Ceyear

87230/1/2/3 Series

USB Microwave Power Sensor

(9kHz ~ 40GHz)

China Electronics Technology Instruments Co., Ltd.

Product Overview

87230/87231/87232/87233 USB CW Microwave Power Sensor is a diode–based power senor carrying USB 2.0 full/high speed self-adaptive interface, deploys high-performance digital processing chips and various calibration & compensation techniques to achieve a wide frequency range and large power measurement and dynamic range, can be connected to computers and other electronic measurement instruments to establish power test systems. Especially, it is available for field test, production line test and other low-cost power tests.

Main Characteristics

- Accurate measurement of CW signal absolute power;

- Internal zero and external zero;

- Single sensor size, light weight, easy to carry;

- Support USB programming function; provide   Interchangeable Virtual Instrument(IVI) driver; support USBTMC (USB test & measurement class) protocol;

- Compatible with computers and measurement instruments equipped with USB interface, and capable of establishing microwave power test system easily and quickly.

Typical Applications

87230/87231/87232/87233 USB CW Power Sensor can be connected to computers to realize the function of microwave power measurement, or connected to some of our measurement instruments to realize microwave/millimeter-wave power measurement.

Application 1: Connect to Computers

It can be connected to the USB interface of computers to realize microwave power test function via the virtual control panel. The device can also be connected to the main control computer (MCC) of the automatic test system to speedily establish microwave power test system via commands in accordance with SCPI standard.

Application 2: Use USB-HUB to realize multichannel microwave power measurement

Using USB-HUB, it can realize multichannel power monitoring via virtual control panel, which is convenient for product line or online monitoring of microwave power on the spot.

Application 3: Connected to some of our measurement instruments

As an optional part, it can be connected to some of our power analyzers, spectrum analyzers, RF/microwave tester etc., to perform microwave power measurement.

Technical Specifications

Specs \ Model	87230	87231	87232	87233
Frequency Range	9kHz~6GHz	10MHz~18GHz	50MHz~26.5GHz	50MHz~40GHz
Power Range	-50dBm~+20dBm	-60dBm~+20dBm		
Zeroing Accuracy	≤10nW	≤1nW		
Input Port SWR	100kH~6GHz: 1.15	10MHz~50MHz: 1.21 50MHz~2GHz: 1.15 2GHz~12.4GHz: 1.20 12.4GHz~18GHz: 1.27	50MHz~2GHz: 1.15 2GHz~12.4GHz: 1.20 12.4GHz~18GHz: 1.27 18GHz~26.5GHz: 1.30	50MHz~2GHz: 1.15 2GHz~12.4GHz: 1.20 12.4GHz~18GHz: 1.27 18GHz~26.5GHz: 1.30 26.5GHz~40GHz: 1.50
Connector Type	N (m)		3.5mm (m)	2.4mm (m)
Uncertainty of Calibration Factor	±0.16dB	±0.25dB	50MHz~18GHz: ±0.25dB 18GHz~26.5GHz:±0.35dB	50MHz~18GHz: ±0.25dB 18GHz~40GHz: ±0.35dB
Power Linearity (23±5℃)	+10dBm~+20dBm：±0.21dB -40dBm~+10dBm：±0.12dB/10dB -60dBm~ -40dBm：±(0.12dB/10dB+zero setting typical uncertainty *)			
Max. Input Power	+23dBm			
Size (mm)	46.2×35.6×142.6	46.2 ×35.6 ×142.6	46.2×35.6×135.4	46.2×35.6×125.9
Power Supply	Mini USB Interface			
Power Consumption	≤1.8W			
Max. Weight	250g			
Operation/Storage Temperature	0℃~50℃/-40℃~+70℃			

*: see details in User Manual

Some of our instruments connectable to USB Power Sensor*

No.	Model	Designation
1	4051	Signal/Spectrum Analyzer
2	4958	Handheld Multifunctional Microwave Analyzer
3	4024	Spectrum Analyzer
4	3680A	Cable & Antenna Analyzer

*: Consult technical support personnel to know more other connectable instruments

Ordering Information

Main Unit: 87230 USB CW microwave power sensor 9kHz~6GHz

87231 USB CW microwave power sensor 10MHz~18GHz

87232 USB CW microwave power sensor 50MHz~26.5GHz

87233 USB CW microwave power sensor 50MHz~40GHz

Standard Package

No.	Description	Remarks
1	USB Cable	Can fasten dedicated USB cable, 2m length
2	CD	Including virtual panel, Programming Manual, device driver and programming example
3	User Manual	--
4	Certificate of Conformity	Posted on the instrument