

FEATURES

- 10000 counts digital display
- Active backlit, large scale display
- VoltSense™ (Non-contact Voltage)
- Analogue Bar-graph
- True RMS reading on AC and AC+DC modes
- Torch lights up when clamped
- Auto AC/DC 1000 Amps capability and selection
- Auto AC/DC 1000 Volts capability and selection
- Auto Ohms/Continuity/Diode selection
- 100K Resistance capability
- Continuity Beeper
- Frequency Counter
- Power and Power factor measurement
- Total Harmonics distortion and Harmonics 1 to 25
- Capacitance capability
- °C / °F Temperature Function
- Inrush Current
- DCA Auto-zeroing Key
- Peak Hold
- MIN/MAX HOLD
- Smart Data Hold
- Phase Rotation indication
- Low Pass Filter
- Auto Power Off
- CATIV 600V / CAT III 1000V Safety Standards



AUTOMATIC SELECTION

Automatically detects AC, DC and AC+DC of Ampere and Voltage function with AC+DC True RMS, and automatic selection of Resistance, Continuity and Diode



It has an active backlit display that turns ON at the touch of the button or rotation of knob. It also automatically goes off to save battery life.

INNOVATIVE TORCH LIGHT AND LIVE VOLTAGE SENSING

Torch lighting during cable clamping and automatic non-contact voltage detection for better identification of the working environment.



INNOVATIVE NAVIGATOR

Innovatively-designed Navigator Key optimises the function selection and feature operation with a finger or thumb.



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EXTRA TEMPERATURE FEATURE

Special designed temperature test facility for daily, industrial temperature measurement application.



ADVANCED POWER FEATURES MADE EASY

Provides advanced Power features, Phase rotation, Total Harmonics Distortion and even Harmonics 1 to 25th with easy-to-use interface, which enables fully-professional power measurement application with excellent performance.



OVER-MOULDING SLIM DESIGN

Ergonomically-designed, comfortable, over-moulding, slim shape with extra large LCD and one hand operation knob and navigator. Fits perfectly into palm of your hand and your needs.





FLEXIBLE CURRENT TEST

Compatible with flexible current probe, which expands the current range to 3000 ACA, providing increased display flexibility and making electrical measurement easier and safer.



GENERAL SPECIFICATIONS

- **Display count** : 10000
- **Measuring rate** : 3 times / sec.
- **Over-range display** : "OL" or "-OL" .
- **Auto Power Off** : Approx 15 minutes.
- **Low battery indicator** :  is displayed. Replace the battery when the indicator  appears in the display.
- **Power requirement** : 9V battery.
- **Battery life** : ALKALINE 9V 50 hours (without Backlight)
- **Dimensions** : 87.5mm(W) x 257mm(L) x 50.5mm(D)
- **Weight** : approx. 470g (with battery)

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ENVIRONMENTAL CONDITIONS

Indoor Use.

- Calibration : One year calibration cycle.
- Operating temperature : 0 °C ~ 10 °C
10 °C ~ 30 °C (≤80% RH)
30 °C ~ 40 °C (≤75% RH)
40 °C ~ 50 °C (≤45%RH)
- Storage temperature : -10 to 50 °C
0 to 80% RH (batteries not fitted).
- Temperature coefficient : 0.2 x (Specified accuracy) / °C, < 18°C, > 28°C .
- Over voltage category : IEC 61010-1 600V CAT.IV. 1000V CAT.III.
IEC 61010-2-32, IEC 61010-2-33

CAT Application field

I	The circuits not connected to mains.
II	The circuits directly connected to Low-voltage installation.
III	The building installation.
IV	The source of the Low-voltage installation.

- Operating altitude : 2000m (6562 ft)
- Conductor Size : 42mm diameter
- Pollution degree : 2
- EMC : EN 61326-1
- Shock vibration : Sinusoidal vibration per MIL-T- 28800E
(5 ~ 55 Hz, 3g maximum).
- Drop Protection : 4 feet drop to hardwood on concrete floor.

ELECTRICAL SPECIFICATIONS

Accuracy is ±(% reading + number of digits) at 23°C ± 5°C < 80%RH.

(1) Voltage

Function	Range	Accuracy
DCV	99.99V	± (0.7% + 2dgt)
	999.9V	
ACV	99.99V	± (1.0% + 5dgt) 50 ~ 500Hz
	999.9V	
HFR	99.99V	50 ~ 60Hz ± (1% + 5dgt)
ACV	ACV	>60 ~ 400Hz ± (5% + 5dgt)

* DCV <1000dgt, add 6 dgt to the accuracy.
ACV <1000dgt, add 3 dgt to the accuracy.

- Overload protection : 1000Vrms
- Input Impedance : 3.5MΩ // <100pF
- AC Conversion Type : AC Conversions are ac-coupled, true RMS responding, calibrated to the RMS value of a sine wave input. Accuracies are given for sine wave at full scale and non-sine wave below half scale. For non-sine wave (50/60Hz) add the following Crest Factor corrections:

- For Crest Factor of 1.4 to 2.0, add 1.0% to accuracy.
- For Crest Factor of 2.0 to 2.5, add 2.5% to accuracy.
- For Crest Factor of 2.5 to 3.0, add 4.0% to accuracy.
- CF 3 @ 460V, 460A
- 2 @ 690V, 690A

AC+DC VRMS Accuracy : same as ACV spec. +DCV spec.

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(2) Current

Function	Range	Accuracy
DCA	99.99A	± (1.5% + 0.2A)
	999.9A*	± (1.5% + 5dgt) **
ACA	0.10A ~ 99.99A	50 ~ 60Hz ± (1.5% + 5dgt) **
	999.9A*	>60 ~ 400Hz ± (2% + 5dgt) **
HFR	99.99V	50 ~ 60Hz ± (1.5% + 5dgt) **
ACA	ACV	>60 ~ 400Hz ± (5% + 5dgt) **

** The measured value <1000dgt, add 5 dgt to the accuracy.

Overload protection : 1000Arms

Position Error : ±1% of reading.
AC Conversion Type and additional accuracy is same as AC Voltage.

AC+DC Arms Accuracy : Same as ACA spec + DCA spec.



(3) Peak Hold : Peak MAX / Peak MIN

Function	Range	Accuracy
ACV	140.0V	± (3.0% + 15dgt)
	1400V	
ACV	140.0A	± (3.0% + 15dgt)
	1400A	

Overload protection : 1000 Vrms
1000 Arms

Accuracy defined for :
Sine wave, ACV>5Vrms / ACA ≥ 5Arms, Freq.50~400Hz.
- Only suitable for the repetitive events.

(4) Frequency

Function	Range	Accuracy
Frequency	20.00 ~ 99.99Hz	± (0.5% + 3dgt)
	20.0 ~ 999.9Hz	
	0.020 ~ 9.999KHz	

Overload protection : 1000 Vrms 1000 Arms

Sensitivity :
10~100Vrms for AC 100V range
10~100Arms for AC 100A range (>400Hz Unspecified)
100~1000Vrms for AC 1000V range
100~600/1000Arms for AC 600A/1000A range
(>400Hz Unspecified)
- Reading will be 0.0 for signals below 10.0 Hz.

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(5) Total Harmonic Distortion :

Function	Range	Accuracy
ACA/ACV	99.9%	± (3.0% + 10dgt)

Harmonic distortion measurement :

Harmonic order	Range	Accuracy
H01 ~ H12	99.9%	± (5% + 10dgt)
H13 ~ H25		± (10% + 10dgt)

Overload protection : 1000 Vrms 1000 Arms

- If ACV<10Vrms or ACA <10Arms, it will display "rdy".
- If the fundamental frequency out of range 45 ~ 65Hz, it will display "out.F".

(6) Inrush Current :

Function	Range	Accuracy
ACA	99.99A	± (2.5% + 0.2A)
	999.9A *	± (2.5% + 5dgt)

Overload protection : 1000 Vrms 1000 Arms

Accuracy defined for :

- Sine wave, ACA ≥10Arms, Freq. 50/60Hz
- Integration time about 100m sec

(7) Active Power : Watt (DC/AC)

Function	Range	Accuracy
ACW / DCW	9.999 kW**	A,error×V,reading+ V,error×A,reading
	99.99 kW	
	999.9kW*	

** The measured value<1.000kW, add 10 dgt to the accuracy.

Overload protection : 1000 Vrms 1000 Arms

Accuracy defined for :

ACW :

Sine wave, ACV≥10 Vrms, ACA≥ 5 Arms

Freq. 50~60Hz, PF=1.00

DCW:

DCV ≥10V, DCA ≥ 5 A

(8) Power Factor

Function	Range	Accuracy
PF	1.00	±5dgt

Overload protection : 1000 Vrms 1000 Arms

(9) Resistance & Continuity & Diode :

Function	Range	Accuracy
Resistance	999.9 Ω	± (1.0% + 5dgt)
	9.999 kΩ	± (1.0% + 3dgt)
	99.99 kΩ	
Continuity	999.9 Ω	± (1.0% + 5dgt)
Diode	0.40~ 0.80V	± 0.1V

Overload protection : 1000Vrms

Max. Test Current : Approx. 0.5mA.

Maximum Open Circuit Voltage for Ω : Approximate 3V

Maximum Open Circuit Voltage for diode : Approximate ±1.8V

Continuity Threshold : <30Ω Beep On.

> 100Ω Beep OFF.

Continuity Indicator : 2 KHz Tone Buzzer

Continuity response time : < 100ms.

(10) Capacitance :

Function	Range	Accuracy
Capacitance	3.999 μ F	$\pm (1.9\% + 8\text{dgt})$
	39.99 μ F	
	399.9 μ F	
	3999 μ F	

Overload protection : 1000 Vrms

(11) Flex AC Current (voltage input):

Function	Range(1mV/1A)	Accuracy *
ACA	300.0A/3000A	1%+5dgt (50~500Hz) **
HFR ACA	300.0A/3000A	1%+5dgt(50~60Hz) ** 5%+5dgt(61~400Hz) **
Peak	420.0A/4200A	3%+80dgt(50~500Hz)
INRUSH	300.0A/3000A	2%+10dgt(50/60Hz)
Frequency	99.99Hz/999.9Hz	0.5%+3dgt(<500Hz)
THD	99.9%	5%+10dgt
Harm H01-H12	99.9%	5%+10dgt

*The accuracy of METRAVI sFlex-T is not included.

**ACA <300dgt, add 3 dgt to the accuracy.

Overload protection : 1000Vrms

Trigger level of INRUSH : 1% of current range

(12) Temperature

Function	Range(1mV/1A)	Accuracy *
$^{\circ}$ C	-50 $^{\circ}$ C ~ 99.9 $^{\circ}$ C	$\pm (1\% + 2^{\circ}\text{C})$
	100 $^{\circ}$ C ~ 399.9 $^{\circ}$ C	$\pm (1\% + 1^{\circ}\text{C})$
	400 $^{\circ}$ C ~ 1000 $^{\circ}$ C	
$^{\circ}$ F	-58 $^{\circ}$ F ~ 211.9 $^{\circ}$ F	$\pm (1\% + 4^{\circ}\text{F})$
	212.0 $^{\circ}$ F ~ 751.9 $^{\circ}$ F	$\pm (1\% + 2^{\circ}\text{F})$
	752 $^{\circ}$ F ~ 1832 $^{\circ}$ F	

Overload protection :1000 Vrms

Standard Accessories

1. METRAVI 107F Power Clamp Meter
2. Test leads Set (one black, one red)
3. K-Type Temperature Probe
4. User Manual
5. Carrying case
6. Battery (installed)



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