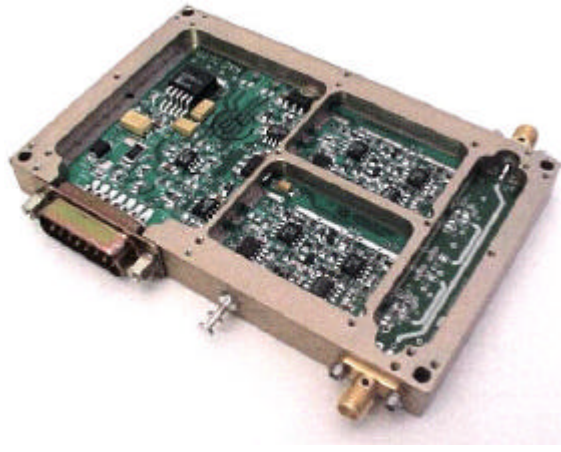
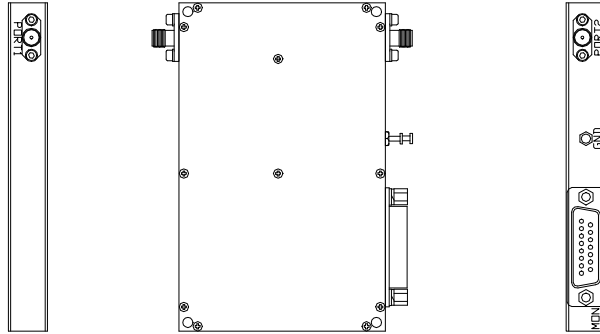


## CELLULAR POWER MONITOR 805 - 960 MHz



### dimensions and connections



2.76" W x 4.42" L x 0.53" H  
 RF – SMA Jacks  
 DATA I/O – 15-pin D-sub Plug

#### PIN CONNECTIONS

DC SUPPLY	15
GROUND	4, 8, and 13
PDET (PORT1)	14
PDET (PORT2)	12
TEMP (PORT1)	5
TEMP (PORT2)	11
NO CONNECT	1, 2, 3, 6, 7, 9, and 10

### features

- Integral stripline dual-directional coupler
- Linear power detection (mV / dB)
- Low insertion loss (0.17 dB at 887 MHz)
- -30 to 70°C operating range
- Digital signal compatibility
- High Power > 50 watts

### description

Unlike power detection methods based solely upon diodes, Praxsym's power monitor exhibits a linear mV/dB response as opposed to the diode detector's logarithmic mV/dB response.

Each detector exhibits high immunity to the modulation errors that can occur when measuring digital signals.

The power monitor does not use a microcontroller or any other clocked mechanism to perform the logging function and therefore does not contribute any spurious emissions to the RF thru-channel. In addition, all non-linear junctions are separated from the RF thru-channel by at least 65 dB, reducing the possibility of introducing unwanted modulation components to the RF signal.

### typical specifications

Operating Freq (MHz)	805 - 960
Insertion Loss (dB)	0.17
Directivity (dB)	28
Dynamic Range (dB)	28
PDET @ 30 watts (V)	4.75
PDET @ 10 watts (V)	3.90
PDET @ 1 watt (V)	2.00
Modulation Error (dB)	< 0.2

All specifications above measured at 875 MHz

**DC Power:** 21 - 29 V @ 40 mA maximum  
 (11 - 20 V model also available)

### absolute maximum ratings

Temp, Case Operating: -30 to 70°C  
 Temp, Storage: -55 to 150°C  
 DC Volts: +33.0V

# CELLULAR POWER MONITOR 805 - 960 MHz

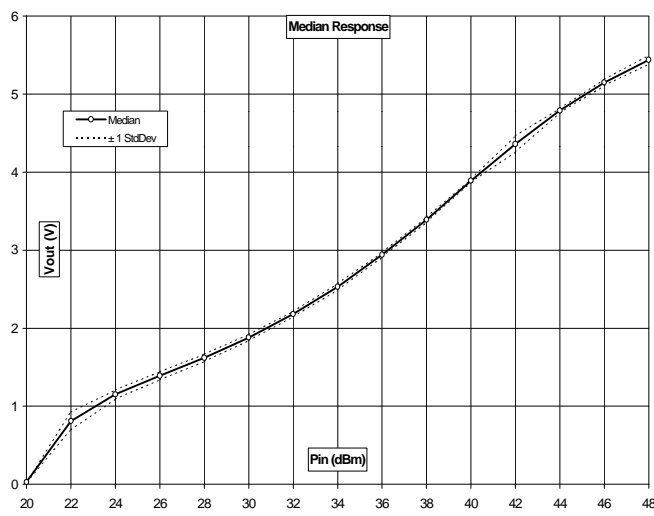


Figure 1 – Output Response

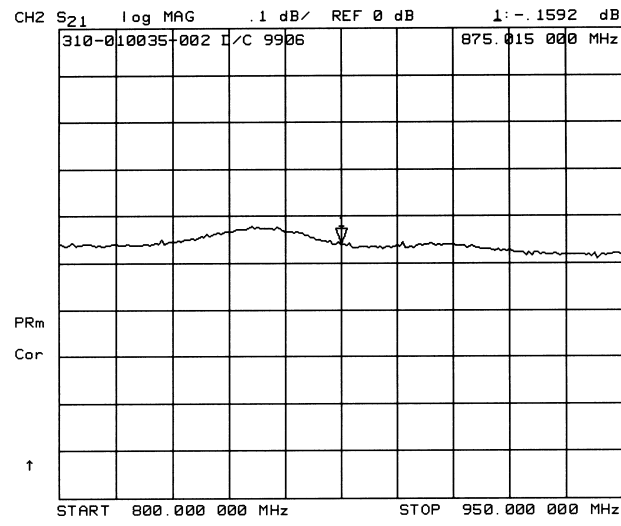


Figure 2 – Thru Path Insertion Loss

Power (dBm)	Median (V)	Stddevp	± 1 StdDev	- 1 StdDev
20	0.027	0.000	0.027	0.027
22	0.81	0.113	0.923	0.697
24	1.15	0.058	1.208	1.092
26	1.39	0.052	1.442	1.338
28	1.62	0.047	1.667	1.573
30	1.88	0.039	1.919	1.841
32	2.18	0.033	2.213	2.147
34	2.53	0.041	2.571	2.489
36	2.94	0.029	2.969	2.911
38	3.39	0.032	3.422	3.358
40	3.89	0.018	3.908	3.872
42	4.36	0.104	4.464	4.256
44	4.79	0.027	4.817	4.763
46	5.15	0.041	5.191	5.109
48	5.44	0.055	5.495	5.385

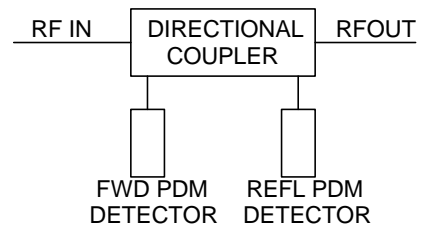


Figure 3 - Functional Block Diagram

The monitor generates a linear voltage representative of the input power to each port to allow accurate monitoring of the forward to reflected power ratio.

This power monitor incorporates a low-loss, high directivity stripline coupler with independent linear power detection circuits.

In addition to the internal temperature compensation, each detector circuit generates a linear temperature voltage ( $mV/^{\circ}C$ ) which may be used for external second order correction.