

Model 2832-C

Dual-Channel Optical Power Meter



For optical measurements that require two channels, high-precision, and fast data acquisition, the **2832-C** is the ideal choice. This is ideal for production testing of fiber optic components.

Single- and dual-channel operations are supported, with channels displayed individually or simultaneously in dual-channel operation.

The power sensitivity ranges from 100 fW–2W over a wavelength range of 0.19–1.8 μm . The unit is compatible with Newport's **818 Series** silicon, germanium, and indium gallium arsenide detectors, and a wide variety of accessories for measuring bare or connectorized fiber or free space light sources.

Measurements can be made in W, A, dBm, dB or relative units. These may be displayed directly or as relative ratio measurements from present or stored values.

Moving statistical measurements permit you to compute moving statistics for 1 to 100 measurements

with Min, Max, Max-Min, Mean, and Standard Deviation. You may also select from many programming features such as sampling frequency and precision, digital and analog filtering, and data storage of up to 1000 readings per channel.

Additional Benefits

- Includes both RS-232C and IEEE-488 interfaces
- Six-digit vacuum fluorescent display is legible from any angle and in any light condition
- Stores and recalls up to 10 operating configurations for setup convenience
- System calibration is user-adjustable, with wavelength settings in 1 nm increments
- Provides trigger in/out control with alarm levels and adjustable trigger polarity

Key Features

- Fast IEEE-488 (GPIB) *end-to-end data transfer rate, 50–100 Hz, depending on software interface*
- *Data acquisition rate of 1000/500 samples per second, in single/dual channel operation*
- *Advanced features include 1000 point data storage, statistical measurements, and triggers with reconfigurable alarms*
- *Instrument can be integrated in the most sophisticated automated systems in production and laboratory applications*

Instrument Specifications

Display	6-digit vacuum fluorescent
Sampling Resolution	20,000 count ≤ 25 Hz, 4096 count ≤ 1 kHz
Gain Ranges	Up to 7 decades
Current Sensitivity (full-scale)	2.5 nA–2.5 mA
Resolution	100 fA
Sampling Rate	Up to 1 kHz single-channel, Up to 500 Hz dual-channel
Bandwidth (-3 dB)	DC to 47 kHz ¹⁾
Analog Output	0–2.5 V into 50 Ω
DC Accuracy	$\leq \pm 0.1\%$ typical
Power Requirements	90 to 240 VAC
Weight [lb (kg)]	2.5 (1.1)
Dimension (W x H x D) [in. (mm)]	8.5 (216) x 4 (102) x 14 (356)
Operating Environment	10°C to 40°C, <80% RH
Storage Environment	-25°C to 60°C, <90% RH

1) Gain and detector dependent

System Specifications

The 2832-C is compatible with Newport's Ge, Si and InGaAs detectors, allowing both free-space and fiber pigtailed measurements in the 190–1800 nm range. When using one of these detectors with the 2832-C a calibration module needs to be attached to the detector, assuring the correct reading at any pre-selected wavelength.

Model	818-UV/CM	818-SL/CM	818-F-SL	818-ST/CM	818-IR/CM 818-F-IR	818-IG/CM	818-IS-1
Material	Silicon	Silicon	Silicon	Silicon	Germanium	Indium Gallium Arsenide	InGaAs/Si
Diameter (cm)	1.13	1.13	0.3	1 x 1	0.3	0.3	
Wavelength (nm)	190–1100	400–1100	400–1100	400–1100	780–1800	800–1650	400–1650
Power Range (dBm)	-83 to +23	-90 to +33	-90 to +3	-70 to +33	-70 to +21.5 ²⁾	-90 to +21.5	-70 to +23
Accuracy ¹⁾	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 2\%$	$\pm 3\%$	$\pm 2\%$	$\pm 2.5\%$
Applicable wavelength range (nm)	200–1100	400–1100	400–1100	400–1100	780–1700	800–1650	400–1650
Linearity				$\pm 0.5\%$			
NEP @ 5 Hz and 1 A/W	50 fW/ $\sqrt{\text{Hz}}$	50 fW/ $\sqrt{\text{Hz}}$	50 fW/ $\sqrt{\text{Hz}}$	3 pW/ $\sqrt{\text{Hz}}$	4 pW/ $\sqrt{\text{Hz}}$	30 fW/ $\sqrt{\text{Hz}}$	3 pW/ $\sqrt{\text{Hz}}$ ³⁾

1) At calibration temperature maintained to $\pm 0.2^\circ\text{C}$, -20 dBm level having 99% encircled energy on detector with no optical attenuator

2) -70 to +3 dBm for 818-F-IR

3) 0.01 A/W for the 818-IS-1

Call Newport's Application Sales Engineers to help you select the optical detector that best meets your application requirements.

Ordering Information

Model	Description
2832-C	Dual-Channel Optical Power Meter
2832-C-CAL	2832-C with test data and certificate