

FEATURES

- 6000 Count digital display
- Backlit, Large-scale display
- True RMS reading on AC+DC mode
- Auto AC-DC 600 A capability and selection
- Auto AC-DC 600 V capability and selection
- Auto Ohms/Continuity/Diode selection
- Power 600 K Watt capability
- 20 K Ohms Resistance capability
- Continuity Beeper
- Frequency Counter
- Power and Power factor measurement
- Total Harmonics distortion measurement
- °C / °F Temperature Function
- Inrush Current measurement
- DCA Auto-Zeroing Key
- Peak Hold
- MIN/MAX Function
- Display Hold
- Phase rotation indication
- Auto Power Off
- 4 ft Drop Proof
- Deluxe Carrying Case
- Convenient Battery Door

RS PRO Clamp Meter - IPM138N Multifunction Clamp Meter

RS Stock No.: 1233258



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

Pro IPM138N Power Clamp Meter

From the trusted RS PRO brand, the IPM138N Power clamp meter 600 A AC-DC is a high performing solution for power 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 II and CAT III 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	IPM138N
Clamp Meter Type	Multifunction Clamp
Functions Measured	AC Current, AC Voltage, Continuity, DC Current, DC Voltage, Diode Test, Frequency, Power Factor, Resistance, Temperature, Total Harmonic Distortion, Wattage
Display Type	LCD
Number of Display Digits	6000 Count digital display
Sampling Rate	3 times/sec
Overload Protection	600Vrms
True RMS	Yes
Auto power OFF	Yes Approx. 10 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)	600A ac	±(1% rdg + 5dgts)	100mA
Absolute Current (DC)	600A dc	±(1% rdg + 5dgts)	100mA
Absolute Voltage (AC)	600V ac	±(1% rdg + 5dgts)	100mV
Absolute Voltage (DC)	600V dc	±(0.7% rdg + 5dgts)	100mV
Absolute Resistance	20kΩ	±1% + 5 Digits	100mΩ
Absolute Temperature	+1000 °C, +1832 °F	±1 %	0.1 °C, 1 °F

Electrical Specifications

Power Source	Battery
Battery Type	IEC 6F22, NEDA 1604, 9V
Battery Life	50 h
Safety Category Level and Voltage	CAT II 1000 V, CAT III 600 V

Mechanical Specifications

Jaw Capacity (Busbars)	35mm
Maximum Conductor Size	35 (Dia.)mm
Dimensions	78 x 51 x 235mm
Width	51mm
Length	78mm
Height	235mm
Weight	380g

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°C to 50°C, 0% RH 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
User Manual	1
Carrying case	1
Temperature socket	1
K-type sensor	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)/°C 28°C	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°C±5°C, ≤80% R.H.)

Voltage:

Function	Range	Accuracy*
DCV	60.00V	±(0.7% + 5dgt)
	600.0V	
	1000V	
ACV	60.00V	±(1.0% + 5dgt) 45 ~ 500Hz
	600.0V	
	1000V	

Overload protection: 1000V_{rms}

Input Impedance: 3.5MΩ // <100pF

AC Conversion Type: AC/DC Coupled True RMS responding

AC+DC V_{rms} Accuracy: same as ACV spec. +1% rdg. + 5dgt

Current:

Function	Range	Accuracy
DCA	600.0A	± (1.5% + 5dgt)
ACA	600.0A	± (1.5% + 5dgt) 45 ~ 65Hz
		±(2.5% + 5 dgt) 66 Hz ~ 400 Hz

Overload protection: 600A_{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 +1.5% rdg. +5dgt.

–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	85.0V	± (3.0% + 15dgt)
	1400V	
ACA	85.0A	± (3.0% + 15dgt) (corrected DCA Zero)
	850A	

Overload protection: 1000 V_{rms}, 600 A_{rms}

Accuracy defined for:

Sine wave, ACV>5V_{rms} / ACA≥5A_{rms}, Freq.50~400Hz.

– Only suitable for the repetitive events.

Frequency:

Function	Range	Accuracy
Frequency	20.0 ~ 399.99Hz	± (0.1% + 5dgt)
	400 ~ 4000Hz	

Overload protection: 1000 V_{rms}, 600 A_{rms}

Sensitivity:

5V_{rms} for ACV, 5A_{rms} for ACA(>400Hz Unspecified)

- Reading will be 0.0 for signals below 10.0 Hz.

Total Harmonic Distortion:

Function	Range	Accuracy
ACA /ACV	100.0%	± (3.0% + 10dgt)

Overload protection: 1000 V_{rms}, 600 A_{rms}

- If ACV<10V_{rms} or ACA <10A_{rms}, it will display "rdy".
- If the fundamental frequency out of range 45 ~ 65Hz, it will display "out.F".

Inrush Current:

Function	Range	Accuracy
ACA	10.0 ~59.9A	2.5% ± 0.2A
	60.0 ~ 600.0A	2.5% ± 5dgt

Overload protection: 600 A_{rms}

Accuracy defined for:

Sine wave, ACA_≥10A_{rms}, Freq. 50/60Hz

- Integration time about 100ms

Active Power: Watt

Function	Range	Accuracy
W~	4.000 kW	Add the errors of Voltage and current.
	40.00 kW	
	400.0 kW	
	600 kW	

Overload protection: 1000 V_{rms}, 600 A_{rms}

Accuracy defined for:

Sine wave , ACV_≥ 10 V_{rms}, ACA_≥ 5 Arms Freq. 45~65Hz, PF=1.00

- The reading of Active Power will be fluctuated apparently due to the current fluctuation in 4.000 kW range.

Power Factor: PF = Watt ÷ (V×A)

Function	Range	Accuracy
PF	-1.00 ~ 0.00 ~1.00	±3°

Overload protection: 1000 V_{rms}, 600 A_{rms}

Resistance & Continuity & Diode:

Function	Range	Accuracy
Resistance	600.0 Ω	± (1.0% + 5dgt)
	6.000 kΩ	
	20.00 kΩ	
Continuity	600.0 Ω	± (1.0% + 5dgt)
Diode	2.00V	±(1.5% + 5dgt) for 0.4V ~ 0.8V

Overload protection: 600 V_{rms}

Maximum Open Circuit Voltage for Ω, Continuity: Approximate 2.4V

Maximum Open Circuit Voltage for diode: Approximate 3V

Continuity check:

Internal sounds activates if the resistance of the circuit under test is less than 30Ω approximately.

Max. display count: 5400 counts.


Temperature:

Function	Range	Accuracy
°C	-50.0 °C ~ 399.9 °C	± (1% + 3°C)
	400 °C ~ 1000 °C	
°F	-58.0 °F ~ 751.9 °F	± (1% + 6°F)
	752 °F ~ 1832 °F	

Overload protection: 600 V_{rms}

– The above specification is assumed at the ambient temperature stability within ±1°C. The meter needs 1 hour for stability for ambient temperature change more than ± 1°C.

General:

Sampling Rate:	3 times/sec
Overload Indication:	"OL" or "-OL"
Low Battery Indication:	
Auto Power Off:	Approx. 10 minutes after last operation
Operating Temperature:	0 °C ~ 30 °C ($\leq 80\%$ RH) 30 °C ~ 40 °C ($\leq 75\%$ RH) 40 °C ~ 50 °C ($\leq 45\%$ 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	35mm
Bus Bar Size	40mm x 15mm
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. 380g (with battery)
Accessories:	Battery (installed), Carrying case, Temperature socket, K-type sensor, User Manual