QUANTIFI PHOTONICS®
A Teradyne Company

SLED

1000 SERIES BROADBAND OPTICAL SOURCE

SPECIFICATION SHEET

AVAILABLE IN PXIE

AVAILABLE IN MATRIQ

quantifiphotonics.com

Quantifi Photonics' SLED 1000 Series is ideal for helping you build a customized optical testing platform and deliver reliable and repeatable results in manufacturing or research and development environments.

The SLED comes in various wavelength models to address various key applications such as the telecom and datacom markets.

Large bandwidth

The large spectral bandwidth brings you a short coherence length for high resolution inteferometry and optical coherence tomography.

Various wavelength ranges

With a choice of multiple wavelength ranges you can find the model that fits in with your wavelength of interest.

Stable wavelength spectrum output

Broad and smooth spectral profile enables consistent testing across a wide range of wavelengths.

Fully programmable

Plug and play with USB or Ethernet connectivity; Controllable via the web-based GUI, COHESIONUI, LabVIEW or SCPI commands.

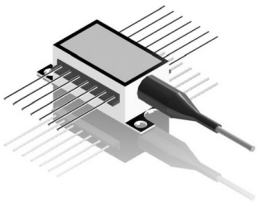
Compact

Up to four channels per PXIe slot, or available with up to four channels in the compact benchtop MATRIQ version.

Define your broadband source requirements

The SLED 1000 Series is a versatile platform can be customized with a range of super luminescent sources. For a quote and lead time on a customized SLED 1000 instrument please contact our sales engineers at sales@quantifiphotonics.com.

Please include the following information:



- Center wavelength [nm]:
- Center wavelength accuracy [+/- nm]:
- Output power [dBm]:
- Laser linewidth [MHz]:
- Fiber type (SMF or PMF):
- Number of channels per instrument (1,2 or 4):
- Connector type (FC/PC, FC/APC, SC/PC, SC/APC):
- Form factor (PXI module or benchtop):

APPLICATIONS

- Broadband source for component spectral characterization
- White light interferometry
- Broadband noise source for stress tests
- Optical coherence tomography

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

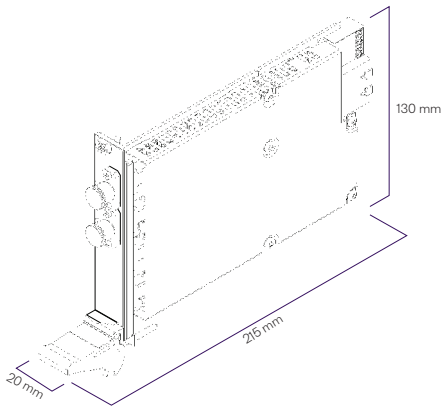
MATRIQ – COMPACT & PORTABLE

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

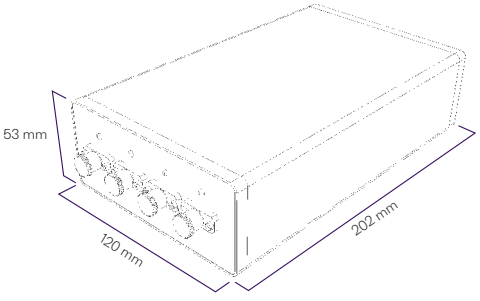
PXI

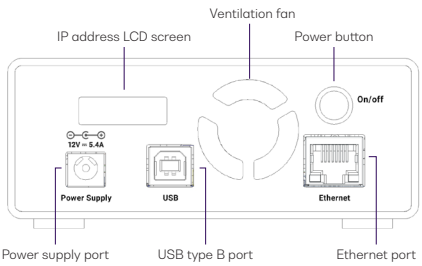
SLED-1003-2-FC-PXIE



MATRIQ

SLED-1003-4-FC-MTRQ





SLED TECHNICAL SPECIFICATIONS

Specifications for a limited number of models used for common applications are listed below. If you don't see a model that meets your wavelength and power requirements, please contact us at sales@quantifiphotonics.com

General Specifications	PXI	MATRIQ
Bus connection	PXIe	USB and ethernet
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.	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)

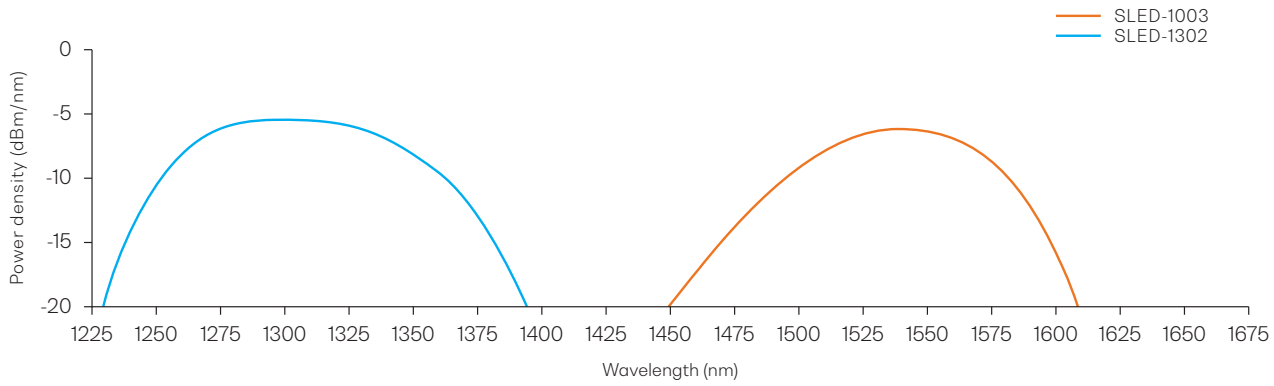
Model Number	1003[1]	1003[1]
Wavelength range	1510 to 1590 nm	1510 to 1590 nm
Number of channels	1, 2 or 4	1, 2 or 4
Optical connector type	FC/PC, FC/APC, SC/PC and SC/APC	FC/PC, FC/APC, SC/PC and SC/APC
Center wavelength	1550 nm	1550 nm
Center wavelength accuracy	± 10 nm	± 10 nm
Output power	12 dBm	12 dBm
Full width at half max	80 nm	80 nm
Fiber type	SMF-28	SMF-28
Power spectral density	> -12 dBm/nm Typical	> -12 dBm/nm Typical
Laser saftey class	1M	1M

SLED TECHNICAL SPECIFICATIONS

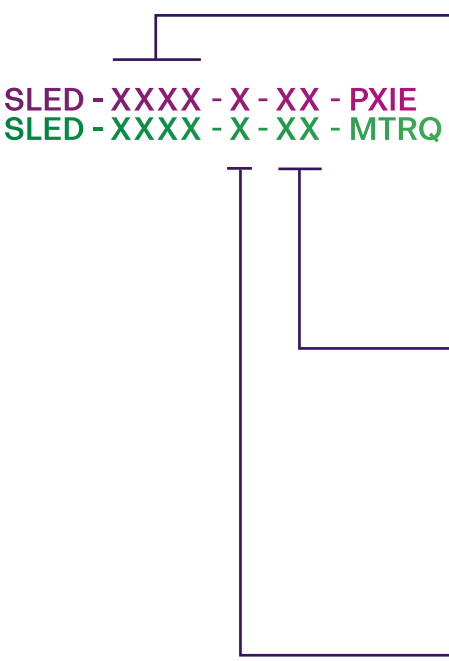
Model Number	1011	1011
Wavelength range	**Channel 1**: 1510 to 1590 nm **Channel 2**: 1280 to 1340 nm	**Channel 1**: 1510 to 1590 nm **Channel 2**: 1280 to 1340 nm
Number of channels	2	2
Optical connector type	FC/PC, FC/APC, SC/PC and SC/APC	FC/PC, FC/APC, SC/PC and SC/APC
Center wavelength	**Channel 1**: 1550 nm **Channel 2**: 1310 nm	**Channel 1**: 1550 nm **Channel 2**: 1310 nm
Center wavelength accuracy	± 10 nm	± 10 nm
Output power	**Channel 1**: +12 dBm **Channel 2**: +11 dBm	**Channel 1**: +12 dBm **Channel 2**: +11 dBm
Full width at half max	**Channel 1**: 80 nm **Channel 2**: 60 nm	**Channel 1**: 80 nm **Channel 2**: 60 nm
Fiber type	SMF-28	SMF-28
Power spectral density	**Channel 1**: > -12 dBm/nm Typical **Channel 2**: TBD	**Channel 1**: > -12 dBm/nm Typical **Channel 2**: TBD
Laser saftey class	1M	1M

Model Number	1302[1]	1302[1]
Wavelength range	1260 to 1330 nm	1260 to 1330 nm
Number of channels	1, 2 or 4	1, 2 or 4
Optical connector type	FC/APC and SC/APC	FC/APC and SC/APC
Center wavelength	1310 nm	1310 nm
Center wavelength accuracy	± 10 nm	± 10 nm
Output power	12 dBm	12 dBm
Full width at half max	60 nm Typical 52 nm Minimum	60 nm Typical 52 nm Minimum
Fiber type	PMF	PMF
Power spectral density	> -8 dBm/nm Typical	> -8 dBm/nm Typical
Laser saftey class	1M	1M

Notes
1. Preliminary specs



ORDERING INFORMATION



Model number

1, 2 or 4 channels
1003 = SLED with 1550 nm center wavelength
1302 = SLED with 1300 nm center wavelength

2 channels only
1011 = SLED with 1550 nm center wavelength (channel 1) and 1310 nm center wavelength (channel 2)

Connector type (models 1002 & 1011)
FC = FC/PC
FA = FC/APC
SC = SC/PC
SA = SC/APC

Connector type (model 1302)
FA = FC/APC
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'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 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.

Fixed Wavelength Laser Sources

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.

Erbium-Doped Fibre 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.

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 1260nm to 1650nm, low insertion loss and back reflection. Full remote control via intuitive GUI, LabVIEW or SCPI.

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)

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. Available in a range of configurations; choose from 1 or 2 channels, AC or DC coupling and various conversion gain and operating wavelength ranges.

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.

Bit Error Rate Tester (BERT)

4 or 8-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.

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.

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.

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.

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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