FEATURES

- 10000 Count digital display
- Active Backlit, Large-scale display
- VoltSense (None Contact Voltage)
- Analogue Bar graph
- True RMS reading on AC and AC+DC mode
- Torch lightening when clamping
- Auto AC-DC 1000 Amps capability and selection
- AC Current via Flexible Current Probe
- Auto AC-DC 1000 V capability and selection
- Auto Ohms/Continuity/Diode selection
- 100 K Ω 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

RS PRO Clamp Meter - IPM243F Multifunction Clamp Meter

RS Stock No.: 1241963

RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

RS PRO IPM245F Power Clamp Meter

From the trusted RS PRO brand, the IPM245F Power clamp meter 1000 A AC-DC is a high performing solution for power, temperature and current measurement. It is ideal for extending the AC current measuring range of ISO-TECH and RS PRO clamp meters.

It functions as a multimeter and analyzer that can measure current and power, and has a CAT III and CAT IV safety rating.

Battery-powered for maximum portability, and with a large backlit screen, this power clamp meter is ideal for on-the-go applications in almost any environment.

It is also supplied in a carry case to keep the clampmeter safe and secure during transit.

General Specifications

Model Number	IPM245F
Clamp Meter Type	Multifunction Clamp
Functions Measured	AC Current, AC Voltage, Capacitance, Continuity, DC Current, DC Voltage, Diode, Frequency, Harmonics, Power, Power Factor, Resistance, Temperature, Total Harmonic Distortion
Display Type	LCD
Number of Display Digits	10000 Count digital display
Sampling Rate	3 times/sec
Overload Protection	1000Vrms
True RMS	Yes
Data Hold	Yes
Auto power OFF	Yes Approx. 15 minutes after last operation
Temperature coefficient	0.2 x (Specified accuracy) / °C, < 18°C, > 28°C
Applications	ideal for on-the-go applications in almost any environment.

Measurement

Parameter	Range	Accuracy	Resolution
Absolute Current (AC)	1kA ac	±(1.5% rdg + 5dgts)	100mA
Absolute Current (DC)	1kA dc	±(1.5% rdg + 5dgts)	100mA
Absolute Voltage (AC)	1000V ac	±(1% rdg + 5dgts)	100mV
Absolute Voltage (DC)	1000V dc	±(0.7% rdg + 2dgts)	100mV
Absolute Resistance	100kΩ	±1% + 3 Digits	10mΩ
Absolute Temperature	+1000°C	±1 % + 1 °C	0.1°C

Electrical Specifications

Power Source	Battery
Battery Type	9 V Alkaline (NEDA 1604 or IEC 6F22)
Battery Life	100 h
Safety Category Level and Voltage	CAT III 1000 V, CAT IV 600 V

Mechanical Specifications

Jaw Capacity (Busbars)	27mm
Maximum Conductor Size	42mm
Dimensions	87.5 x 50.5 x 257mm
Width	50.5mm
Length	87.5mm
Height	257mm
Weight	470 (with Battery)g

Operation Environment Specifications

Altitude	2000m (6562 ft)
Relative Humidity	0° C ~ 30° C (≦80% RH) 30° C ~ 40° C (≦75% RH) 40° C ~ 50° C (≦45%RH)
Operating Temperature Range	0° C ~ 30° C (≦80% RH) 30° C ~ 40° C (≦75% RH) 40° C ~ 50° C (≦45%RH)
Storage Temperature Range	-10 to 50 °C for current, -20 to 60 °C for other function, 0 to 80% RH (batteries not fitted)

Approvals

Compliance/Certifications	IEC 61010-1
Declarations	RoHS Certificate of Compliance

Accessories Includes

Item Name	Qty
Button cells (installed)	1
Test Leads	1
Temperature Probe	1
User Manual	1
Carrying case	1

Similar Products

Stock No.	RS#1233228	RS#1233230	RS#1233252	RS#1233231
Model Number	**ICM134**	**ICM20**	ICM30R	ICM33II
Clamp Meter Type	Multifunction Clamp	Current Clamp	Multifunction Clamp	Multifunction Clamp
Functions Measured	AC Current, AC Voltage, Capacitance, Continuity, DC Current, DC Voltage, Diode Test, Resistance, Temperature	AC Current, Continuity, Diode Test		
Display Type	LCD	LCD	LCD	LCD
Sampling Rate	1.5 times/sec	2.5 times/sec	2.5 times/sec	4 times/sec
Absolute Current (AC)	600A ac	400A ac	300A ac	600A ac
Absolute Current (DC)	4mA dc		300A dc	
Absolute Voltage (AC)	750V ac		600V ac	600V ac
Absolute Voltage (DC)	1000V dc		600V dc	
Temperature coefficient	0.2×(spec. Acc'y)/℃ 28℃	0° C ~ 30° C (≦80% RH) 30° C ~ 40° C (≦75% RH) 40° C ~ 50° C (≦45%RH)	0.2×(spec. Acc'y)/°C <18°C, >28°C	0° C ~30° C (≦80% R.H.), 30° C ~40° C (≦75% R.H.), 40° C ~50° C (≦45% R.H.)

Specifications: (All at 23℃±5℃, ≦80% R.H.)

DC/AC Voltage

DC/AC Voltage		
Function	**Range**	***Accuracy****
DCV	99.99V	± (0.7% + 2dgt)
	999.9V	
ACV	99.99V	± (1.0% + 5dgt) 50 ~ 500Hz
	999.9V	
LPF 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+DC V RMS Accuracy: same as ACV spec. +DCV spec.

AC/DC Current

AC/DC 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) **
LPF ACA	0.10A ~ 99.99A	50 ~ 60Hz ± (1.5% + 5dgt) **
	999.9A	>60 ~ 400Hz ± (5% + 5dgt) **

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

Overload Protection: 1000Arms

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

Peak Hold (Peak MAX / Peak MIN)

Peak Hold: Peak MAX / Peak MIN		
Function	**Range**	**Accuracy**
ACV	140.0V	± (3.0% + 15dgt)
ACA	140.0A	± (3.0% + 15dgt)

Overload protection: 1000 V RMS, 1000 Arms

Frequency

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 Arms

Harmonic Distortion

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 Arms

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

Inrush Current

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

Overload protection: 1000 V RMS, 1000 Arms

Accuracy defined for:

Sine wave, ACA ≧ 10Arms, Freq. 50/60Hz

- Integration time about 100m sec

Active Power (AC/DC)

Active Power (AC/DC)		
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 Arms

Accuracy defined for:

ACW: Sine wave, ACV ≧ 10 V RMS, ACA ≧ 5 Arms

Freq. 50~60Hz, PF=1.00

Power Factor

Power Factor		
Function	**Range**	**Accuracy***
PF	-1.00 ~ 0.00 ~1.00	±3°±1dgt

* ACA<100A, add ±2° to the accuracy

Overload protection: 1000 V RMS, 1000 Arms

Inrush Current

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

Overload protection: 1000 V RMS, 1000 Arms

Accuracy defined for:

Sine wave, ACA ≧ 10Arms, Freq. 50/60Hz

- Integration time about 100m sec

Active Power (AC/DC)

Active Power (AC/DC)		
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 Arms

Accuracy defined for:

ACW: Sine wave, ACV ≧ 10 V RMS, ACA ≧ 5 Arms

Freq. 50~60Hz, PF=1.00

Power Factor

Power Factor		
Function	**Range**	**Accuracy***
PF	-1.00 ~ 0.00 ~1.00	±3°±1dgt

* ACA<100A, add ±2° to the accuracy

Overload protection: 1000 V RMS, 1000 Arms

Resistance & Continuity & Diode

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.
Continuity check: ＜30Ω Beep On.
＞100Ω Beep OFF.
Continuity Indicator: 2 KHz Tone Buzzer
Continuity response time: < 100ms.

Capacitance

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

Overload protection: 1000 V RMS

Temperature

Temperature		
Function	**Range**	**Accuracy**
°C	-50 °C ~ 99.9 °C	± (1% + 2°C)
	100 °C ~ 399.9 °C 400 °C ~ 1000 °C	± (1% + 1°C)
°F	-58 °F ~ 211.9 °F	± (1% + 4°F)
	212.0 °F ~ 751.9 °F 752 °F ~ 1832 °F	± (1% + 2°F)

Overload protection: 1000 V RMS

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~ 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 for current, -20 to 60 °C for other function, 0 to 80% RH (batteries not fitted).
Temperature Coefficient:	0.2 x (Specified accuracy) / °C, < 18°C, > 28°C.
Safety:	IEC 61010-1: CAT.III 600V, CAT.II 1000V.
Power Requirement:	9V Alkaline type 1604A battery
Battery Life:	ALKALINE 9V 50 hours (without Backlight).
Size:	87.5mm(W) x 242mm(L) x 50.5mm(D)
Weight:	approx. 435g (with battery)
Accessories:	Battery (installed), Test Leads, User Manual, Temperature Probe, Carrying case.