

EMPOWER POWER METERS MODEL 7002-009



MODEL 7002-009

- Accurate RF RMS Power Measurements
- High Dynamic Range and Speed
- Ruggedized Housing
- Easy to use
- TILE! Software Supported

The **EMPower 7002-009** uses a true RMS detector to provide accurate measurements of non-sinusoidal RF signals over the entire measurement range. The higher accuracy and faster measurements are the result of the detector having a DC voltage proportional to the RF RMS value of the input signal.

The 7002-009 offers a high dynamic range of up to 80 dB over the measurement frequency range from 4 kHz to 6 GHz, maintaining its high measurement speed of up to 5 MS/s over the entire input power range.

ETS-Lindgren's EMPower 7002-009 power meter offers increased accuracy of ± 0.2 dB over the measurement frequency range. With active input ranging, the error contribution for non-sinusoidal signals with a high crest factor is less than 0.2 dB. The input VSWR of the power meter is optimized to minimize measurement uncertainty, making the 7002-009 ideal for accurate RF power measurements.

The 7002-009 offers a ruggedized aluminum housing providing good RF shielding and a sleek appearance. With a USB interface that allows direct connection to TILE!, the 7002-009 is easy to use.

Technical Specifications

Electrical			
Model	7002-009		
Measurement Function	RMS Power		
Measurement Speed	1 MS/s 5 MS/s		
Measurement Units	dBm or Watt		
Resolution	0.01 dB		
Zero Adjustment	Not Required		
Input Damage Level	> +20 dB		
Measurement Range & Accuracy			
Frequency Range	4 kHz to 6 GHz		
Power Measuring Range	Frequency	Max (dB)	Min (dB)
	4 kHz – 100 MHz	10	-70
	100 MHz – 1.5 GHz	10	-65
	1.5 GHz – 3.5 GHz	10	-60
	3.5 GHz – 4.5 GHz	10	-55
	4.5 GHz – 6 GHz	10	-50
Frequency Response Accuracy (at 23°C $\pm 2^\circ\text{C}$)	± 0.2 dB		
Linerarity Error	0.05 dB + 0.005 dB/dB		
Temperature Effect	<0.15 dB Over Full Temperature Range		
Deviation from CW for Signals with High Crest Factor	< 0.2 dB		
VSWR			
Maximum VSWR	1.05 @ Below 100 MHz 1.15 @ 100 MHz to 6 GHz		

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Technical Specifications

Electrical	
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Dimensions and Connections	
Dimensions of Measuring Devices (LxWxH)	125.2 mm x 44.5 mm x 32 mm (4.9 in x 1.75 in x 1.26 in)
RF Input Connector	N Type Precision
Data Connector	USB Mini Type B
Power	
Supply Voltage	+5Vdc from USB port (4.75 V to 5.25 V)
Current Consumption (USB)	Max. 500 mA
Environmental Conditions	
Temperature Range (Operating)	0° to 40° C (32° to 104° F)
Temperature Range (Storage)	-20° to 85° C (-4° to 185° F)
Relative Humidity	10 – 90% (Non-condensing)
Compliance	
EMC	EN 61326
Low Voltage	N/A
Warranty	3 year