QUANTIFI PHOTONICS™

Laser

1200 SERIES DFB LASER SOURCE

SPECIFICATION SHEET

AVAILABLE IN PXI

AVAILABLE IN MATRIQ

quantifiphotonics.com

FEATURES

The Laser 1200 Series is a highly customizable DFB laser source available in a wide range of wavelengths and powers.

Wide range of wavelengths and power options

Novel design architecture enables us to quickly customize the Laser 1200 Series with different wavelengths and power options to meet customer requirements.

Simple, intuitive operation with COHESIONUI™

cohesionUI is an intuitive web-based user interface that makes it simple to control our PXI instruments from modern web browsers or smartphones.

Superior power accuracy

Advanced calibration for flat power response, ideal for applications including coherent / Orthogonal Frequency-Division Multiplexing (OFDM) transmission and WDM networks.

1, 2 or 4 lasers in a single instrument

Achieve high channel density with up to 68 channels in an 18-slot PXI chassis or 4 channels in an ultra-compact benchtop instrument.

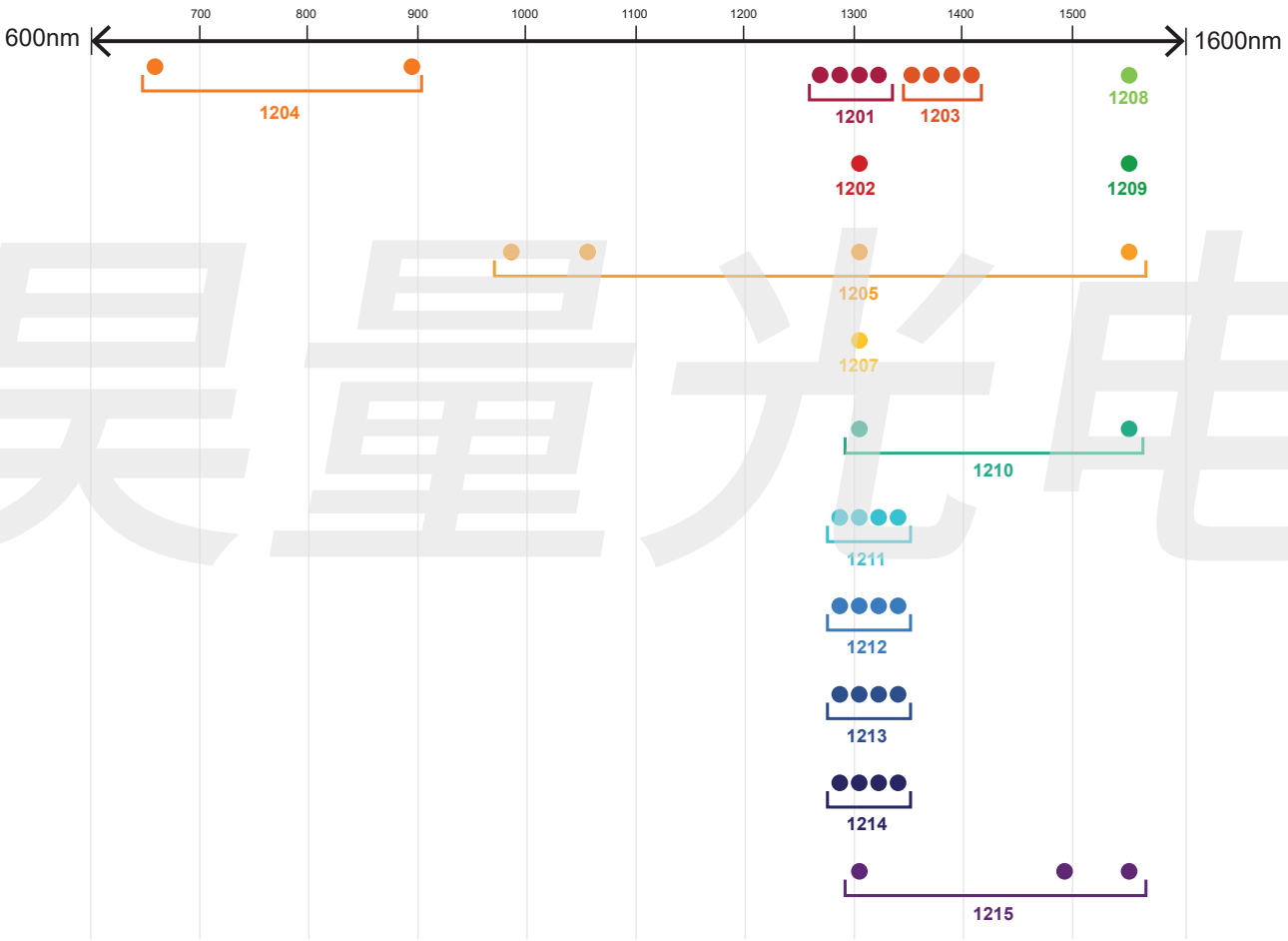
Seamless PXI integration

Take advantage of PXI's integrated triggering and synchronization capabilities across electrical and optical instruments for a true mixed-signal test platform.

TARGET APPLICATIONS

- WDM network loading
- Amplifier testing
- CWDM reference light source
- General purpose stable light source for telecom and physics

The Laser 1200 Series can be customized with a wide selection of wavelengths and power options. A collection of the most popular models are listed in this spec sheet. If you don't see a model that meets your requirements, please contact us.



- 1201 = 1271nm, 1291nm, 1311nm, 1331nm
- 1202 = 1310nm
- 1203 = 1351nm, 1371nm, 1391nm, 1411nm
- 1204 = 655nm, 895nm
- 1205 = 980nm, 1060nm, 1310nm, 1550nm
- 1207 = 1310nm
- 1208 = 1550nm
- 1209 = 1550nm
- 1210 = 1310nm, 1550nm
- 1211 = 1307.70nm, 1308.00nm, 1308.30nm, 1308.60nm
- 1212 = 1308.90nm, 1309.10nm, 1309.40nm, 1309.70nm
- 1213 = 1310.00nm, 1310.30nm, 1310.60nm, 1310.90nm
- 1214 = 1311.10nm, 1311.40nm, 1311.70nm, 1312.00nm
- 1215 = 1310 nm, 1490nm, 1550 nm

CHOOSE YOUR FORM FACTOR

PXIe – MODULAR

Our expanding range of PXIe optical test solutions are used by customers in mixed-signal test and measurement systems, reducing complexity, lowering the cost of test and accelerating time to market.

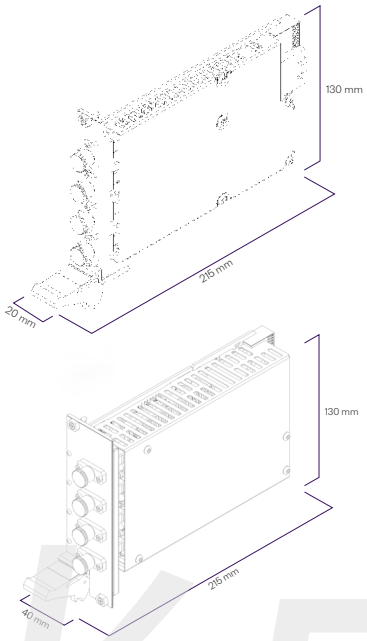
- Multi vendor, open standard with over 2500 PXI modules available
- Advanced timing and synchronization capabilities across instruments
- Low latency, high performance processing and fast data throughput
- Design and build scalable, high channel count systems
- Small footprint and lower power consumption

MATRIQ – COMPACT & PORTABLE

The MATRIQ series provides the same high-performance test capabilities of our PXIe modules in an compact benchtop design. MATRIQ instruments are simple to setup and easy to operate, making them the perfect choice for your optical lab or test bench.

- Same performance and control as our PXIe modules
- Plug and play with USB or Ethernet connectivity
- Control via the web-based GUI, COHESIONUI or SCPI commands
- Compact and portable design saves benchtop space

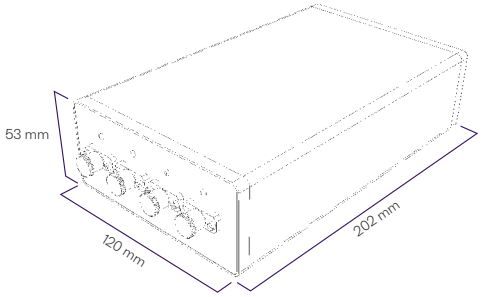
PXI – MODULAR



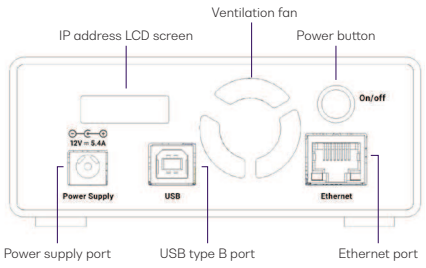
LASER-1201-4-FC-PXIE

LASER-1207-4-FC-PXIE

MATRIQ – COMPACT & PORTABLE



LASER-1201-4-FC-MTRQ



LASER 1200 SERIES TECHNICAL SPECIFICATIONS

General Specifications	PXI	MATRIQ
Bus connection	PXIe	USB and Ethernet
Optical connector type	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC
Number of channels	1, 2 or 4	1, 2 or 4
Slot count	**1 slot:** 1207, 1208, 1209, 1211, 1212, 1213, 1214 **2 slots:** 1201, 1202, 1203, 1204, 1205, 1210, 1215	-
Dimensions (HxWxD)	**1 slot:** 130 x 20 x 215 mm (5.1 x 0.8 x 8.5 inches) **2 slot:** 130 x 40 x 215 mm (5.1 x 1.6 x 8.5 inches)	53 x 120 x 202 mm | 2.1 x 4.7 x 8.0 inches
Weight	~ 1 kg | ~ 2.2 lbs	~ 1.1 kg | ~ 2.4 lbs
Operating temperature range	5 °C to 45 °C | 41 °F to 113 °F	5 °C to 45 °C | 41 °F to 113 °F
Storage temperature range	-40 °C to 70 °C | -40 °F to 158 °F	-40 °C to 70 °C | -40 °F to 158 °F

Power Specifications	PXI	MATRIQ
AC input voltage range	Please refer to the latest PXI Express Hardware Specifications published by the PXI Systems Alliance.	90 to 264 VAC
AC input current		1.3A (115Vac), 0.9A (230Vac)
AC frequency range		47 to 63 Hz
DC output voltage		12V
DC output current max		5.41A
Dimensions (LxWxH)		4.58 x 2.06 x 1.23" (116.3 x 52.4 x 31.3 mm)

Model Number	1201	1202	1201	1202
Fiber Type	SMF 28	SMF 28	SMF 28	SMF 28
Number of channels	4	1, 2 or 4	4	1, 2 or 4
Operating wavelengths (nm)	1271, 1291, 1311, 1331	1310	1271, 1291, 1311, 1331	1310
Wavelength accuracy	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)
Linewidth	0.2 nm / 36 GHz	0.2 nm / 36 GHz	0.2 nm / 36 GHz	0.2 nm / 36 GHz
Maximum optical output power	7 dBm	7 dBm	7 dBm	7 dBm
Side mode suppression ratio	30 dB	30 dB	30 dB	30 dB

Model Number	1203	1204	1203	1204
Fiber Type	SMF 28	900 nm: PM 8501 650 nm: MMF OM3	SMF 28	900 nm: PM 8501 650 nm: MMF OM3
Number of channels	4	2	4	2
Operating wavelengths (nm)	1351, 1371, 1391, 1411	655, 895	1351, 1371, 1391, 1411	655, 895
Wavelength accuracy	±3 nm (Typical) ±5 nm (Max)	± 5 nm (Typical) ±10 nm (Max)	±3 nm (Typical) ±5 nm (Max)	± 5 nm (Typical) ±10 nm (Max)
Linewidth	0.32 nm / 50 GHz	900 nm: 2.7 fm / 1 MHz 650 nm: 3 nm / 2.1 THz	0.32 nm / 50 GHz	900 nm: 2.7 fm / 1 MHz 650 nm: 3 nm / 2.1 THz
Maximum optical output power	7 dBm	10 dBm	7 dBm	10 dBm
Side mode suppression ratio	30 dB	900 nm: 30 dB	30 dB	900 nm: 30 dB

LASER 1200 SERIES TECHNICAL SPECIFICATIONS

Model Number	1205	1207	1205	1207
Fiber Type	SMF 28	PM13101	SMF 28	PM13101
Number of channels	4	1, 2 or 4	4	1, 2 or 4
Operating wavelengths (nm)	980, 1060, 1310, 1550	1310	980, 1060, 1310, 1550	1310
Wavelength accuracy	± 5 nm (Typical) ±10 nm (Max)	±3 nm (Typical) ±5 nm (Max)	± 5 nm (Typical) ±10 nm (Max)	±3 nm (Typical) ±5 nm (Max)
Linewidth	TBC	0.3 nm / 52 GHz	TBC	0.3 nm / 52 GHz
Maximum optical output power	980 nm: 10 dBm 1060 nm: 10 dBm 1310 nm: 7 dBm 1550 nm: 7 dBm	14.5 dBm	980 nm: 10 dBm 1060 nm: 10 dBm 1310 nm: 7 dBm 1550 nm: 7 dBm	14.5 dBm
Side mode suppression ratio	900 nm: 30 dB	30 dB (Min) 50 dB (Typical)	900 nm: 30 dB	30 dB (Min) 50 dB (Typical)

Model Number	1208	1209	1208	1209
Fiber Type	SMF 28	SMF 28	SMF 28	SMF 28
Number of channels	1, 2 or 4	1, 2 or 4	1, 2 or 4	1, 2 or 4
Operating wavelengths (nm)	1550	1550	1550	1550
Wavelength accuracy	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)	±3 nm (Typical) ±5 nm (Max)
Linewidth	1 MHz (Typical)	1 MHz (Typical)	1 MHz (Typical)	1 MHz (Typical)
Maximum optical output power	10 dBm	13 dBm	10 dBm	13 dBm
Side mode suppression ratio	30 dB (Min) 50 dB (Typical)	30 dB (Min) 50 dB (Typical)	30 dB (Min) 50 dB (Typical)	30 dB (Min) 50 dB (Typical)

Model Number	1210	1211	1210	1211
Fiber Type	SMF 28	PMF 1300	SMF 28	PMF 1300
Number of channels	2 or 4	2 or 4	2 or 4	2 or 4
Operating wavelengths (nm)	1310, 1550	1307.70, 1308.00, 1308.30, 1308.60	1310, 1550	1307.70, 1308.00, 1308.30, 1308.60
Wavelength accuracy	±3 nm (Typical) ±5 nm (Max)	±1 nm (Typical)	±3 nm (Typical) ±5 nm (Max)	±1 nm (Typical)
Linewidth	1310 nm: 0.2nm 1550 nm: 1 MHz (Typical)	5 MHz (Max)	1310 nm: 0.2 nm 1550 nm: 1 MHz (Typical)	5 MHz (Max)
Maximum optical output power	1310nm: 7 dBm 1550nm: 10 dBm	14.5 dBm	1310nm: 7 dBm 1550nm: 10 dBm	14.5 dBm
Side mode suppression ratio	30 dB (Min)	40 dB (Min)	30 dB (Min)	40 dB (Min)

Model Number	1212	1213	1212	1213
Fiber Type	PMF 1300	PMF 1300	PMF 1300	PMF 1300
Number of channels	2 or 4	2 or 4	2 or 4	2 or 4
Operating wavelengths (nm)	1308.90, 1309.10, 1309.40, 1309.70	1310.00, 1310.30, 1310.60, 1310.90	1308.90, 1309.10, 1309.40, 1309.70	1310.00, 1310.30, 1310.60, 1310.90
Wavelength accuracy	±1 nm (Typical)	±1 nm (Typical)	±1 nm (Typical)	±1 nm (Typical)
Linewidth	5 MHz (Max)	5 MHz (Max)	5 MHz (Max)	5 MHz (Max)
Maximum optical output power	14.5 dBm	14.5 dBm	14.5 dBm	14.5 dBm
Side mode suppression ratio	40 dB (Min)	40 dB (Min)	40 dB (Min)	40 dB (Min)

Notes

1. PM optical connector key alignment: slow axis
2. These laser powers are consider class 1M as per the IEC 60825-1 standard

Model Number	1214	1215	1214	1215
Fiber Type	PMF 1300	SMF 28	PMF 1300	SMF 28
Number of channels	2 or 4	2	2 or 4	2
Operating wavelengths (nm)	1311.10, 1311.40, 1344.70, 1312.00	1310, 1490, 1550	1311.10, 1311.40, 1344.70, 1312.00	1310, 1490, 1550
Wavelength accuracy	±1 nm (Typical)	±3 nm (Typical) ±5 nm (Max)	±1 nm (Typical)	±3 nm (Typical) ±5 nm (Max)
Linewidth	5 MHz (Max)	1310 nm: 0.2 nm, 1490 nm: 0.2 nm, 1550 nm: 1 MHz (Typical)	5 MHz (Max)	1310 nm: 0.2 nm, 1490 nm: 0.2 nm, 1550 nm: 1 MHz (Typical)
Maximum optical output power	14.5 dBm	1310 nm: 7 dBm, 1490 nm: 7 dBm, 1550 nm: 10 dBm	14.5 dBm	1310 nm: 7 dBm, 1490 nm: 7 dBm, 1550 nm: 10 dBm
Side mode suppression ratio	40 dB (Min)	30 dB (Min)	40 dB (Min)	30 dB (Min)

ORDERING INFORMATION

LASER - XXXX - X - XX - PXIE
LASER - XXXX - X - XX - MTRQ

Model number
2 slot modules:
1201 = 1271, 1291, 1311, 1331 nm; 7 dBm
1202 = 1310 nm; 7 dBm
1203 = 1351, 1371, 1391, 1411 nm; 7 dBm
1204 = 895, 655 nm; 10 dBm, PM
1205 = 980, 1060, 1310, 1550 nm; 7, 10 dBm
1210 = 1310, 1550; 7dBm, 10dBm
1215 = 1310, 1490, 1550; 7dBm, 10dBm

1 slot modules:
1207 = 1310 nm; 14.5 dBm, PM
1208 = 1550 nm; 10 dBm
1209 = 1550 nm; 13 dBm
1211 = 1307.70, 1308.00, 1308.30, 1308.60; 14.5dBm
1212 = 1308.90, 1309.10, 1309.40, 1309.70; 14.5dBm
1213 = 1310.00, 1310.30, 1310.60, 1310.90; 14.5dBm
1214 = 1311.10, 1311.40, 1344.70, 1312.00; 14.5dBm

Connector type
FC = FC/PC
FA = FC/APC
SC = SC/PC
SA = SC/APC

Number of channels
1 = 1 Channel
2 = 2 Channels
4 = 4 Channels

WARRANTY INFORMATION

This product comes with a standard 1 year warranty.

EXTENDED WARRANTIES AND CALIBRATION PLANS

With an Extended Warranty and Calibration Plan you can spend more time focused on your priorities and less time worrying about maintenance.

Over time and with regular use, all optical parts and connectors require re-calibration and maintenance to guarantee accurate and reliable performance.

Add a 3 or 5 year Extended Warranty at the time of purchase.

Guarantee peak performance

Ensure your equipment is operating at its best for reliable and accurate results.

Lower cost of ownership

Lock in savings and maximise your budget with a lower cost of ownership.

Peace of mind

Spend less time worrying about maintenance and more on generating results.

CALIBRATION PLANS FOR ADDITIONAL DISCOUNTS

Order a Calibration Plan when you purchase your Quantifi Photonics' test instruments and qualify for additional discounts.

10% Discount

On calibrations ordered at the time of purchase.

25% Discount

Add on an extended warranty and receive a 25% discount on calibrations.

With an instrument calibration performed by Quantifi Photonics technicians you receive.

- Comprehensive calibration to factory specifications.
- End-to-end inspection to ensure all instrument functions are working and connectors are clean.
- Firmware, software and documentation updates.
- Certificate of Calibration which includes detailed test results.

We recommend Quantifi Photonics optical instruments are re-calibrated every 12 months.

How to purchase

Contact your Quantifi Photonics sales representative about our Extended Warranty or Calibration Plans or email **sales@quantifiphotonics.com.**

Extended Warranties and Calibration Plans must be ordered at the time of purchase and are available only for Quantifi Photonics' products. The 25% calibration discount only applies to calibrations while the product is covered by the Extended Warranty period.

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

Tunable Laser Sources
Versatile telecom laser sources with full tunability across C or L bands. Narrow 100 kHz linewidth, up to 16.5 dBm of power, optional whisper mode to disable frequency dither.

Erbium-Doped Fiber Amplifier (EDFA)
High power Erbium-Doped Fiber Amplifier for signal power amplification in C and L bands with various control modes, including automatic gain control.

Fixed Wavelength Laser Sources
Highly customizable DFB or FP laser sources available in a wide range of wavelengths and powers. Models support SMF, MMF and PMF.

Variable Optical Attenuator (VOA)
Fast attenuation speed with low insertion loss and built-in power monitoring. Operates in fixed attenuation or constant output power modes. Models support SMF, MMF and PMF.

Optical Power Meters
Fast terminating or inline monitoring of optical signal power from -60 to +10 dBm across 750 – 1700 nm wavelengths. Model with logarithmic analog output for applications such as silicon photonics fiber alignment.

Optical Spectrum Analyzer (OSA)
Low cost, fast spectral measurement in a compact module with built-in analysis including SMSR, OSNR and spectral width. Targeted wavelengths for specific applications in O band, C band and L band.

Optical-to-Electrical Converter
High bandwidth, broadband O-to-E converter. Available in a range of configurations; choose from 1 or 2 channels, AC or DC coupling and various conversion gain and operating wavelength ranges.

Bit Error Rate Tester (BERT)
2 or 4-channel Pulse Pattern Generator and Error Detector at rates up to 29 Gbps for the design, characterization and production of optical transceivers and opto-electrical components.

Pulse Pattern Generator (PPG)
4 channel Pulse Pattern Generator from 0.3 to 30 Gbps for high-density multichannel applications. With integrated clock synthesizer and programmable de-emphasis and CTLE processor.

Optical Switch
Proven reliability and fast switching time. Wide variety of switch onfigurations: 1x4, 1x16, 16x16 and more. Models support SMF, MMF and PMF.

Polarization Controller & Scrambler
High-speed automated polarization control with broad wavelength coverage from 1260nm to 1650nm, low insertion loss and back reflection. Full remote control via intuitive GUI, LabVIEW or SCPI.

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

Passive Component Integration
Integrate passive optical components of your choice such as WDM couplers, splitters, band-pass filters, PM beamsplitters and circulators. Models support SMF, MMF and PMF.

Passive Component Storage
Protect and store your own passive fiber optic components such as splitters, connector adaptor patchcords, WDM couplers, and isolators in one handy module.

PXI – TEST MODULES | MATRIQ – TEST MODULES

We provide these products as PXIe modules and compact MATRIQ benchtop instruments.

See our website for more details
quantifiphotonics.com/products

Test.
Measure.
Solve.

Quantifi Photonics is transforming the world of photonics test and measurement. Our portfolio of optical and electrical test instruments is rapidly expanding to meet the needs of engineers and scientists around the globe. From enabling ground-breaking experiments to driving highly efficient production testing, you'll find us working with customers to solve complex problems with experience and innovation.

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

General Enquiries	sales@quantifiphotonics.com
Technical Support	support@quantifiphotonics.com
Phone	+64 9 478 4849
North America	+1-800-803-8872

quantifiphotonics.com

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