QUANTIFI PHOTONICS™

wavetel
a simac group company

Passive

PASSIVE COMPONENT INTEGRATION

SPECIFICATION SHEET

AVAILABLE IN PXI

AVAILABLE IN MATRIQ

quantifiphotonics.com

The PassivePXIe module can be customized to meet your specific requirements. If you don't see what you need below, please contact us.

Model Number	Configuration	Connector type	Slot count in PXI
Passive-1001	1310 ± 80 nm, 1×2 (50/50) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1002	1260 to 1650 nm, 1×4 (25/25/25/25) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1003	CWDM8 MUX	SC/PC, SC/APC	2
Passive-1004	CWDM8 DeMUX	SC/PC, SC/APC	2
Passive-1005	1310 nm, 1×2 (99/1) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1006	CWDM4 MUX	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1007	CWDM4 DeMUX	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1008	1550 ± 80 nm, 1×2 (50/50) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1009	1550 nm optical circulator	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1010	1310 nm, 1×8 splitter	SC/PC, SC/APC	2
Passive-1011	1260 to 1650 nm, 1×16 fiber tree splitter, SMF-28 fiber	SC/PC, SC/APC	2
Passive-1012	1550 ± 40nm, 1x2 (30/70) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1013	1550 ± 40nm, 1x2 (40/60) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1014	1000 m fiber delay element, 4.890 µs @1310 nm, 4.893 µs at 1550 nm, SMF-28e fiber	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1015	1230 to 1390 nm optical circulator	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1016	WDM bi-direction MUX/DEMUX (C34=1550.116 nm, C42=1543.730 nm, C50 =1537.397 nm, C58=1531.116 nm), <1.8 dB insertion loss	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1017	1550 + 40 nm, 1x2 (90/10) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1101	Encircle Flux mode conditioner IEC 61280-4-1: 2009 850/1310 nm, OM3 fiber, 3 dB insertion loss (typical), max power 10 mW	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1301	1310 nm PM fiber 1×2 (50/50) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1302	1550 nm PM fiber 1×4 (25/25/25/25) splitter	FC/PC, FC/APC, SC/PC, SC/APC	1
Passive-1401	Encircle Flux mode conditioner IEC 61280-4-1: 2009 850/1310 nm, OM1 fiber, 3 dB insertion loss (typical), max power 10 mW	FC/PC, FC/APC, SC/PC, SC/APC	1

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

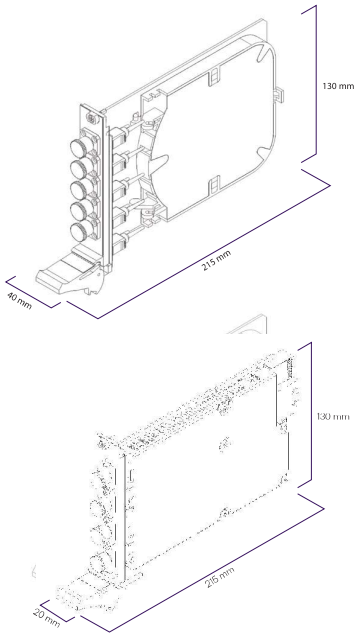
MATRIQ – COMPACT & PORTABLE

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

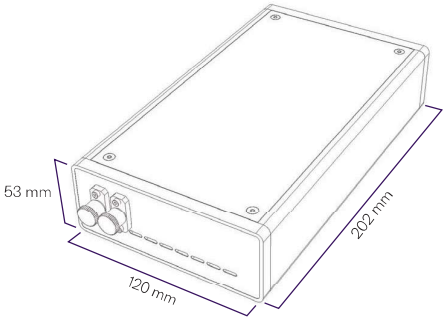
PXI – MODULAR

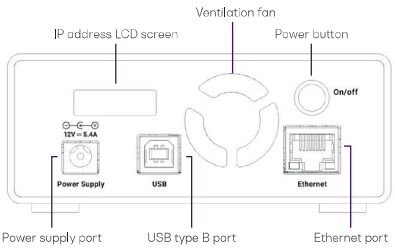
PASSIVE-1002-1-FC-PXIE



MATRIQ – COMPACT & PORTABLE

PASSIVE-1002-1-FC-MTRQ





ENCIRCLE FLUX MODE CONDITIONERS

The Passive 1101 and 1401 modules are passive mode conditioning instruments which guarantee the correct launch conditions are achieved regardless of the light source. This improves measurement accuracy, consistency between tests, and compliance with international standards.

It's well known that the modal condition of light sources can signficantly affect measurements of loss and bandwidth in multimode fibers. This can mean for example, that an OTDR measurement may give a different result because an OTDR employs a laser source versus an LED.

TECHNICAL SPECIFICATIONS

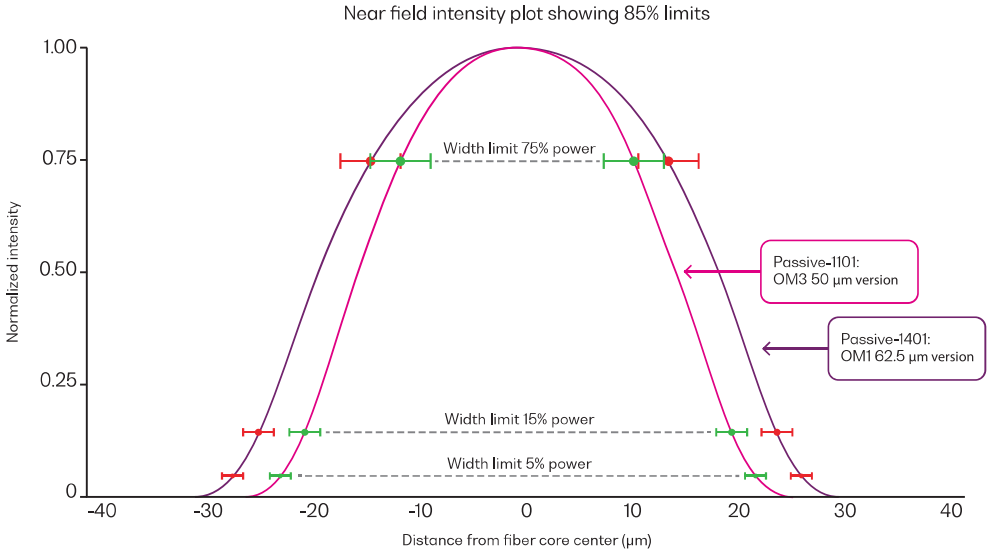
	PXI		MATRIQ	
Product Specifications	**1101**	**1401**	**1101**	**1401**
Fiber type	OM3 50 µm	OM1 62.5 µm	OM3 50 µm	OM1 62.5 µm
Optical connector type	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC
Wavelength range	850 nm and 1310 nm	850 nm and 1310 nm	850 nm and 1310 nm	850 nm and 1310 nm
Insertion loss	< 3 dB	< 3 dB	< 3 dB	< 3 dB
Encircled flux compliance	IEC 61280-4-1: 2009	IEC 61280-4-1: 2009	IEC 61280-4-1: 2009	IEC 61280-4-1: 2009
Maximum power	10 dBm	10 dBm	10 dBm	10 dBm
Return loss	> 45 dB	> 45 dB	> 45 dB	> 45 dB

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)

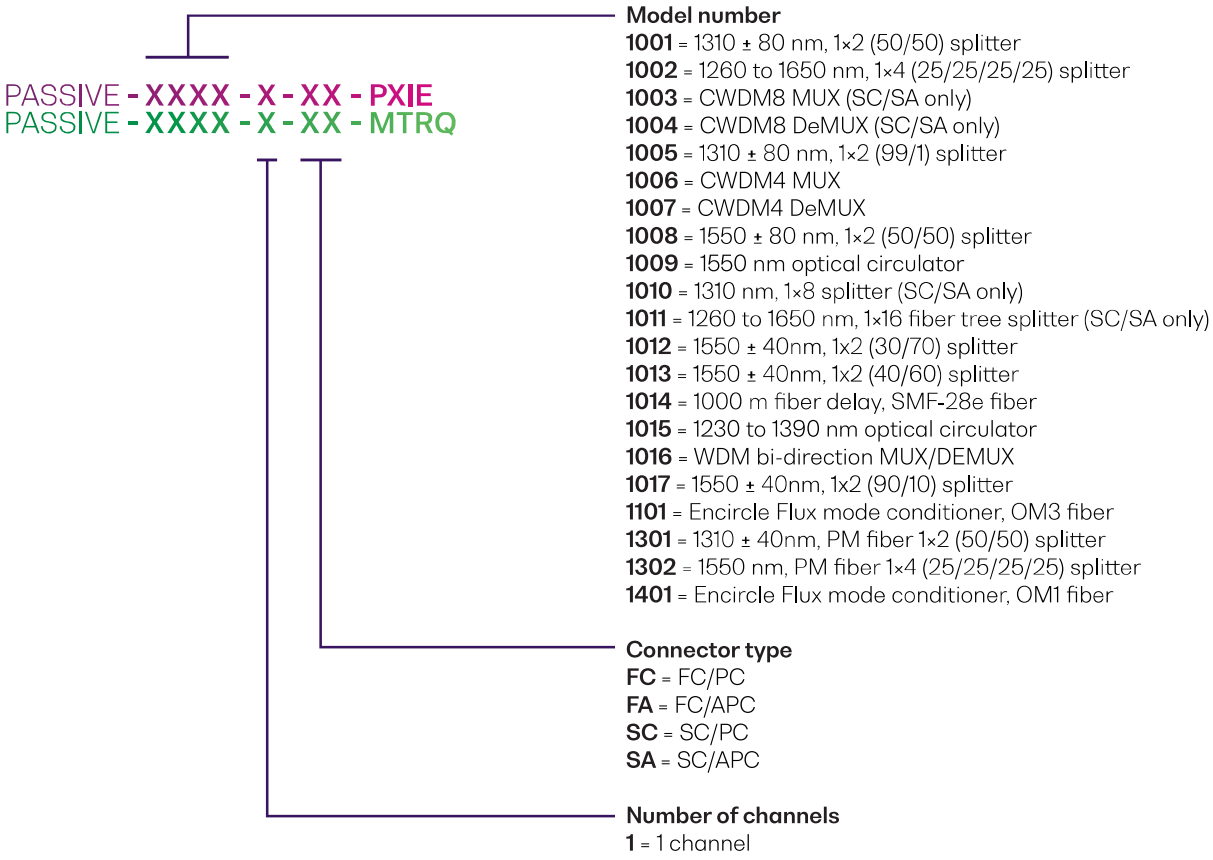
The Modal Launch Condition for the Passive 1101 and 1401 modal controllers is specified in terms of the width of the Near Field Pattern at 5, 15 and 75% of the maximum. The specification limits are shown below. On request, we can supply a Certificate of Conformance or a Test Certificate (850 and 1300 nm) which includes details on how the measurement was taken.

Product Specifications	1101	1401	1101	1401
Fiber type	OM3 50 µm	OM1 62.5 µm	OM3 50 µm	OM1 62.5 µm
Intensity (% of max): 5	40.8 µm (min) 44.0 µm (max)	51.0 µm (min) 55.0 µm (max)	40.8 µm (min) 44.0 µm (max)	51.0 µm (min) 55.0 µm (max)
Intensity (% of max): 15	36.0 µm (min) 41.6 µm (min)	45.0 µm (min) 52.0 µm (max)	36.0 µm (min) 41.6 µm (min)	45.0 µm (min) 52.0 µm (max)
Intensity (% of max): 75	16.0 µm (min) 26.4 µm (min)	20.0 µm (min) 33.0 µm (max)	16.0 µm (min) 26.4 µm (min)	20.0 µm (min) 33.0 µm (max)

Product Specifications	1301	1302	1301	1302
Model description	1310 nm PM fiber 1×2 (50/50) splitter	1550 nm PM fiber 1×4 (25/25/25/25) splitter	1310 nm PM fiber 1×2 (50/50) splitter	1550 nm PM fiber 1×4 (25/25/25/25) splitter
Optical connector type	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC	FC/PC, FC/APC, SC/PC, SC/APC
Center wavelength	1310 nm	1550 nm	1310 nm	1550 nm
Port configuration	1 x 2	1 x 4	1 x 2	1 x 4
Split ratio	50:50	25:25:25:25	50:50	25:25:25:25
Bandwidth	+ 40 nm	+ 30 nm	+ 40 nm	+ 30 nm
Return loss	> 50 dB	> 7.8 dB	> 50 dB	> 7.8 dB
Insertion loss	< 3.8 dB	> 20 dB	< 3.8 dB	> 20 dB
Extinction ratio	> 20 dB	> 50 dB	> 20 dB	> 50 dB
Fiber type	PM Panda fiber all ports	PM Panda fiber all ports	PM Panda fiber all ports	PM Panda fiber all ports
Axis transmission	Slow axis and fast axis both working	Slow axis and fast axis both working	Slow axis and fast axis both working	Slow axis and fast axis both working
Axis alignment	Slow axis aligned to connector key	Slow axis aligned to connector key	Slow axis aligned to connector key	Slow axis aligned to connector key



ORDERING INFORMATION



WARRANTY INFORMATION

This product comes with a standard 1 year warranty.

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.

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