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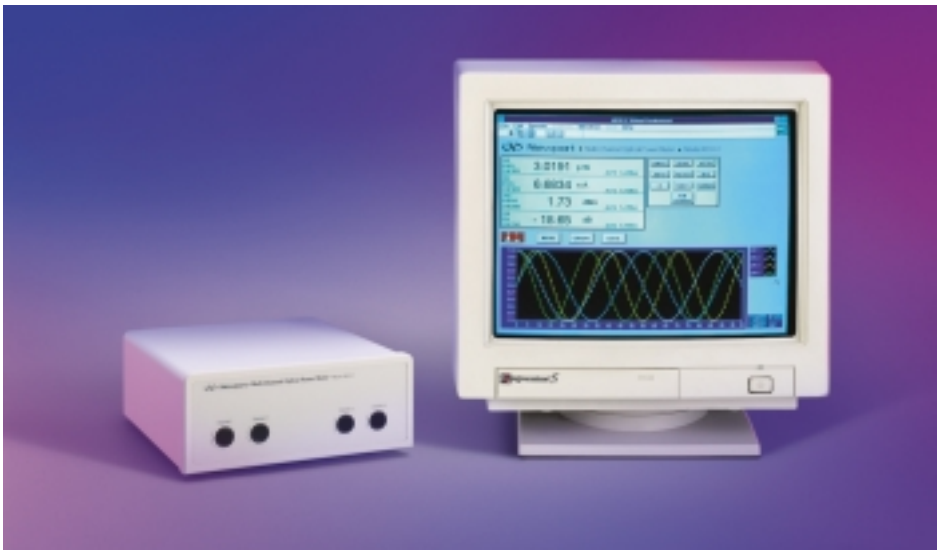
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Find the *Newport 4832-C* at our website: ***Click HERE***

Multi-Channel Optical Power Meter



Key Features

- *Four-channel, NIST traceable optical power measurements*
- *High-speed data acquisition up to 3500 Hz for single channel, with 12-bit resolution*
- *15-bit resolution at 15 Hz sampling rate*
- *Noise/bandwidth performance optimized for Newport's small and large area semiconductor detectors*

Applications

- *High-speed scanning*
- *High-speed optical component and fiber alignment*
- *Multi-channel optical power measurements during photonic component manufacturing and testing*

The 4832-C Multi-Channel Optical Power Meter features multi-channel, high-speed and high-precision, NIST calibrated optical power measurements. The system consists of a breakoutbox connected to a PC plug-in board. The breakout box can be located up to 30 feet away from the PC, allowing its easy integration in manufacturing and assembly environments.

3500 Hz, single-channel data acquisition rates are achieved through a PCISA bus plug-in board. The on-board processor controls both the auto-ranging and data acquisition overhead.

The exceptional combination of speed and accuracy is achieved by using a 12-bit, high-speed A/D for fast sampling and a 15-bit integrating A/D for the ultimate in precision DC measurements. The sensitive analog circuitry is kept in the breakout box, away from the noisy PC environment. All communications with the PC are performed via a high-speed serial bus.

Measurement units of Watts, Amps or direct A/D data can be selected. In alignment or scanning applications requiring high-speed measurements, the A/D data and range information can be transferred directly to the PC, where further computations or conversion to dB or other units can be performed very quickly. The system throughput is further optimized by using computers equipped with 486 or Pentium® CPUs.

System flexibility allows the meter to be configured with one to a maximum of four channels, specified at the time of purchase. Future channel expansions can be performed by Newport. The **4832-C** is compatible with all of Newport's Low-Power, **818 Series detectors**. Each channel is optimized to a specific detector, in order to maximize bandwidth and minimize noise.

LabVIEW, DOS C, and Windows® DLL software drivers are provided with the 4832-C.

Phone: 1-800-222-6440 • Fax: 1-949-253-1680

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Instrument Specifications

Sampling Resolution/Rate	15-bit at 15 Hz; 12-bit at 3500 Hz (single channel)
Skew between channels	250 µs
Gain Ranges	Up to 7 decades
Current Sensitivity (full-scale)	2.5 nA–2.5 mA
Resolution	80 fA at 15-bit
Bandwidth (-3 dB)	DC to 300 kHz (gain and detector dependent)
Analog Output	0–2.5 V into 1 MΩ
DC Accuracy	<±0.1% typical
Weight	2.5 lb (1.1 kg)
Dimensions (W x H x D)	8.5 x 3.5 x 8.75 in. (216 x 89 x 222 mm)
Operating Temperature	10°C to 40°C, <80% RH
Storage Temperature	-25°C to 60°C, <90% RH

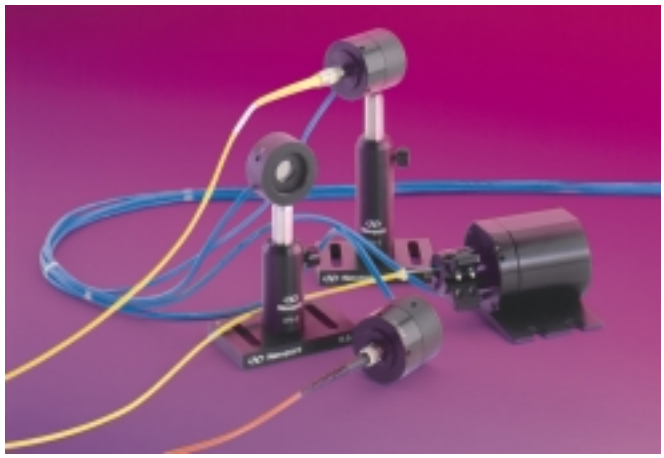
For more details on Newport's low-power detectors and fiber optic attachments compatible with the 4832-C, please see page 128 thru 139 in this catalog.

System Specifications

The 4832-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 4832-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	1.13 cm	1.13 cm	0.3 cm	1 x 1 cm	0.3 cm	0.3 cm	
Wavelength	190–1100 nm	400–1100 nm	400–1100 nm	400–1100 nm	780–1800 nm	800–1650 nm	400–1650 nm
Power Range	-83 to +23 dBm	-90 to +33 dBm	-90 to +3 dBm	-70 to +33 dBm	-70 to +21.5 dBm[2]	-90 to +21.5 dBm	-70 to +23 dBm
Display Resolution				0.01 dB or dBm			
Display Resolution	0.1 pW	0.1 pW	0.1 pW	0.1 pW	10 pW	0.1 pW	0.1 pW
Accuracy[1]	±2%	±2%	±2%	±2%	±3%	±2%	±2.5%
Applicable wavelength range	200–1100 nm	400–1100 nm	400–1100 nm	400–1100 nm	780–1700 nm	800–1650 nm	400–1650 nm
Linearity				±0.5%			
NEP @ 5 Hz and 1 A/W	50 fW/√Hz	50 fW/√Hz	50 fW/√Hz	3 pW/√Hz	4 pW/√Hz	30 fW/√Hz	3 pW/√Hz[3]

1) At calibration temperature maintained to ± 0.2°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



The 4832-C is compatible with Newport's complete line of fiber-coupled and free-space low-power, 818 Series detectors—for measurements up to 2W—and with our new 818-IS-1 integrating sphere detector.

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Call Newport's Application Sales Engineers to help you select the best product configuration for your application.

Ordering Information

Each 4832-C includes a break-out box, a PC plug-in board and the interconnecting cable assembly. Up to four pre-amplifier boards can be inserted in the break-out box, depending on the number of channels required. Two kinds of pre-amplifier boards are available, depending on the type of detectors used. The compatible 818 Series low-power detectors and the rack mount kit are sold separately.

Model	Description	Option Code
4832-C	Multi-Channel Optical Power Meter, Single-Channel	01
	Multi-Channel Optical Power Meter, Dual-Channel	02
	Multi-Channel Optical Power Meter, Three-Channel	03
	Multi-Channel Optical Power Meter, Four-Channel	04
4832-SL	Pre-Amplifier Board for 818-UV, 818-SL, 818-F-SL, 818-ST, 818-IG and 818-IS-1 Detectors	11
4832-IR	Pre-Amplifier Board for 818-IR and 818-F-IR Detectors	12
4832-15	15 ft. Cable Assembly	1
4832-30	30 ft. Cable Assembly	2
4832-RACK	Rack Mount Kit[1]	

1) The 19 in., single-height 4832-C Rack Mount Kit can hold up to two 4832-C break-out boxes

Ordering Instructions

When ordering your customized system configuration, specify the following Model number:

4832-C-OPT-□□-□□-□□-□□-□□-□

Number of Channels	Pre-Amplifier Boards		Cable Length	
01	NN	None[2]	1	15 ft.
02	11	4832-SL	2	30 ft.
03	12	4832-IR		
04				

2) The NN code cannot be entered in the Ch. 1 option field, since the 4832-C is sold with at least one pre-amplifier channel in the break-out box.

Indicate the Option Code Number for the specific pre-amplifier boards you would like us to install in the required channels, and the Option Code Number for the desired cable length. Please indicate NN in the unused break-out box channels.

Example: 4832 - C - OPT 03 11 11 12 NN 1

Three-channel 4832-C Multi-Channel Optical Power Meter with the first two channels configured for 818-IG detectors and the third channel configured for an 818-IR detector. The unit will be supplied with a 15 ft cable.

In future instrument upgrades, an existing break-out box can be retrofitted by Newport to increase the number of pre-amplifier boards. Please call Newport's Application Engineers for ordering instructions when upgrading a previously acquired 4832-C.

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