



DC TO 40 GHz

RF Power Sensors

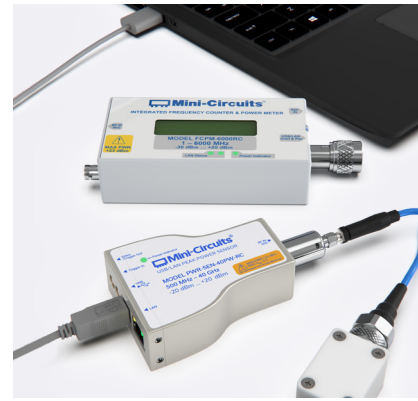
For Peak, Average, RMS and CW Measurement

Mini-Circuits Power Sensors

Power sensors are an essential tool for any RF / microwave test engineer. Mini-Circuits developed its extensive PWR series of smart power sensors to provide an option for any test requirement, budget and experience level.

The series includes a range of high-performance sensors up to 40 GHz supporting measurements of any signal type, from CW / single tone applications to pulsed signals and most modern digital modulations. Input power ranges down to -60 dBm are ideal for measurement of transmitted signals and characterization of components with high loss or rejection (such as filters). Sample rates up to 80 million samples per second allow detailed signal analysis with very fine measurement resolution.

The included measurement software for Windows® walks the user through the power sensor settings, displays measurements and provides powerful data recording and export capabilities. A flexible API is provided with programming instructions and examples to set up automated power measurements in a range of common programming environments.



Peak & Average Power Sensors

Features & Advantages:

- High performance sensors for measurement of modulated and fast pulsed signals
- Peak, average and statistical (crest factor / duty cycle) analysis of power samples
- Trace the modulation / pulse profiles with time
- Up to 30 MHz video bandwidth, supporting pulse profiling with resolution down to 13 ns



Model Name	Frequency		Dynamic Range		Sample Rate (/s)	Video Bandwidth		Control	LCD
	Low (MHz)	High (GHz)	Low (dBm)	High (dBm)		Internal	Video Out		
PWR-8P-RC	10	8	-60	+20	500k	100 kHz	10 MHz	USB & Ethernet	No
PWR-8PW-RC (NEW)	10	8	-60	+20	20M	10 MHz	30 MHz	USB & Ethernet	No
PWR-18PWHS-RC (NEW)	50	18	-60 (avg) -40 (pk)	+20	80M	30 MHz	30 MHz	USB & Ethernet	Yes
PWR-40PW-RC	500	40	-20	+20	20M	10 MHz	30 MHz	USB & Ethernet	No

*Peak sensors have a finite video bandwidth (up to 30 MHz for Mini-Circuits' PWR series) so for measurements of digital modulations with wider bandwidths, or signals with multiple tones spaced far apart, consider the RMS sensors below.

RMS Power Sensors

Features & Advantages:

- Cost-effective sensors for RMS (average) measurements of power vs. time
- Measure modulated and multi-tone signals
- Measure pulsed signals with moderate duty cycles ($\geq 2\%$)



Model Name	Frequency		Dynamic Range		Measurement Speed (ms)	Control	LCD
	Low (MHz)	High (GHz)	Low (dBm)	High (dBm)			
PWR-6LRMS-RC	50	6	-45	+10	30	USB & Ethernet	No
PWR-6RMS-RC	50	6	-35	+20	30	USB & Ethernet	No
PWR-18RMS-RC (NEW)	50	18	-60	+20	0.5	USB & Ethernet	Yes

*RMS sensors provide a single measurement for a sampled signal (the RMS or "average" power level), for applications requiring further analysis of a pulsed or modulated signal (including peak measurements, profiling or statistical analysis), take a look at Mini-Circuits' peak power sensors above.

CW Power Sensors

Features & Advantages:

- Lowest cost sensors for average power measurement of CW / single-tone signals
- Ideal for lab testing and signal-level calibration of test systems
- FCPM-6000RC provides both power and frequency measurement with integrated LCD screen



Model Name	Frequency		Z0 (Ω)	Dynamic Range		Measurement Speed (ms)	Control	LCD	Freq. Measurement?
	Low (MHz)	High (GHz)		Low (dBm)	High (dBm)				
PWR-2.5GHS-75	0.1	2.5	75	-30	+20	30	USB	No	No
PWR-4GHS	0.009	4	50	-30	+20	30	USB	No	No
PWR-6GHS	1	6	50	-30	+20	30	USB	No	No
PWR-6LGHS	50	6	50	-45	+10	30	USB	No	No
FCPM-6000RC	1	6	50	-30	+20	30	USB & Ethernet	Yes	Yes
PWR-8GHS	1	8	50	-30	+20	30	USB	No	No
PWR-8GHS-RC	1	8	50	-30	+20	30	USB & Ethernet	No	No
PWR-8FS	1	8	50	-30	+20	10	USB	No	No

*CW sensors will only accurately measure power for a single-tone so for applications involving modulated, pulsed or multi-tone signals, or for applications requiring a faster response, or wider dynamic range, consider Mini-Circuits' RMS or peak sensors above.



Contact us

Please reach out to us at testsolutions@minicircuits.com with any questions or comments. Our applications team is available to guide you all the way, from selecting the most appropriate model, to getting started with the software or developing your own automation program.