

Personal wavelength correction™ Certificate

Spectral Absorption Plot measured for: 818P-001-12NIR Power Detector

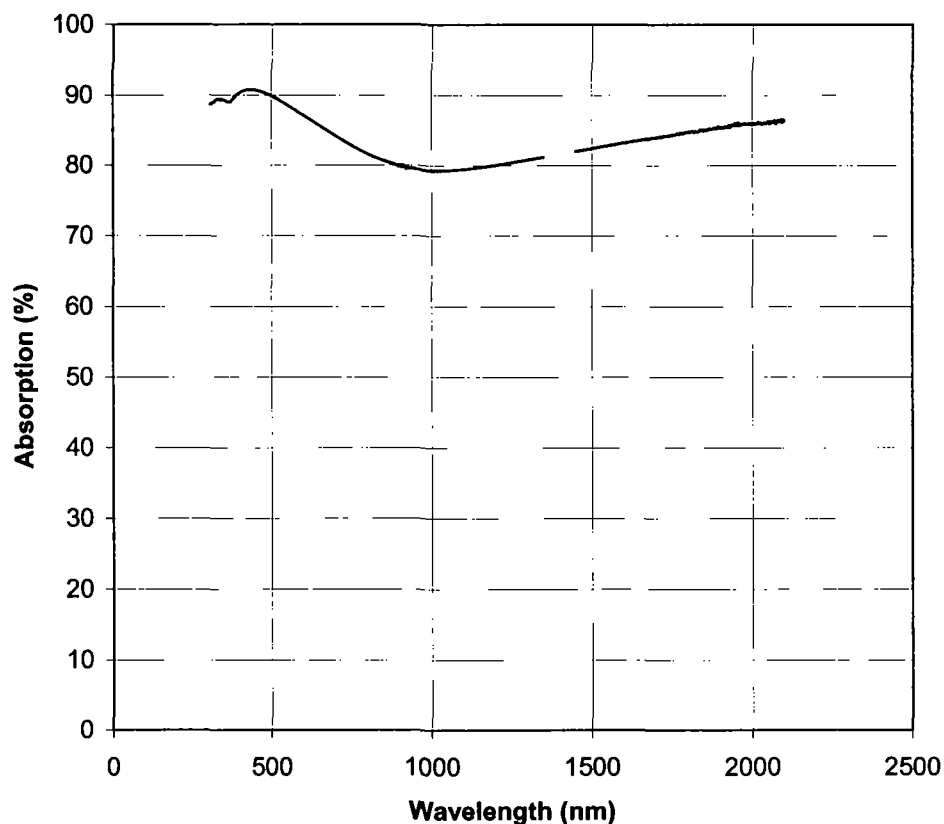
Serial #185954

Spectrophotometer:

VARIAN Cary 500

Technician:

HP



Personal Wavelength Correction™

Wavelength (nm)	Correction*** multiplier
308	0.895
337	0.887
355	0.889
488	0.879
514	0.885
532	0.890
578	0.903
632	0.920
694	0.940
720	0.948
810	0.974
980	1.000
1064*	1.000
1550	0.958
2100	0.920

* Calibration wavelength

** Typical value

*** Correction is not valid from 1350 nm to 1450 nm

Adjustment multiplier for wavelength under 250 nm are not traceable.

For the 841-PE, 841P-USB, 842-PE & 1916-C, select the proper wavelength in menu

For other monitors, multiply by the correction multiplier

Energy corrected = Energy read x correction multiplier

Example: Energy (488 nm) = 10mJ x 0.879 = 8.79 mJ



Newport Corporation
 1791 Deere Avenue
 Irvine, CA 92606
 Phone: (949) 863-3144
 Fax: (949) 253-1800

Newport.

38206

CERTIFICATION NUMBER

Certificate of Calibration

Powermeter Probe

Model 818T-10

Serial Number 0241G99

Calibration Wavelength 514 nm

Voltage Responsivity (Rv)
1.29E-3 V/W
N/A V/W

Calibration Factor (1/Rv)
7.75E+2 W/V
N/A W/V

External Load (Rt) 10E10 Ohms
 Uncertainty (+/-) 3%

Customer _____

Date Calibrated 16 Sep 1999

Temperature 18.9 deg C

Calibration Due Date 15 Sep 2000

Humidity 48 %

Calibration Procedure QI-19.70, Revision C

Standards Used:

Asset #	Mfg	Model	NIST #	Cal Date	Due Date
0004T97	HP	3478A	136968	07 Oct 1998	07 Oct 1999
0032T97	MOLECTRON	PM5200	*	16 Oct 1998	15 Oct 1999
0054W97	MOLECTRON	PM10	813343	11 Nov 1998	11 Nov 1999

This document certifies that the probe referenced herein has been calibrated using test equipment and standards traceable to the National Institute of Standards and Technology (NIST), other recognized National standards laboratories using natural physical constants, or ratio calibration techniques.

Remarks:

* Test equipment used in this calibration has been calibrated and certified by an ANSI Z540 compliant calibration lab using standards which are traceable to NIST.

Technician James Nissen
 Sign
James Nissen
 Print

QA Inspector Vicki Watson
 Sign
Vicki Watson
 Print

CAL
 STICKER

Please remove and apply calibration sticker to the instrument as required.



NEWPORT CORPORATION
 1791 DEERE AVENUE
 IRVINE, CA 92606
 PHONE: (949) 863-3144
 FAX: (949) 253-1800

PA17142TW
 CERTIFICATE NUMBER

CERTIFICATE OF CALIBRATION

Model No: 1918-C
 Serial No: 11585
 Description: Single-Channel Optical Meter
 Customer Name: Initial Purchaser
 Address:
 Calibrated Per Procedure No: PTP-44950-01

Environment Conditions

Temperature: 22.8 °C
 Relative Humidity: 67 %

Standards Used				Calibration Traceability Number
Model	Serial or ID No.	Description	Cal Due Date	Number
Keithley 263	0811486	Current Source	15-MAR-2011	108170105340
Agilent 34970A	US37002199	Acquisition/Switch	02-MAR-2011	1085898589
Agilent 33120A	US36046789	Function Gen.	02-MAR-2011	1085898586

Newport certifies that the calibration that was performed using Standards that are traceable to the National Institute of Standards and Technology (NIST), other recognized national standards laboratories, using natural physical constants, or ratio calibration techniques. The calibration complies with ANSI/NCSL Z540-1-1994 and ISO-9001. This certificate shall not be reproduced except in full, without the written approval of Newport. Specific information concerning parameters and measurements is in attachment(s). Calibration ratio is at least 4:1 unless otherwise stated.

Calibration Date: 25-Apr-10
 Calibration By: S.Y.L. S.Y.L.
 Reviewed By: S.Y.L.
 Title: Technician

Newport
 SN 11585
 CALIBRATED BY S.Y.L.
 DATE [] [] [] []
 DUE [] [] [] []
 DD MMM YY

Newport recommends recalibration 12 months after customer receives product. Fill in the date and due date on the calibration sticker. Remove and apply it to the instrument as required.

STICKER
ONE

Calibration Data

MODEL: 1918-C SERIAL: J1585 TEST BY: S.Y.L DATE: 25APR2010

Table 1. Current Zero Offset

Channel	Range	Current Source	Tolerance	Reading
A	0	0.0000pA	±25.00nA	-1.0172nA

Table 2. Analog Output Accuracy*

Channel	1V Range	2V Range	5V Range
A	501.2215mV	1.0017V	2.5031V

Table 3. DC Current Accuracy

Channel	Range	Current Source	Tolerance	Reading
A	0	1.25000uA	±0.005uA	1.2499uA
A	1	12.5000uA	±0.05uA	12.4987uA
A	2	125.000uA	±0.5uA	124.9709uA
A	3	1.25000mA	±0.005mA	1.2499mA
A	4	12.500mA	±0.05mA	12.4980mA

Table 4. DC Voltage Accuracy

Channel	Range	Voltage Source	Tolerance	Reading
A	0	1.250mV	±7.5uV	1.2492mV
A	1	12.500mV	±75.0uV	12.4957mV
A	2	125.000mV	±0.75mV	124.9896mV
A	3	1.25000V	±7.5mV	1.2497V
A	4	12.5000V	±75.0mV	12.4965V
A	5	65.000V	±90.0mV	64.9828V

* Measured at Range 0 with input set at middle of range.

Certificate #: 185954-100615	Customer Name:
Model Number: 818P-001-12NIR	Instrument ID: V5
Serial Number: 185954	Date of Calibration: Jun. 15, 2010
Cal. Procedure: 420- 19325	Calibration Due Date: *

Calibration Data

Calibration									
λ	Sensitivity		Into Load	Power Level		Ambient Temp.	Relative humidity	0-95% Risetime	Beam Ø
				Power	Rep.Rate				
µm	mV/W	%	Ω	Watts	Hz	°C	%	s	mm
1.064	^P 196.0	± 2.5	100k	0.5	10	23	35	2.5	8.4

^S Value Corrected According To Spectral Absorption Curve
^P Sensitivity programmed in detector head
Note: For legacy power meter models which do not have the direct capability to read EEPROM, you can adjust the power with :

$$P(\lambda_2) \text{ Watts} = P(\lambda_1) \text{ Watts} \times \frac{S(\lambda_1)}{S(\lambda_2)}$$

P(I1): Measured Power
 S(I1): Sensitivity listed above


λ1: Wavelength listed above
 λ2: The new wavelenth
 P(I2): Power adjusted for new wavelength
 S(I2): Sensitivity at new wavelength. Infer from absorption table and plot.


Test Equipment and Standards Used

ID#	Description	Serial#	Last Cal.	By	Certificate #
EO-1202	ND: YAG 943Q, Laser Application Pulsed , beam profile: Semi-Gaussian	P1106	n/a	n/a	n/a
EO-273	National Instrument, NI 4351 for PCI	D64A36	Nov. 23, 2009	Gentec-EO	D64A36-091123
EO-179	Gentec-EO, PSV-3103, Wattmeter	150454	Jun. 01, 2010	NIST	814585,279176-10

Declaration of Conformity

Newport certifies that, at the time of calibration, the above listed instrument meets or exceeds all of the specifications defined in the calibration procedure(s) or customer specification(s). The above listed instrument has been calibrated using standards traceable to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC).


 Technician


 Quality Assurance

Jun. 18, 2010
 Date

***For Customer Use Only**

The calibration interval of this instrument begins on the date of receipt by the customer. The recommended calibration interval is 12 months. Please fill in appropriate dates as indicated.

Date Instrument Received: _____ Calibration Due Date: _____

Item	Newport Part Number	Equivalent
Battery	1918 - BAT	No equivalent. Use only Newport battery.
External Power Supply	1918 - PS	Cincon Electronics # TR36A2423A03
Power Cord	1918 - PSC	Qualtek Electronics #223021-01 or equivalent 8 ft max, SPT-2, 18 AWG, 7A, Nema 1-ISP to IEC 60320K7 cord.
Battery Compartment Cover	90000198	No equivalent.
Kickstand Assembly	45344-01	No equivalent.

Table 7 Spare Parts

11.4 Obtaining Service

The 1918-R Optical Meter contains no user serviceable parts. To obtain information regarding factory service, contact Newport Corporation or your Newport representative. Please have the following information available:

1. Instrument model number (on the rear panel).
2. Instrument serial number (on rear panel).
3. Description of the problem.

If the instrument is to be returned to Newport Corporation, you will be given a Return Number, which you should reference in your shipping documents. Please fill out a copy of the service form, located on the following page, and have the information ready when contacting Newport Corporation. Return the completed service form with the instrument.