



PowerPXle-1501

PowerPXle 1500 Series

Analog Power Meter

SPEC SHEET

Coherent Solutions' PowerPXle 1500 Series analog power meter brings cost-effective test and measurement in convenient PXle form factor.

The PowerPXle-1500 provides logarithmic analog output as well as a digital optical power meter for applications that require real-time feedback.

Integrating seamlessly with our PXle optical modules, PowerPXle-1500 enables new measurement capabilities for truly effective mixed-signal testing.



coherent
solutions
complexity made simple.

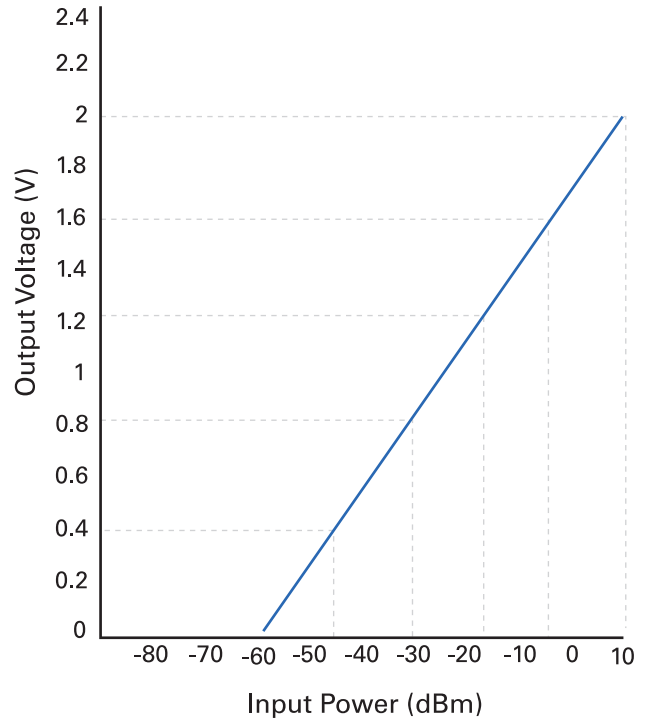
Key Features

- Logarithmic Analog Output: output voltage is linear with optical power in dBm
- Includes built-in digital optical power meter
- Supports single mode and multi-mode applications
- 70 dB of dynamic range (+10 dBm to -60 dBm)

Applications

- Perfect for analog control loops that require feedback of the optical power
- Automate mechanical fiber positioning in your production environment
- Quickly characterize modulator transfer functions
- Measure insertion versus wavelength of your components using a swept laser

Analog Output



Application Notes

Hardware Triggering of Coherent Solutions’ PXI Optical Modules

PXI’s integrated timing and hardware triggering capabilities offer a number of advantages over more traditional software-initiated measurements. Learn how to make the best use of the hardware triggering capability present in Coherent Solutions’ PXIe photonics modules.

Transient Testing in PXI

Until recently, measurements of power versus time were only available using expensive oscilloscopes and optical-to-electrical converters. These solutions required complex synchronisation and suffered from poor power accuracy and dynamic range in addition to requiring extra equipment. With the TRACE capability of the optical power meters from Coherent Solutions, you can now capture accurate time domain power meter readings over the entire range of the power meter (>70dB).

View all Coherent Solutions application notes at www.coherent-solutions.com/application-notes.

The world-leader in PXI optical test & measurement

Our portfolio of PXI optical test modules is rapidly expanding to meet a wide range of customer requirements and applications.

Our experience designing and building advanced coherent optical communications instruments gives us the expertise to quickly and cost-effectively customize our products to meet your requirements. If you don't see what you need, contact us today at sales@coherent-solutions.com.



LaserPXIe Versatile Laser Source

Versatile range of laser sources including fully-tunable C and/or L band or fixed wavelength.



PowerPXIe Optical Power Meter

Large-area detector power meter available in various specifications. Options include external trigger input and analog output.



VOAPXIe Variable Optical Attenuator

Operates in fixed attenuation or constant output power modes.

Integrated power meter for precise output power control.



OSAPXIe Optical Spectrum Analyzer

Fast spectral test and measurement in a compact 2-slot module. O, C and L band options.



O2EPXIe Optical-to-Electrical Converter

High bandwidth, broadband O-to-E converter. AC or DC coupling, various conversion gain and operating wavelength range.



SwitchPXIe Automated Optical Switch

Proven reliability and fast switching time. Various wavelength options including 850 nm, 980 nm, 1310 nm & 1550 nm.



PassivePXIe Passive component integration

Integrate passive optical components of your choice in a single or dual slot module. WDM couplers, splitters, band-pass filters, PM beamsplitters, circulators and more.



DopplerPXIe Photonic Doppler Velocimeter

Purpose-built module for Photonic Doppler Velocimetry. A circulator, two VOAs and a passive coupler all built into one compact module.



TrayPXIe Passive Component Organizer

Protect your passive fiber optic components to keep your workspace tidy & safe.



The perfect PXI chassis to suit your application

From a smaller 4-slot to the 18-slot rack mountable chassis, we can provide the perfect National Instruments PXIe chassis to suit your application.

Technical Specifications

General Specifications	PowerPXle-1501
Bus Connector	PXle
Optical connector type	FC or SC
Slot count	1
Number of channels	2
Dimensions H x W x D	130 x 20 x 215 mm 5.1 x 0.8 x 8.5 inch
Weight	~ 1 kg ~ 2.2 lbs
Operating temperature range	5 °C to 45 °C 41 °F to 113 °F
Storage temperature range	-40 °C to 70 °C -40 °F to 158 °F
Model Number	1501
Sensor	InGaAs wide area detector
Wavelength	750 to 1700 nm
Power	-60 to +10 dBm
Damage level	+12 dBm
Polarization dependent responsivity ^{2,3}	<0.2 dB
Return loss ⁶	>45 dB
Analog Output	1501
Electrical connector	SMA
Output impedance	50 ohms
Max output	< 2.5 V (2 V @+10 dBm Typical)
Conversion gain	33.33 mV/dB (Typical) (10M Ohm input), 16.66 mV/dB (Typical) (50 Ohm input)
Linearity ²	± 0.25 dB
3 dB frequency response @ 1550 nm	> -20 dBm: 1 MHz; >-30 dBm: 350 kHz; >-40 dBm: 25 kHz
Digital Power Meter	1501
Calibration wavelengths	850, 1310, 1490, 1550
Linearity ^{2,5}	± 0.1 dB: -40dBm to 0dBm, ± 0.20 dB: -50 dBm to -40 dBm
Total uncertainty ^{2,3,5}	± 0.34 dB (Typical) ± 0.55 dB (Max)
Averaging time	100 us to 10 s
Resolution	0.01 dB
3 dB frequency response	5 kHz
Averaging time/ sample time	100 us to 10 s
Data logging capability	1 to 1024 points per channel
Sample rate for trace	0.01 Hz to 12 KHz
PXle trigger capability	Yes

PRELIMINARY SPECS AS AT JULY 2019

Notes:

1 Specifications are valid at 23 °C ± 3 °C

2 +10 dBm to -40 dBm, 23 °C

3 Excluding connectors.

4 <10 dB attenuation

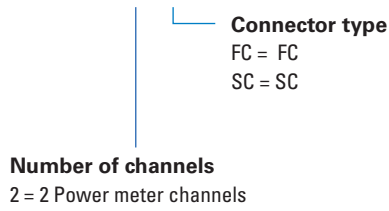
5 At calibration wavelengths

6 1550 nm ± 30 nm, standard single mode fiber, angled connector 8°, T=23 °C ± 5 °C



Ordering Information

PowerPXle - 1501 - X - XX



About Coherent Solutions

Coherent Solutions is the world-leader in PXI optical test and measurement. Our portfolio of PXI optical test modules is rapidly expanding to meet the needs of engineers and scientists around the globe. From enabling pioneering experiments to driving highly-efficient production testing, you'll find us working with customers to solve complex problems with simple and intuitive solutions.

To find out more, get in touch with us today.

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