

JWD-1000

Bench-top Single & Dual-Channel Power Meter

Key Features

- **Multi Detectors - Si, Ge and InGaAs**

JWD-1000 series can support the detector size up to 10mm for both Ge and Si detector. The spectral range is from 200nm to 1800nm and dynamic range is -70dBm to 27dBm.

- **Compensation of the detector temperature**

JWD-1000 series can calibrate the value of the testing result through the detector temperature compensation; this will lessen the reading value offset caused by the external temperature change to ensure test accuracy less than 1.75%.

- **Wide Variety of Optical Fiber Adaptors**

JWD-1000 series provide the FC, SC, ST, LC and other kind of field changeable optical fiber adaptors, can adapt for all kinds of the need of the optical fiber connection.

- **Calibration**

Any wavelength can be calibrated by user independently (up to 9 wavelengths calibration can be supported). It is not necessary to send unit back to the factory for recalibration. User can deal with the local Measurement Bureau for the annually calibration.

- **Touch Screen TFT Display** - The Main Unit equipped with 7in 800x480 touch screen TFT display and USB interface.

- **WIN32 API Support**

JWD-1000 series provide various API ports based on WIN32. The user can develop its own control software according to its actual applications, which includes:

Data Reading - Read the current power value (also can customize the relative log, absolute log, and linearity), also can read the temperature of the detector

Calibration - Calibrate the current wavelength, zero calibration, and adjust the compensation temperature

Setting - Setting the wavelength, the measuring mode (manual, Auto), the ranger, the filter speed, Units and the reference value.

Applications

- Fiber Laser and Fiber Amplifier
- Active and Passive components production
- Spatial laser measurement
- DVD, Blue Light, Copier and Printer maintenance
- Bio-Medical



JWD1000 series power meter is high-accuracy multi functional power meter, that can work with multi detectors and the spectral range covers from 200nm to 1800nm and measuring power range from -70dBm to 27dBm. They are fully compatible with FibreOptica's Si, Ge and InGaAs detectors. FibreOptica also provides a wide variety of testing accessories that can meet various requests for optical power measurement in fiber and spatial optics.

The detector and signal processor circuit are all integrated inside JWD1000 probe heads. This design efficiently avoids problem caused during distance transmission of weak signal. Every probe head is calibrated with a minimum step of 10nm over full spectral range before shipping out and furthermore calibrated to NIST traceable standards every year – that can ensure the calibration error is less than 1.75% comparing to standard power meter over full spectral and power measuring range. All calibration information will be stored in the probe head.

The semiconductor probe heads for JWD1000 series can also combine with different size and port of integrating spheres to measure high power laser. A variety of testing accessories equipped to integrating sphere can meet requests for optical power measurement in fiber and spatial optics.

JWD1000 has two models - Bench-Top and Handheld. It also comes with multi-function carrying case – perfect for school, factory, lab and outside plant.

Specifications of Probes

Detector Type	JWD-1000-DET-UV	JWD-1000-DET-SL	JWD-1000-DET-ST	JWD-1000-DET-IR	JWD-1000-DET-IT	JWD-1000-DET-IG
Spectral Range (µm)	0.2 ~ 1.1	0.4 ~ 1.1	0.4 ~ 1.1	0.78 ~ 1.8	0.78 ~ 1.8	0.8 ~ 1.65
Max. Input Power (W/cm ²) with OD3 attenuator	0.15	1.5	1.5	1.5	1.5	1.5
Max. Input Power (mW/cm ²) without attenuator	0.15	1.5	1.5	1.5	1.5	1.5
Calibration Uncertainty without Attenuator	3.5% @200~390nm 1.75% @391~940nm 7% @941~1100nm	3.5% @400~940nm 7% @941~1100nm	3.5% @400~940nm 7% @941~1100nm	3.5% @780~1700nm 7% @1701~1800nm	3.5% @780~1700nm 7% @1701~1800nm	3.5% @800~1650nm
Calibration Uncertainty with OD3 Attenuator	14% @200~350nm 7% @351~390nm 1.75% @391~940nm 7% @941~1100nm	1.75% @400~940nm 7% @941~1100nm	1.75% @400~940nm 7% @941~1100nm	8.75% @780~910nm 3.5% @911~1700nm 7% @1701~1800nm	8.75% @780~910nm 3.5% @911~1700nm 7% @1701~1800nm	8.75% @800~900nm 3.5% @901~1650nm
uniformity	±3.5%	±3%	±3%	±2%	±3%	±3%
Linearity	±2%	±1.5%	±1%	±0.5%	±1%	±1%
Saturation Current Density (Am/cm ²)	0.02	3.5	9	450	450	350
Responsivity (A/W)	≥0.04A/W 250 ~ 1100nm	≥0.1A/W 400 ~ 1100nm	≥0.1A/W 400 ~ 1100nm	≥0.2A/W 850 ~ 1700nm	≥0.1A/W 850 ~ 1700nm	≥0.1A/W 800 ~ 1600nm
Max Responsivity (A/W) (Peak)	>0.25A/W	>0.5A/W	>0.5A/W	>0.8A/W	>0.8A/W	>0.9A/W
NEP (W/Hz ^{1/2})	1.9x10 ⁻¹²	6.5x10 ⁻¹³	1.5x10 ⁻¹⁴	0.7x10 ⁻¹²	0.7x10 ⁻¹²	3.0x10 ⁻¹⁴
Material	Si	Si	Si	Ge	Ge	InGaAs
Effective area shape	Cylinder	Cylinder	Square	Cylinder	Square	Cylinder
Active Diameter (cm)	0.5/1.0	0.5/1.0		0.3/0.5/1.0		0.3/0.5
Active Area mm (cm ²)			0.25/1.0		0.25/1.0	

Specifications of JWD1000 Main Unit

Model Number	JWD1000_Main-1
Display	800x480 7in TFT
Communication Interface	USB SLAVE/RS232
Data storing port	USB DISK/SD CARD
Operating Temperature	0 ~ 50°C
Power Supply	AC90 ~ 250V/50~60Hz
Number of channels	2
Dimension (mm)	240x132x37

Standard Package

- JWD1000 Main Unit
- Power Supply Cord
- Fuse
- Instruction Manual
- Cotton tampon

ORDERING INFORMATION

Main Unit

JWD1000-MAIN1-1CH	Support One Channel
JWD1000-MAIN1-2CH	Support Two Channels

Probes

JWD-1000-DET-X-Y

X: Detector Type	UV, SL, ST, IR, IG, IT
Y: Active Area	
Cylinder Type (diameter in mm):	3, 5, 10
Square Type (mm):	5, 10

Accessories (Probe)

Part Number	Description
JWD1000-DET-FA2	Bare Fiber Adapter Base
JWD1000-DET-FH1	Bare Fiber Adapter Holder
JWD1000-DET-SMA	SMA Adapter
JWD1000-DET-FC	FC Adapter
JWD1000-DET-ST	ST Adapter
JWD1000-DET-LC	LC Adapter
JWD1000-DET-SC	SC Adapter
JWD1000-DET-U125	1.25mm Universal Adapter
JWD1000-DET-U25	2.5mm Universal Adapter
JWD1000-DET-HOLDER	Probe Holder
JWD1000-ACC-1	Carrying Case