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Find the *Newport 1918R* at our website: *Click HERE*

Optical Power Meter

HIGH-PERFORMANCE HAND-HELD, 1918-R



(Detector, post, post holder and clamp sold separately)

- Most advanced portable optical power meter in market
- Patented self-centering zoom bar graph
- Windows 7 and XP, 32 and 64 bit compatible software
- USB computer interface
- True rms measurements
- 10 pA resolution for photodiodes
- Analog and digital filtering
- Data storage via internal memory (250k data samples) or USB Flash Drive

The new RoHS compliant 1918-R Optical Power Meter, replacing the 1918-C, is the hand-held optical power meter of choice for applications requiring the measurement of continuous intensity or pulse energy of light sources. New 0.5Hz analog filter offers even greater power stability! With patented methods for measuring optical signal characteristics this state-of-the-art optical power meter leverages the advanced features and display capabilities of Newport's 1936-C into a compact, wall-plug and battery powered device, for use in the lab or in the field. The 4 inch, full color, graphical LCD display enables both numerical and graphical measurement representation, with a selection of various color palettes to match filtering properties of users' laser eye safety goggles.

The 1918-R ships with a full software suite which includes Labview, C++ and CSharp samples.

The 1918-R optical power meter has the ability to handle peak-to-peak measurements of pulses with repetition-rates of up to 4 kHz at a sampling rate of 250 kHz. Pulse, peak-to-peak and DC source measurements can be displayed in units of W, dBm, dB, J, A, V, and Sun, depending on the detector types used.

The 1918-R optical power meter comes with a rechargeable battery, battery charger and carrying case. Batteries are field replaceable by the user and can also be ordered separately.

Note: Use of non-Newport AC adapter will void warranty. For compatibility with Oriel Photomultiplier Tubes and Detectors, Oriel housing 70690 and power supply 70705 will need to be purchased.

COMPATIBLE WITH PHOTODIODE DETECTORS

Low-power measurements, pW to several Watts (detector dependent) can be accomplished with any one of Newport's 818 (Low-Power Calibrated Photodetectors) and higher-end 918D Series Low-Power Calibrated Photodetectors UV, Silicon (Si), Germanium (Ge) or Indium Gallium Arsenide (InGaAs) Detectors, covering 200–1800 nm wavelengths The 918D Series Detectors have a built-in temperature sensor utilized for sensing and actively compensating for temperature-induced measurement fluctuations, making them the most advanced photodiode based detectors. Our Calibrated Optical Detector Selection Guide provides a power meter/detector compatibility chart.

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Optical Power Meter

COMPATIBLE WITH 818P THERMOPILE AND 818E PYROELECTRIC DETECTORS

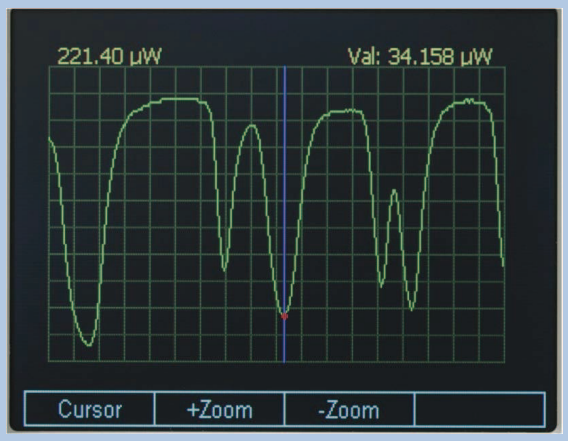
High-power measurements, in the 1 mW to 20 kW (detector dependent) range can be performed with the 1918-R Series meters utilizing 818P Series Calibrated Thermopile Detectors , operating in the 0.19-11um wavelength range. Energy measurements of pulsed laser sources, from 7 mJ to 20 kJ (detector dependent) can be taken with 818E Series Calibrated Pyroelectric Sensors operating in the 0.19–20 um wavelength range. Pulse repetition rates from single shot to 6 kHz can be measured directly with these instruments, without having to rely on oscilloscope measurements.

Versatile Graphing Capabilities

The Analog Gauge display mode can be used for tuning adjustments. In the Graph screen mode the power meter acts as an oscilloscope. Users can see in real time the optical power level in their experiment.



Analog Gauge display



The 1918-R has advanced graphing capabilities

Choose the Display Color for Your Needs

Users can select from 6 display colors to match their specific lighting conditions and colors of their laser safety eyewear. Measurements can also be displayed in various display formats, such as numeric, graphic, bar and strip charts.





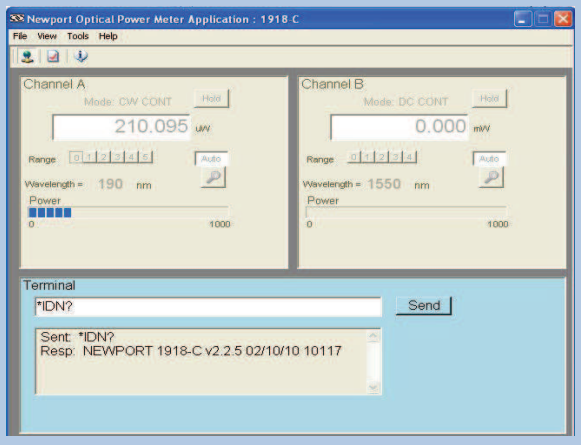


Advanced Measurement Capabilities

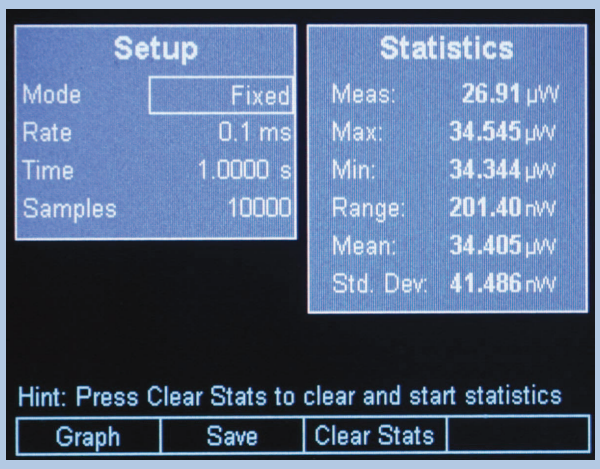
The 1918-R software gives users the flexibility of a command line environment as well as the ability to download collected data directly to a computer for analysis.

True Root-Mean-Square (RMS) measurements, providing the most accurate RMS value regardless of the shape of the input waveform.

Additional advanced features include a Stand-by mode for further energy savings, user defined display colors, an internal 250,000 data point storage buffer, additional data storage using an external USB flash drive, analog and digital filtering, programmable sample rates, moving statistics, plotting and multiple user-configuration storage.



Software command line display



Detector Compatibility and Performance

The 1918-R Power/Energy Meter is compatible with Newport's new Low-Power 918D, 818-xx/CM, High-Power 818P and 818E Series Energy Detectors, allowing both free-space and fiber pigtailed measurements in the 190 nm – 20 µm range. All compatible detectors have a built-in or external in-line EEPROM containing detector identification and calibration information. When using an 818-xx/CM Series detector with the 1918-R, the optional 841-DIN adapter is required.

Detector Compatibility and Performance Table

Detector Family	DC Average Power	Integrated Energy	Peak-to-Peak Power	Pulse-to-Pulse Energy (Single or Continuous)
Low-Power (918D and 818 Series Photodiodes)	Yes	Yes	Yes	No
High-Power (818P Series Thermopiles)	Yes	Yes	No	No
Energy (818E Series Pyroelectric)	No	No	No	Yes

Optical Power Meter

Specifications

1918-R General Power/Energy Meter Specifications	
Compatible, Hot-swappable Newport Detectors	918D, 818P, 818E, and 818-xx(-L)/DB
Sampling Rate (kHz)	250
Measurement Rate (kHz)	10 (CW measurements, semiconductor detectors)
Display Refresh Rate (Hz)	20
Maximum Rep Rate	10 kHz for Pyroelectric, pulse voltage 20 kHz for Photodiode detectors, peak to peak power
Resolution (% of Full Scale)	0.0004
Accuracy (%)	±0.2 % for CW, ±1 % for Peak to Peak, Pulse to Pulse, and Integration Mode
Maximum Detector Input Current (mA)	25
Maximum Detector Input Voltage (V)	130
Analog Output (User Selectable)	0-1 V , 0-2 V, or 0-5 V into mono 3.5 mm phone jack (user selectable output impedance)
Analog Output Bandwidth	DC-200 kHz (Photodiode), DC-1 MHz (Thermo or Pyro)
Display Type	82 x 62 mm Graphical, Color TFT LCD, ¼ VGA
Display Formats	14 mm Numeric, Analog Gauge, Bar Chart, Min/Max Bar, Statistics, Analog Needle
Communication Interfaces	USB
Internal Sample Storage (data points)	250,000
External Sample Storage (data points)	Defined by external USB Flash drive (user supplied)
Battery Type and Life (Typical)	Rechargeable, 8 Hours
Power Requirements	90-264 VAC, 24V 1.5A
Operating Temperature	5°C to 40°C, <70% RH, non-condensing
Storage Temperature Range	-20°C to 60°C, <90% RH
Weight [(kg)]	2.3 (1.04)
Dimensions (W x H x D) [in. (mm)]	7.6 (193) x 5.4 (137) x 2.4 (61)

1) Instrument range is determined by detector used. Please refer to our complete offering on detector types for complete specifications of individual detectors:

Ordering Information

Model	Description
1918-R	Optical Power Meter/Energy Meter, High-Performance Hand-Held, RoHS
841-DIN[1]	8-pin DIN to DB15 Adapter, Connect 818-xx/CM Detectors to DB15 Power Meters
DET-ADAP-PD[2]	BNC-to-DB15 Adapter for Third Party Detectors
FK-18283	Adapter cable, 3.5 mm mono jack to BNC (Analog out)
1918-BAT	Rechargeable Battery Pack for 1918-R

(1) This adapter is required when using 818-xx/CM Series detectors with the 1918-C.
(2) This adapter allows the Newport meters to read third party detectors in current (Amps) only.

Newport Experience | Solutions

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DS-011205

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