QUANTIFI PHOTONICS®
A Teradyne Company

Laser

1102
CONTINUOUS WAVE LASER SOURCE

SPECIFICATION SHEET

AVAILABLE IN PXI

AVAILABLE IN MATRIQ

quantifiphotonics.com

FEATURES

The Laser-1102 is a Continuous Wave (CW) laser source offering high power 850 nm output into multimode fiber with stable output power operation.

Enhanced power uniformity

Smart calibration minimises inter-channel power variance with enhanced power uniformity between channels.

Up to 4 lasers per single-slot PXIe module

Achieve high channel density with up to 68 channels in an 18-slot PXI chassis.

Up to +5.7 dBm optical output power

High-power provides as high as +5.7 dBm output power.

High power stability

Highly stable output power ensures accurate and consistent test and measurement results.

Multimode testing

Ideal for multimode datacom interconnect testing in the 850 nm wavelength operating window.

OM3 fiber

50 µm multimode OM3 fiber launch similar to most datacom 850 nm links.

TARGET APPLICATIONS

- Stable 850 nm laser source for testing multimode OM3 fiber links
- Datacom SR4, SR8 interconnect testing
- General purpose stable multimode fiber light source for datacom and physics
- 850 nm receiver responsivity testing

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

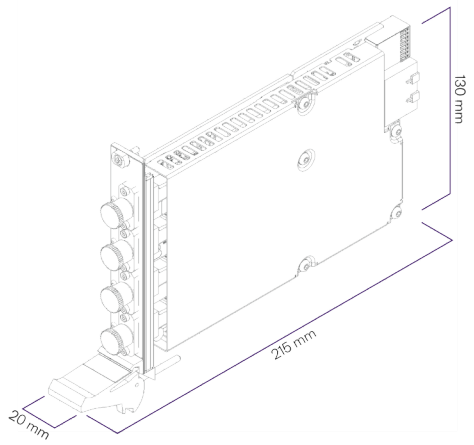
The MATRIQ series provides the same high-performance test capabilities of our PXIe modules in an compact benchtop design. MATRIQ instruments are simple to setup and easy to operate, making them the perfect choice for your optical lab or test bench.

- 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

LASER 1102 TECHNICAL SPECIFICATIONS

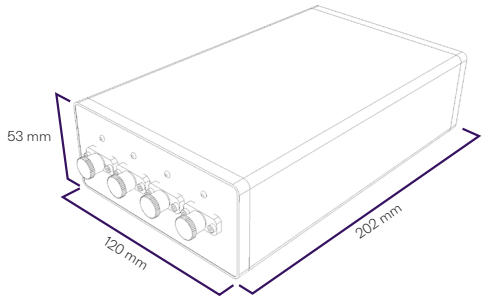
PXIe – MODULAR

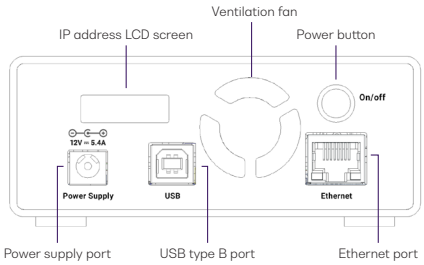
LASER-1102-4-FC-PXIE



MATRIQ – COMPACT & PORTABLE

LASER-1102-4-FC-MATRIQ





General Specifications	PXIe	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	-
Dimensions (HxWxD)	130 x 20 x 215 mm | 5.1 x 0.8 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 40 °C | 41 °F to 104 °F
Storage temperature range	-40 °C to 70 °C | -40 °F to 158 °F	-40 °C to 70 °C | -40 °F to 158 °F

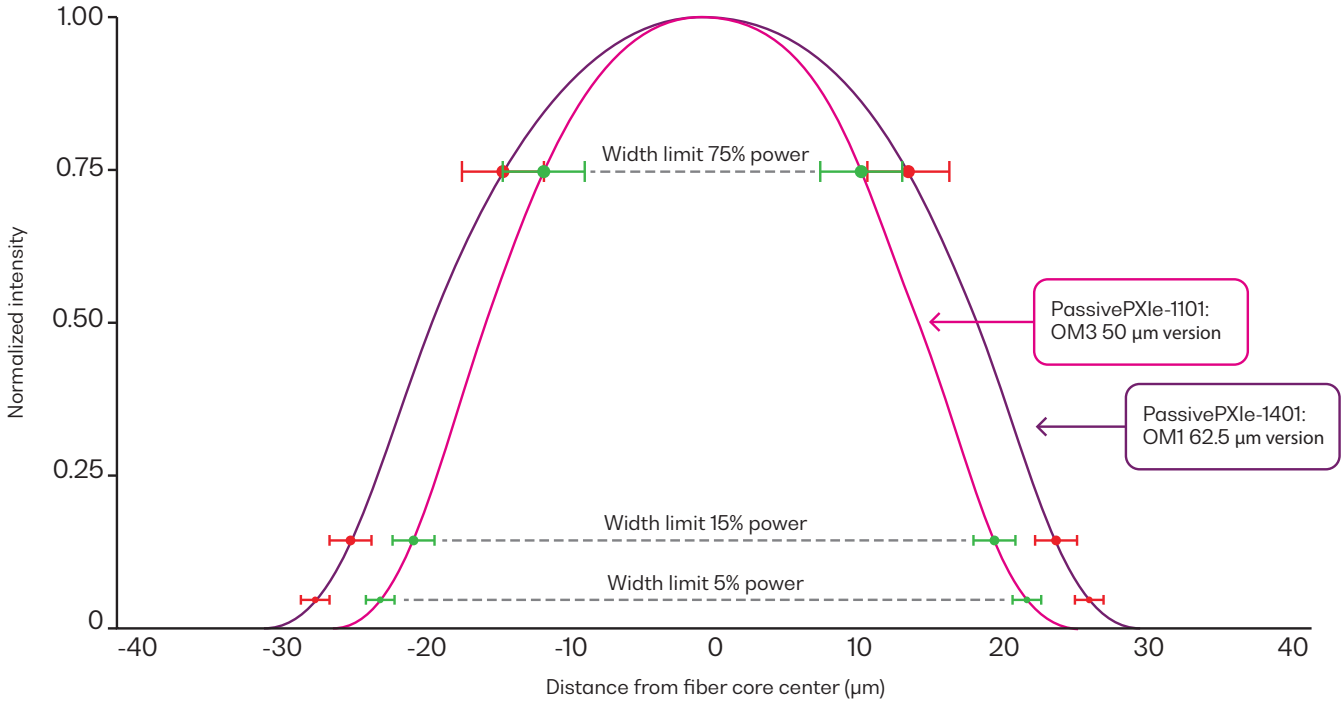
Power Specifications	PXI	MATRIQ
AC input voltage range	Please refer to the latest PXI Express Hardware Specifications published by the PXI Systems Alliance.	100 to 240 VAC
AC input current		1.3 A (115 VAC), 0.9 A (230 VAC)
AC frequency range		47 to 63 Hz
DC output voltage		12 V
DC output current max		5.41 A
Dimensions (LxWxH)		4.58 x 2.06 x 1.23" (116.3 x 52.4 x 31.3 mm)

Model Number	1102	1102
Wavelength	850 nm	850 nm
Wavelength accuracy	±5 nm	±5 nm
Fiber	Multimode OM3	Multimode OM3
Output power	5.7 dBm	5.7 dBm
Thermal tuning	NA	NA
Spectral width 3 dB	2 nm	2 nm
Laser safety disable	Yes	Yes

Quantifi Photonics offers a passive accessory, the Passive-1101. When used in series with the Laser-1102 output, it ensures an IEC-61280-4-1 compliant encircled flux mode in 50 µm-core OM3 multimode fiber.

This accessory will evenly fill the various modes that are possible in multimode fiber. This ensures consistent and repeatable measurements - such as insertion loss and coupling efficiency - into multimode receivers.

Near field intensity plot showing 85% limits



ORDERING INFORMATION

LASER - 1102 - X - XX - PXIE
LASER - 1102 - X - XX - MTRQ

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

ACCESSORIES

PASSIVE - 1101 - X - XX - PXIE
PASSIVE - 1101 - X - XX - MTRQ

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

Number of channels
1 = 1 channel

WARRANTY INFORMATION

This product comes with a standard 1 year warranty.

EXTENDED WARRANTIES AND CALIBRATION PLANS

With an **extended warranty and calibration plan** you'll spend more time focused on your priorities and less time worrying about maintenance.

Add a **3 or 5 year extended warranty** when you purchase your Quantifi Photonics instruments.

Guarantee performance

Ensure your equipment is operating at the best it can be for reliable and accurate results.

Lower cost of ownership

Lock in savings and maximise your testing budget with a lower base 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 purchasing your Quantifi Photonics instruments and get 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.

Over time and with regular use, all optical parts and connectors require re-calibration and maintenance to guarantee accurate and reliable performance. We recommend Quantifi Photonics optical instruments are re-calibrated every 12 months. 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

How to do I **secure my extended warranty or calibration plan**?

Contact your Quantifi Photonics sales representative 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 & electro-optical test modules is rapidly expanding to meet a wide range of customer requirements and applications.

For more details visit **quantifiphotonics.com/products**

Tunable Laser Source

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.

Fixed Wavelength Laser Source

Highly-customizable DFB or FP laser sources available in a wide range of wavelengths and powers up to 24 dBm. Supports SMF, MMF and PMF.

Swept, Tunable Continuous Wave Laser

Swept, tunable continuous wave (CW) laser source with 0.01 dB power stability and 400 nm/s high-speed scan rate for R&D and production testing.

Superluminescent Diode Broadband Light Source

Super-luminescent LED light source with high output power, large bandwidth and low spectral ripple and various wavelengths.

ELSFP-Compliant External Laser Source

Uses ELSFP-compliant pluggable modules to provide 8 channels of CW optical power at 1310 nm from 20 to 25 dBm.

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. Support SMF, MMF and PMF.

Polarization Controller & Scrambler

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

Optical Power Meter

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

Optical Spectrum Analyzer (OSA)

Cost-effective, spectral measurement in a compact module with built-in analysis for: SMSR, OSNR & spectral width. Targeted wavelengths for specific applications in O band, C band & L band.

Optical-to-Electrical Converter

High bandwidth, broadband O-to-E converter. Choose from 1 or 2 channels, AC or DC coupling and various conversion gain and operating wavelength ranges.

Optical Switch

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

Photocurrent Amplifier

Versatile photodiode amplifier to measure photocurrent in photonic integrated circuit (PIC) applications. Digital and analog measurement.

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. SMF, MMF and PMF.

Digital Sampling Oscilloscope (DSO)

Digital equivalent-time sampling oscilloscope (DSO) with high-quality precision timebase and low jitter mode, available in 1 or 2 channels in a compact benchtop instrument.

Clock Recovery Instrument (CDR)

Clock recovery instrument for the QCA Series. Low jitter design and precise phase-locking provide a reliable, scalable solution for high-speed communication testing.

Test.
Measure.
Solve.™

Quantifi Photonics provides test solutions to help customers unlock scalable and cost-effective high-volume manufacturing of photonic integrated circuits (PICs), co-packaged optics and pluggable optics. The company's portfolio includes a wide range of photonic test instruments, and digital sampling oscilloscopes, available as benchtop or the industry-standard PXI format to support cost-effective, high-throughput design verification testing and high-volume manufacturing.

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

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