

## JD730 Series Power Sensors



### Introduction

The JD730 Series Power Sensors consist of Terminating or Directional power sensors types that can be used for any power measurement application.

The JD730 Power Sensors are portable for field applications and can interface with a PC or other JDSU wireless field testing solutions, such as JD723A, JD724B, JD725A, JD7105A and JD7106A.

The Directional Power Sensors (JD731A, JD733A) measure forward power and reflected power without having any service disturbance. Typical applications are installation, maintenance, and monitoring of transmitters with antenna in wireless base station.

The Terminating Power Sensors (JD732A, JD734A, and JD736A) measure transmitted power. Typical applications are installation, and maintenance of base station in wireless and RF generators or repeaters.

While conventional power sensors can be used in conjunction with additional power meters, the JD730 power sensors are small and lightweight, making them the optimal portable solution for field applications, together with the benefit of being powered via the PC.

### Features

#### Optimal Power Testing

The JD730 power sensors offer the optimal power testing solutions since it performs power measurements without the need of additional test instruments, using a PC to display measurement results.

#### Field Test Solution

The JD730 power sensors are the ideal field test solutions for its compact size, lightweight and ability to operate with a laptop computer in standalone mode or with JDSU's field instruments (JD72x and JD710x) as an accessory.

#### No Zeroing Calibration

The JD730 power sensors are not required to get disconnected or to power it down for zeroing calibration. The power sensors do not need any additional calibration beyond the factory's calibration which ensures measurement accuracy.

#### Measurement Methodologies

The JD730 power sensors have two different measurement methodologies, terminating for out-of-service applications and directional for in-service applications.

## Applications

### Standalone



Terminating Power Sensor



Directional Power Sensor

### Accessory



Cable and Antenna Analyzer with Terminating Power Sensor



Base Station Analyzer with Terminating Power Sensor

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## Directional Power Sensor

### Directional Power Sensors JD731A, JD733A

Directional power sensors are connected between the transmitter and the load measuring the following power metrics without any service disturbance ideal for in-field monitoring and maintenance of wireless bases station.

- Average Power
- Peak Power
- VSWR

#### Average Power (RMS Value)

This power metric provides an average power value for modulated, non-modulated or multi-carriers signals.

#### Peak Power (Peak Envelope Power)

This power metric provides peak power values of the modulated envelope, indicating the maximum signal's power.

#### VSWR or Return Loss

This power metric provides forward and reverse average power ratios for matching characteristics of loads. This metric is presented as VSWR (Voltage Standing Wave Ratio) or Return Loss.



Directional Power Sensor Front View



Directional Power Sensor Top View



Directional Power Sensor Standalone

## Terminating Power Sensor

### Terminating Power Sensors (JD732A, JD734A, JD736A)

Terminating power sensors measure the true RMS or (and) peak power from -30dBm to +20dBm in a terminating mode, where all the power is absorbed by the power sensor.

This is a typical power measurement methodology for out-of-service applications including engineering, laboratory, and manufacturing, as well as installation and maintenance.



Terminating Power Sensor Accessory



Terminating Power Sensor Front View



Terminating Power Sensor Standalone



Terminating Power Sensor Top View

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**Specifications**

**Directional Power Sensor JD731A**

	<b>Average and Peak</b>
Sensor Type	
Frequency Range	300 MHz ~ 3800 MHz
Power Range	Average power: 0.15 W ~ 150 W (21.76 ~ 51.76 dBm) Peak power: 4 W ~ 400 W (36.02 ~ 56.02 dBm)
Measurement uncertainty	± 4% of reading + 0.05 W <sup>1,2</sup>
Return Loss	≤ 2500 MHz, 27 dB min > 2500 MHz, 25 dB
Directivity	27 dB min
Insertion Loss	≤ 1GHz, < 0.05 dB 1~ 2 GHz, < 0.1 dB 2 ~ 3.8 GHz, < 0.13 dB
RF Connectors	N- Female on both ends

**General**

Serial Interface	1 port
USB Interface	1 port
Operation Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Calibration Cycle	1 year

**Dimensions**

Weight	0.5 kg
Size (W x H x D) (without connectors)	98 x 118.7 x 33.2 mm 3.86" x 46.73" x 1.31"

**Terminating Power Sensor JD732A**

	<b>Average</b>
Sensor Type	
Frequency Range	20 MHz ~ 3800 MHz
Power Range	-30 dBm ~ +20 dBm (1 μW ~ 100 mW)
Measurement Uncertainty	± 7% of reading <sup>1,2</sup>
RF Connectors	N-Male

**General**

Serial Interface	1 port
USB Interface	1 port
Operation Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Calibration Cycle	1 year

**Dimensions**

Weight	0.3 kg
Size (W x H x D) (without connector)	64 x 96 x 38 mm 2.52" x 3.78" x 1.50"

**Directional Power Sensor JD733A**

	<b>Average and Peak</b>
Sensor Type	
Frequency Range	150 MHz ~ 3500 MHz
Power Range	Average : 0.25 W ~ 20 W (24 ~ 43 dBm) Peak: 0.25 W ~ 20 W (24 ~ 43 dBm)
Measurement Uncertainty	± 4% of reading + 0.05W <sup>1,2</sup>
Return loss	≤ 2500 MHz, 27 dB min > 2500 MHz, 25dB
Directivity	27 dB min
Insertion Loss	≤ 1GHz, < 0.05 dB 1~ 2 GHz, < 0.1 dB 32~ 3.8 GHz, < 0.13 dB
RF Connectors	N- Female on both ends

**General**

Serial Interface	1 port
USB Interface	1 port
Operation Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4 °F ~ 158°F)
Calibration Interval	1 year

**Dimensions**

Weight	0.5 kg
Size (W x H x D) (without connectors)	98 x 118.7 x 33.2 mm 3.86" x 46.73" x 1.31"

**Terminating Power Sensor (JD734A)**

	<b>Peak</b>
Sensor Type	
Frequency Range	20 ~ 3800 MHz
Power Range	-30 ~ +20 dBm (1 μW ~ 100 mW)
Measurement Uncertainty	±7% of reading <sup>1,2</sup>
RF connectors	N-Male

**General**

Serial Interface	1 port
USB Interface	1 port
Operation Temperature	0°C ~ 50°C(32°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Calibration Cycle	1 year

**Dimensions**

Weight	0.3 kg
Size (WxHxD) (without connector)	64 x 96 x 38 mm 2.52" x 3.78" x 1.50"

**Terminating Power Sensor (JD736A)**

Sensor Type	Average and Peak
Frequency Range	20 ~ 3800MHz
Power Range	-30 ~ +20dBm (1µW ~ 100mW)
Measurement Uncertainty	±7% of reading <sup>1,2</sup>
RF connector	N-Male

**General**

Serial Interface	1 port
USB Interface	1 port
Operation Temperature	0°C ~ 50°C (32°F ~ 122°F)
Storage Temperature	-20°C ~ 70°C (-4°F ~ 158°F)
Calibration Cycle	1 year

**Dimensions**

Weight	0.3 kg
Size (W x H x D) (without connector)	64 x 96 x 38 mm 2.52" x 3.78" x 1.50"

Specification and product description are subject to change without notice.

<sup>1</sup> Specification is provided at a temperature 25° C ± 10° C.

<sup>2</sup> CW Condition

**Ordering Information**
**Power Sensors JD730 Series**

JD731A	Directional Power Sensor 300 MHz ~ 3.8 GHz, Average 0.15 ~ 150 W, Peak 4 ~ 400 W
JD732A	Terminating Power Sensor 20 MHz to 3.8 GHz, -30 ~ +20 dBm
JD733A	Directional Power Sensor 150 MHz to 3.5 GHz, Average/Peak 0.25 ~ 20 W
JD734A	Terminating Power Sensor 20 MHz ~ 3.8 GHz, Peak -30 ~ +20 dBm
JD736A	Terminating Power Sensor 20 MHz to 3.8 GHz, Average/Peak -30 ~ +20 dBm

**Standard Accessories**

User's Manual and Power Meter Application Software CD USB A - B Type, 1.8 m Cable
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**Power Meter Accessories**

G710050581 Attenuator 40dB, 100W, DC to 4GHz (Unidirectional)

**Test & Measurement Regional Sales**

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