.1~2000MΩ	1001~2000MΩ
Accuracy	±5%rdg±6dg											
Rated current	DC 1~1.2mA											
Output short circuit current	1.5mA max											
Ω/Continuity												
Auto range	40.00/400.0Ω											
Accuracy	±2%rdg±8dgt											
Output voltage on open circuit	5V±20%											
Output short circuit current	DC 220±20mA											
Fuse	Quick acting ceramic fuse 0.5A/600V(φ6.35×32mm)											
AC voltage												
Range	AC 20~600V(50/60Hz) DC −20~−600V/+20~+600V											
Accuracy	±3%rdg±6dgt											
General												
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V IEC 61557-1,2,4 IEC 61326-1(EMC) IEC 60529(IP40)											
Dimensions / Weight	105(L) × 158(W) × 70(D)mm / 600g approx.											
Power source	R6P×6 or LR6×6											
Accessories	7150A(Test Lead with remote control switch set) 9121(Shoulder strap) R6P(AA) × 6 Instruction manual											
Optional	7115(Extension probe) 8016(Hook type prod) 8923(Fuse[0.5A/600V]) 9089(Carrying case)											

Accessories

7149A (7139A) MODEL 3161A

7150A (7103A) MODEL 3321A KEW 3021, 3022, 3023

MODEL 7149A/7150A Test leads with remote control switch set
(7103A or 7139A, 7161A, 7131B, 8017, 9120 or 9041)

Optional Accessories

MODEL 7115/7116
Extension probe

MODEL 9089
Carrying case

MODEL 8016
Hook type prod

MODEL 3131A

- Test insulation up to 100MΩ at 250V, 200MΩ at 500V, 400MΩ at 1000V and continuity up to 20Ω.
- LIVE circuit warning lamp plus audible warning.
- Automatic discharge of circuit capacitance when TEST button is released.
- Fuse protected (continuity range only).
- Battery check LED.
- Front panel zero adjust.
- Back light function to facilitate working at dimly lit situations.
- PRESS TO TEST button with lock down feature.

	3131A
Insulation resistance	
Test voltage	250V/500V/1000V
Measuring ranges (Mid-scale value)	100MΩ/200MΩ/400MΩ (1MΩ) (2MΩ) (4MΩ)
Output voltage on open circuit	Rated test voltage +20%, -0%
Nominal current	1mA DC min.
Output short circuit current	1.3 mA DC approx.
Accuracy	0.1~10MΩ/0.2~20MΩ/0.4~40MΩ (Accuracy guaranteed ranges) ±5% of indicated value
Continuity	
Measuring ranges (Mid-scale value)	2Ω/20Ω (1Ω)(10Ω)
Output voltage on open circuit	4~9V DC
Measuring current	200mA DC min.
Accuracy	±3% of scale length
General	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61010-031 IEC 61557-1/2/4 IEC 60529(IP54) IEC 61326-1(EMC)
Power source	R6P(AA)(1.5V) × 6
Dimensions	185(L) × 167(W) × 89(D)mm
Weight	860g approx.
Accessories	7122B(Test leads) 9074(Cord case) 8923(Fuse[0.5A/600V]) × 2 R6P(AA) × 6 9121(Shoulder strap) Instruction manual

MODEL 3132A

- Dust and drip proof construction. (designed to IEC60529 IP54)
- Designed to meet IEC61010-1 and IEC61557 safety standard.
- 1mA rated test current at the minimum resistance.
- 200mA measuring current on continuity testing.
- Automatic discharge of circuit capacitance. (Any charge stored in the circuit under test will be automatically discharged after testing.)
- Live circuit warning buzzer and neon lamp.
- Small and lightweight. Shock resistant new case material.
- AC voltmeter with linear, easy-to-read scale.
- Operates on AA, R6P×6 dry batteries.

	3132A
Insulation resistance	
Test voltage	250V/500V/1000V
Measuring ranges (Mid-scale value)	100MΩ/200MΩ/400MΩ (1MΩ) (2MΩ) (4MΩ)
Output voltage on open circuit	Rated test voltage +20%, -0%
Nominal current	1mA DC min.
Output short circuit current	1~2mA DC
Accuracy	0.1~10MΩ/0.2~20MΩ/0.4~40MΩ (Accuracy guaranteed ranges) ±5% of indicated value
Continuity	
Measuring ranges (Mid-scale value)	3Ω/500Ω(1.5Ω/20Ω)
Output voltage on open circuit	4.1V DC approx.
Measuring current	210mA DC min.
Accuracy	±1.5% of scale length
AC voltage	
AC voltage range	0~600V AC
Accuracy	±5% of scale length
General	
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V Pollution degree 2 IEC 61010-031 IEC 61557-1/2/4 IEC 60529(IP54) IEC 61326-1(EMC)
Power source	R6P(AA)(1.5V) × 6
Dimensions	106(L) × 160(W) × 72(D)mm
Weight	560g approx.
Accessories	7122B(Test leads) 9074(Cord case) 8923(Fuse[0.5A/600V]) × 2 R6P(AA) × 6 9121(Shoulder strap) Instruction manual

Accessory

MODEL 7122B
Test leads

Selection Guide

	3131A	3132A
3 range insulation test voltage	✓	✓
200mA continuity	✓	✓
Live circuit warning	✓	✓
AC voltage range		✓
Illuminated scale	✓	
Automatic discharge	✓	✓
IP54 rate	✓	✓

ANALOGUE INSULATION TESTERS

MODEL 3161A

- Miniature lightweight insulation tester. It weighs only 340g(battery included), but carries full measurement functions.
- Automatic discharge of circuit capacitance.
- Test leads with remote control switch .
- New robust housing case.
- Back light function.

	3161A
Insulation resistance	
Test Voltage	15V/500V
Max. effective scale value	20MΩ/100MΩ
Mid-scale value	0.05MΩ/2MΩ
First effective measuring ranges	0.005~2MΩ/0.1~50MΩ
Accuracy	±5% of indicated value
Second effective measuring ranges	Measuring ranges other than above, 0 and ∞
Accuracy	±10% of indicated value
AC voltage	
AC voltage range	600V
Accuracy	±3% of full scale value
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V, CAT.Ⅱ600V
Power source	R6P(AA)(1.5V) × 4
Dimensions	90(L) × 137(W) × 40(D)mm
Weight	340g approx.
Accessories	7149A(Test leads with remote control switch set) 9123(Shoulder strap) R6P(AA) × 4 Instruction manual
Optional	7116(Extension probe) 8016(Hook type prod)

MODEL 3165/3166

photo : 3165

- 500V/1000MΩ (Model 3165)
- 1000V/2000MΩ (Model 3166)
- Expanded megohm scale for easy reading.
- New robust housing case to prevent damage.
- AC voltmeter scale for easy reading.

	3165	3166
Insulation resistance		
Test voltage	500V	1000V
Max. effective scale value	1000MΩ	2000MΩ
Mid-scale value	20MΩ	50MΩ
First effective measuring range	1~500MΩ	2~1000MΩ
Accuracy	±5% rdg	
Second effective measuring range	0.5/1000MΩ	1/2000MΩ
Accuracy	±10% rdg	
AC voltage		
AC voltage range	600V	
Accuracy	±3% of full scale value	
Power source	R6P(AA)(1.5V) × 4	
Dimensions	90(L) × 137(W) × 40(D)mm	
Weight	330g approx.	
Accessories	7025(Test leads) 9074(Cord case) 9123(Shoulder strap) R6P(AA) × 4 Instruction manual	

MODEL 3321A

- Auto discharge function; any charge stored in the circuit under test will be automatically discharged after testing.
- Designed to meet IEC 61010-1 CAT. Ⅲ 600V, CAT. Ⅱ 1000V
- Color-coded scales for easy reading.
- Back light function to facilitate working at dimly illuminated locations.
- Test lead set with remote control switch.
- Shoulder strap for hands free.

	3321A
Insulation resistance	
Test Voltage	250V/500V/1000V
Max. effective scale value	50MΩ/100MΩ/2000MΩ
Mid-scale value	1MΩ/2MΩ/50MΩ
First effective measuring ranges	0.05~20MΩ(250V) 0.1~50MΩ(500V) 2~1000MΩ(1000V)
Accuracy	±5% of indicated value
Second effective measuring ranges	20~50MΩ(250V) 50~100MΩ(500V) 1000~2000MΩ(1000V)
Accuracy	±10% of indicated value
AC voltage	
AC voltage range	600V
Accuracy	±3% of full scale value
Applicable standards	IEC 61010-1 CAT.Ⅲ600V, CAT.Ⅱ1000V
Power source	R6P(AA)(1.5V) × 6
Dimensions	105(L) × 158(W) × 70(D)mm
Weight	520g approx
Accessories	7150A(Test lead with remote control switch set) 9121(Shoulder strap) 7081B(Guard cord): 3321A only R6P(AA) × 6 Instruction manual 7115(Extension probe) 8016(Hook type prod)
Optional	9089(Carrying case)

HIGH VOLTAGE INSULATION TESTERS

KEW 3121A/3122A/3123A

photo : 3123A

- Rugged design with a hard carrying case for field use.
- Detachable High Voltage Line probe.
- Automatic ranges, high and low scales, indicated by different LEDs.
- Drip proof (IP41).
- Auto-discharge function.

	3121A	3122A	3123A	
Test voltage	2500V	5000V	5000V	10000V
Measuring ranges (automatic change)	2GΩ/100GΩ (autoranging)	5GΩ/200GΩ (autoranging)	5GΩ/200GΩ (autoranging)	10GΩ/400GΩ (autoranging)
First effective measuring ranges	0.1~50GΩ	0.2~100GΩ	0.2~100GΩ	0.4~200GΩ
accuracy	±5% rdg			
Other ranges accuracy	±10% rdg or 0.5% of scale length			
Power source	R6P(AA)(1.5V) × 8			
Dimensions	200(L) × 140(W) × 80(D)mm			
Weight	1kg approx.			
Accessories	7165A(Line probe)(3m) 7224A(Earth cord)(1.5m) 7225A(Guard cord)(1.5m) 9158(Hard case) R6(AA) × 8 Instruction manual		7165A(Line probe)(3m) 7224A(Earth cord)(1.5m) 7225A(Guard cord)(1.5m) 8019(Hook type prod) 9158(Hard case) R6(AA) x 8 Instruction manual	
Optional	8019(Hook type prod) 8324(Adaptor for recorder) 7253(Longer line probe with alligator clip)(15m)		8324(Adaptor for recorder) 7253(Longer line probe with alligator clip)(15m)	

Optional Accessories

MODEL 7253
Longer line probe
with alligator clip:15m

MODEL 8324
Adaptor for recorder
(Output 10mV/1μA)
Cable length:
200mm connector side
1100mm alligator clip side

MODEL 8019
Hook type prod

MODEL 3124

- Permits a wide range of insulation testing up to 100GΩ at variable test voltage from 1kV to 10kV.
- DC voltage output for recorders.
- Output voltage is shown on the digital display.
- After tests, automatically discharges the charges stored in the circuit under test.
- Operated by rechargeable Nickel-Cadmium batteries.

	3124	
Test voltage	1k~10kV variable	1000V
Measuring ranges (automatic change)	1.6GΩ/100GΩ (autoranging)	100MΩ
First effective measuring ranges	0.05~50GΩ	1~100MΩ
accuracy	±10% rdg	
Other ranges accuracy	±1% of scale length	
Output voltage and set voltage indicate	DC 0~10kV ±2%rdg±2dgt	
Power source	Ni-Cd rechargeable battery(1.2V) × 8	
Dimensions	200(L) × 140(W) × 80(D)mm	
Weight	1.5kg approx.	
Accessories	7082(Lead for recorder) 7083(Lead for battery charging) 7084(Earth and guard leads) 8075(Battery charger[120V]) or 8080(Battery charger[220V]) 9112(Carrying case[Hard]) Ni-Cd rechargeable battery × 8 Instruction manual	

Selection Guide

	3121A	3122A	3123A	3124
2500V test voltage	✓			
5000V test voltage		✓	✓	
10000V test voltage			✓	
1k-10kV variable test voltage				✓
Dual resistance scales	✓	✓	✓	✓
Recorder output				✓
Guard terminal	✓	✓	✓	✓

MODEL 3125/KEW 3126

photo : 3125

HIGH VOLTAGE INSULATION TESTER

- Short-Circuit Current up to 5mA to Speed up tests.(KEW3126)
- Wide range measurements from 500V to 5000V and up to 1TΩ
- Large digital display with Bar Graph indication and LED back light.
- Polarization Index measurement(PI)
- Dielectric Absorption Ratio(DAR).(KEW3126)
- Filter function reduces noise interference for obtaning stable measurement. (KEW3126)
- Indication of Output voltage and Discharge voltage.
- Auto power off and Battery Indicator.
- Safety standard IEC 61010-1 CAT. Ⅲ 600V

photo : 3126

	3125/3126				
Range	Insulation resistance				Voltage measurement
Test voltage	500V	1000V	2500V	5000V	—
Measuring range	0.0~99.9MΩ 100~999MΩ	0.0~99.9MΩ 100~999MΩ 1.00~1.99GΩ	0.0~99.9MΩ 100~999MΩ 1.00~9.99GΩ 10.0~99.9GΩ	0.0~99.9MΩ 100~999MΩ 1.00~9.99GΩ 10.0~99.9GΩ 100~1000GΩ(1TΩ)	30~600V AC/DC (50/60Hz)
Accuracy	±5%rdg±3dgt	±5%rdg±3dgt	±5%rdg±3dgt	±5%rdg±3dgt ±20%(100GΩ or more)	±2%rdg±3dgt
Short circuit current	1.3mA : 3125 5.0mA : 3126				—
Rated test current	1mA~1.2mA at 0.5MΩ load	1mA~1.2mA at 1MΩ load	1mA~1.2mA at 2.5MΩ load	1mA~1.2mA at 5MΩ load	—
Open circuit voltage	500VDC+30%, -0%	1000VDC+20%, -0%	2500VDC+20%, -0%	5000VDC+20%, -0%	—
Maximum display	999 Counts(1000 counts only at 1000GΩ)				630 Counts
Current consumption	1000mA approx. (During measurement)				110mA approx.
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V Pollution degree 2, IEC 61010-031, IEC 61326				
Power supply	DC12V : LR14 x 8 pcs				
Dimensions	205(L) x 152(W) x 94(D)mm				
Weight	1.8kg approx.				
Accessories	7165A(Line probe), 7224A(Earth cord), 7225A(Guard cord) , 8019(Hook type prod), 9159(Carrying case[Hard]) , LR14(Alkaline battery size C) x 8, Instruction manual, Calibration certificate				
Optional	7168A(Line probe with alligator clip), 7253(Longer line probe with alligator clip), 8302(Adaptor for recorder)				

Accessory

MODEL 9159
Carrying case[Hard]

Optional Accessories

MODEL 7168A
Line probe with alligator clip : 3000mm

MODEL 7253
Longer line probe
with alligator clip:15m

MODEL 8302
Adaptor for recorder (Output 1mV/1μA)
Connector side : 200mm
Alligator clip side : 1100mm

HIGH VOLTAGE INSULATION TESTERS

KEW 3128

HIGH VOLTAGE INSULATION TESTER

CAT.IV 600V | DC AC V | USB | AUTO POWER OFF

- Test Voltage 12kV (max), Resistance 35TΩ (max), Short-Circuit Current 5mA (max).
- Graphic representation of the insulation resistance and leakage current versus time on large display with bar graph and backlight.
- Print Screen Function enables to record up to 32 display screens.
- Internal Memory can store about 43,000 data (max).
- Automatic discharge after test and display of discharge voltage.
- Fine adjustment of voltage setting at each range is also possible.
- Can be operated from internal rechargeable battery or from AC line.
- Robust design for field use with IP64 rating (with lid closed).

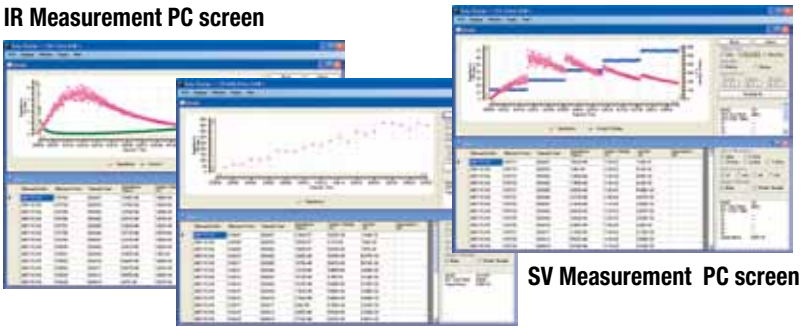
Function

- Insulation Resistance (IR) & Leakage current.
- Polarization Index (PI).
- Dielectric Absorption Ratio (DAR).
- Dielectric Discharge Index (DD).
- Step Voltage (SV).
- Capacitance of the object under test.

		3128					
Insulation resistance							
	Test voltage	500V	1000V	2500V	5000V	10000V	12000V
	Max measurement value	500GΩ	1TΩ	2.5TΩ	5TΩ	35TΩ	
	Accuracy	400kΩ~50GΩ ±5%rdg±3dgt	800kΩ~100GΩ ±5%rdg±3dgt	2MΩ~250GΩ ±5%rdg±3dgt	4MΩ~500GΩ ±5%rdg±3dgt	8MΩ~1TΩ ±5%rdg±3dgt	
		50G~500GΩ ±20%rdg	100G~1TΩ ±20%rdg	250G~2.5TΩ ±20%rdg	500G~5TΩ ±20%rdg	1T~10TΩ ±20%rdg	
						10T~35TΩ Values are displayed, but accuracy isn't guaranteed	
	Short circuit current	Max 5.0mA					
	Load resistor to output rated voltage	0.5MΩ or more	1MΩ or more	2.5MΩ or more	5MΩ or more	20MΩ or more	24MΩ or more
Output voltage							
	Rated voltage	500V	1000V	2500V	5000V	10000V	12000V
	Monitor accuracy	±10%±20V					
	Output accuracy	0~+20%	0~+10%	0~+10%	0~+10%	-5~+5%	-5~+5%
	Selectable range	50~600V (in steps of 5V)	610~1200V (in steps of 10V)	1225~3000V (in steps of 25V)	3050~6000V (in steps of 50V)	6100~10000V (in steps of 100V)	10100~12000V (in steps of 100V)
Voltage measurement							
	Measuring range	DCV : ±30~±600V, ACV : 30~600V(50/60Hz)					
	Accuracy	±2%rdg±3dgt					
Current measurement							
	Measuring range	5.0nA~2.40mA(Depending on the insulation resistance)					
	Accuracy	±5%rdg±5dgt					
Capacitance measurement							
	Measuring range	5.0nF~50.0μF				5.0nF~1.0μF (Display range : 5.0nF~50.0μF)	
	Accuracy	±5%rdg±5dgt					
General							
	Applicable standards	IEC 61010-1 CAT.Ⅳ 600V Pollution degree 2, IEC 61010-031, IEC 61326, IEC 60529(IP64): with the lid closed.					
	Power source	Rechargeable Lead storage battery (12 *Charging time : approx. 8 hours) / AC Power supply (100V~240V, 50/60Hz) ※Continuous measuring time: approx. 4 hours a load of 100MΩ at the Insulation resistance 12000V Range.					
	Dimensions	330(L) × 410(W) × 180(D)mm *Instrument and Hard case					
	Weight	9kg approx. (including battery) *Instrument and Hard case					
	Accessories	7170(Power cord), 7224A(Earth cord), 7225A(Guard cord), 7226A(Line probe), 7227A(Line probe with alligator clip), 8029(Extension prod), 8255(CAT.Ⅳ Standard prod), 8212-USB-W(USB adaptor with KEW Windows(Software)), Instruction manual, Calibration Certificate					
	Optional	7254(Longer line plobe with alligator clip)(15m)					

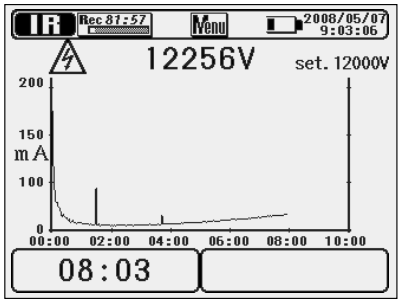
Measuring data can be transferred to a PC in real-time.

IR Measurement PC screen



SV Measurement PC screen

PI Measurement PC screen



Graphic representation of the leakage current versus time on display

PI Measurement (Polarization Index)

This diagnostic test recognises the fact that "good" insulation will show a gradually increasing of Insulation Resistance after the test voltage is applied. The Insulation Resistance is measured at two different times: normally at 1 min and 10 min (other time settings are possible). Then the instrument divides later reading by the earlier reading, obtaining the result so called the Polarization Index (PI). PI is dependent on the shape of insulation, influenced by moisture and it does not need to be temperature corrected.

$$\text{Polarization index} = \frac{\text{TIME 2: Insulation resistance value 3 -10 min. after starting measurement}}{\text{TIME 1: Insulation resistance value 30 sec. - 1 min. after starting measurement}}$$

PI	4.0 or more	4.0~2.0	2.0~1.0	1.0 or more
Criteria	Best	Good	Warning	Bad

DAR Measurement (Dielectric Absorption Ratio)

DAR measurement is a Time/Resistance test method similar to the Polarization Index (PI), but DAR takes the ratio of the insulation usually measured at 1 minute and 30 seconds instead of 10 minutes and 1 minute typically of the PI. DAR and PI measurements are useful because they can be used to eliminate the influence of temperature, humidity and leakage currents likely to invalidate the “absolute” insulation resistance measurement.

$$\text{Dielectric Absorption Ratio} = \frac{\text{TIME2: Insulation resistance value 30 sec or 1 min after starting measurement}}{\text{TIME1: Insulation resistance value 15 or 30 sec after starting measurement}}$$

DAR	1.4 or less	1.25~1.0	1.0 or less
Criteria	Best	Good	Bad

DD Measurement (Dielectric Discharge)

This measurement method is usually used to diagnosis multi-layer insulations, which requires the instrument to measure the discharge current and capacitance of the measured object 1 min after the removal of the test voltage. This is very good insulation diagnosis test to deteriorations and other problem in the multiple insulation to be assessed.

$$\text{Dielectric Discharge} = \frac{\text{Current value 1 min after completing measurement (mA)}}{\text{Voltage value when a measurement complete x Capacitance (F)}}$$

DD	2.0 or less	2.0~4.0	4.0~7.0	7.0 or more
Criteria	Good	Warning	Poor	Very Poor

*This criteria is a guide and could be slightly changed and be adapted to particular objects under test based on practical experience of the users.
*This method has been established to test high voltage generators installed in electric power plants in the Europe countries.

SV Measurement (Step Voltage)

This is a test based on the principle that an ideal insulation will produce identical readings at all voltages, while an insulation which is being over stressed, will show lower insulation values at higher voltages. During the test, the applied voltage incrementally steps by a certain voltage taking successive 5-time measurement. Degradation of insulation may be doubt when insulation resistances become lower at higher applied voltages.

Accessories

MODEL 8212-USB-W

USB adaptor with “KEW Windows (Software)”
※Please refer to P49 for the specification of USB adaptor (Model 8212-USB).

"KEW Windows" Software for report

The stored data can be transferred to PC via MODEL8212-USB.

System requirements

OS:	Windows®7(32/64bit)/Vista/XP
Display:	XGA (Resolution 1024 x 768 dots) or more
Hard-disk:	Space required 100Mbyte or more
Others:	With CD-ROM drive and USB port

* Windows® is a registered trademark of Microsoft in the United States.

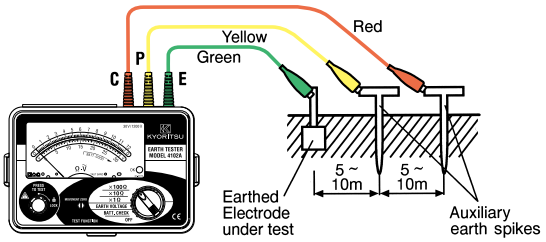
Optional Accessory

MODEL 7254

Longer line probe with alligator clip : 15m

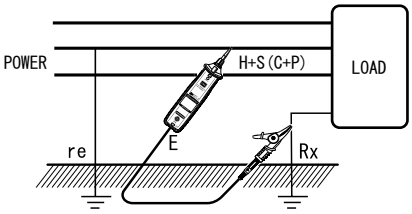
Measurement of the earth electrode resistance (3-Pole method) [MODEL 4102A/4105A]

The international standard IEC 60364-6 provides information regarding the measurement of the resistance of an earth electrode for TT, TN and IT systems.
This measurement shall be made by the Volt-Amperometric method using two auxiliary earth electrodes.
The instrument that covers this requirement is the Earth Tester.

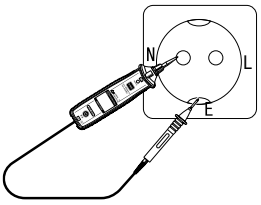


Precise Measurement (with Test lead M-7095A)

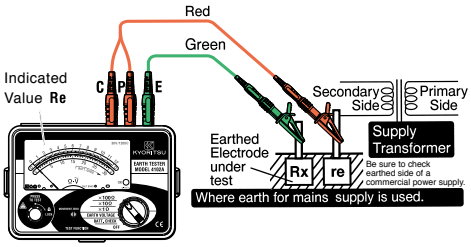
Measurement of the simplified earth resistance. (2-Pole method) [KEW 4300/MODEL 4102A/4105A]



Measuring the earth resistance of load



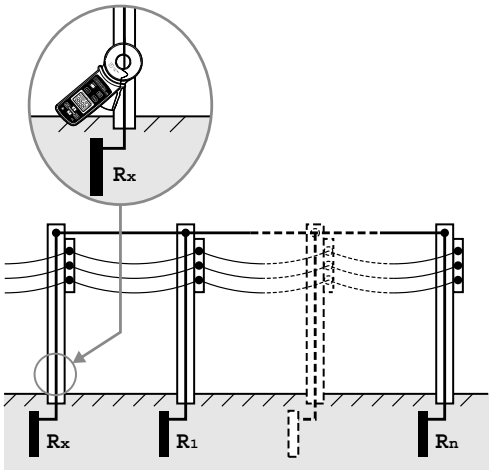
Measuring the earth resistance of wall socket



Simplified Measurement (with Test lead M-7127A)

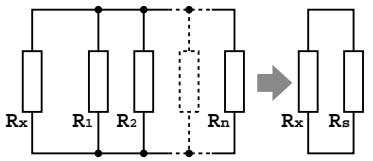
Measurement of the earth resistance with Earth Clamp [MODEL 4200/KEW 4202]

(Why earth measurements can be found by only clamping it?)



Rx, is defined as earth resistance under test, and R1, R2…Rn are defined as earth resistance of other measuring objects.

These earth resistances, R1, R2,… Rn can be considered that they are connected in parallel. And They can be regarded as a combined resistance Rs. The Rs can be regarded small enough against Rx since a combined resistance consists of several resistances.
Following is an equivalent circuit diagram of this circuit.



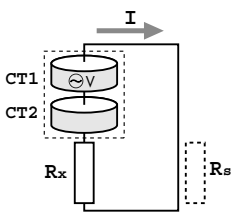
$$Rs = \frac{1}{\sum_{i=1}^{n} \frac{1}{Ri}}$$

Voltage V is applied to the object (Resistance Rx) measured from the voltage injection transformer CT1, and the current I corresponding to the earth resistance is flowed.
The current I is detected with detection transformer CT2, and object (Resistance Rx) measured can be put out by the calculation. (refer to the right diagram)

$$\frac{V}{I} = R = Rx + Rs$$

$$Rx \gg Rs = \frac{1}{\sum_{i=1}^{n} \frac{1}{Ri}}$$

$$\frac{V}{I} = Rx$$



MODEL 4102A

	4102A/4102A-H
Measurement ranges	Earth resistance : 0~12Ω /0~120Ω /0~1200Ω Earth voltage[50,60Hz] : 0~30V AC
Accuracy	Earth resistance: ±3% of full scale Earth voltage: ±3% of full scale
Overload protection	Earth resistance : 276V AC for 10 seconds across 2 of the 3 terminals Earth voltage : 276V AC for 1 minute
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61557-1,5 IEC 61010-031 IEC 60529(IP54)
Power source	R6P(AA)(1.5V) × 6
Dimensions	105(L) × 158(W) × 70(D)mm
Weight	600g approx.
Accessories	7095A(Earth resistance test leads) × 1set(red-20m, yellow-10m, green-5m) 8032(Auxiliary earth spikes[2 spikes/set]) × 1set 7127A(Simplified measurement probe) × 1set R6P(AA) × 6, 9121(Shoulder strap), Instruction manual Carrying case : 9084(Carrying case[Soft]) : 9164(Carrying case[Hard])
Optional	7100A(Precision measurement cord set)

MODEL 4102A Soft case model
MODEL 4102A-H Hard case model

MODEL 4105A

	4105A/4105A-H
Measurement ranges	Earth resistance : 0~20Ω /0~200Ω /0~2000Ω Earth voltage[50,60Hz] : 0~200V AC
Accuracy	Earth resistance : ±2%rdg±0.1(20Ω range) ±2%rdg±3dgt(200/2000Ω range) Earth voltage : ±1%rdg±4dgt
Overload protection	Earth resistance : 280V AC for 10 seconds across 2 of the 3 terminals Earth voltage : 300V AC for 1 minute
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61557-1,5 IEC 61010-031 IEC 60529(IP54)
Power source	R6P(AA)(1.5V) × 6
Dimensions	105(L) × 158(W) × 70(D)mm
Weight	550g approx.
Accessories	7095A(Earth resistance test leads) × 1set(red-20m, yellow-10m, green-5m) 8032(Auxiliary earth spikes[2 spikes/set]) × 1set 7127A(Simplified measurement probe) × 1set R6P(AA) × 6, 9121(Shoulder strap), Instruction manual Carrying case : 9084(Carrying case[Soft]) : 9165(Carrying case[Hard])
Optional	7100A(Precision measurement cord set)

MODEL 4105A Soft case model
MODEL 4105A-H Hard case model

Features (4102A/4105A)

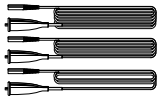
- In addition to the facility for precision measurement, test leads for simplified two wire measuring system also supplied as standard accessories.
  (unit can be hung from the neck for simplified measurement)
- The latest circuit design permits the instrument to operate with the minimum of influence from earth voltage and earth resistance of auxiliary earth spikes.
- Dust and drip proof. (designed to IEC 529 IP54)
- Earth resistance value can be read directly from the scale.
- Designed to meet IEC61010-1 safety standard.
- Capable of measuring earth voltage.
- Small and lightweight. Shock resistant new case material.
- 2mA measuring current permits earth resistance tests without tripping earth leakage current breakers in the circuit under test.
- Lead wire connection to C and P terminals and proper auxiliary earth resistance can be checked by "OK" lamp. Lead wire connection to C and E terminals is good when "OK" lamp is illuminated. (4102A)

Soft case model

Hard case model

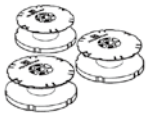
Optional Accessories

MODEL 7100A
Precision measurement cord set
(7095A, 8032, 8200-03, 9091)

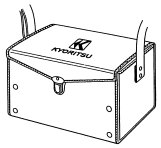


MODEL 7095A
Test leads for earth resistance

MODEL 8032
Auxiliary earth spikes
[2 spikes/1set]



MODEL 8200-03
Cord reels[3 pcs]



MODEL 9091
Carrying case for cord reels

KEW 4106

- Earth resistance measurement with six ranges covering measurements from 0.001 Ω to 200 kΩ.
- Earth resistivity (ρ) measurement is automatically calculated after having set the distance between Auxiliary Earth Spikes (Wenner method).
- Automatic and Manual selection of the Test Current Frequency in four bands of 94/105/111/128Hz. In Automatic mode KEW 4106 will select the most suitable Frequency.
- Advanced Filtering method (based on FFT Fast Fourier Transform) reduces noise interference for obtaining stable measurements.
- Up to 800 measurement results can be saved in the memory and recalled on the display.
- The stored results can be transferred to a PC via USB adaptor (Model 8212-USB) by using software "KEW Report" which are included.
- Robust design with IP54 protection.

	4106			
Function	Range	Resolution	Measuring range	Accuracy
Earth resistance Re (Rg at ρ measurement)	2Ω	0.001Ω	0.03~20.99Ω	±2%rdg.±0.03Ω
	20Ω	0.01Ω	0.03~20.99Ω	±2%rdg.±5dgt
	200Ω	0.1Ω	0.3~209.9Ω	
	2000Ω	1Ω	3~2099Ω	
	20kΩ	10Ω	0.03~20.99Ω	
	200kΩ	100Ω	3~2099Ω	
Auxiliary earth resistance Rh, Rs				8% of Re+Rh+Rs
Earth resistivity ρ	2Ω	0.1Ω·m~1Ω·m Autoranging	0.2~395.6Ω·m	ρ=2×π×a×Rg
	20Ω		0.2~3956Ω·m	
	200Ω		20~39.56kΩ·m	
	2000Ω		0.2~395.6kΩ·m	
	20kΩ		2.0~1999kΩ·m	
	200kΩ			
Series interference voltage Ust (A.C only)	50V	0.1V	0~50.9Vrms	±2%±2dgt
Frequency Fst	Autoranging	0.1Hz, 1Hz	40Hz~500Hz	±1%±2dgt
Test Current	80mA(max)			
Memory capacity	800 data			
Communication interface	Model 8212-USB Optical Adaptor			
LCD	Dot-matrix 192 × 64, monochrome			
Over-range indication	"OL"			
Overload protection	between E-S(P) and between E-H(C) terminals AC280V / 10 sec			
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V, CAT.Ⅳ 150V Pollution degree 2 IEC 61010-031, IEC 61557-1,5, IEC 61326-1(EMC), IEC 60529(IP54)			
Power source	DC12V : sizeAA manganese dry battery (R6P) x 8 (Auto power off: approx. 5 minutes)			
Dimensions	167(L) × 185(W) × 89(D)mm			
Weight	approx. 900g (including batteries)			
Accessories	7229A(Earth resistance test leads), 7238A(Simplified measurement test leads) 8032(Auxiliary earth spikes[2spikes/set])×2, 8200-04(Cord reels [4pcs]), 8212-USB(USB adaptor with "KEW Report(Software)") 9121(Shoulder strap), 9125(Carrying case) R6P×8, Instruction manual			
Optional	8212-RS232C(RS232C adaptor with "KEW Report(Software)")			

KEW 4300

SIMPLIFIED EARTH TESTER

AUTO

	4300
Earth resistance ranges	200.0/2000Ω(Auto ranging) ±3%rdg±5dgt
Voltage ranges	AC:5.0~300.0V(45~65Hz) ±1%rdg±4dgt DC:±5.0~300.0V ±1%rdg±8dgt
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V pollution degree 2 IEC 61010-031,61557-1,-5 IEC 61326-1,2-2,IEC 60529(IP40)
Power source	Size AA alkaline battery x 2 pcs
Dimensions	232(L) x 51(W) x 42(D)mm
Weight	220g approx(including battery)
Accessories	7248(Test lead with Alligator clip and Flat test probe) 8072(CAT.Ⅱ Standard prod) 8253(CAT.Ⅳ Standard prod) 8017(Extension prod long) 9161(Carrying case) Instruction manual, LR6(AA)×2

KEW4300 is simplified earth resistance tester (based on 2-pole method) that can be used for various distribution lines and electrical appliances and it also can measure AC/DC voltage. (As for AC voltages, true rms values can be obtained.)

- 200/2000Ω (2 ranges) : auto-ranging.
- Warning buzzer triggered at 100Ω or less.
- LED lights up when a large earth voltage is detected.
- Live circuit warning when 30V or higher voltage is detected.
  (KEW4300 detects voltage even when measuring resistances.)
- LED light for illuminating measurement points.
  (It turns on/off automatically in relation to the ambient brightness.)
- Small test current (max 2mA) not triggering RCD.

MODEL 4200/KEW 4202 NEW

EARTH CLAMP TESTER

4202

photo : 4202

CE

Note: A single earthing can not be measured. (Only for Multiple Earthing system)

- The earth resistance from 0.05 to 1200Ω can be measured without the auxiliary earth spikes in multi-earthing systems
- True RMS leakage or phase current readings from 0.1mA to 30.0A provides vital additional information in earthing networks
- Filter function offers increased immunity to electrical noise and a Noise mark appears in excessively high noisy environments
- Memory function up to 100 data
- Bluetooth communication (4202 only)

	4200	4202
Earth resistance Auto range	20.00/200.0/1200Ω* ±1.5%±0.05Ω(0.00~20.99Ω) ±2%±0.5Ω(16.0~99.9Ω) ±3%±2Ω(100.0~209.9Ω) ±5%±5Ω(160~399Ω) ±10%±10Ω(400~599Ω)	
AC current (50Hz/60Hz) Auto range	Values are displayed, but accuracy isn't guaranteed(600~1260Ω) 100.0/1000mA/10.00/30.0A ±2%±0.7mA(0.0~104.9mA) ±2%(80mA~31.5A)	
Operating indication	Earth resistance function : Constant voltage injection Current detection (Frequency : Approx.2400Hz) Dual Integration AC current function : Successive approximation	
Over-range indication	"OL"is displayed when input exceeds the upper limit of a measuring range	
Response time	Approx. 7 seconds (Earth resistance) Approx. 2 seconds (AC current)	
Sample rate	Approx. 1 times per second	
Communication Interface	—	Bluetooth Ver2.1 + EDR Class2
Power source	DC6V : R6P(sizeAA manganese battery) x 4 or LR6 (sizeAA alkaline battery) x 4	
Current consumption	Approx. 50mA (max.100mA)	Approx. 50mA (max.100mA)
Measurement time	Approx.12 hours (when R6P is used) Approx.24 hours (when LR6 is used)	Approx.5 hours (when R6P is used) Approx.21 hours (when LR6 is used)
Auto power-off	Turns power off about 10 minutes after the last button operation.	
Applicable standards	IEC 61010-1 CAT.Ⅳ 300V Pollution degree2 IEC 61010-2-032, IEC 61326 (EMC)	
Conductor size	Approx. ϕ32mm	
Dimension	246(L)×120(W)×54(D)mm	
Weight	Approx. 780g (including batteries)	
Accessories	R6P x 4, Instruction manual 8304 (Resister for operation check) 9166 (Carrying case[Hard])	LR6 x 4, Instruction manual 8304 (Resister for operation check) 9167 (Carrying case[Hard])

•Crest factor ≦ 3 (50Hz/60Hz, peak value shall not exceed 60A)
*4 counts or less are corrected to 0.

Various useful functions are available on Android devices using Bluetooth communication(4202 only)

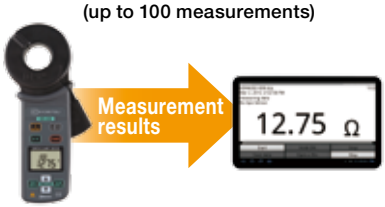
Free Android software "KEW Smart 4202" is available on download site

Download

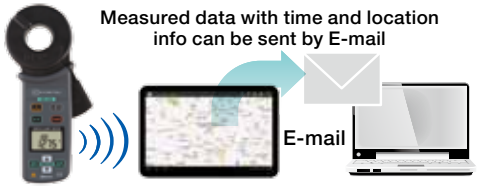
KEW Smart 4202

※Communication charges may be incurred separately to download application

Recorded data can be transferred (up to 100 measurements)



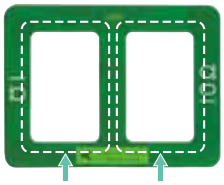
Measured data with time and location info can be sent by E-mail



GPS data collection may be lost since the GPS signal differs depending on the location of satellites.
To access GPS data and send emails, an Internet connection is required.
Communication charges may be incurred separately for using these functions.

Comparator function informs when the measured value is lower/higher than the preset value

Accessories



1Ω loop 10Ω loop

MODEL 8304

Resistor for operation check

MODEL 9167

Carrying case[Hard]

※Available on the Android devices equipped with Bluetooth/ GPS/ Data communication function Supporting Android ver. 2.2 - 4.0
Max communication distance :10m
External communication method : Bluetooth ver. 2.1+EDR Class 2
Bluetooth is a registered trademark of the Bluetooth SIG, Inc.
Android is a registered trademark of the Google Inc.

Earth Clamp Line up

	4200	4202
Common functions	Earth resistance, AC current, Back light function, Data hold function, Auto power off, Memory function	
Individual functions	—	Bluetooth communication

MODEL 4118A

CE

- Custom microprocessor controlled for highest accuracy and reliability.
- 3 LEDs for checking correct wiring status.
- 15mA LOOP measurement:LOOP impedance 2000Ω range measurement is carried out with low test current (15mA). The current will not cause tripping out involved RCD even the one with the lowest nominal differential current (30mA).
- Direct reading of Prospective Short Circuit Current (PSC).
- Measure low loop resistances(resolution of 0.01Ω)
- Automatic lock-out if test resister overheats.
- Large custom digital display readout .
- Visual indication of reversed phase and neutral wiring at socket.
- Designed to IP54 Rating

	4118A
Loop impedance ranges	20/200/2000Ω
Loop impedance accuracy	±2%rdg±4dgt
AC test current	20Ω 25A 200Ω 2.3A 2000Ω 15mA
AC test period	20Ω (20ms) 200Ω (40ms) 2000Ω (280ms)
PSC ranges	200A(2.3A 40ms) 2000A(25A 20ms) 20kA(25A 20ms)
PSC ranges accuracy	Consider accuracy of loop impedance
Voltage	110V~260V ±2%rdg±4dgt
Operating voltage	230V +10%, -15%(195V~253V)50Hz
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61557-1,3 IEC 61010-031 Pollution degree 2 IEC 60529(IP54)
Dimensions	185(L) × 167(W) × 89(D)mm
Weight	750g approx.
Accessories	Molded plug test leads* 7121B(Distribution board test leads) 9147(Cord case) 9121(Shoulder strap) Instruction manual

* 7123(AU): Australian plug 7124(UK): British plug(13A)
7125(EU): European SHUKO plug 7126(SA): South African plug

Accessories

MODEL **7121B**
(Distribution board test leads)

Molded plug test leads

MODEL **7123** (AU)Australian plug
MODEL **7124** (UK)British plug(13A)
MODEL **7125** (EU)European SHUKO plug
MODEL **7126** (SA)South African plug

Loop Testing Methods

In the buildings mainly used for private residence where low voltage power is supplied from electric utilities the fundamental protection against electric shock hazards is provided by appropriately coordinating the function of an earthing circuit with automatic switches placed at the latter stage of indoor wiring circuits. This is intended to quickly cut off the supply to an earthing circuit where a fault occurs following touch voltage exceeding an acceptable limit. Proper protection against electric shock hazards is given when the TT wiring system satisfies the requirement as expressed by the following formula:

$Ra \times Ia \leq 50$

where Ra is the sum of the resistances of earth bars and protective conductors and Ia is the maximum current of a protection system provided for installations, indicating that the value obtained by multiplying Ra with Ia is not more than 50V. This means a maximum voltage one can touch shall not exceed 50V in the event of an earth fault.

■ Method of earth fault loop impedance testing at socket outlet. As shown in Fig.1, total earth fault loop impedance can be measured by plugging a loop tester into socket . The value of earth fault loop impedance measured represents the sum of transformer coil winding resistance, phase conductor (L3) resistance and protective conductor (PE) resistance as well as source earth resistance and installation earth resistance. With the loop tester set to any one of the PSC (prospective short circuit current) range, it is also possible to measure earth fault current.

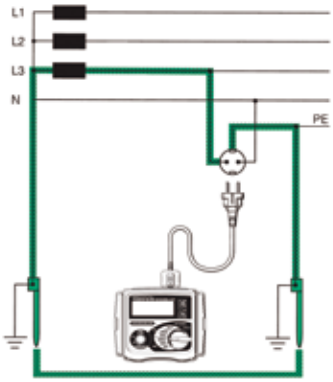


Fig.1 Earth fault loop impedance testing at socket outlet.

KEW 4140

- Anti-Trip Technology for complete trip free Loop testing on all RCDs rated 30mA and above.
- Dual Display allows simultaneous measurements like Loop & PFC/PSC.
- Two wire connection for Loop L-L, L-N and PSC testing is possible.
- Phase rotation, Voltage and Frequency measurements.
- Lock-down test button for 'hands free' testing with auto-start operation.
- Display and front panel keyboards with Backlight to be visible in dark places.
- Water and Dust proof (IP54)

4140				
Loop Impedance				
	Function	L-PE ATT OFF	L-PE ATT ON	L-N/L-L
	Rated voltage	230V (50/60Hz)		L-N: 230V (50/60Hz) L-L: 400V (50/60Hz)
	Operating Voltage	100~280V (45~65Hz)		100~500V (45~65Hz)
	Range (Auto-Ranging)	20/200/2000Ω	20/200/2000Ω (L-N<20Ω)	20Ω
	Nominal Test Current at 0Ω External Loop: Magnitude/Duration at 230V	20Ω:6A/40ms 200Ω:2A/20ms 2000Ω:15mA/500ms	L-N:6A/60ms N-PE:10mA/approx. 5s	20Ω:6A/20ms
	Accuracy	±3%rdg±4dgt (*1)	±3%rdg±6dgt (*1)	L-N: ±3%rdg±4dgt L-L: ±3%rdg±8dgt
PFC(L-PE)/PSC(L-N/L-L) (*2)				
	Function	PSC	PFC (ATT)	PSC
	Rated voltage	230V (50/60Hz)		L-N: 230V (50/60Hz) L-L: 400V (50/60Hz)
	Operating Voltage	100~280V(45~65Hz)		100~500V(45~65Hz)
	Range (Auto-Ranging)	2000A/20kA	2000A/20kA(L-N<20Ω)	2000A/20kA
	Nominal Test Current at 0Ω External Loop: Magnitude/Duration at 230V	20Ω:6A/40ms 200Ω:2A/20ms 2000Ω:15mA/500ms	L-N:6A/60ms N-PE:10mA/approx. 5s	20Ω: 6A/20ms
Phase Rotation				
	Operating Voltage	50~500V, 45~65Hz		
	Remarks	Correct phase sequence : displayed “1.2.3” and ↻ mark Reversed phase sequence : displayed “3.2.1” and ↺ mark		
Volts				
	Function	Volts	Frequency	
	Measuring range	0~500V	45~65Hz	
	Accuracy	±2%rdg±4dgt	±0.5%rdg±2dgt	
Applicable standards		IEC 61010-1 CAT.Ⅲ300V (500V L to L) IEC 61010-031, IEC 61557-1,3,7,10, IEC 60529 (IP54), IEC 61326(EMC)		
Power source		1.5V AA batteries × 6 *Use of alkaline batteries (LR6) is recommended.		
Dimensions		84(L) × 184(W) × 133(D)mm		
Weight		860g (including batteries.)		
Accessories included		Main test lead (*3), Distribution board test lead (*4), 9155 (shoulder strap), 9156 (Soft case) LR6 (Battery) × 6, Instruction manual, Calibration certificate		

*1: Accuracy of L-N LOOP displayed on the Sub Display is synchronized with the one at L-N/L-L function.
*2: PSC/PFC Accuracy is derived from measured loop impedance specification and measured voltage specification.
*3: 7187A:(UK)British plug, 7218A:(EU)European SHUKO plug, 7221A:(SA)South African plug, 7222A: (AU)Australian plug
*4: 7246 : Blue, Green, Red, 7247 : Black, Green, Red

Accessories

Main test lead

MODEL **7187A** (UK)British plug
MODEL **7218A** (EU)European SHUKO plug
MODEL **7221A** (SA)South African plug
MODEL **7222A** (AU)Australian plug

Distribution board test lead

MODEL **7246** Blue, Green, Red
MODEL **7247** Black, Green, Red

MODEL **9156**
Soft case

MODEL 5406A

CE

	5406A
Rated tripping current	10/20/30/200/300/500mA
Fault condition settings	× 1/2 × 1 × 5 × DC Auto Ramp
Trip current duration	1000ms 200ms(× 5)
Lowest resolution	1ms
Trip time accuracy	±0.6%rdg±4dgt
Operating voltage	230V+10%-15% (195V~253V)[50Hz]
Applicable standards	IEC 61557-1,6 IEC 61010-1 CAT.Ⅲ 300V IEC 61010-031 Pollution degree 2 IEC 60529(IP54)
Dimensions	186(L) × 167(W) × 89(D)mm
Weight	800g approx.
Accessories	Molded plug test leads* 9147(Cord case) 9121(Shoulder strap) Instruction manual
Optional	7121B(Distribution board test leads)

* 7123(AU) : Australian plug 7124(UK) : British plug(13A)
7125(EU) : European SHUKO plug 7126(SA) : South African plug

- Custom microprocessor controlled for highest accuracy and reliability.
- 3 LEDs for checking correct wiring status.
- 0 and 180 degree phase angle switch permits quick tests and consistent readings.
- Digital read-out of tripping time.
- Test of a large kind of RCDs : Standard, Selective, AC and A(DC sensitive breakers).
- Constant current source circuitry ensures that a fluctuating mains voltage does not affect the accuracy of readings.
- Large custom digital display readout .
- Visual indication of reversed phase and neutral wiring at socket.
- Designed to IP54 Rating.
- Complies with IEC61557

Accessories

CE

MODEL 7121B
(Distribution board test leads)

Molded plug test leads

MODEL 7123 (AU)Australian plug
MODEL 7124 (UK)British plug(13A)
MODEL 7125 (EU)European SHUKO plug
MODEL 7126 (SA)South African plug

MODEL 5402D

	5402D
Rated tripping current	5/10/30/100/300/500mA
Fault condition settings	× 1/2 × 1 Fast (250mA)
Trip current duration	2000ms 40ms (Fast trip)
Lowest resolution	1ms
Trip time accuracy	±2%rdg±3dgt
Operating voltage	220/230/240V [50Hz/60Hz]
Dimensions	140(L) × 90(W) × 20(D)mm
Weight	350g approx.
Accessories	7019(Test leads) 9045(Carrying case) Instruction manual

- Accurate digital readout of tripping time.
- Two neon lamps give quick check for correct wiring.
- Compact, lightweight and simple to operate.
- Zero cross circuitry permits testing at 0 and 180 degree portion of sine wave.
  At these two tests minimum (best) and maximum (worst) trip times will be displayed.

KEW 5410

- **Measurement of RCD trip time**
  Conducting testing of rated residual non-operating currents at x 1/2 Range, measuring RCD trip time at x1 and x5 Ranges.
- **Measurement of trip out current**
  Measuring trip out current by varying current automatically.
- **Remote Test**
  Enabling a user to hold the Test Leads with his both hands by locking the Test Button. Measurement will automatically start when the main voltage is detected.
- **Voltage Measurement**
  Carrying out a constant measurement of voltage in the stand-by mode at each Range.
- **Auto-detection of Contact voltage**
  Detecting the voltage to earth of Earth electrodes or Protective conductors during RCD test - when applying test currents - at measurement using EARTH in order to prevent electrical shocks caused by the damaged earth. Measurement will be ceased at AC50V or more.
- **Dust- and Water-proof**
  Dust- and Water-proof construction. (designed to IEC60529 IP54)
- **Backlight**
  Facilitating working at dimly illuminated locations.

			5410			
Measurement of RCD trip time Measurement of trip out current						
	Range		×5	×1	×1/2	Auto Ramp (mA)
	Rated voltage		100V±10% 200V+32%/-10% 400V±10% (50/60Hz)			
	Test current		15/30/50/100mA	15/30/50/100/200/500mA		15/30/50/100/200/500mA
	Measuring range		Testing time 200ms	Testing time 2000ms	Testing time 2000ms	40%~110% of IΔn (goes up by 5%) Testing time 300ms x 15 steps
	Accuracy	Trip time	±1%rdg±3dgt	±1%rdg±3dgt	±1%rdg±3dgt	Test current at each step
		Test current	+2%~+8%dgt	+2%~+8%dgt	-8%~-2%dgt	-4%~+4%
Voltage measurement						
	Measuring range		80V~450V(50/60Hz)			
	Accuracy		±2%rdg±4dgt			
Applicable standards			IEC 61010-1 Pollution degree 2 CAT.Ⅲ 300V/ CAT.Ⅱ 400V IEC 61010-031 IEC 61557-1,6 IEC 60529(IP54)			
Display			1999 counts(3 1/2digits), Large LCD			
Operating temperature & humidity			0°C ~ 40°C, relative humidity 85%(no condensation)			
Storage temperature & humidity			-20°C ~ 60°C, relative humidity 85%(no condensation)			
Insulation resistance			50MΩ or more / 1000V(between electrical circuit and enclosure)			
Power source			DC12V / Size AA battery R6P(SUM-3)×8pcs			
Dimension			186(L)×167(W)×89(D)mm			
Weight			Approx. 965g (including batteries)			
Accessories			7128A(Test leads) 7129A(Test lead with alligator clip) 8017(Extension prod)×2 9147(Cord case), 9121(Shoulder strap), Instruction manual, R6P(SUM-3)(AA)×8			

*Only the RCD type G (without trip out time-delay) can be tested at Auto Ramp Test ; type S (time-delay) cannot be tested.

Accessories

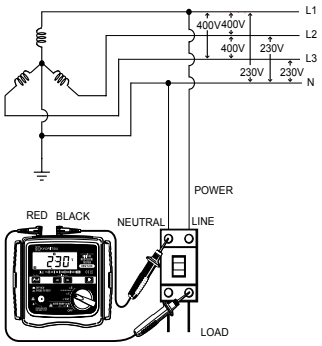
MODEL 7128A
Test leads

MODEL 7129A
Test lead with alligator clip

MODEL 8017
Extension prod

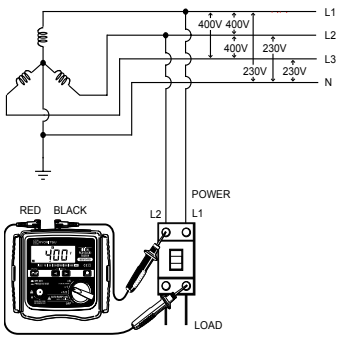
Neutral - Line

Connect the "PRIMARY" of the Connector Block to the Neutral of the power of RCD, and the "SECONDARY" of the Connector Block to the Line of the load of RCD.



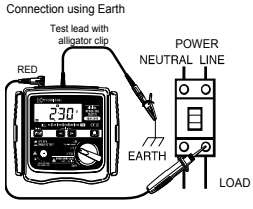
Line - Line

Connect the "PRIMARY" of the Connector Block to L2 of the power of RCD, and the "SECONDARY" of the Connector Block to L1 of the load of RCD.



Earth - Line

Connect the "PRIMARY" of the Connector Block to Earth, and the "SECONDARY" of the Connector Block to Line of the load of RCD.



MODEL 5001

LEAK LOGGER

TRUE RMS

The leakage current is recorded by 3ch input 60,000 data is recorded

60,000 data is recorded when 1ch is used and when three all channels are used,
20,000 data is recorded for each channel

Continuous measurement time

- About 40 days

Data where it doesn't disappear even if battery is consumed

Data doesn't disappear by using the nonvolatile memory when the battery is consumed and the battery is exchanged. (warranty for 10 years)

Battery residual display

The battery state is displayed by 4 stages. (When blinking indicator is displayed, it is possible to measure for about one day)

The present time, recording intervals, the start of recording, the recording method, the name of monitoring site and the comment can be set by using supplied software

Selection of one time mode and endless mode

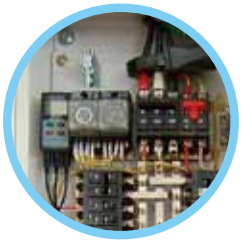
- **One time on**
  Stop recording when the memory is filled.
- **One time off (endless)**
  Overwrite from old data and leave the latest data.

Recall function

- **The latest 10 data can be checked.**
- **The recall data is**
  Display month and date
  Display hour and minute
  Display current value

As for the leakage clamp sensor, an arbitrary combination is possible

The leakage current clamp sensor can be connected up to three channels



It can be attached to the metallic plate with magnet

	5001
Operation system	Successive approximation
Input	AC voltage(AC 100mV/A)
Maximum circuit voltage	AC 170mVrms, 250mV peak value
Number of input channel	3 Channels
Measurement method	True RMS
Measurement interval	1,2,5,10,15,20,30 sec. / 1,2,5,10,15,20,30,60 min.
Over range indication	"OL" mark appears when exceeding measuring range
Warning of voltage of battery	Battery mark display of 4 stages
Continuous available time battery life	About 40 days on the event record mode (Normal temp.)
Dimensions	111(L) × 60(W) × 42(D)mm
Weight	About 315g (Include batteries)
The maximum display	1049 counts
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree2 IEC 61326 (EMC)
Power source	Alkaline battery LR6 × 6
Accessories	Manual, Alkaline battery LR6, KEW LOG Soft 2 (PC software), 7148(USB cable), 9118(Carrying case[Soft])
Optional	8141/8142/8143(Leakage current clamp sensor) 7185(Extension cable) 9135(Carrying case)

•Continuous recording mode

Range	Measurement range	Accuracy	Accuracy of sensor combination
100mA	0 to 100.0mA	±1.0%rdg±5dgt	±2.0%rdg±10dgt
1000mA	0 to 1000mA		±2.0%rdg±6dgt

•Event recording mode / The maximum value recording mode

Range	Measurement range	Accuracy	Accuracy of sensor combination
100mA	0 to 100.0mA	±1.5%rdg±7dgt	±2.5%rdg±12dgt
1000mA	0 to 1000mA		±2.5%rdg±8dgt

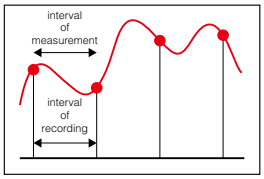
•Capture recording mode

*Accuracy of electric current adjudication is different. For details, refer to the operation manual

Range	Measurement range	Accuracy	Accuracy of sensor combination
100mA	0 to 100.0mA	±3.0%rdg±2%fs	±4.0%rdg±2.5%fs
1000mA	0 to 1000mA		±4.0%rdg±2%fs

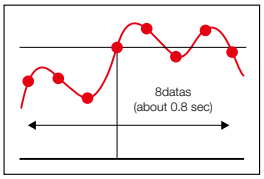
4 recording modes are available for insulation monitoring

❶Continuous recording mode



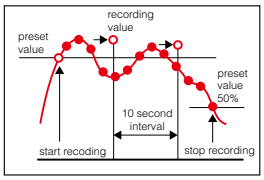
- To record the current change of a long term, and to measure and record at constant intervals, the state of leak that changes along with time is confirmed.
- The memory number is 60,000. (1ch only is used.)
- There are 15 kinds of settings at recording intervals from 1 second to 60 minutes.

❷Event recording mode



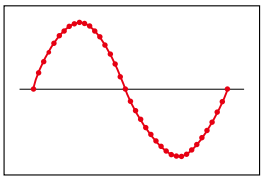
- Frequency is confirmed at a momentary current value of the leak occurrence and time.
- The operation of ELCB is obtained by sampling for 1.6 milliseconds.
- When the current setting value is exceeded, eight data (a true effective value of about 0.8 seconds) and peak values are recorded before and behind that.
- LED blinks when the current setting value is exceeded.

❸The maximum value recording mode



- Easy finding of intermittent leak.
- The operation of ELCB is obtained by sampling for 1.6 milliseconds.
- When exceeding set current value, it records the max. value every 10 seconds. The leak occurrence period of intermittent leak can be checked when the set current value becomes 50% or less, or 10 minutes will be recorded.
- LED blinks when the current setting value is exceeded.

❹Capture recording mode



- The observation of the shape of waves is simply possible by sampling one millisecond.
- When the current setting value is exceeded, the instantaneous value of 200 milliseconds (For 10 to 12 shape of waves) is recorded before and behind that.
- LED blinks when the current setting value is exceeded.

Recorded data can be directly transferred to PC via USB cable

The user friendly PC software "KEW LOG Soft 2" is supplied.

- The type of the sensor connected to the logger will be automatically recognized.
- Just click appropriate dialog boxes for set up if it is not required to input any comments.
- By using commercially available USB hub, multiple loggers can be connected to a PC and can set the synchronized time.

Direct data transmission to PC by USB connection

System requirements

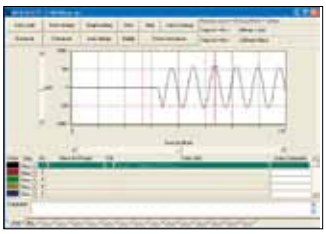
OS:	Windows®7(32/64bit)/Vista
Display:	XGA (Resolution 1024 x 768 dots) or more
Hard-disk:	Space required 100Mbyte or more
Others:	With CD-ROM drive and USB port

* Windows® is a registered trademark of Microsoft in the United States.

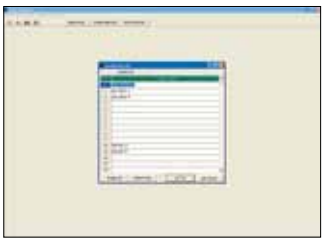
Easy to set up with a PC

Large data can be easily processed

A graph can be made by just one click



Capable of registering the names of 1,000 sites



Optional

Leakage current type

MODEL 8141
Clamp sensor
ϕ24mm AC1000mA

MODEL 8142
Clamp sensor
ϕ40mm AC1000mA

MODEL 8143
Clamp sensor
ϕ68mm AC1000mA

MODEL 9135
Carrying case

KEW 5010/5020

3 channel inputs for the simultaneous recording of Leakage Current, Load Current and Voltage

Power Quality analysis. (only on KEW 5020)
(Power Quality: Reference voltage, Swell, Dip, Short power Interruptions)

Large capacity for storing 60,000 data points
60,000 data points can be recorded when 1ch is used, and when all the three channels are used,
20,000 data points per channel can be recorded.

Lowpass Filter will filter out the harmonics.
(Cutoff Frequency = Approx. 160Hz)

LED flickers when the preset current / voltage value is exceeded.
(Available for Trigger / Capture Recording, Power Quality Analysis modes)

CALL : Confirmation of recorded data
- The following can be displayed: number of recorded data points, (max+ min+ peak) value for each channel complete with time/date information in the Normal recording mode. (Detected values (i.e. when values are outside preset limits) can be displayed in other recording modes)
- RECALL: The last 10 recorded data points including time/date can be recalled on the logger display.

Selection of One-time mode or Endless mode
One-time on : →|
Recording will stop when memory is used up.
One-time off : ⟲
Overwrite the old data, and store the latest data.

Non Volatile Memory
Recorded data will be retained even if the batteries are exhausted or replaced due to the presence of a nonvolatile memory (guaranteed for 10 years)

Battery power indicator
Indicates battery voltage in 4-levels.
(It is possible to use the logger for a further approx 24 hours even after the warning symbol is flashing.)

The user friendly PC software " KEW LOG Soft "is supplied.
- Supplied with the user friendly software " KEW LOG Soft 2".
- This permits editing, analysis and graphical display of data.
- The recorded data is downloadable onto a PC via USB cable.
- Variation of the measured voltage and current data can be confirmed simultaneously on the PC display monitor. (only on KEW 5020)
- Simplified Power Integration
  (The "KEW LOG Soft 2" uses current and voltage recorded to calculate the integral power consumption)
- Continuous measuring time : Approx. 10 days (Alkaline Battery)

		5010	5020
Recording mode		Normal, Trigger, Capture	Normal, Trigger, Capture, Power quality analysis
Operating system		Successive approximation(CH1 single synchronized sampling)	
Rated max. working voltage		AC9.9Vrms, 14V peak value	
Number of input channel		3ch	
Measuring method		True RMS	
RMS measuring interval		approx. 100ms.	
Sampling interval	: Normal / Trigger mode	approx. 1.65ms/CH	
	: Capture mode	approx. 0.55ms (waveform: at every 1.1ms)	
	: P.Q.A mode	—	approx. 0.55ms
Low battery warning		Battery mark display (in 4 levels)	
Over-range indication		"OL" mark is displayed when exceeding the measuring range	
Auto power off		Power-off function operates automatically after a switch remains for 3min. (when recording is stopped)	
Location for use		Indoor use, Altitude up to 2000m	
Operating temperature & humidity range		-10°C~50°C / Relative humidity 85% or less (no condensation)	
Battery		DC6V : Alkaline battery(LR6) × 4pcs / External supply DC9V(Special AC Adaptor)	
Possible measurement time		Approx.10days (with alkaline LR6 batteries)	
Applicable standards		IEC 61010-1 CAT.Ⅲ 300V Pollution degree2 IEC 61326 (EMC)	
Dimensions		111(L) × 60(W) × 42(D)mm	
Weight		Approx. 265g	
Accessories		Alkaline battery LR6×4 9118(Carrying case[Soft]) KEW LOG Soft 2(PC software) 7148(USB cable) Instruction manual Quick manual Install manual USB Notice sheet	
Optional		8146/8147/8148(Leakage & Load current clamp sensor) 8121/8122/8123(Load current clamp sensor) 8129(Flexible clamp sensor) 8309(Voltage sensor : only KEW5020) 8320(AC adaptor) 9135(Carrying case) 7185(Extension cable)	

Normal Recording Mode
(AC 50/60Hz, Sine wave, Input: 10% or more of the range at CH1)

Range	RMS Accuracy
100.0mA	±2.0%rdg±0.9%f.s. + Accuracy of sensor
Other ranges	±1.5%rdg±0.7%f.s. + Accuracy of sensor
Crest factor	2.5 or less :RMS accuracy(sine)+ 2%rdg+1%f.s.

*Max, Min and Instant Peak values in Normal Recording mode are just reference values; their accuracies aren't guaranteed.

Trigger Recording Mode
(AC 50/60Hz sine wave)

Range	Accuracy
100.0mA	±3.5%rdg±2.2%f.s. + Accuracy of sensor
Other ranges	±3.0%rdg±2.0%f.s. + Accuracy of sensor

Capture/ Power Quality Analysis Recording Mode

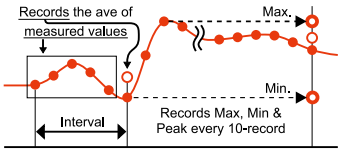
Range	Accuracy
100.0mA	±3.0%rdg±1.7%f.s. + Accuracy of sensor
Other ranges	±2.5%rdg±1.5%f.s. + Accuracy of sensor

4 recording modes make various measurements possible

NORM Normal recording mode

For monitoring power line status or an intermittent leakage.

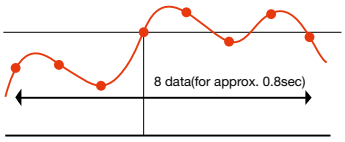
- Records the variation of the current / voltage in a given interval (For monitoring the variation of the current / voltage against time.)
- A choice of 15 recording intervals are available: 1 sec. to 60 min. (1,2,5,10,15,20,30 sec, 1,2,5,10,15,20,30,60 min.)
- The average of the measured value in every recording interval is recorded. The Max., Min. and Peak values (sampled crest value converted to sine RMS value) are recorded every 10 readings.



TRIG Trigger recording mode

For observing an irregular operation of an ELCB/RCD, an irregular current / voltage.

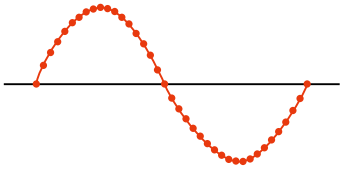
- Detects the value, time and frequency of the current / voltage when the preset value is exceeded.
- When the detection level (i.e. preset value) is exceeded, 8 data points (True RMS values for approx. 0.8 sec) and peak value are recorded before and after the preset value is exceeded.
- Inrush current or an abnormal current / voltage can be detected by sampling the inputs at every 1.6ms.
- LED flickers when the measured values exceed the preset current / voltage value.



CAP Capture recording mode

For observing waveforms easily.

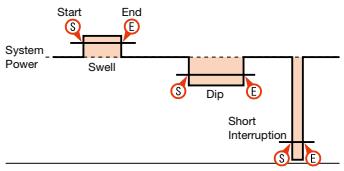
- Waveform display via a PC by sampling the inputs every 0.55ms.
- When the preset current / voltage value is exceeded, instantaneous values are recorded for 200ms (from 10(50Hz) to 12 (60Hz) waveforms) before and after preset value is exceeded.
- LED flickers when the measured values exceed the preset current / voltage value.



PQA Power Quality Analysis Mode

For monitoring and observing voltage fluctuations.

- Detects the reference voltage, Swell, Dip and Short Interruption. Records the values detected with the start time and end time.
- Samples the inputs every 0.55ms and detects the voltage fluctuation every 10ms.
- LED flickers when the voltage fluctuation is detected.



Analyzing and processing the recorded data with a PC

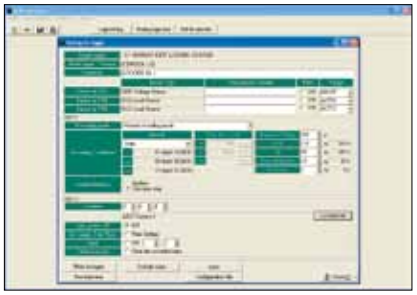
The user friendly PC software "KEW LOG Soft 2" is supplied.

System requirements

OS:	Windows® 7(32/64bit) /Vista/XP	Hard-disk:	Space required 100Mbyte or more
Display:	XGA(Resolution 1024 x 768 dots) or more	Others:	With CD-ROM drive and USB port

* Windows® is a registered trademark of Microsoft in the United States.

Easy to set up with a PC

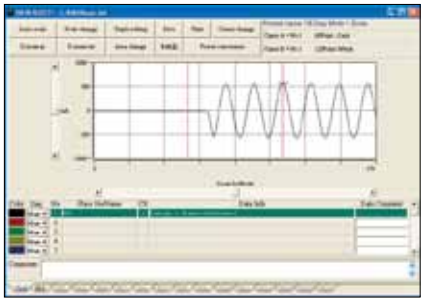


(Normal and Trigger recording modes can be set up through the logger itself.)

Large data can be easily processed

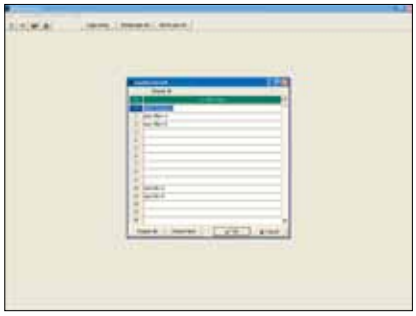
- The type of the sensor connected to the logger will be automatically recognized.
- Just click appropriate dialog boxes for set up if it is not required to input any comments.
- By using commercially available USB hub, multiple loggers can be connected to a PC and can set the synchronized time.

A graph can be made by just one click



Display of Power Quality

Capable of registering the names of 1,000 sites



KEW 6010B

CE

- Designed to IEC 61010-1, IEC 61557
- Data Memory : 300 measured results
- Download Results to PC by Using 8212 Data Communication Adaptor through Optical RS-232C Port.

5 in 1

Continuity	**Insulation**
20/200Ω	500/1000V
Loop	**RCD**
20/2000Ω	10/30/100/300/500mA
Uc	
100V	

	6010B
Continuity testing	
Measuring range	20/200Ω (Auto-ranging)
Open circuit voltage	>6V
Short circuit current	>200mA
Accuracy	±(3%rdg+3dgt)
Insulation resistance testing	
Measuring range	20/200MΩ(Auto-ranging)
Test voltage	500/1000V
Open circuit voltage	+20%, -0%
Rated current	>1mA
Accuracy	±(3%rdg+3dgt)
LOOP Impedance testing	
Impedance range	20Ω/2000Ω
Rated voltage	230V +10%, -15% [50Hz]
Normal test current	20Ω: 25A/10ms
	2000Ω: 15mA/350ms max.
Accuracy	±(3%rdg+8dgt)
RCD testing	
Test current (Test current duration) ×1/2, ×1	10, 30, 100, 300, 500mA (2000ms)
Test current (Test current duration) FAST	150mA(50ms)
Test current (Test current duration) DC	10,30,100,300mA (2000ms), 500mA(200ms)
Test current (Test current duration) Auto ramp	Goes up by 10% from 20% to 110% of IΔn. 300ms × 10
Rated voltage	230V+10%, -15% 50Hz
Accuracy Test current	× 1/2 : -8%, -2% × 1, Fast : +2%, +8% DC : ±10% Auto ramp: ±4%
Accuracy Trip time	±(1%rdg+3dgt)
Uc testing	
Measuring range	100V
Rated voltage	230V +10%, -15% [50Hz]
Test current	5mA at IΔn=10mA 15mA at IΔn=30/100mA 150mA at IΔn=300/500mA
Accuracy	+5%, +15%rdg ±8dgt
General	
Applicable standards	EC 61010-1 CAT.Ⅲ 300V Pollution degree 2 IEC 61557-1,2,3,4,6,10, IEC 60529 (IP40)
Power source	R6 or LR6 × 8
Dimensions	175(L) × 115(W) × 86(D) mm
Weight	840g approx.
Accessories	7122B (Test leads) KAMP10 (Test lead with IEC connector)* 9092 (Cord case) 9148 (Shoulder strap) Shoulder pad Instruction manual R6P(AA)× 8
Optional	7133B (Distribution board test leads) 8212-RS232C (RS232C adaptor with "KEW Report (Software)") 8212-USB (USB adaptor with "KEW Report (Software)")

* KAMP10(EU):European SHUKO plug KAMP10(UK):British plug(13A)
KAMP10 (AU):Australian plug KAMP10(SA):South African plug

Accessories

MODEL 7122B
Test leads

KAMP10 Test lead with IEC connector

Optional Accessories

MODEL 8212-USB
USB adaptor with "KEW Report (Software)"

MODEL 8212-RS232C
RS232C adaptor with "KEW Report (Software)"

Specifications

	MODEL 8212-USB	MODEL 8212-RS232C
Communication method	USB Ver1.1	-
Driver type	Virtual COM port	-
Communication speed	19200bps max.	9600bps max.
Dimensions	Adaptor : 53(L)×36(W)×19(D)mm Cable : 2m approx.	Adaptor : 61(L)×36(W)×19(D)mm Cable : 1.6m approx.
Operating temperature and humidity	-10~+50°C 85%RH or less with no condensation	0~+40°C 85%RH or less with no condensation
Storage temperature and humidity	-20~+60°C 85%RH or less with no condensation	

System Requirements

OS: Windows®7(32/64bit)/Vista
Display: XGA (Resolution 1024 x 768 dots) or more
Hard-disk: Space required 20Mbyte or more
Others: With CD-ROM drive and USB port

*Windows® is a registered trade mark of Microsoft in the United States.

MODEL 7133B Distribution board test leads

"KEW Report" Software for report

"KEW Report" transfers measurement data from the KEW6010B to a PC via MODEL8212-USB or MODEL8212-RS232C.

MODEL 6010A/6011A

photo : 6010A

4 in 1

Continuity
20/200Ω

Insulation
500V

Loop
20/2000Ω

RCD
10/30/100/300/500mA

photo :6011A

5 in 1

Continuity
20/200/2000Ω

Insulation
250/500/1000V

Loop
20/200/2000Ω

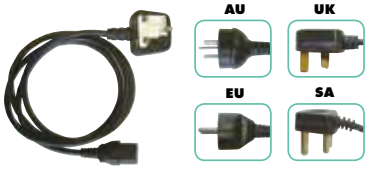
RCD
10/30/100/300/500/1000mA

PSC
200/2000/20kA

	6010A	6011A
Continuity testing		
Measuring ranges	20/200Ω(Autoranging)	20/200/2000Ω(Autoranging)
Open circuit voltage	>4V	>6V
Short circuit current	>200mA DC	
Accuracy	±(3%rdg+3dgt)	±(1.5%rdg+3dgt)
Insulation testing		
Measuring ranges	20/200MΩ(Autoranging)	
Test voltage	500V DC	250/500/1000V DC
Output voltage on open circuit	570V±6%	250V+40%, -0% 500+30%, -0% 1000V+20%, -0%
Rated current	> 1mA	
Accuracy	±(3%rdg+3dgt)	±(1.5%rdg+3dgt)
Loop impedance testing		
Rated voltage	230V AC +10%, -15%[50Hz]	
Voltage measuring range	100~250V AC[50Hz]	
Impedance ranges	20/2000Ω	20/200/2000Ω
Nominal test current	25A(20Ω range) 15mA(2000Ω range)	25A(20Ω range) 15mA(200Ω range) 15mA(2000Ω range)
Accuracy	20Ω range ±(3%rdg+8dgt) 2000Ω range ±(3%rdg+8dgt)	20Ω range ±(3%rdg+4dgt) 200Ω range ±(3%rdg+8dgt) 2000Ω range ±(3%rdg+4dgt)
PSC testing		
Rated voltage	–	230V AC +10%, -15%[50Hz]
PSC ranges	–	200A(15mA Test current) 2000A(25A Test current) 20kA(25A Test current)
Accuracy	–	PSC accuracy derived from measured loop impedance specification and measured voltage specification
RCD testing		
Rated voltage	230V AC +10%, -15%[50Hz]	
Trip current settings	RCD x 1/2 : 5,15,50,150,250mA RCD x 1 : 10,30,100,300,500mA FAST : 150mA	RCD x 1/2 :10,30,100,300,500,1000mA RCD x 1 : 10,30,100,300,500,1000mA RCD x 5 : 10,30,100,300mA (on x 5 range max current 1A)
Trip current duration	RCD x 1/2 x 1 : 2000ms RCD fast : 50ms	RCD x 1/2 x 1 : 2000ms RCD fast : 50ms
Accuracy	Trip current +3% of test current at 230V Trip time ±(3%rdg + 3dgt)	Trip current +10% -0% of test current at 230V Trip time ±(1%rdg + 3dgt)
General		
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V pollution degree 2 IEC 61010-031 IEC 61557	IEC 61010-1 CAT.Ⅲ 300V pollution degree 2 IEC 61010-031 IEC 61557 IEC60529(IP54)
Power source	R6P or LR6 x 8	
Dimensions	115(L) x 175(W) x 86(D)mm	130(L) x 183(W) x 100(D)mm
Weight	780g approx.	1100g approx.
Accessories	KAMP10(Test lead with IEC connector)* 7122B(Test leads), 9092(Cord case), 9148(Shoulder strap), Shoulder pad, P6P(AA) x 8, Instruction manual	KAMP10(Test lead with IEC connector)* 7122B(Test leads), 7132A(KSLP5)(External earth probe) 9092(Cord case), 9121(Shoulder strap) P6P(AA) x 8, Instruction manual
Optional	7133B(Distribution board test leads)	

※ KAMP10(EU):European SHUKO plug KAMP10(UK):British plug(13A) KAMP10(AU):Australian plug KAMP10(UK):South African plug

Accessories



Plug

KAMP 10
Test lead with IEC connector

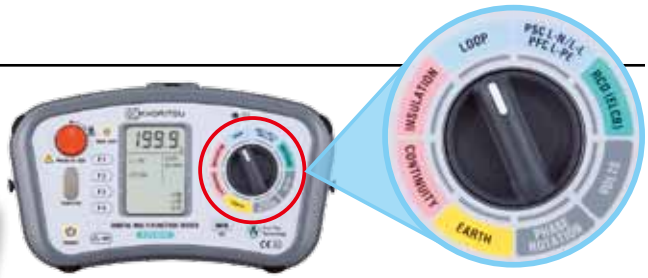
MODEL 7122B
Test leads

MODEL 7132A (KSLP5)
External earth probe (6011A only)

Optional Accessory

MODEL 7133B (OMA DIEC)
Distribution board test leads

KEW 6016



A single rotary dial to make your selection.

Slim remote probe with test button as well as a lockdown option on the instrument for the most convenient hands free testing.

10 in 1

Continuity 20/200/2000Ω	**Insulation** 250/500V	**Loop** 20/200/2000Ω
PSC 2000A/20kA	**PFC** 2000A/20kA	**RCD** 10/30/100/300/500/1000mA
Earth 20/200/2000Ω	**ACV** 500V	
Phase rotation	**Frequency**	

Continuity Measurement
Continuous testing can be carried out by use of the test button lockdown feature. A selectable buzzer gives instantaneous indication of continuity. Null facility eliminates the test lead resistance from the results, the nulled value is retained even if the instrument is switched off. Live circuit warnings are given by a flashing LED, buzzer and indication on the display.

Insulation Measurement
Three selectable test voltages 250V, 500V and 1000V. An auto-discharge function ensures that circuits are not hazardous after testing. A red LED gives warning of high voltage output during testing and discharging of the circuit. In case of connecting to a live circuit, a live circuit warning is given by flashing LED, buzzer and indication on the display.

Loop Impedance Measurement
A patented (ATT) low current loop impedance test enables high accuracy loop measurements (up to 0.01 ohm) and quick testing without tripping RCDs.
A high current alternative is selectable for even higher accuracy and instantaneous results. The subsequent test will default to the low current test, this saves any inadvertent tripping of the RCD. The KEW6016 allows also for phase to phase loop tests.

PSC / PFC Measurement
The Prospective Short Circuit Current (PSC) and Prospective Fault Current (PFC) are automatically calculated and shown on the display. As loop testing, the function has low and high test current options with the default to low current to avoid inadvertent tripping of RCDs.

RCD Measurement
The KEW 6016 has a comprehensive RCD test feature for RCD type AC (Alternative Currents), RCD type A (Pulsating Direct Currents), General and Selective (delayed).
Measures at 1/2 x, 1x, 5x of nominal RCD current. It also has Ramp Test and Auto test where all results are shown on one screen. Touch voltage limit can be selected for 25V or 50V depending on application.

Earth Measurement
Using the classical Volt-Ampere method with two auxiliary earth spikes and without external power source. All test leads and spikes are supplied as standard accessories.

Phase rotation
KEW 6016 can check the phase rotation of three phase lines with clear indication of the sequence on the display.

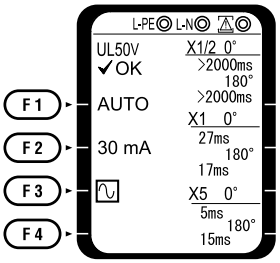
Voltage Measurement
In addiction to the voltage measurement, this function gives also the Frequency of the voltage under test.

Memory Function
Save and display up to 1000data.

Hands Free Testing

The instrument features a test button in the probe and a lockdown test button for 'hands free' operation.

RCD (ELCB)-Auto Test



Auto test enables complete testing of RCD (6 tests) while the operator simply stands by and resets the RCD. All the results are displayed on one screen – no need to scroll.

MULTI FUNCTION TESTERS

6016

Continuity			
	Range		20/200/2000Ω (Auto-ranging)
	Open circuit voltage (DC)		5V±20%(*1)
	Short circuit current		>200mA
	Accuracy		±0.1Ω (0~0.19Ω)
			±2%rdg+8dgt (0.2~2000Ω)
Insulation resistance			
	Range		20/200/2000MΩ (Auto-ranging)
	Open circuit voltage (DC)	20/200MΩ	250V+25% -0%
		20/200/2000MΩ	500V+25% -0%, 1000V+20% -0%
	Rated current	20/200MΩ	1mA or > @ 250kΩ
		20/200/2000MΩ	1mA or > @ 500kΩ, @ 1MΩ
	Accuracy	20/200MΩ	±2%rdg+6dgt (0~19.99MΩ)
			±5%rdg+6dgt (20~200MΩ)
		20/200/2000MΩ	±2%rdg+6dgt (0~199.9MΩ)
			±5%rdg+6dgt (200~2000MΩ)
Loop impedance			
	Function		L-PE, L-PE (ATT), L-N / L-L
	Rated voltage	L-PE, L-PE (ATT):	100~260V (50/60Hz)
		L-N:	100~300V (50/60Hz)
		L-L:	300~500V (50/60Hz)
	Nominal test current at 0Ω external loop: Magnitude/Duration at 230V	20Ω:	6A/20ms
		200Ω:	2A/20ms
		2000Ω:	15mA/500ms
		L-N:	6A/60ms
		N-PE:	10mA/approx. 5s
	Range		20/200/2000Ω Auto-Ranging (L-N < 20Ω)
	Accuracy	L-PE, L-N / L-L:	±3%rdg+4dgt*2 ±3%rdg+8dgt*3
		L-PE (ATT):	±3%rdg+6dgt*2 ±3%rdg+8dgt*3
PSC (L-N/L-L) / PFC (L-PE)			
	Function		PSC, PFC, PFC (ATT)
	Rated voltage	PSC:	100~500V 50/60Hz
		PFC, PFC (ATT):	100~260V 50/60Hz
	Nominal test current at 0Ω external loop: Magnitude/Duration at 230V	PSC:	6A/20ms
		PFC:	6A/20ms, 2A/20ms, 15mA/500ms
		PFC (ATT):	L-N: 6A/60ms, N-PE: 10mA/approx. 5s
	Range		2000A/20kA Auto-Ranging
	Accuracy		PSC/PFC accuracy is derived from measured loop impedance specification and measured voltage specification
RCD			
	Function		X1/2, X1, X5, Ramp, Auto,Uc
	Trip current setting	X1/2, X1,Uc:	10/30/100/300/500/1000mA
		X5:	10/30/100mA
		Ramp:	10/30/100/300/500mA

RCD				
	Trip current Duration		X1/2:	2000ms
			X1:	G:550ms / S: 1000ms
			X5:	410ms
			Ramp:	Goes up by 10% from 20% to 110% G:300ms/S:500msX10 times
	Rated voltage		X1/2, X1, X5, Ramp, Uc:	230V+10%-15% 50/60Hz
			Auto:	Depending on the accuracy at each function. Measurement sequence: X1/2 0°→X1/2 180°→X1 0°→X1 180°→X5 0°→X5 180° Measurements with x5 are not carried out for RCDs with nominal current of 100mA or more.
	Accuracy	Trip current	AC Type	X1/2: -8%~-2%, X1, X5: +2%~+8%, Ramp: ±4%
			A Type	X1/2: -10%~0%, X1, X5: 0%~+10%, Ramp: ±10% Uc: +5%~+15%rdg±8dgt
Earth				
	Range			20/200/2000Ω Auto-Ranging
	Accuracy		20Ω:	±3%rdg+0.1Ω
			200/2000Ω:	±3%rdg+3dgt (Auxiliary earth resistance 100±5%)
Phase Rotation				
	Rated Voltage			50-500V 50/60Hz
	Remarks			Correct phase sequence: are displayed "1.2.3" and ↻ mark Reversed phase sequence: are displayed "3.2.1" and ↻ mark

Volts			
	Function	Volts	Frequency
	Rated voltage	25~500V, 45~65Hz	
	Measuring range	25~500V	45~65Hz
	Accuracy	±2%rdg+4dgt	±0.5%rdg+2dgt
General			
	Applicable standards	IEC 61010-1 CAT.Ⅲ 300V(500V L to L) Pollution degree 2 IEC 61010-031, IEC 61557-1,2,3,4,5,6,7,10 IEC 60529(IP40), IEC 61326(EMC)	
	Power source	LR6 × 8	
	Dimensions	136(L) × 235(W) × 114(D)mm	
	Weight	1350g (including batteries.)	
	Accessories	Main test lead*4 7196A(Test leads with remote control switch) 7188A(Distribution board fused test leads) 7228A(Earth resistance test leads) 8032(Auxiliary earth spikes[2 spikes/set]) 8212-USB(USB adaptor with KEW Report(Software)) 9014(Cord case), 9142(Carrying Case), 9121(Shoulder strap), Buckle, Battery, Instruction manual	
	Optional	8212-RS232C(RS232C adaptor with KEW Report(Software))	

*1: Voltages are output when measurement resistance is under 2100 ohm.
*2: 230V+10%-15%
*3: Other voltages except for *2
*4: 7187A:British plug, 7218A:(EU)European SHUKO plug,
7221A(SA) South African plug, 7222A:(AU)Australian plug

Accessories

MODEL 7188A
Distribution board fused test leads

MODEL 7196A
Test leads with remote control switch

Main test lead

Plug

MODEL 7228A
Earth resistance test leads

MODEL 8032
Auxiliary earth spikes [2 spikes/set]

MODEL 9142
Carrying Case

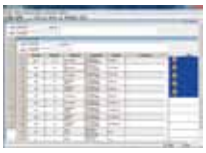
Optional Accessories

MODEL 8212-USB
USB adaptor with "KEW Report (Software)"

MODEL 8212-RS232C
RS232C adaptor with "KEW Report (Software)"

"KEW Report" Software for report

"KEW Report" transfers measurement data from the KEW6016 to a PC via MODEL8212-USB or MODEL8212-RS232C.



System requirements
OS: Windows®7(32/64bit)/Vista/XP
Display: XGA (Resolution 1024 x 768 dots) or more
Hard-disk: Space required 20Mbyte or more
Others: With CD-ROM drive and USB port
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MULTI FUNCTION TESTERS

MODEL 6018

3 in 1

Insulation
250/500/1000V

Earth
2/3 POLE 12/1201200Ω

ACV
600V

	6018
Insulation testing	
Test voltage	250V/50MΩ 500V/100MΩ 1000V/2000MΩ
Accuracy	±5%rdg
Earth resistance	
Simplified precision measurement	12Ω/120Ω/1200Ω
Accuracy	±3% of full scale value
AC voltage	
0~600V AC	±3% of full scale value
Earth voltage	
0~60V AC	±3% of full scale value
General	
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V pollution degree 2 IEC 61010-031 IEC 61557
Power source	R6P(AA)× 8
Dimensions	130(L) × 183(W) × 100(D)mm
Weight	1000g approx.(including batteries)
Accessories	7103A(Test leads with remote control switch) 7161A(Flat test prod) 7131B(Safety crocodile clips [black]) 8017(Extension prod) 9092(Cord case) 9121(Shoulder strap) R6P(AA)× 8 Instruction manual
Optional	7100A(Precision measurement cord set) 8016(Hook type prod)

MODEL 6050(LOOP+RCD)

3 in 1

Loop
20/200/2000Ω

RCD
10/30/100/300/500/1000mA

PSC
20/200A/20kA

	6050(LOOP+RCD)	
Loop impedance ranges	20/200/2000Ω	
Loop impedance ranges without tripping RCDs	200 and 2000Ω with 15mA of test current	
Max test current on loop ranges	3A (20Ω) / 15mA (200 and 2000Ω)	
PSC / earth fault current ranges	200/2000A/20kA	
RCD test AC type (Standard and selective)	× 1/2 × 1 × 5 Auto Ramp	10, 30, 100, 300, 500, 1000mA 10, 30, 100, 300, 500, 1000mA 10, 30, 100mA 10, 30, 100, 300, 500mA
RCD test A type (Standard and selective)	10, 30, 100, 300, 500mA	
RCD test currents multipliers	× 1/2 × 1 × 5 (max 1000mA type AC), (max 500mA type A)	
RCD test time duration	1000ms: × 1/2 × 1 DC 200ms: × 5 DC (500mA) and × 1(1000mA)	
RCD ramp test	From 20% to 110% of IΔn (AC type)	
Contact voltage block (RCD)	50V and 25V	
Contact voltage reading (RCD)	100.0V	
Phase and earth (2 wires only) measurements	RCD (without DC) LOOP	
Working voltage for loop tests	20Ω : 230V+10%, -15% 200/2000Ω : 230V+10%, -15% and 400V+10%, -15%	
Working voltage for RCD tests	230V+10%, -15%	
Voltage test	100~260V (LOOP 200/2000Ω, PSC 200A:100~440V)	
Memory	300 memory locations	
PC software, connection cable	Optional with MODEL 8212	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V IEC 61557 IEC 61010-031, IEC 60529(IP54)	
Power source	R6P(1.5V)(AA)×8	
Dimensions	186(L) × 167(W) × 89(D)mm	
Weight	980g approx.(including batteries)	
Accessories	Molded plug test lead* 9147(Cord case) Instruction manual 9121(Shoulder strap) R6P×8	
Optional	7121B(Distribution board test leads) 8212-RS232C (RS232C adaptor with "KEW Report (Software)") 8212-USB (USB adaptor with "KEW Report (Software)")	

*7123:(AU)Australian plug 7124:(UK)British plug(13A)
7125:(EU)European SHUKO plug 7126:(SA)South African plug

"KEW Report" Software for report

"KEW Report" transfers measurement data from the KEW6050 to a PC via MODEL8212-USB or MODEL8212-RS232C.

System Requirements

OS: Windows®7(32/64bit)/Vista
Display: XGA (Resolution 1024 x 768 dots) or more
Hard-disk: Space required 20Mbyte or more
Others: With CD-ROM drive and USB port

*Windows® is a registered trade mark of Microsoft in the United States.

KEW 6201A

CE

The KEW 6201A is a portable appliance tester, performing four functions to ensure the Safety of Class! and Class@ appliances. And also can measure the mains voltage.
Readings are displayed on a large liquid crystal display (LCD) below which are four LEDs which unambiguously display a pass or fail indication for threshold values dictated by AS/NZS 3760.

This instrument is suitable for performing tests as required by the following standards.
AS/NZS 3760 : 2010 In-service safety inspection and testing of electrical equipment.

	6201A	
RPE 20Ω Protective Conductor Resistance Test		
Measuring range	0~15.00Ω	
Open circuit voltage	< AC 12V	
Measuring current	10A AC nominal value	
Accuracy	±3%rdg±5dgt	
RINS 200MΩ Insulation Resistance		
Rating	250V/20MΩ	500V/20MΩ
Measuring range	0~19.99MΩ	
Output Voltage	250V DC (+20%/-10%) @1MΩ	500V DC (+20%/-10%) @1MΩ
Short circuit current	2.5mA DC or less	
Accuracy	±2%rdg±3dgt	
Leakage Current Test		
Measuring range	AC 0.1~19.99mA	
Examination time	Max 15 seconds	
Accuracy	±3%rdg±5dgt	
AC VOLT Mains Voltage Check		
Measuring range	207~264V	
Accuracy	±2%rdg±3dgt	
Supply Voltage	240V±10%	
Frequency	50Hz±1%	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution Degree2, IEC 61326-1(EMC)	
Dimensions	185 (L)× 167 (W) × 89 (D) mm	
Weight	1.2kg (only the instrument body)	
Accessories	7123 (Power cord [AU]), 7129A (Test leads with Alligator clip) 7161A (Flat test prod) , 7140 (Adapter for Extension Cord) 9147 (Cord case), 9121 (Shoulder strap) Instruction manual	
Optional	7121B (Distribution board test leads)	

MODEL 6202

CE

The Model 6202 is a hand-held portable appliance tester, performing four functions to ensure the Safety of Class!, Class@ and Class# 230V appliances. And also can measure the mains voltage.
Readings are displayed on a large liquid crystal display (LCD) below which are eight LEDs which unambiguously display a pass or fail indication for threshold values dictated by DIN VDE 0701/0702

This instrument is suitable for performing tests as required by the following standards.
DIN VDE 0701-1 (240):2000 Repairing, modification and testing of electrical equipment
DIN VDE 0702 : 2004 Periodic inspection for electrical equipment

	6202
RPE 20Ω+ / 20Ω- Protective Conductor Resistance Test	
Measuring range	0~19.99Ω
Short circuit current	200~250mA DC
Open circuit voltage	±5.0±0.4V DC
Accuracy	±2%rdg±3dgt
RINS 200MΩ Insulation Resistance	
Measuring range	0~19.99/199.9MΩ (2ranges auto)
Rated voltage	>500V DC (+50%/-0%)
Rated current	>1mA
Short circuit current	14mA(max.)
Accuracy	±2%rdg±3dgt
IEL 20mA Equivalent Leakage Current	
Measuring range	0~19.99mA
Measuring voltage	30V AC
Internal resistance (RA Meter)	2kΩ
Accuracy	±2%rdg±3dgt
IL 2mA Contact Current	
Measuring range	0~1.999mA
Internal resistance (RA Meter)	2kΩ
Accuracy	±2%rdg±3dgt
VOLT AC Voltmeter	
Measuring range	180~260V (50/60Hz)
Accuracy	±2%rdg±3dgt
I LINE Current Consumption (6202 only)	
Measuring range	0~15.99A AC
Accuracy	±2%rdg±3dgt
Supply Voltage	230V±10%
Frequency	50/60Hz±1%
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution Degree2, IEC 60950, IEC 61326-1(EMC)
Dimensions	185 (L)× 167 (W) × 89 (D) mm
Weight	1kg
Accessories	7125 (Power cord [EU]), 7129A (Test leads with Alligator clip) 7161A (Flat test prod) 9147 (Cord case), 9121 (Shoulder strap) Instruction manual
Optional	7121B (Distribution board test leads)

KEW 6305 NEW

POWER METER

TRUE RMS

- Comprehensive real-time monitoring, recording and analysis of single and 3-phase systems
- Voltage, Current, Power Factor and Frequency measurements
- Power analysis (Active, Apparent and Reactive power)
- Energy analysis (Active, Apparent and Reactive energy)
- Active power accuracy: ±0.3%rdg±0.2%f.s.
- Automatic wiring check function to prevent incorrect connections
- Large memory capability (2 GB) using built-in SD card Interface
- Recording interval can be set between 1second and 1hour.
- Real time & remote measurements using Android application
- Windows software for data analysis and setting via USB port or Bluetooth
- Synchronous measurements between two units of KEW6305
- Wide selection of clamp sensors allow measurements from 0.1A to 3000A
- The instrument automatically recognizes what kind of clamp sensor is connected to it
- Double power supply system via AC line and batteries

As easy as 1 ➜ 2 ➜ 3 !

Starting from OFF position and rotating the Rotary switch clockwise, KEW6305 is ready to use in 3 simple steps

1. SET UP

Rotate the Rotary switch to SET UP. All the instrument settings can be easily selected by using instrument buttons. All the settings can also be selected by connecting KEW6305 to a PC via USB or Bluetooth.

2. WIRING CHECK

Rotate the Rotary switch to WIRING CHECK. The Automatic Wiring check function will prevent incorrect connections, check the connections and display the results on the LCD. Error messages appear on display to indicate wrong orientation of Clamp sensors or incorrect connections.

Everything is OK

Shows "Good"

Error is found

Shows "Err" (Error) e.g.: Err PH A
→ Current phase (orientation of sensor) may be incorrect.

3. W/Wh/DEMAND Measurements

Rotate the Rotary switch to W/Wh/DEMAND. The instrument can perform Instantaneous, Integration and DEMAND measurements.
START / STOP button to start / stop recording

	6305
Wiring connections	1P2W, 1P3W, 3P3W, 3P3W3A, 3P4W
Measurements	Voltage, Current, Frequency, Active power
Parameters	Apparent power, Reactive power, Active energy, Apparent energy, Reactive energy, Power factor (cos θ), Neutral current
Voltage range[RMS]	150.0/300.0/600.0V
Voltage accuracy	±0.2%rdg±0.2%f.s. (sine wave, 45～65Hz)
Current range[RMS]	10.00/50.00/100.0/250.0/500.0A/Auto (with clamp sensor MODEL8125)
Current accuracy	±0.2%rdg±0.2%f.s.+ Accuracy of Clamp sensor (sine wave, 45~65Hz) *+1%f.s. at the lowest range.
Effective input range	10~110% of rating range
Display range	5~130% of each range (Voltage) 1~130% of each range (Current)
Crest factor	Voltage : up to 2.5, Current : up to 3.0 (with 90% f.s. or less)
Active power accuracy	±0.3%rdg±0.2%f.s.+ Accuracy of Clamp sensor *+1%f.s. when the lowest current ranges is selected.
Effect of power factor	Active power: ±1.0%rdg cos θ=±0.5 （PF=1）
Frequency meter range	40.0~70.0Hz
Frequency meter accuracy	±3dgt
Accuracy precondition	PF=1, Sine wave, 45~65Hz, 23°C±5°C
Display update period	1 second
Operating temperature and humidity range	0~+50°C, less than 85% RH (without condensation)
Storage temperature and humidity range	-20~+60°C, less than 85% RH (without condensation)
PC communication interface	USB, Bluetooth
PC card interface	SD card (2GB)
Safety standard	IEC61010-1 CAT.Ⅲ 600V
Power supply (AC Line)	AC100~240V±10% (50/60Hz)
Power supply (DC battery)	LR6 or Ni-MH(HR-15-51)×6 (Battery charger not included), Battery life approx. 15h (LR6)
Power consumption	10VA (max.)
Dimension	175(L)×120(W)×65(D)mm
Weight	Approx. 800g (including batteries)
Accessories	7141B (Voltage test lead set: 4pcs), 7148 (USB cable), 7170(Power cord), 9125(Carrying case), 8326-02 (SD card 2GB), KEW WINDOWS (PC Software), Battery(LR6)×6, Quick manual, Calibration certificate
Optionals	8124, 8125, 8126, 8127, 8128 (Clamp sensor), 8129 (Flexible clamp sensor), 8312 (Power supply adaptor), 9132 (Magnetic carrying case)

Bluetooth communication with Android application

Free Android software "KEW Smart 6305" is available on download site

Download

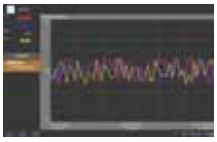
*communication charges may be incurred separately to download application

Real time & remote measurements using Android application

Measurement can be displayed in graphic or numeric forms on Android devices in real-time via Bluetooth communication.
Remote checking of measurements is possible without accessing KEW6305.

Max communication distance: 10m
Supporting Android ver. 2.2 - 4.0

Android device



Real-time display

Bluetooth is a registered trademark of the Bluetooth SIG, Inc.
Android is a registered trademark of the Google Inc.

Windows software

Automatic creation of graph and list from recorded data.
Uniform management of setting and recorded data acquired from multiple devices.
Data can be expressed in crude oil and CO2 equivalent values in the report.

【System requirements】
OS: Windows® 7(32/64bit)/Vista/XP
Display: XGA(Resolution 1024×768 dots) or more
Hard-disk: space required 1Gbyte or more
Other: With CD-ROM drive and USB port
.NET Framework (3.5 or more)
* Windows® is a registered trademark of Microsoft in the United States.

SD card Interface

Max amount of data (reference)

Data saved on:		SD card	Internal memory
Capacity		2GB	3MB
Instantaneous measurement		6,670,000	10,000
Integration / demand measurement interval	1 sec.	17 days	33 minutes
	1 min.	992 days	33 hours
	30 min.	3 years or more	42 days
Max number of file		511	4

*in case the SD card is empty

SD cards up to 2GB can be used.

Set Model

KEW 6305-01

KEW 6305 x 1
MODEL 8125 x 3
7141B(Voltage test lead set : 4pcs) × 1
7148(USB cable) × 1
7170(Power cord) × 1
8326-02(SD card [2GB]) × 1
9125(Carrying case) × 1
PC Software × 1
Battery × 6
Quick manual × 1
Calibration certificate

Optional

Load current clamp sensors

MODEL 8128

AC 5A (MAX 50A) Ø24

MODEL 8127

MAX AC 100A Ø24

MODEL 8126

MAX AC 200A Ø40

MODEL 8125

MAX AC 500A Ø40

MODEL 8124

MAX AC 1000A Ø68

Load current flexible clamp sensors

KEW 8129

8129-01 (for 1ch)
8129-02 (for 2ch)
8129-03 (for 3ch)
FLEXIBLE CLAMP SENSOR
WITH 3 RANGES
AC300, 1000, 3000A

MAX AC3000A Ø150

Power supply adaptor

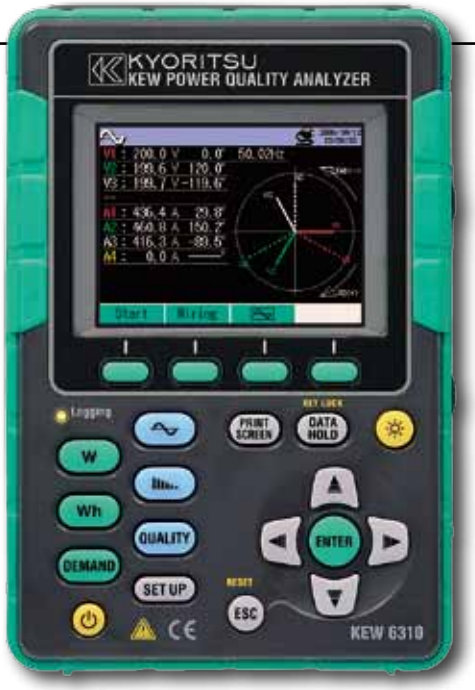
MODEL 8312

For taking single phase supply (100-240V) from the test leads to power the instrument

Magnetic carrying case

MODEL 9132

For mounting inside metal distribution boards



KEW 6310

POWER QUALITY ANALYZER

TRUE RMS

To monitor the Quality of Power and cutting Energy costs through consumption measurements!

- 12 kinds of Power Measurements for Power Control and Applicable to Power Quality Control including Harmonics Analysis.
- One click easy-to-use operation helps complicated setting and processing of large data through the setting / analyzing software provided as accessory.
- Direct communication with PC via USB cable.
- Built-in Input / Output Function of external signal enables the signal transmission to alarms.
- 2-way power supply by AC and Battery, and Nickel hydrogen battery usable with rechargeable function.
- Pull / Insert of CF card possible whenever on recording under the function of memory backup device.
- Can monitor insulation at leakage current by using optional leak clamp sensors.
- Built-in Print Screen Function enables to record display screen (Records 512 screens by using CF card: 1 screen 40KB).
- Can display Waveform and Vector, and can confirm the wiring connection, too.
- Complies fully with International Safety Standards IEC61010-1 CAT. Ⅲ 600V.

CE

6310

Wiring connections	1P 2W, 1P 3W, 3P 3W, 3P 4W
Measurements and parameters	Voltage, Current, Frequency, Active power, Reactive power, Apparent power, Active energy, Reactive energy, Apparent energy, Power factor (cos θ), Neutral current, Demand, Harmonics, Quality (Swell/Dip/Instantaneous stop, Transients/Over voltage, Inrush Current, Unbalance Rate), Phase advance condenser IEC Flicker [Pst (1 min)*, Pst, Plt] * Pst can be shown in details for 1 minute intervals.
Other functions	Digital output function, External communication function, Scaling function
Voltage [RMS]	
Range	150 / 300 / 600 / 1000V
Allowable input	10~110% of each range
Display range	5~120% of each range
Crest factor	2.5 or less (100% or less of each range)
Accuracy	±0.3%rdg ±0.2%f.s. (sine wave, 45~65Hz)
Current [RMS]	
Range	8128 (50A type): 1 / 5 / 10 / 20 / 50A 8127 (100A type) : 10 / 20 / 50 / 100A 8126 (200A type) : 20 / 50 / 100 / 200A 8125 (500A type) : 50 / 100 / 200 / 500A 8124 (1000A type) : 100 / 200 / 500 / 1000A 8129 (3000A type) : 300 / 1000 / 3000A
Allowable input	10~110% of each range
Display range	1~120% of each range
Crest factor	3.0 or less (90% or less of each range)
Accuracy	±0.3%rdg ±0.2%f.s. + Accuracy of Clamp sensor (sine wave, 45~65Hz)
Active power	
Range	Depending on combinations of (V Range) x (A Range)
Accuracy	±0.3%rdg ±0.2%fs + Accuracy of Clamp sensor (Power factor 1, Sine wave 45~65 Hz)
Influence of power factor	±1.0% rdg (reading at power factor 0.5 against power factor 1)

Frequency meter range	40~70Hz
Internal memory	1.8MB (Measurement file [CSV] ×6 blocks, Screen file [BMP] ×7 blocks, Configuration file [KAS] ×20 blocks)
Display	320×240 (RGB) Pixel, 3.5-inch color STN display
Temperature & humidity range	23˚C±5˚C, Relative humidity 85% or less (no condensation)
Storage temperature & humidity range	-20˚C±60˚C, Relative humidity 85% or less(no condensation)
Operating temperature & humidity range	0˚C±40˚C, Relative humidity 85% or less(no condensation)
PC Card type	Compact flash card (Capacity: 32 / 64 / 128 / 256 / 512MB / 1 / 2 / 4 / 8GB) *The CF card larger than 2GB is usable, however, the possible stored size will be limited to 2GB. For example, when the CF card of 4GB or 8GB is used, the maximum stored size will be 2GB.
Applicable standards	IEC 61010-1 CAT.Ⅲ 600V Pollution degree 2 IEC 61010-031, IEC 61326
Power supply	AC 100V~240V±10% (45~65Hz) Alkaline size AA battery LR6 (9V 1.5V × 6) or Ni-MH (HR15-51)
Dimensions	175(L)×120(W)×68(D) mm
Weight	approx. 900g (including batteries)
Accessories	7141B(Voltage test lead set), 7148 (USB Cable), 7170 (Power Cord) 8307 (Compact flash card [128MB]), 8319 (CF Card reader) 9125 (Carrying case), Input terminal plate (6-kind) Alkaline size AA battery (LR6) × 6, Cable marker × 32 KEW PQA MASTER (PC Software), Quick manual
Optional	8124, 8125, 8126, 8127, 8128 (Load current clamp sensor) 8129 (Flexible clamp sensor) 8146, 8147, 8148 (Leakage & Load current clamp sensor) 8141, 8142, 8143 (Leakage clamp sensor) 8322 (Compact flash card [256MB]), 8323 (Compact flash card [1GB]) 8325F (Flicker sensor), 8312 (Power supply adaptor) 9132 (Carrying case with magnet)

Power Consumption (Energy) Control

Instantaneous value measurement / saving

Measures Current / Voltage / Instantaneous averaged value of Power etc. / Maximum value / Minimum value.

Integration value measurement / saving

Measures Active power energy / Apparent power energy / Reactive power energy.

Demand value measurement / saving

Sets Demand target value and measures Demand value from start to stop of measurement. Can warn with digital output terminal when the set value exceeds the target value.

Equipped with the Flicker measurement function

Flicker can be measured by using flicker sensor KEW8325F of the option.

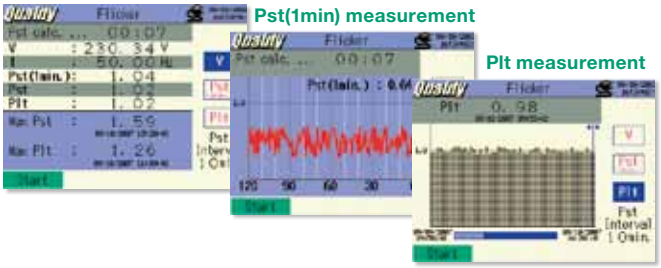
Can measure Flicker in accordance to IEC61000-4-15 and EN 50160 standards. Using our Flicker sensor, available as optional accessory, Pst value (short term severity in 10 minutes value) and the Plt value (long term severity in 2 hours value) can be measured.

Flicker sensor
KEW 8325F

V measurement

Pst(1min) measurement

Plt measurement



Direct Data Transmission to PC via USB

Easy-to- use setting- up and analyzing with KEW PQA MASTER supplied.

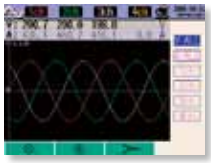
Analysis Soft Supplied !

[System requirements]

OS: Windows® 7(32/64bit)/Vista/XP
Display: XGA(Resolution 1024×768 dots)or more
Hard-disk: Space required 100Mbyte or more
Others: With CD-ROM drive and USB Port

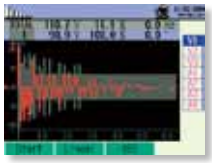
* Windows® is a registered trademark of Microsoft in the United States.

Power Quality Control



Wave Range Measurement / Saving

Displays vector / waveform corresponding to voltage and current of each channel.



Harmonics Measurement / Saving

Measures and analyzes harmonics contents of current and voltage of each phase.

Quality

Can measure Swells / Dips / Interruptions, Transients, Inrush current, Unbalanced, and can simulate power factor correction with capacitor banks.

CF Card Interface Loaded

External Memory up to 1GB Available.[*1]

Recordable Number of Data Point / Approx. Time

Destination to save data		CF Card						Internal Memory
Capacity		32MB	64MB	128MB	256MB	512MB	1GB	1.8MB
Instantaneous value measurement	1sec	15H	1D	2D	5D	10D	20D	7min
	1min	10D	20D	1M	2M	5M	10M	2H
	30min	10M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	2D
Integration value measurement	1sec	6H	13H	1D	2D	4D	8D	3min
	1min	7D	15D	1M	2M	4M	8M	1H
	30min	7M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1D
DEMAND measurement	1sec	4H	8H	17H	1D	2D	5D	2min
	1min	6D	12D	24D	1M	3M	6M	1H
	30min	6M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1D
WAVE range	10sec	1D	3D	7D	14D	28D	1M	20min
	1min	10D	21D	1M	2M	5M	11M	2H
	30min	10M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	2D
Harmonic analysis	15sec	3D	7D	15D	1M	2M	4M	44min
	1min	15D	1M	2M	4M	8M	1Y	2H
	30min	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	3D
Swell / Dip / Int measurement *2	1sec	2D	5D	11D	22D	1M	2M	32min
	1min	5M	11M	1Y	Over 1Y	Over 1Y	Over 1Y	1D
	30min	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1M
Transient measurement *2	1sec	3D	6D	12D	24D	1M	3M	35min
	1min	6M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1D
	30min	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1M
Inrush current measurement *2	1sec	2D	5D	11D	22D	1M	2M	32min
	1min	5M	11M	1Y	Over 1Y	Over 1Y	Over 1Y	1D
	30min	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1M
Unbalance rate	1sec	21H	1D	3D	7D	14D	27D	10min
	1min	14D	29D	1M	3M	7M	1Y	2H
	30min	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	3D
Flicker *3	1min	7M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	1D
Capacitance calculation	1sec	15H	1D	2D	5D	10D	19D	7min
	1min	10D	20D	1M	2M	5M	10M	1H
	30min	10M	1Y	Over 1Y	Over 1Y	Over 1Y	Over 1Y	2D
Max number of file	Measurement data file (CSV)	512						6
	Graphics file (BMP)							7
	Configuration file (KAS)							20

* In case that no file exist in the CF card or the Internal memory.where: H= hour(s), D=day(s), M=month(s), Y=year(s)

*1 Downloading data from CF cards needs the optional card reader (8319) or card readers being on sale.

*2 Assumed one event occur per minute and calculated.

*3 Flicker measurement function is only available with ver.2.00 or later.

Set Model

Model	Clamp sensor	
KEW 6310-00	—	
KEW 6310-01	8125(500A)	× 3
KEW 6310-02	8125(500A)	× 2
KEW 6310-03	8124(1000A)	× 3
KEW 6310-04	8124(1000A)	× 2
KEW 6310-05	8126(200A)	× 3
KEW 6310-06	8126(200A)	× 2
KEW 6310-07	8127(100A)	× 3
KEW 6310-08	8127(100A)	× 2
KEW 6310-09	8128(5A)	× 3
KEW 6310-10	8128(5A)	× 2
KEW 6310-11	8129-03	× 1
KEW 6310-12	8129-02	× 1

Consists of:
6310 × 1
7141B (Voltage test lead set)
7148 (USB cable)
7170 (Power cord)
8307 (Compact Flash card [128MB])
8319 (CF card reader)
9125 (Carrying case)
KEW PQA MASTER (PC software)
Input terminal plate (6-kind)
Quick manual
Alkaline size AA battery (LR6) × 6
Cable marker × 32

photo : 6310-01

Optional Accessories of Loggers, Power Meter and Power Quality Analyzer

Applicable model table

			5001	5010	5020	6305	6310
Sensor	Load current	8121		✓	✓		
		8122		✓	✓		
		8123		✓	✓		
		8124		✓	✓	✓	✓
		8125		✓*1	✓*1	✓	✓
		8126		✓*2	✓*2	✓	✓
		8127		✓*3	✓*3	✓	✓
		8128		✓	✓	✓	✓
		8129		✓*4	✓*5	✓	✓
	Leakage current	8141*6	✓	✓	✓		✓
		8142*6	✓	✓	✓		✓
		8143*6	✓	✓	✓		✓
	Leakage & Load current	8146*6		✓	✓		✓
		8147*6		✓	✓		✓
		8148*6		✓	✓		✓
	Voltage sensor	8309			✓		
	Flicker sensor	8325F					✓
Adaptor		8312				✓	✓
		8320		✓	✓		
Case		9132				✓	✓
		9135	✓	✓	✓		

*1~5: Can use with after the following serial numbers.
*1: No.02637~
*2: No.00151~
*3: No.00181~
*4: No.8029792~
*5: No.8031560~
*6: Cannot be used for power measurement.

Voltage sensor

KEW 8309

Floating Voltage can be measured

*Floating voltage : phase to phase voltage not grounded

* KEW 5020-01 : KEW 5020 logger with KEW 8309 (1pce.)

Flicker sensor

KEW 8325F

Can measure Flicker in combination with KEW 6310

Power supply adaptor

MODEL 8312

Power source can be taken through the measured line (100~240v)

Carrying case with magnet

MODEL 9132

Easy-to-use setting with magnet on the steel plate etc. of switch board

AC adaptor (External power supply)

MODEL 8320

- Appropriate for a longer period of recording.
- Complies to 90~264V(45~66Hz).

Carrying case

MODEL 9135

Dimensions :
250(L) × 270(W) × 216(D)mm

Load current Clamp sensors

KEW 8129

MAX 3000A Ø150

8129-01 (for 1ch)
8129-02 (for 2ch)
8129-03 (for 3ch)

FLEXIBLE CLAMP SENSOR CAN MEASURE UP TO AC3000A HIGH CURRENT

MODEL 8128

MAX 50A Ø24

	8129-01 (for 1ch)	8129-02 (for 2ch)	8129-03 (for 3ch)	8128
Conductor size	max. ϕ150mm			ϕ24
Rated current	300/1000/3000A			AC 5A (Max.50A)
Output voltage	300A Range :AC500mV/AC300A (1.67mV/A) 1000A Range :AC500mV/AC1000A (0.5mV/A) 3000A Range :AC500mV/AC3000A (0.167mV/A)			AC 50mV/5A [Max. 500mV/50A](AC 10mV/A)
Accuracy	±1.0%rdg (45~65Hz)			±0.5%rdg±0.1mV (50/60Hz) ±1.0%rdg±0.2mV (40Hz~1kHz)
Phase shift	within ±1°			within ±2.0° (45~65Hz)
Cable length Output connector	Sensor part : approx. 2m Output cable : approx. 1m MINI DIN 6PIN			Approx. 3m : MINI DIN 6pin
Operating temperature & humidity ranges	0~50˚C, relative humidity 85% or less (no condensation)			-0~50˚C, less than 85% RH (without condensation)
Output impedance	100Ω or less			Approx. 20Ω
Applicable standards	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 600V Pollution degree2, IEC 61326			IEC 61010-1, IEC 61010-2-032
				CAT.Ⅲ 300V pollution degree 2, IEC 61326
Dimensions	111(L) × 61(W) × 43(D) mm (except for protrusions)			100(L) × 60(W) × 26(D)mm
Weight	Approx. 410g	Approx. 680g	Approx. 950g	Approx. 160g
Accessories	Instruction manual 7199 (Output cable) × 1 9137 (Carrying case)	Instruction manual 7199 (Output cable) × 2 9137 (Carrying case)	Instruction manual 7199 (Output cable) × 3 9137 (Carrying case)	9095(Carrying case) Instruction manual Cable marker
Optional	–			7146(Banana ϕ4 adjuster plug) 7185(Extension cable)
Applicable models	5010, 5020, 6305, 6310			6305, 6310

MODEL 8127

MAX 100A Ø24

MODEL 8126

MAX 200A Ø40

MODEL 8125

MAX 500A Ø40

MODEL 8124

MAX 1000A Ø68

	8127	8126	8125	8124
Conductor size	ϕ24	ϕ40	ϕ40	ϕ68
Rated current	AC 100A	AC 200A	AC 500A	AC 1000A
Output voltage	AC 500mV/100A (AC 5mV/A)	AC 500mV/200A (AC 2.5mV/A)	AC 500mV/500A (AC 1mV/A)	AC 500mV/1000A (AC 0.5mV/A)
Accuracy	±0.5%rdg±0.1mV (50/60Hz) ±1.0%rdg±0.2mV (40Hz~1kHz)			±0.5%rdg±0.1mV (50/60Hz) ±1.5%rdg±0.4mV (40Hz~1kHz)
Phase shift	within ±2.0° (45~65Hz)	within ±1.0° (45~65Hz)		
Cable length : Output connector	Approx. 3m : MINI DIN 6pin			
Operating temperature ranges	-0~50˚C, less than 85% RH (without condensation)			
Output impedance	Approx. 10Ω	Approx. 5Ω	Approx. 2Ω	Approx. 1Ω
Applicable standards	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 300V pollution degree 2 IEC 61326	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 600V pollution degree 2 IEC 61326		
Dimensions	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. 260g		Approx. 510g
Accessories	9095 (Carrying case) Instruction manual Cable marker			9094 (Carrying case) Instruction manual cable marker
Optional	7146 (Banana ϕ4 adjuster plug) 7185 (Extension cable)			
Applicable models	6305, 6310			

Leakage & Load current Clamp sensors

KEW 8146

MAX 30A Ø24

KEW 8147

MAX 70A Ø40

KEW 8148

MAX 100A Ø68

	8146	8147	8148
Conductor size	ϕ24	ϕ40	ϕ68
Rated current	AC 30A	AC 70A	AC 100A
Output voltage	AC 1500mV/30A (AC 50mV/A)	AC 3500mV/70A (AC 50mV/A)	AC 5000mV/100A (AC 50mV/A)
Accuracy	0~15A ±1.0%rdg±0.1mV (50/60Hz) ±2.0%rdg±0.2mV (40Hz~1kHz) 15~30A ±5.0%rdg (50/60Hz) ±10.0%rdg (45Hz~1kHz)	0~40A ±1.0%rdg±0.1mV (50/60Hz) ±2.0%rdg±0.2mV (40Hz~1kHz) 40~70A ±5.0%rdg (50/60Hz) ±10.0%rdg (45Hz~1kHz)	0~80A ±1.0%rdg±0.1mV (50/60Hz) ±2.0%rdg±0.2mV (40Hz~1kHz) 80~100A ±5.0%rdg (50/60Hz) ±10.0%rdg (45Hz~1kHz)
Cable length : Output connector	Approx. 2m : MINI DIN 6pin		
Operating temperature ranges	-0~50˚C, less than 85% RH (without condensation)		
Output impedance	Approx. 90Ω	Approx. 100Ω	Approx. 60Ω
Applicable standards	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 300V pollution degree 2, IEC 61326		
Dimensions	100(L) × 60(W) × 26(D)mm	128(L) × 81(W) × 36(D)mm	186(L) × 129(W) × 53(D)mm
Weight	Approx. 150g	Approx. 240g	Approx. 510g
Accessories	9095(Carrying case) Instruction manual Cable marker		9094 (Carrying case) Instruction manual Cable marker
Optional	7146(Banana ϕ4 adjuster plug) 7185(Extension cable)		
Applicable models	5010, 5020, 6310*		

*Cannot be used for power measurements.

Load current Clamp sensors

KEW 8121

MAX 100A Ø24

KEW 8122

MAX 500A Ø40

KEW 8123

MAX 1000A Ø55

	8121	8122	8123
Conductor size	ϕ24	ϕ40	ϕ55
Rated current	AC 100A	AC 500A	AC 1000A
Output voltage	AC 500mV/100A (AC 5mV/A)	AC 500mV/500A (AC 1mV/A)	AC 500mV/1000A (AC 0.5mV/A)
Accuracy	±2.0%rdg±0.3mV (50/60Hz) ±3.0%rdg±0.5mV (40Hz~1kHz)		
Cable length : Output connector	Approx. 2m : MINI DIN 6pin		
Operating temperature ranges	-0~40˚C, less than 85% RH (without condensation)		
Output impedance	Approx. 9.5Ω	Approx. 1.9Ω	Approx. 1.5Ω
Applicable standards	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 300V pollution degree 2, IEC 61326	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 600V pollution degree 2, IEC 61326	
Dimensions	97(L) × 59(W) × 26(D)mm	128(L) × 81(W) × 36(D)mm	170(L) × 105(W) × 48(D)mm
Weight	Approx. 150g	Approx. 260g	Approx. 360g
Accessories	9095(Carrying case) Instruction manual Cable marker		9094(Carrying case) Instruction manual Cable marker
Optional	7146(Banana ϕ4 adjuster plug) 7185(Extension cable)		
Applicable models	5010, 5020		

Leakage current Clamp sensors

MODEL 8141

MAX 1000mA Ø24

MODEL 8142

MAX 1000mA Ø40

MODEL 8143

MAX 1000mA Ø68

	8141	8142	8143
Conductor size	ϕ24	ϕ40	ϕ68
Rated current	AC 1000mA	AC 1000mA	AC 1000mA
Output voltage	AC 100mV/1000mA(AC 100mV/A)		
Accuracy	±1.0%rdg±0.1mV(50/60Hz) ±2.0%rdg±0.1mV(40Hz~1kHz)		
Cable length : Output connector	Approx. 2m : MINI DIN 6pin		
Operating temperature ranges	-0~50˚C, less than 85% RH (without condensation)		
Output impedance	Approx. 180Ω	Approx. 200Ω	Approx. 120Ω
Applicable standards	IEC 61010-1, IEC 61010-2-032 CAT.Ⅲ 300V pollution degree 2, IEC 61326		
Dimensions	100(L) × 60(W) × 26(D) mm	128(L) × 81(W) × 36(D) mm	186(L) × 129(W) × 53(D) mm
Weight	Approx. 150g	Approx. 240g	Approx. 490g
Accessories	9095(Carrying case) Instruction manual		9094(Carrying case) Instruction manual
Optional	7146(Banana ϕ4 adjuster plug) 7185(Extension cable)		
Applicable models	5001, 5010, 5020, 6310		

*Cannot be used for power measurements.

AC/DC clamp sensor

KEW 8115

Ø12 AC MAX 130A DC MAX 180A DC AC A AUTO POWER OFF

	8115	
Measuring range	AC 0.1~130Arms	DC 0~±180A
Output voltage	AC 10mV/A	DC 10mV/A
Accuracy	±1.2%rdg±0.4mV (50/60Hz) ±2.5%rdg±0.4mV (40Hz~1kHz)	±1.2%rdg±0.4mV (*)
Low battery warning	2.2V±0.2V or less - Red LED flash (1.9V±0.2V - Automatically power off)	
Conductor size	ϕ12mm max.	
Operating temperature & humidity range	-10 to 55°C, relative humidity 85% or less (no condensation)	
Output impedance	Approx. 10Ω or less	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2, IEC 61010-2-032, IEC 61326-1	
Power source	DC3V (size AAA alkaline battery LR03×2pcs) *Continuous use: approx. 40 hours(Auto power off: approx. 20 minutes)	
Cord length	Approx. 1,200mm	
Output connector	ϕ4mm banana plug	
Dimensions	127(L)×42(W)×22(D) mm	
Weight	Approx. 140g	
Accessories	Soft case, LR03×2, Instruction manual	
Applicable model	1009,1011,1012,1051,1052,1061,1062	

MODEL 5201

DIGITAL ILLUMINOMETER

- Model 5201 is a highly portable and compact digital illuminometer for measuring illuminance from 0.1 to 19,990 Lux, with auto range switching.
- The digital display is held for a preset time (about 20 seconds) and, therefore, facilitates reading, recording and measuring in any direction.

	5201
Ranges	0.1~19990Lux(automatic 3 range switching)
Accuracy	±5%rdg±1dgt
Measuring time	2 times per second
Temperature humidity characteristics	±3%(at 20°C)
Angular incident light characteristics	10° Less than ±1.5% 30° Less than ±3% 60° Less than ±10% 80° Less than ±30%
Spectral response characteristics	Closely related to the spectral luminous efficiency (of a standard observer).
Power source	6F22(9V) × 1
Dimensions	166(L) × 68(W) × 32(D)mm
Weight	180g approx.
Accessories	Photocell cover 6F22 × 1 Soft carrying case Instruction manual

MODEL 5202

DIGITAL LIGHT METER

- 3 ranges changeable from low to high illuminance. (200/2000/20000Lux)
- Data hold function.
- Digital light meter with separate light receiving sensor and meter.

	5202		
Ranges	0.1~19990Lux		
Accuracy (23°C±5°C)	Lux	Accuracy	
	200	±(4% rdg+5 dgt)	
	2000	±(4% rdg+5 dgt)	
	20000	±(5% rdg+4 dgt)	
Current consumption	2mA approx		
Response time	2.5 times / sec.		
Operating temperature range	0~50°C Below 80% RH		
Storage temperature range	-10°C~60°C		
Angular incident light characteristics	30°Less than ±3%	60°Less than ±10%	80°Less than ±30%
Power source	6F22(9V) × 1		
Dimensions	Meter:148(L) × 71(W) × 36(H)mm Light receiving sensor:85(L) × 67(W) × 32(H)mm		
Weight	270g approx.		
Accessories	Carrying case 6F22(9V) × 1 Photocell cover Instruction manual		

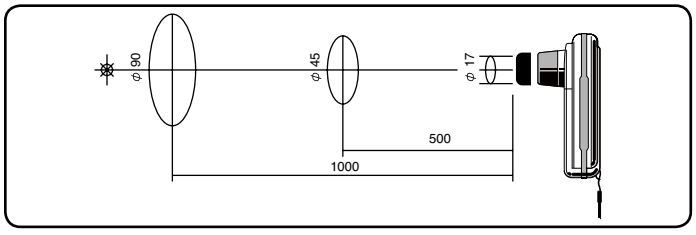
MODEL 5510

Waterproof handheld Infrared Thermometer

- Safe even if getting wet. Dustproof and waterproof structure of IP67.
- Possible to wash
- Please feel secure to use the product on the spot, made from ABS resin of antibacterial specification.
- Shock-proof structure: No damage even if dropped from the height of 1m.
- With auto-power-off function, preventing consumption of the battery
- Wide Temperature Range of -40°C to 300°C
- Small and light: Possible to measure easily by one hand.
- Portable type: Convenient to carry

	5510
Measuring range	-40°C~300°C
Detecting element	Thermopile
Spectral range	6.5μm or more
Display resolution	0.5°C 1°C for below -20°C and over 100°C
Measuring accuracy	When the ambient temperature is 25±2°C and the emissivity (ε) is 1, 0~300°C : bigger value of either of ±1% of the measured value ±1dgt or ±2°C ±1dgt. 0~-30°C : ±3°C ±1dgt below -30°C : ±5°C ±1dgt
Repeatability	within 1°C ±1dgt
Response	1 sec(90% response)
Measuring diameter	ϕ45mm/500mm(Optical sensitivity: 90%)
Collimation	Before shipment: 0.95. The value can be altered between 0.8 and 1.0 (by 0.05 steps). Laser beam(650nm 1mW JIS class2)specifies the center.
Auto power off	If no key is pressed for 30 seconds, the power is shut off automatically.
Operating temperature	0~50°C
Operating humidity	90% rH and below(no condensation)
Storage temperature	-20~55°C(no condensation)
Battery	2 AAA alkaline cell batteries
Battery life	Approximately 10 hours for continuous use
Dimensions	120 × 60 × 54mm(Maximum value for each direction)
Weight	Approx. 123g
Accessories	2 AAA alkaline cell batteries, instruction manual, strap
Approved standard	CE marking:EMI EN61326 Class B EMS EN61326 Annex C Stability:±5°C under EMC test environment at 25°C

Relation of Distance and Measuring Diameter



KEW 8035

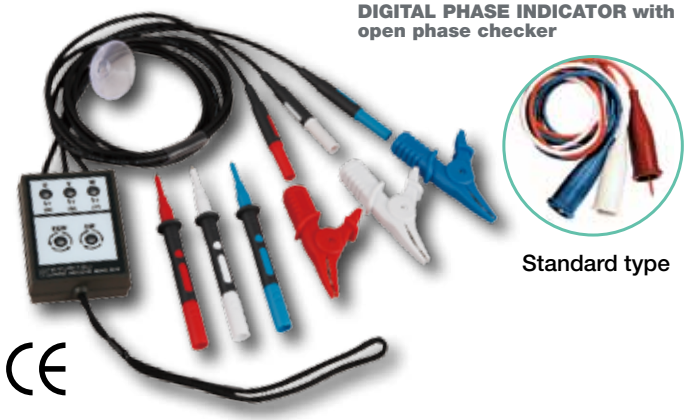
Non-Contact Safety Phase Indicator

- New technology permits safe testing, without the need of direct contact between probes and live wires.
- The insulated crocodile clips can clip insulated cables from ϕ2.4 to 30mm.
- Phase rotation is indicated by the rotary illumination of LEDs and logical audible tones.
- The instrument can be fixed to a metal panel via the magnet on the back side.
- Wide measuring range for 3 phase installations from 70V to 1000V AC.
- Super brightness function permits clear LEDs indication also in sunshine.

	8035
Functions	Phase rotation (Clockwise or Counter Clockwise), Presence of open phase
Detection method	Electrostatic induction
Measuring voltage range	From 70~1000V AC phase to phase (sine wave, continuous input)
Clamp diameter range	From ϕ2.4 to 30mm insulated cables
Measuring frequency range	45 to 66Hz
Phase rotation	Clockwise: Green arrow LEDs “rotate” in clockwise, Green symbol “CW” lits, Intermittent buzzer Counter Clockwise: Red arrow LEDs “rotate” in counter clockwise, Red symbol “CCW” lits, continuous buzzer
Visual indication	Via LEDs with Super brightness function
Battery voltage warning	Power LED blinks if battery voltage is too low.
Operating temperature & humidity range	-10 to 50ºC, relative humidity 80% or less (no condensation)
Storage temperature & humidity range	-20 to 60ºC, relative humidity 80% or less (no condensation)
Applicable standards	IEC 61010-1 CAT. Ⅳ 600V, CAT. Ⅲ 1000V Pollution degree2
Power supply	Alkaline battery (LR6) × 4 * Continuous use: Approx. 100 hours (Auto power off in about 10 min.)
Dimensions	112(L) × 61(W) × 36(D) mm
Weight	Approx. 380g
Test leads	Double insulated cables, length approx. 70cm
Colours code	L1(U): RedL2(V): WhiteL3(W): Blue
Accessories included	9096 (Carrying case), Alkaline battery (LR6) × 4, Instruction manual

MODEL 8030

DIGITAL PHASE INDICATOR with open phase checker



Standard type

CE type

	8030	
	CE Type	Standard Type
Operational voltage	200~480V AC	
Time limit for continuous	200V : within 60 minutes 480V : within 4 minutes	
Frequency response	20~400Hz	
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V Pollution degree 2	—
Dimensions	82(L) × 59(W) × 23(D)mm	
continuous	200g approx.	
Cord	1m(R: red S : white T : blue)	
Accessories	9070(Carrying case) Pins for test leads Instruction manual	

- Phase indicator designed to check the presence of open phase and also the phase sequence by LED and buzzer at the same time.
- Small, lightweight, and portable.

MODEL 8031/KEW 8031F

PHASE INDICATOR with open phase checker

PHASE INDICATOR with fused test leads

photo : 8031F

- Phase indicator designed to check the presence of open phase and also the phase sequence by rotating disk and lamps.
- Can check a wide range of 3-phase power source from 110V to 600V. Sealed against dust, the unit ensures trouble-free performance.
- Small, Lightweight and portable. Designed for maximum ease of operation and ruggedness.
- No exposed metal parts, Safety features are incorporated including the instant push button switch operation.(8031F Only)

	8031		8031F
	CE Type	Standard Type	
Operational voltage	110~600V AC		
Fuse	—		0.5A/600V (F)
Time limit for continuous	>500V : within 5 minutes		
Frequency response	50/60Hz		
Applicable standards	IEC 61010-1 CAT. Ⅲ 600V Pollution degree 2	—	IEC 61010-1 CAT. Ⅲ 600V Pollution degree 2
Dimensions	106(L) × 75(W) × 40(D)mm		
Weight	350g approx.		
Cord	1.5m(R : red S : white T : blue)		
Accessories	9029(Carrying case) Instruction manual		9094(Carrying case) Instruction manual

MODEL 8031
CE type

MODEL 8031
Standard type

KT 200

AC CLAMP METER

Ø30 | MAX 400A | AC A | DC AC V | Ω | •))) | DATA HOLD | AUTO POWER SAVE

- Small and handy clamp meter
- IEC61010-1 Safety Standard CAT. Ⅲ 300V, CAT. Ⅱ 600V
- 400A AC Clamp meter
- DMM function ACV, DCV, Ω Continuity Buzzer.

	KT 200
AC A	40.00/400.0A ±2.0%rdg±6dgt(50/60Hz)
AC V	400.0/600V(Auto-ranging) ±2.0%rdg±5dgt(50/60Hz)
DC V	400.0/600V(Auto-ranging) ±1.5%rdg±5dgt
Ω	400.0/4000Ω(Auto-ranging) ±2.0%rdg±5dgt
Continuity buzzer	buzzer sounds below 50±35Ω
Conductor size	ϕ30mm max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V(ACA), CAT.Ⅱ 600V Pollution degree 2 IEC 61010-031, IEC61010-2-032, IEC61326-1
Power source	R03(1.5V)(AAA) x 2 *Continuous measuring time:approx.200 hours(Auto power save: approx.10 minutes)
Dimensions	184(L) x 68.6(W) x 38.5(D)mm
Weight	Approx. 190g(including batteries)
Accessories	7066A(Test leads), R03(AAA) x 2, Instruction manual
Optional	9105(Carrying case)

KT 203

AC/DC CLAMP METER

Ø30 | MAX 400A | DC AC A | DC AC V | Ω | •))) | DATA HOLD | AUTO POWER SAVE

- Small and handy clamp meter
- IEC61010-1 Safety Standard CAT. Ⅲ 300V, CAT. Ⅱ 600V
- 400A AC/DC Clamp meter
- DMM function ACV, DCV, Ω Continuity Buzzer.

	KT 203
AC A	40.00/400.0A (Auto-ranging) ±3.0%rdg±8dgt[50/60Hz](0~40.00A) ±3.5%rdg±6dgt[50/60Hz](15.0~299.9A) ±4.0%rdg±6dgt[50/60Hz](300.0~400.0A)
DC A	40.00/400.0A (Auto-ranging) ±3.0%rdg±8dgt (0~40.00A) ±3.5%rdg±6dgt (15.0~299.9A) ±4.0%rdg±6dgt (300.0~400.0A)
AC V	400.0/600V(Auto-ranging) ±2.0%rdg±5dgt(50/60Hz)
DC V	400.0/600V(Auto-ranging) ±1.5%rdg±5dgt
Ω	400.0/4000Ω(Auto-ranging) ±2.0%rdg±5dgt
Continuity buzzer	buzzer sounds below 50±35Ω
Conductor size	ϕ30mm max.
Applicable standards	IEC 61010-1 CAT.Ⅲ 300V(ACA), CAT.Ⅱ 600V Pollution degree 2 IEC 61010-031, IEC61010-2-032, IEC61326-1
Power source	R03(1.5V)(AAA) x 2 *Continuous measuring time:approx.35 hours(Auto power save: approx.10 minutes)
Dimensions	187(L) x 68.5(W) x 38.5(D)mm
Weight	Approx. 200g(including batteries)
Accessories	7066A(Test leads), R03(AAA) x 2, Instruction manual
Optional	9105(Carrying case)

KT 170/171

NEW

VOLTAGE TESTER

photo : KT170 photo : KT171

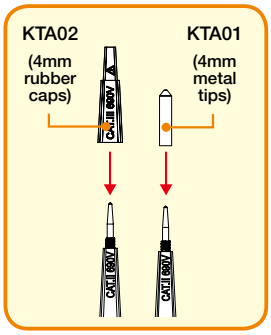
Probe Protection Cover

	KT170/171
Voltage test	
Voltage range	12~690V AC/DC
LED	
Nominal voltage	12/24/50/120/230/400/690V
	AC(16~400Hz), DC(±)
Tolerance (Threshold voltage)	Light on at more than: 7±3V (12V LED) 18±3V (24V LED) 37.5±4V (50V LED) 75%±5% of nominal voltage (120/230/400/690V LED)
Response time	< 0.6s at 100% of each nominal voltage
LCD (KT171 only)	
Range / Resolution (Auto-range)	300V AC/DC (6.0~299.9) / 0.1V 690V AC (270~759) / 1V 690V DC (270~710) / 1V
Accuracy (23±5°C)	±1.5V (7~100V) ±1%±5dgt (100~690V) AC(16~400Hz), DC(±)
Over limit indication	"OL"
Response time	< 2s at 90% of each voltage
Peak current	Is<3.5mA (at 690V)
Measurement Duty	30s ON (operation time) 240s OFF (recovery time)
Single-pole phase test	
Voltage range	100~690V AC (50/60Hz)
Phase rotation test	
System	Three-phase 4-wire system 200~690V phase-to-phase AC (50/60Hz)
Phase range	120±5 degree
Continuity test	
Detection range	0~400kΩ + 50%
Test current	Approx. 1.5μA (battery 3V, 0Ω)
Operating temperature and humidity ranges	-15~55°C, max 85% RH (No condensation)
Storage temperature and humidity ranges	-20~70°C, max 85% RH (No condensation)
Applicable standards	IEC61243-3, IEC61010-1, IEC61010-031, IEC61557-7 CAT.Ⅲ 690V / CAT.Ⅳ 600V Pollution degree 2, IEC60529 (IP65)
Power source	LR03(AAA) 1.5V x 2
Dimensions	246 x 64 x 26mm
Weight	195g (including batteries)
Accessories	LR03(AAA) 1.5V x 2, KTA01(4mm metal tips[2pcs/set]), KTA02(4mm rubber caps[2pcs/set]), Instruction manual

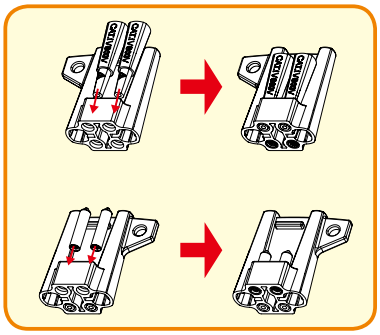
KT170AU is available for Australia and New Zealand market.

- Comply with the latest standards IEC61243 and IEC61010
- Novel design
  Large and bright LEDs: Values are visible in the dark place.
  Ergonomic design fits in the hand.
- Two functions are available in one model.
  "Measurement without battery" and "Self Test (all LED on)"
- Test leads withstand harsh environments at low temperature.
- Penlight(white LED)
- Auto-power ON / OFF
- Audible indication
- Variable test tips, ϕ2mm or ϕ4mm
- Probe protection cover can store the attachment of caps.
- IP65 (IEC60529)

Variable top tips



Store the attachment of caps



Voltage Test (Double-pole Test)

- The voltage is indicated by LEDs.
  Buzzer sounds and Live circuit LED lights up when a threshold voltage of 50V is exceeded.
- Voltage polarity is indicated in following manner.

AC +DC -DC

Bright LEDs and Penlight

Single-pole Phase Test

ACCESSORIES

7019 1,500mm

Applicable model

5402D

7025 1,500mm

Applicable model

3001B
3165
3166

Plug ϕ4

7060 1,200mm

✳Temperature probe

Applicable model

1110
2608A

Plug ϕ4

7066A 1,100mm

Applicable model

1009 2040
1011 2046R
1012 2055
1110 2056R
2007A 2412
2017 2608A
2027

Plug ϕ4

7067 1,100mm

Applicable model

2805

Plug ϕ4

7073 2,120mm

✳2WAY Output cord

Applicable model

2413F
2413R

Plug ϕ4

7081B 1,500mm

✳Guard cord

Applicable model

3321A

Plug ϕ4

7082 1,100mm

✳Lead for recorder

Applicable model

3124

Plug ϕ4

7083 5,200mm

✳Lead for battery charging

Applicable model

3124

7084 5,000mm

✳Earth and guard leads

Applicable model

3124

Plug ϕ4

7095A

✳Earth resistance test leads

Applicable model

4102A
4102A-H
4105A
4105A-H
6018
6018F

Green 5m
Yellow 10m
Red 20m

Plug ϕ4

7100A

Consists of :
7095A(Earth resistance test leads)
8032(Auxiliary earth spikes)
8200-03(Cord reels [3pcs])
9091(Carrying case for cord reels)

Applicable model

4102A
4105A
6018
6018F

Green 5m
Yellow 10m
Red 20m

Plug ϕ4

7103A/7139A Line 1,000mm Earth 1,550mm

✳Test leads with remote control switch

photo : 7103A

7103A	7139A
	

Plug

Applicable model

7103A	7139A
3021	3161A
3022	
3023	
3321A	
6018	
6018F	

7107A 1,100mm

Applicable model

2002PA
2002R
2003A
2009R
2200

Plug ϕ4

7115/7116 1,000mm

✻Extension probe

photo : 7115

7115	7116
	

Plug

Applicable model

7115	7116
3021	3161A
3022	
3023	
3321A	
6018	
6018F	

7121B 1,500mm

✻Distribution board test leads

Applicable model

4118A
5406A
6050
6201A
6202

Plug

7122B 1,220mm

Applicable model

3005A	6010A
3007A	6010B
3131A	6011A
3132A	

Plug ϕ4

7123/7124/7125/7126 1,500mm

✻Molded plug test lead

photo : 7123

7123	7124	7125	7126
			

Plug

7123 : (AU) Australian plug
7124 : (UK) British plug (13A)
7125 : (EU) European SHUKO plug
7126 : (SA) South African plug

Applicable model

4118A
5406A
6050

7123 (AU)

6201A

7125 (EU)

6202

7127A 1,570mm

✻Simplified measurement probe

Applicable model

4102A
4102A-H
4105A
4105A-H

Plug ϕ4

7128A 1,390mm

Applicable model

5410

Plug ϕ4

7129A 1,450mm

Applicable model

5410
6201A
6202

Plug ϕ4

7132A 1,200mm (KSLP5)

Applicable model

6011A

Plug ϕ4

7133B 1,500mm (OMA DIEC)

Applicable model

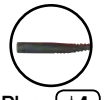
6010A
6010B
6011A

7141B 3,000mm

✻Voltage test lead set

Applicable model

6310



Plug ϕ4

7146 190mm

✻Banana ϕ4 adjuster plug

Applicable model

8121	8128
8122	8141
8123	8142
8124	8143
8125	8146
8126	8147
8127	8148

Plug ϕ4

7149A/7150A Line 1,000mm Earth 1,550mm

photo : 7149A

✻Test leads with remote control switch set (7103A or 7139A,7161A,7131B,8017, 9120 or 9041)

7149A	7150A
	

Plug ϕ4

Applicable model

7149A	7150A
3161A	3021
	3022
	3023
	3321A
	6018
	6018F

ACCESSORIES

7153B 1,220mm

✻Safety test leads

Applicable model

1009 2046R
1011 2055
1012 2056R
1110 2412
2017 2608A
2027 2805
2040

Plug ϕ4

7154B 1,220mm

✻Safety test leads

Applicable model

1009 2056R
1011 2412
1012 2608A
1110 2805
2017 3165
2027 3166
2040 6010A
2046R 6010B
2055 6016

Plug ϕ4

7155B

Applicable model

7153B
7154B

7156B 1,220mm

✻Safety test leads with fuse

Applicable model

1009 2056R
1011 2412
1012 2608A
1110 2805
2017 3165
2027 3166
2040 6010A
2046R 6010B
2055 6016

Plug ϕ4

7157B

Applicable model

7153B
7154B

7158B

Applicable model

7155B
7156B

7159B 1,220mm

✻Safety test leads with fuse

Applicable model

1009 2056R
1011 2412
1112 2608A
1110 2805
2017 3165
2027 3166
2037 6010A
2040 6010B
2046R 6016
2055

Plug ϕ4

7165A 3,000mm

✻Line probe

Applicable model

3121A
3122A
3123A
3125
3126

7168A 3,000mm

✻Line probe with alligator clip

Applicable model

3121A
3122A
3123A
3125
3126

7170 2,000mm

✻Power cord

Applicable model

3128
6305
6310

7185 3,000mm

✻Extension cable

Applicable model

8121 8128
8122 8141
8123 8142
8124 8143
8125 8146
8126 8147
8127 8148

7188A 1,520mm

✻Distribution board fused test leads

Applicable model

6016

Plug ϕ4

7196A 1,550mm

✻Test leads with remote control switch

Applicable model

6016

7199 1,000mm

✻Output cable

Applicable model

8129

7210A 1,040mm

Applicable model

1109S

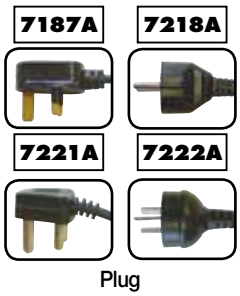
Plug ϕ4

7187A/7218A/7221A/7222A 1,230mm

✳Main test lead

photo : 7218A

Plug ϕ4



Plug

Applicable model

4140
6016

7187A : UK plug
7218A : EU plug
7221A : SA plug
7222A : AU plug

7220A 1,080mm

Applicable model

1051
1052
1061
1062

Plug ϕ4

7224A 1,500mm

✳Earth cord

Applicable model

3121A
3122A
3123A
3125
3126
3128

7225A 1,500mm

✳Guard cord

Applicable model

3121A
3122A
3123A
3125
3126
3128

7226A 3,000mm

✳Line probe

Applicable model

3128

7227A 3,000mm

✳Line probe with alligator clip

Applicable model

3128

7228A

✳Earth resistance test leads

Applicable model

6016

Green : 5m
Yellow : 10m
Red : 20m

Plug ϕ4

7229A

✳Earth resistance test leads

Applicable model

4106

Green : 20m
Yellow : 20m
Black : 20m
Red : 40m

Plug ϕ4

7234 1,080mm

✳Alligator clip

Applicable model

1009 1051
1011 1052
1012 1061
1062

Plug ϕ4

7238A 1,570mm

✳Simplified measurement test leads

Applicable model

4106

Plug ϕ4

7246/7247 1,400mm

✳Distribution board test lead

photo : 7246

Applicable model

4140

7246
Blue, Green, Red

7247
Black, Green,Red

Plug ϕ4

7248 2,000mm

Applicable model

4300

Plug ϕ4

7253/7254 15m

✳Longer line probe with alligator clip

photo : 7253

Applicable model

7253	7254
3121A	3128
3122A	
3123A	
3125	
3126	

ACCESSORIES

7256 1,200mm

*Out put cord

Applicable model

2500

Plug ϕ4

8216 1,000mm

*Temperature probe

Applicable model

1011
2046R
2056R

8405 1,400mm

*Temperature probe

Applicable model

1051
1052
1061
1062

• Max. 500°C, Surface type, Point material: Ceramic

Plug ϕ4

8406 1,380mm

*Temperature probe

Applicable model

1051
1052
1061
1062

• Max. 500°C, Surface type

Plug ϕ4

8407 1,540mm

*Temperature probe

Applicable model

1051
1052
1061
1062

• Max. 700°C, Liquid, Semi-solid

Plug ϕ4

8408 1,540mm

*Temperature probe

Applicable model

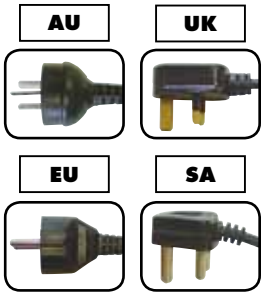
1051
1052
1061
1062

• Max. 600°C, Air, Gas

Plug ϕ4

KAMP10 1,500mm

*Test lead with IEC connector



Plug

Applicable model

6010A
6010B
6011A

AU : Australian plug
UK : British plug (13A)
EU : European SHUKO plug
SA : South African plug

8901

Fuse [0.5A/250V]

Applicable model

2805

8918

Ceramic fuse [0.8A/600V]

Applicable model

1011
1012

8919

Ceramic fuse [10A/600V]

Applicable model

1009
1011
1012

8923

Fuse [0.5A/600V]

Applicable model

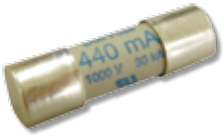
1009
1110
2608A
3005A
3007A
3021
3022
3023
3131A
3132A

8926

Fuse [440mA/1000V]

Applicable model

1051
1052
1061
1062



8927

Fuse [10A/1000V]

Applicable model

1051
1052
1061
1062

INSTRUMENT GLOSSARY

Accuracy

The accuracy of a digital tester is defined as the difference between the reading and the true value for a quantity measured in reference conditions. Accuracy is specified in the format: (±xx% rdg ±xx dgt)

The first portion identifies a percentage error relative to the reading, which means it is proportional to the input. The second portion is an error, in digits, that is constant regardless of the input.
"Rdg"is for reading and "dgt"is for digits. Dgt indicates the counts on the last significant digit of the digital display and is typically used to represent an error factor of a digital tester.

Auto-discharge Function

A function used immediately after an insulation test to automatically release charges stored within the circuit under test during measurement.
Voltage remaining in the circuit under test can be monitored during auto-discharging process as the scale reading.

Auto-ranging

A function of a tester to automatically select the appropriate measuring range based on the input signal.

Average Value

The average of an AC waveform's instantaneous values taken over a half cycle. Ordinary testers respond to the average value.

For sinusoidal wave :
Average value = Maximum value×2/π= Maximum value×0.637

When the true RMS value is 100V ;
Average value= Maximum value×2/π=141×0.637 = 90(V)
The reading of ordinary testers is calibrated in terms of the effective value of a sinusoidal wave even though they are responding to the average value. They are called average-responding-RMS-calibrated type of testers. As opposed to these, true-RMS type testers respond and show the true RMS value.

Crest Factor

The ratio of the maximum value to the effective value.
It represents the range of input in which a tester maintains linear operation, expressed by a multiple of the full scale value of the range being used.
Crest factor = Maximum value/True RMS value
For sinusoidal wave;
Crest factor = 141/100 = 1.41

Data Hold

A function to freeze the reading on a digital display for ease of checking or recording even in a difficult-to-read situation for a tester.

Decibel: dB

A unit used to express the magnitude of change in level of electric signal or sound intensity.
A voltage ratio of 1 to 10 is equal to -20dB, 10 to 1 to 20dB, 100 to 1 to 40dB and 1000 to 1 to 60dB. A power ratio of 10 to 1 is not 20dB, but 10dB, since power(P) is proportional to the square of voltage(V).

Diode Test

A function to apply a diode or a transistor a constant current having a value needed to turn it on in order to check the diode's or the transistor's forward voltage drop and identifying the connection direction of the device.

Distortion Factor

A degree of distortion of a waveform, typically expressed as the ratio of the effective value of harmonic components to the effective value of the fundamental component.

Dual Integration Method

A technique to convert voltage into time. The first integration time (Ts) and the second integration time (Tx) are used. First, the input voltage (Vx) is integrated on a certain time interval (Ts) and then, the resulting voltage is "reverse-integrated" using a reference voltage (Vr) until it becomes 0 (zero).

The "reverse-integration time" (Tx) is proportional to input voltage (Vx). Therefore, the input voltage (Vx) can be determined by measuring Tx.

With this technique, stable measurements can be taken with high accuracy, resolution and noise rejection ratio. One particular advantage is high noise rejection ratio at 50 or 60Hz power line frequency. All of Kyoritsu digital clamp meters and testers utilize this method.

Effective Measuring Range of Insulation Tester

The measuring range for which the accuracy of an insulation tester is guaranteed. There are two kinds of effective measuring ranges: the first and second effective measuring ranges.

First effective measuring range
From 1/1000 to 1/2 the maximum effective scale value
(When there is no major scale division for 1/2 the maximum effective scale value, the nearest major scale division is used.)

Second effective measuring range
Scales divisions not included in the first effective measuring range
For example for a 500V/100MΩ insulation tester;
First effective measuring range: 0.1-50MΩ(±5% of indicated value)
Second effective measuring range: 50-100MΩ(±10% of indicated value)

Form Factor

The ratio of the effective value to the average value.
Form factor = Effective value/Average value

Frequency Response

The manner in which a device changes its output quantity it, its indication for a measured quantity or its response over a range of frequencies.
AC signals to measure with a tester can be of one frequency or from a wide frequency band ranging from low to high frequencies. To measure these frequencies, it is better to use a tester having a wide frequency response range.

Hall Element

When a current-carrying conductor is placed in a magnetic field so that the direction of the magnetic field is perpendicular

to the direction of the current flow, voltage is developed in the direction perpendicular to both the magnetic field and the current flow. This is called the Hall effect and the Hall element is a device that utilizes the effect.
Kyoritsu AC/DC clamp meters and clamp sensors employ the Hall element.

Harmonics

Power line AC voltage from a utility company has near sinusoidal waveform of fundamental frequency with little distortion. When only a load consisting of resisters, capacitors and coils, called a linear load (its constant is fixed regardless of the amount of current flowing through it), is connected to mains supply, no distortion is introduced into the load current waveform. However, when a non-linear load, such as a semiconductor and a saturable reactor, is connected, distortion appears in the load current waveform. The current with a waveform containing distortion, or harmonic current, flows in the direction toward the low impedance side and in the process, produces voltage drop over the impedance of the current path, causing the load voltage also to contain harmonics.

Indicated Value

The value indicated by a tester for a measured quantity

Peak Hold

A function to memorize the peak value over a certain period of time.
*Response time is selectable from approx. 10ms and 100ms.
Reading in the peak hold mode is the peak current value multiplies by $1/\sqrt{2}$.
(When the input is sinusoidal, the reading is equal to the true RMS value.)

Peak Value

The value at a point where a waveform has the maximum amplitude.

Resolution

The minimum increments in which a tester can take measurements.

Sample Rate

Frequency at which an A/D converter circuit senses the quantity to measure: typically, twice or three times per second.

Sensitivity

The ability of a tester to respond to the quantity to measure, expressed as the ratio of a change induced in the reading to a change in the input:

$$\text{Sensitivity} = \frac{\text{Change in reading}}{\text{Change in quantity to measure}}$$

Shock Hazard

Also referred to as electric shock. When a person touches a motor that has a "leak", a path can be created from the motor frame to the hand, body and feet of the person to the floor he is standing on to allow a current to flow through it, sometimes resulting in a fatal accident.
The seriousness of a shock hazard widely varies depending on the amount and duration of the current that flows through the person' s body. His constitution, age and medical condition are also variation factors, but in general, at a frequency of 50 or 60Hz, stimulus to the skin is felt at 1mA, considerable pain occurs at 5mA, pain is unbearable at 10mA, there is difficulty in releasing the "leaking" object because of intense muscle contraction at 20mA, it is considerably dangerous at 50mA and fatality is likely at 100mA. For the safety limit for a fatal current, which causes ventricular fibrillation, Professor Dalziel proposed the following equation from numbers of experiments on animals.
$I = 165 \quad t$
Where, I = current (mA) and t = time (sec).
From this theory, the maximum duration for a current of 165mA is 1 second.

Thermocouple

A device that uses the voltage developed by the junction of two dissimilar metals to measure temperature. One junction, called the measuring junction, is placed at the point where temperature is to be measured. The other junction, called the reference junction, is maintained at a reference temperature. The voltage developed between the two junctions varies depending on the difference between the temperatures of the two junctions and the type of thermocouple.

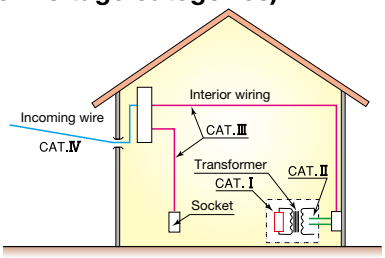
True RMS Value

The square root of the average of the square of a periodic waveform's instantaneous values taken over one cycle. It is also called the rms value and the most closely relates to such form of energy as force and heat.
(The effective value of an alternating current is expressed as the value of the direct current which produces the same amount of heat as the alternation current does.)

For sinusoidal wave :
True RMS = Maximum value$\times 1/\sqrt{2}$= Maximum value$\times 0.707$

When a True RMS is 100V ;
Maximum value = True RMS$\times\sqrt{2}$= 100×1.41 = 141(V)

Measurement categories
(Over-voltage categories)



To ensure safe operation of measuring instruments, IEC61010-1 establishes safety standards for various electrical environments, categorized as CAT.Ⅰ to CAT.Ⅳ, and called measurement categories.
Higher-numbered categories correspond to electrical environments with greater transient energy (that can be very dangerous), so a measuring instrument designed for CAT.Ⅳ environments can endure greater transient energy than one designed for CAT.Ⅲ or lower.

CAT.Ⅰ : Secondary electrical circuits connected to an outlet through a transformer or similar device. Secondary electrical circuit parts inside equipments like TVs, PCs, Copiers, etc.

CAT.Ⅱ : Primary electrical circuits or equipments connected to an outlet by a power cord. Outlets at more than 10 meters from CAT.Ⅲsource, or at more than 20 meters from CAT.Ⅳ source.

CAT.Ⅲ : Primary electrical circuits of the equipment connected directly to the distribution panel. Switchboards, busbars 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). Circuits close to the secondary side of low voltage power transformer.

SYMBOLS

TRUE RMS
Measurement of AC voltage and current in True RMS value.

CAT. Ⅳ600V
Measurement category part of the International safety standard IEC 61010-1

DC/AC V
DC and AC voltage measurements

DC/AC A
DC and AC current measurements

DC Voltage
DC voltage measurement

AC Voltage
AC voltage measurement

DC+AC measurement
AC measurement also in the presence of superimposed DC component.

MAX MIN AVG
Function to read the maximum, minimum and average values under testing.

MAX MIN
Function to read the maximum and minimum values under testing.

Resistance
Resistance measurement

Continuity buzzer
Continuity buzzer

Diode
Diode and semiconductor test measuring the forward voltage.

Capacitance
Capacitance measurement

Temperature
Temperature measurement by a temperature probe.

Frequency
Frequency measurement

Decibel
Function to perform logarithmic calculations on AC voltage. The most frequent use of dB is for expressing the gain of an amplifier.

Duty cycle ratio
Duty cycle is the proportion of time during which a component, device or system is operated. Duty cycle ratio is displayed in percentage (%).

Back light
Back light display for easy reading in the dark.

Water proof
Water proof structure which allows use in wet places.

Peak hold
Function to measure the peak value like inrush current.

Data hold
Function to hold measurements on the display.

Auto power off
Automatic function to switch power off after a period of time.

Auto power save
Automatic function to switch the display off after a period of time.

Output
Output terminal for a recorder.

Filter
Function to select the measurements with or without harmonics.

Relative
Function to zero the reading and to display the relative value.

External power supply
Power supply from an external power source is possible.

USB
USB connection for data communication with a PC.

Low power Ω
Function to test resistors on a circuit board without unsoldering them using low test voltage.

Bluetooth
Bluetooth connection for data communication with the Android devices.

PRODUCT INDEX

PRODUCT INDEX

PRODUCT INDEX

QUALITY CONTROL CONCEPT

Kyoritsu started early an effort to establish system that ensures traceability to the national standards in order to produce reliable instruments as well as instruments that can assure reliability of other equipment and installations.

When traceability is in place, measurements taken with an instrument any time and anywhere in any situation can be related to the appropriate national measurement standards through a clear and unbroken chain of comparisons.

For example, in terms on measurement defined by JIS (Japanese Industrial Standards), traceability is specified as a condition in which a calibration path is established from instruments produced or in-house standards to higher level standards to the national standards. Kyoritsu currently has a system in place as shown in the figure below.

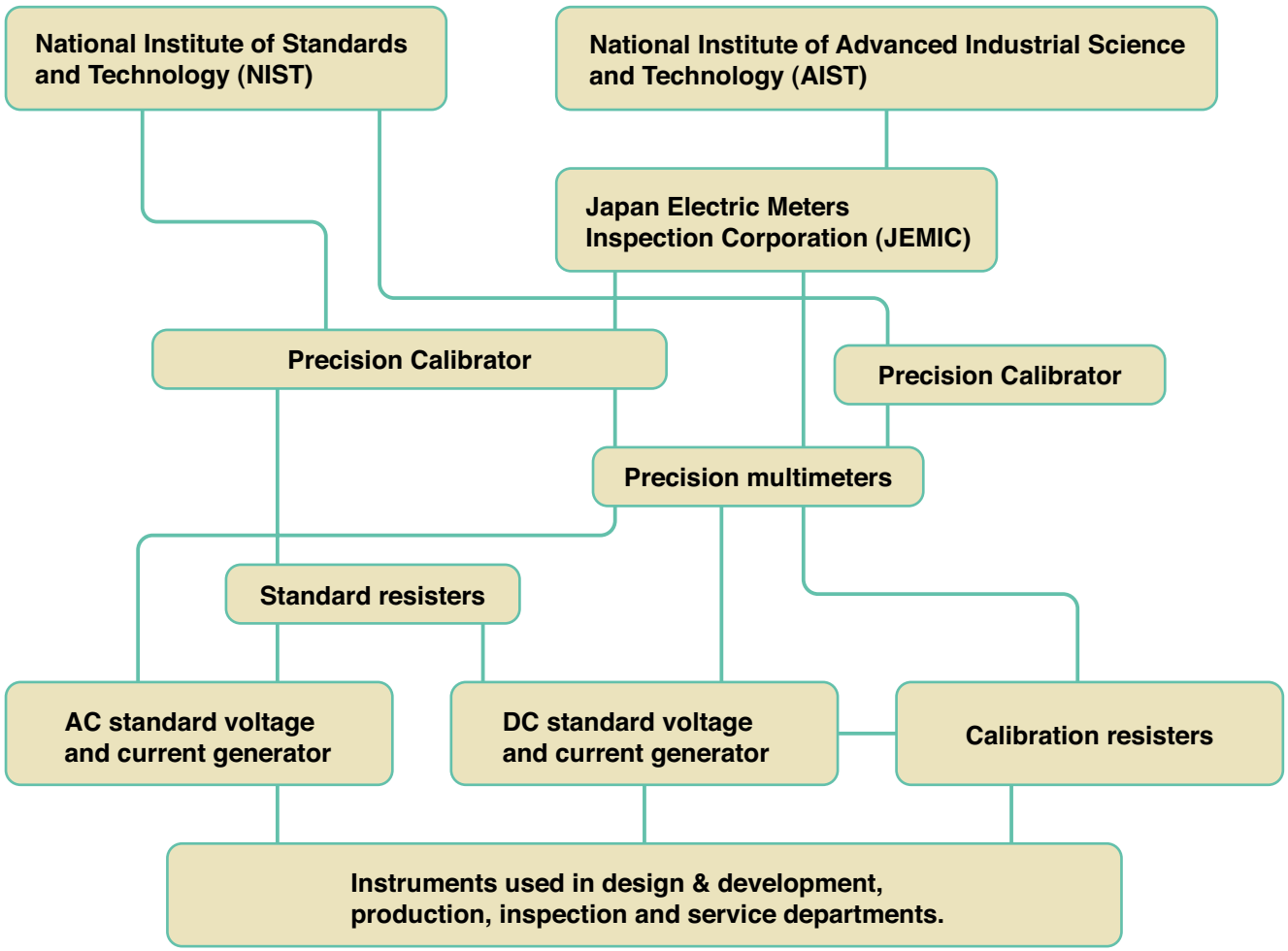
Our calibrator (standard) is calibrated at Japan Electric Meters Inspection Corporation (JEMIC), Japan Quality Assurance Organization (JQA) and Fluke Japan who perform calibration based on the units established and maintained by National Institute of Advanced Industrial Science and Technology (AIST). The standard is used as the in-house standard to calibrate all the test and measuring equipments which are used in-house.

Voltage : Precision calibrators are used as in-house DC and AC voltage standards.

Current : DC or AC current is converted to a voltage by a standard resistor, and the voltage is calibrated with a precision digital multimeter.

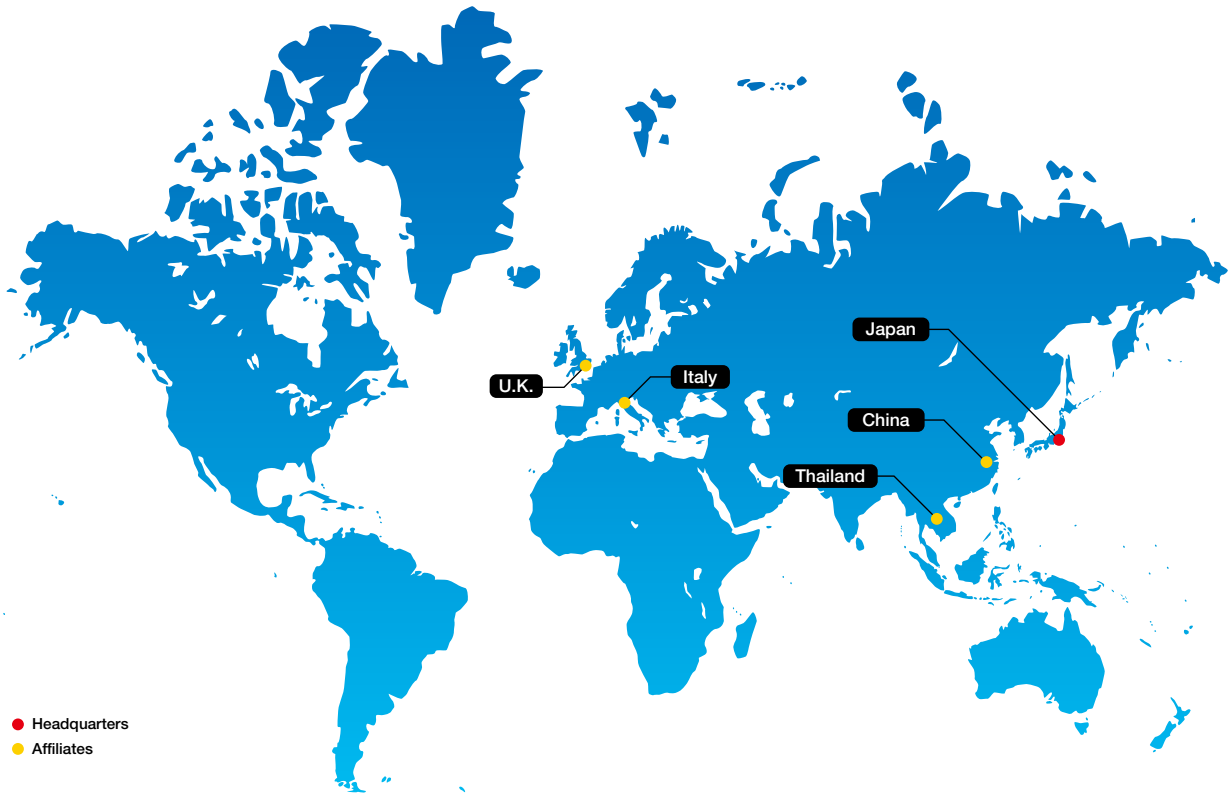
Resistance : Calibration resisters are calibrated with a DC standard current generator and the precision digital multimeter.

Calibration System for Electrical Measuring Instruments



CE Marking:signifies conformance to EMC directive (89/336/EEC,92/31/EEC,93/68/EEC or 2004/108/EC) and Low Voltage directive (2006/95/EC)

KYORITSU GLOBAL NETWORK



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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 :

GeneCata13-14_1E May 13 AD