RS Stock No. 8412439

Data sheet
IPM 244F
Power Clampmeter 1000A AC

Feature:

- 10000 Count digital display
- Active Backlit, Large scale display
- VoltSense (None Contact Voltage)
- Analog Bar graph
- True RMS reading on AC and AC+DC mode
- Torch lightening when clamping
- AC 1000 Amps capability
- AC Current via Flexible Current Probe
- Auto AC/DC 1000 Volts capability and selection
- Auto Ohms/Continuity/Diode selection
- 100K Ohms Resistance capability
- Continuity Beeper
- Frequency Counter
- Power and Power factor measurement
- Total Harmonics distortion and Harmonics 1 to 25
- Capacitance capability
- Inrush Current
- Peak Hold
- MIN/MAX HOLD
- Smart Data Hold
- Phase rotation indication
- Low pass Filter
- Auto Power Off
- 4 feet Drop Proof
- Deluxe Carrying Case
- Convenient Battery Door
- CAT IV 600V / CAT III 1000V Safety Standard

Specifications:

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

ISO-TECH

Voltage:

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

* DCV <1000dgt, add 6 dgt to the accuracy.
ACV <1000dgt, add 3 dgt to the accuracy.
Overload protection: $1000V_{rms}$
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 V_{rms} Accuracy: same as ACV spec. +DCV spec.

Current:

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

** The measured value <1000dgt, add 5 dgt to the accuracy.
Overload protection: $1000A_{rms}$
Position Error: ±1% of reading.
AC Conversion Type and additional accuracy is same as AC Voltage.

AC+DC A_{rms} Accuracy: Same as ACA spec + DCA spec.
- For better measurement accuracy of high current and the constraint of temperature increasing of maximum range 600A/1000A AC, do not measurement more than 10min., and have rest time with 30min. at least in between every measurement.
- DCA affected by the temperature and the residual magnetism. Press HOLD key > 2sec to compensate it.

Peak Hold: Peak MAX / Peak MIN

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

Overload protection: 1000 V_{rms}, 1000 A_{rms}

Accuracy defined for:

Sine wave, ACV>5Vrms / ACA≧5Arms, Freq.50~400Hz.

－Only suitable for the repetitive events.

Frequency:

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

Overload protection: 1000 V_{rms}, 1000 A_{rms}

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.

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 V_{rms}, 1000 A_{rms}

－ If ACV<10Vrms or ACA <10Arms, it will display “rdy”.

－ If the fundamental frequency out of range 45 ~ 65Hz, it will display “out.F”.

Inrush Current:

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

Overload protection: 1000 V_{rms}, 1000 A_{rms}

Accuracy defined for:

Sine wave, ACA≧10Arms, Freq. 50/60Hz

- Integration time about 100ms

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 V_{rms}, 1000 A_{rms}

Accuracy defined for:

ACW: Sine wave , ACV≧ 10 V_{rms}, ACA≧ 5 Arms Freq. 50~60Hz, PF=1.00

Power Factor:

Function	Range	Accuracy*
PF	1.00	±5dgt

* ACA<100A, add ±3dgt to the accuracy.

Overload protection: 1000 V_{rms}, 1000 A_{rms}

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: 1000V_{rms}

Max. Test Current: Approx. 0.5mA

Maximum Open Circuit Voltage for Ω, Continuity: 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

Capacitance:

Function	Range	Accuracy
Capacitance	3.999 µF	± (1.9% + 8dgt)
	39.99 µF	
	399.9 µF	
	3999 µF	

Overload protection: 1000V_{rms}

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 ICA 10T/18T is not included.

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

Overload protection: $1000V_{rms}$

Trigger level of INRUSH: 1% of current range

General:

Sampling Rate:	3 times/sec
Overload Indication:	“OL” or “-OL”
Low Battery Indication:	
Auto Power Off:	Approx. 15 minutes after last operation
Operating Temperature:	0 °C ~ 30 °C (≦80% RH) 30 °C ~ 40 °C (≦75% RH) 40 °C ~ 50 °C (≦45%RH)
Storage Temperature:	-10°C to 50°C, 0% RH to 80% RH (batteries not fitted)
Temperature Coefficient:	0.2 x (Specified accuracy) / °C, < 18°C, > 28°C .
Safety:	IEC 61010-1: CAT IV 600V, CAT III 1000V
Maximum Conductor Size	42mm
Bus Bar Size	62mm x 12mm
Power Requirement:	9V Battery x 1
Battery Life: (Alkaline)	50 hours (without Backlight)
Size:	87.5mm(W) x 257mm(L) x 50.5mm(D)
Weight:	Approx. 470g (with battery)
Accessories:	Battery (installed), Carrying case, User Manual