

# Laser

## 1102 CONTINUOUS WAVE LASER SOURCE

SPECIFICATION SHEET

AVAILABLE IN PXI

AVAILABLE IN MatriQ

Version 0.3.7

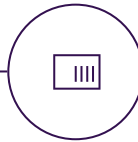
**FEATURES**

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



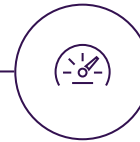
**Enhanced power uniformity**

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



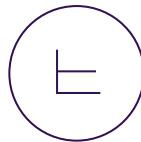
**Up to 4 lasers per single-slot PXIe module**

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



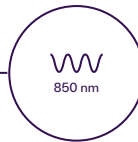
**Up to +5.7 dBm optical output power**

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



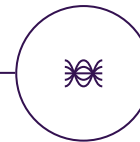
**High power stability**

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

Version 0.3.7

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



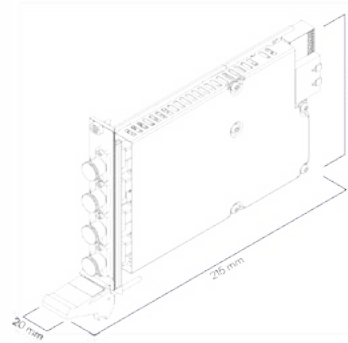
Version 0.3.7

LASER 1102 TECHNICAL SPECIFICATIONS

PXIe – MODULAR



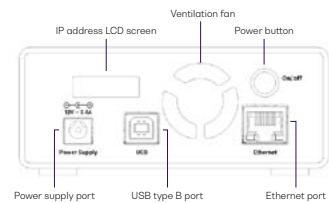
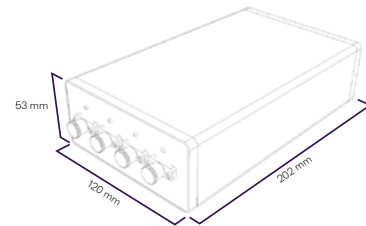
LASER-1102-4-FC-PXIe



MATRIQ – COMPACT & PORTABLE



LASER-1102-4-FC-MATRIQ



Version 0.3.7

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 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)

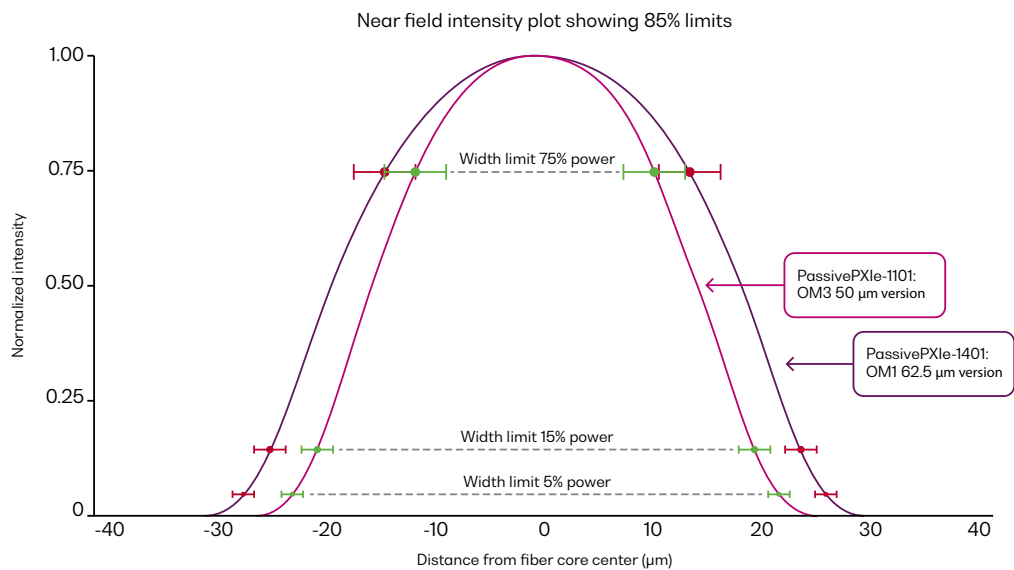
Model Number	1102	1102
Wavelength	850 nm	850 nm
Wavelength accuracy	±5 nm	±5 nm
Fiber	Multimode OM3	Multimode OM3
Output power	5.7 dBm	5.7 dBm
Thermal tuning	NA	NA
Spectral width 3 dB	2 nm	2 nm
Laser safety disable	Yes	Yes

Version 0.3.7

PASSIVE-1101

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  $\mu\text{m}$ -core OM3 multimode fiber.

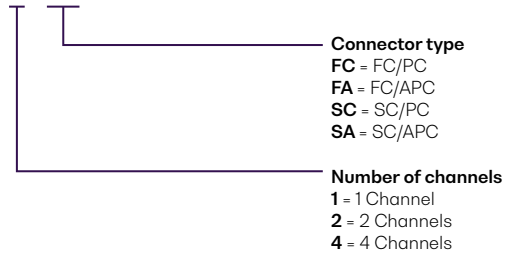
This accessory will evenly fill the various modes that are possible in multimode fiber. This ensures consistent and repeatable measurements - such as insertion loss and coupling efficiency - into multimode receivers.



Version 0.3.7

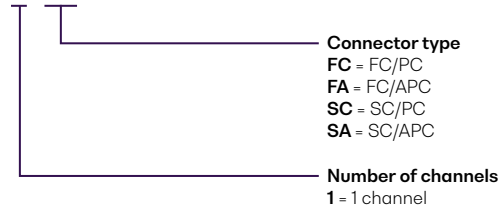
#### ORDERING INFORMATION

LASER - 1102 - X - XX - PXIE  
LASER - 1102 - X - XX - MATRIQ



#### ACCESSORIES

PASSIVE - 1101 - X - XX - PXIE  
PASSIVE - 1101 - X - XX - MATRIQ



#### WARRANTY INFORMATION

This product comes with a standard 1 year warranty.

Version 0.3.7

#### 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.

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.

Version 0.3.7



CATALOGUE

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 configurations: 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.

Version 0.3.7

WHY CHOOSE QUANTIFI PHOTONICS

# 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.**

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Version 0.3.7