

Switch

AUTOMATED OPTICAL SWITCH

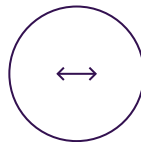
SPECIFICATION SHEET

AVAILABLE IN PXI

AVAILABLE IN MATRIQ

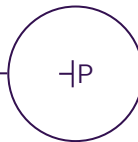
FEATURES

Add optical switching capability to your test system with Quantifi Photonics' automated optical switches. The fast and reliable optical switch will enable automated sequential testing, saving time and streamlining your test procedures.



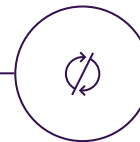
Bidirectional

SwitchPXle's are bidirectional, so you can use it in N x M or M x N configurations for superior versatility.



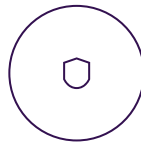
Convenient park feature

The in-built park feature on applicable models provides the convenient functionality of an optical shutter.



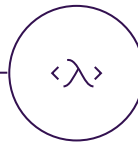
High repeatability

High repeatability ensures that your measurements are reliable and consistent over time.



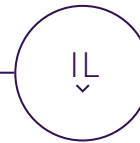
**High durability,
> 3 x 10⁷ cycles**

High switch lifecycle of 30 million operations ensures you get reliable hassle-free usage, for a long time.



**Wide coverage of
operational wavelengths**

One versatile tool to cover a wide variety of applications.



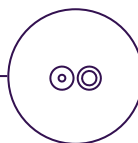
Low insertion loss

Maximise your power budget with the low insertion loss.



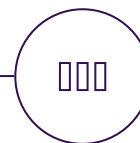
**Polarization maintaining
output**

On the polarization maintaining (PM) models, the slow axis of polarization is aligned with the output connector key as per industry standards. The user may choose to use polarization maintaining (PM) fiber or standard singlemode fiber (SMF)



**Supports single and
multi-mode applications**

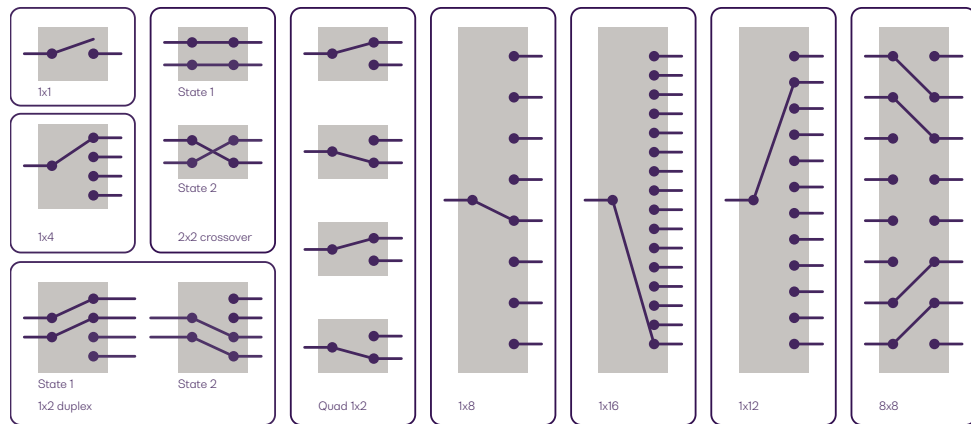
Available in either single-mode or multi-mode fiber options for a seamless integration into your setup.



**Wide variety of port
configurations**

Choose the number of ports and switching configuration to suit your specific application.

CONFIGURATIONS



STANDARD SWITCH CONFIGURATIONS

The Switch can be customized with a wide range of switch configurations, fiber types and connectors.

If you don't see what you need, please contact us to discuss your requirements.

Model number	Fiber type	Configuration	Connector	Wavelength	Slot count	Park state
1001	SMF-28	1 x 1	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	1	No
1003	SMF-28	1 x 4	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	1	Yes
1004	SMF-28	2 x 2 crossover	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	1	No
1005	SMF-28	1 x 2 duplex	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	2	No
1006	SMF-28	1 x 16	SC/PC and SC/APC	1260 to 1650 nm	2	Yes
1008	SMF-28	Quad 1 x 2	SC/PC and SC/APC	1260 to 1650 nm	2	Yes
1009	SMF-28	1 x 8	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	2	Yes
1010	SMF-28	1 x 8	FC/PC, SC/PC, FC/APC and SC/APC on common port; USCONEC Elite MT on 8 channel port	1260 to 1650 nm	1	Yes
1012	SMF-28	1x12 MT connector	FC/PC, SC/PC, FC/APC and SC/APC on Common PORT USCONEC Elite MT MALE APC on 12 channel port	1260 to 1650nm	1	Yes
1201	SMF-28	8 x 8 grid	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	5	Yes
1202	SMF-28	16 X 16 GRID	FC/PC, SC/PC, FC/APC, SC/APC	1260 to 1650 nm	5	Yes
1101	50µ core MMF OM3	1 x 1	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	1	No
1103	50µ core MMF OM3	1 x 4	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	1	Yes
1104	50µ core MMF OM3	2 x 2 crossover	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	1	No
1105	50µ core MMF OM3	1 x 2 duplex	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	2	No
1106	50µ core MMF OM3	1 x 16	SC/PC and SC/APC	800 to 1420 nm	2	Yes
1107	50µ core MMF OM3	1 x 12	MT	800 to 1420 nm	1	Yes
1108	50µ core MMF OM3	Quad 1 x 2	SC/PC and SC/APC	800 to 1420 nm	2	Yes
1111	50µ core MMF OM3	1 x 7	SC/PC and SC/APC	800 to 1420 nm	1	Yes
1112	50µ core MMF OM3	1 x 15	SC/PC and SC/APC	800 to 1420 nm	2	Yes
1403	62.5µ core MMF OM1	1 x 4	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	1	Yes
1405	62.5µ core MMF OM1	1 x 2 duplex	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	2	No
1406	62.5µ core MMF OM1	1 x 16	SC/PC and SC/APC	800 to 1420 nm	2	Yes
1409	SMF-28	1 x 8	FC/PC, SC/PC, FC/APC, SC/APC	800 to 1420 nm	2	Yes
1303	PM Panda 1550	1 x 4	FC/PC, SC/PC, FC/APC, SC/APC	1522 to 1570 nm	1	Yes
1304	PM Panda 1310	1 x 4	FC/PC, SC/PC, FC/APC, SC/APC	1290 to 1330 nm	1	Yes
1305	PM Panda 1310	2 x 2 crossover	FC/PC, SC/PC, FC/APC, SC/APC	1270 to 1350 nm	1	No
1306	PM Panda 1550	2 x 2 crossover	FC/PC, SC/PC, FC/APC, SC/APC	1510 to 1590 nm	1	No

STANDARD SWITCH FRONT PANELS



Models: 1001, 1101



Models: 1003, 1103,
1303, 1304, 1403



Models: 1004, 1104,
1305, 1306



Models: 1005, 1105,
1405



Models: 1006, 1106,
1406



Models: 1111



Models: 1112



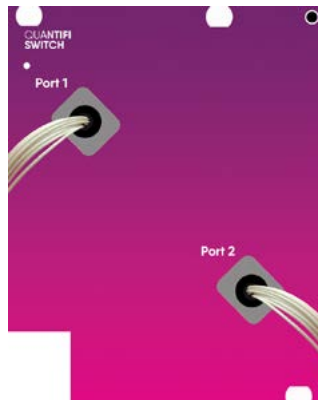
Models: 1107



Models: 1010



Models: 1409



Models: 1201, 1202

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 1500 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, LabVIEW or SCPI commands
- Compact and portable design saves benchtop space

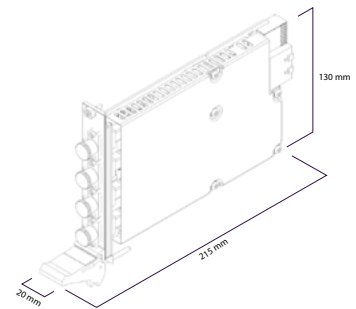


SWITCH TECHNICAL SPECIFICATIONS

PXI – MODULAR



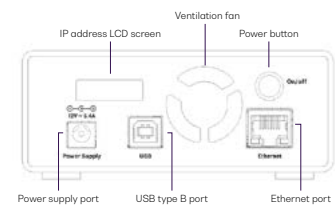
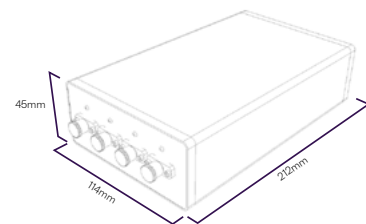
SWITCH-1003-1-FC-PXIE



MATRIQ – COMPACT & PORTABLE



SWITCH-1003-1-FC-MTRQ



SWITCH TECHNICAL SPECIFICATIONS

General specifications	PXI	MATRIQ
Bus connection	PXIe	USB and Ethernet
Optical connectors	FC/PC, FC/APC, SC/PC, SC/APC (1006, 1106, 1108, 1111, 1112, 1406: SC/PC, SC/APC only) (1010, 1107: MT only)	
Slot count	1 slot: 1001, 1003, 1004, 1010, 1012, 1101, 1103, 1104, 1107, 1111, 1303, 1304, 1005, 1306, 1403 2 slots: 1005, 1006, 1008, 1009, 1105, 1106, 1108, 1112, 1405, 1406, 1409 5 slots: 1201, 1202	-
Dimensions (HxWxD)	130 mm x 20mm x 215 mm (5.1" x 0.8" x 8.5") 130 mm x 40mm x 215 mm (5.1" x 1.6" x 8.5") 130 mm x 100mm x 215 mm (5.1" x 4.0" x 8.5")	45 x 114 x 212 mm 1.7 x 4.5 x 8.3 inch
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

Single-Mode Fiber Optical Switches

1x1 Optical switch	1001 ⁹ SMF-28			1001 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.5 dB	1.0 dB		0.5 dB	1.0 dB
Return loss ⁸		50 dB			50 dB	
Polarization dependent loss ²			< 0.1 dB			< 0.1 dB
Wavelength dependent loss			<0.3 dB			<0.3 dB
Crosstalk		-80 dB			-80 dB	
Repeatability ⁴			±0.1 dB			±0.1 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x4 Optical switch	1003 ⁹ SMF-28			1003 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.6 dB	0.8 dB		0.6 dB	0.8 dB
Return loss ⁸	50 dB			50 dB		
Polarization dependent loss ²			< 0.1 dB			< 0.1 dB
Wavelength dependent loss			0.2 dB			0.2 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

SWITCH TECHNICAL SPECIFICATIONS

2x2 Optical switch	1004 SMF-28			1004 SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.8 dB	1.0 dB		0.8 dB	1.0 dB
Return loss ⁸		55 dB			55 dB	
Polarization dependent loss ²			< 0.05 dB			< 0.05 dB
Wavelength dependent loss			< 0.25 dB			< 0.25 dB
Crosstalk		-55 dB			-55 dB	
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x2 Duplex (2x4) optical switch	1005 ⁹ SMF-28			1005 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.5 dB	1.0 dB		0.5 dB	1.0 dB
Return loss ⁸		50 dB			50 dB	
Polarization dependent loss ²			< 0.1 dB			< 0.1 dB
Wavelength dependent loss			< 0.3 dB			< 0.3 dB
Crosstalk		-80 dB			-80 dB	
Repeatability ⁴			±0.1 dB			±0.1 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x16 Optical switch	1006 ⁹ SMF-28			1006 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.7 dB	1.0 dB		0.7 dB	1.0 dB
Return loss ⁸	50 dB			50 dB		
Polarization dependent loss ²			0.15 dB			0.15 dB
Wavelength dependent loss			0.30 dB			0.30 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.05 dB			±0.05 dB
Damage level			+27 dBm			+27 dBm

SWITCH TECHNICAL SPECIFICATIONS

Quad (1x2) optical switch	1008 ⁹ SMF-28			1008 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.5 dB	0.8 dB		0.5 dB	0.8 dB
Return loss ⁸	50 dB			50 dB	55 dB	
Polarization dependent loss ²			< 0.1 dB			< 0.1 dB
Wavelength dependent loss			< 0.2 dB			< 0.2 dB
Crosstalk			-50 dB		-55 dB	-50 dB
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x8 Optical switch	1009 ⁹ SMF-28			1009 ⁹ SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.7 dB	1.0 dB		0.7 dB	1.0 dB
Return loss ⁸	50 dB			50 dB		
Polarization dependent loss ²			< 0.10 dB			< 0.10 dB
Wavelength dependent loss			< 0.20 dB			< 0.20 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.05 dB			±0.05 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x8 Optical switch (MT connector)	1010 SMF-28			1010 SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.9 dB	1.2 dB		0.9 dB	1.2 dB
Return loss ⁸	50 dB			50 dB		
Polarization dependent loss ²			< 0.10 dB			< 0.10 dB
Wavelength dependent loss			< 0.20 dB			< 0.20 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.05 dB			±0.05 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles					

SWITCH TECHNICAL SPECIFICATIONS

1x12 switch MT connector	1012-1 SMF-28			1012-1 SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm
Insertion loss ^{2,7}		0.9 dB	1.2 dB		0.5 dB	0.8 dB
Return loss ⁸	50 dB			50 dB	55 dB	
Polarization dependent loss ²			< 0.1 dB			< 0.1 dB
Wavelength dependent loss			< 0.2 dB			< 0.2 dB
Crosstalk			-50 dB		-55 dB	-50 dB
Repeatability ⁴			±0.05 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

8x8 Grid optical switch	1201 ⁹ SMF-28			Not available in MATRIQ
	Minimum	Typical	Maximum	
Wavelength range	1260 to 1650 nm	1260 to 1650 nm	1260 to 1650 nm	
Insertion loss ^{2,7}		0.8 dB	1.0 dB	
Return loss ⁸	45 dB			
Polarization dependent loss ²	< 0.4 dB	< 0.4 dB	< 0.4 dB	
Wavelength dependent loss	< 0.4 dB	< 0.4 dB	< 0.4 dB	
Crosstalk			-50 dB	
Repeatability ⁴			±0.03 dB	
Damage level			+27 dBm	
Durability	1x10 ⁹ cycles			

16x16 Grid optical switch	1202 ⁹ SMF-28			Not available in MATRIQ
	Minimum	Typical	Maximum	
Wavelength range	1260 to 1650 nm	800 to 1420 nm	800 to 1420 nm	
Insertion loss ^{2,7}		0.3 dB	0.6 dB	
Return loss ⁸	45 dB	TBD		
Polarization dependent loss ²	< 0.4 dB	TBD		
Wavelength dependent loss	< 0.4 dB	TBD		
Crosstalk		-80 dB		
Repeatability ⁴			±0.1 dB	
Damage level			+27 dBm	
Durability	1x10 ⁹ cycles			

SWITCH TECHNICAL SPECIFICATIONS

Multi-mode fiber optical switches

1x1 Optical switch	1101 ⁹ 50 µm Core MMF OM3			1101 ⁹ 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,7}		0.3 dB	0.6 dB		0.3 dB	0.6 dB
Return loss ⁸		TBD			TBD	
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk		-80 dB			-80 dB	
Repeatability ⁴			±0.1 dB			±0.1 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x4 Optical switch	1103 ⁹ 50 µm Core MMF OM3			1103 ⁹ 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,6,7}		0.8 dB ⁶	1.2 dB ⁶		0.8 dB ⁶	1.2 dB ⁶
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk		-25 dB			-25 dB	
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

2x2 Optical switch	1104 ⁹ 50 µm Core MMF OM3			1104 ⁹ 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}		0.8 dB ⁵	1.0 dB ⁵		0.8 dB ⁵	1.0 dB ⁵
Return loss ⁸		TBD			TBD	
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk		-50 dB			-50 dB	
Repeatability ⁴			±0.02dB			±0.02dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

SWITCH TECHNICAL SPECIFICATIONS

1x2 Duplex (2x4) optical switch	1105° 50 µm Core MMF OM3			1105° 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}		0.3 dB ⁵	0.6 dB ⁵		0.3 dB ⁵	0.6 dB ⁵
Return loss ⁸		TBD			TBD	
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk		-80 dB			-80 dB	
Repeatability ⁴			±0.1 dB			±0.1 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x16 Optical switch	1106 50 µm Core MMF OM3			1106 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}			1.6 dB ⁵			1.6 dB ⁵
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			±0.04 dB			±0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x12 Optical switch (MT connector)	1107 50 µm Core MMF OM3			1107 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}			1.7 dB ⁵			1.7 dB ⁵
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			±0.04 dB			±0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

SWITCH TECHNICAL SPECIFICATIONS

Quad (1x2) optical switch	1108° 50 µm Core MMF OM3			1108° 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,7}		0.9 dB ⁵	1.1 dB ⁵		0.9 dB ⁵	1.1 dB ⁵
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x7 Optical switch	1111° 50 µm Core MMF OM3			1111° 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}			1.6 dB			1.6 dB
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			±0.04 dB			±0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x15 Optical switch	1112° 50 µm Core MMF OM3			1112° 50 µm Core MMF OM3		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}			1.6 dB			1.6 dB
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			±0.04 dB			±0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

SWITCH TECHNICAL SPECIFICATIONS

1x4 Optical switch	1403 ⁹ 62.5 μ Core MMF OM1			1403 ⁹ 62.5 μ Core MMF OM1		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,7}		0.8 dB ⁶	1.2 dB ⁶		0.8 dB ⁶	1.2 dB ⁶
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-20 dB			-20 dB
Repeatability ⁴			\pm 0.2 dB			\pm 0.2 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x2 (2x4) Optical switch	1405 ⁹ 62.5 μ Core MMF OM1			1405 ⁹ 62.5 μ Core MMF OM1		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}		0.3 dB ⁵	0.6 dB ⁵		0.3 dB ⁵	0.6 dB ⁵
Return loss ⁸		TBD			TBD	
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk		-80 dB			-80 dB	
Repeatability ⁴			\pm 0.1 dB			\pm 0.1 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x16 Optical switch	1406 ⁹ 62.5 μ Core MMF OM1			1406 ⁹ 62.5 μ Core MMF OM1		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}			1.6 dB ⁵			1.6 dB ⁵
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		< 0.25 dB			< 0.25 dB	
Crosstalk			-25 dB			-25 dB
Repeatability ⁴			\pm 0.04 dB			\pm 0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

SWITCH TECHNICAL SPECIFICATIONS

1x8 Optical switch	1409 SMF-28			1409 SMF-28		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm	800 to 1420 nm
Insertion loss ^{2,5,7}		1.0 dB	1.4 dB ⁵		1.0 dB	1.4 dB ⁵
Return loss ⁸	20 dB			20 dB		
Polarization dependent loss ²		TBD			TBD	
Wavelength dependent loss		TBD			TBD	
Crosstalk			-20 dB			-20 dB
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

Polarization maintaining optical fiber switches

1x4 PM optical switch 1550 nm	1303 ⁹ PM Panda 1550			1303 ⁹ PM Panda 1550		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1520 to 1570 nm	1520 to 1570 nm	1520 to 1570 nm	1520 to 1570 nm	1520 to 1570 nm	1520 to 1570 nm
Insertion loss ^{2,7}			1.5 dB			1.5 dB
Return loss ⁸	50 dB			50 dB		
Wavelength dependent loss			0.25 dB			0.25 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.05 dB			±0.05 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x4 PM optical switch 1310 nm	1304 ⁹ PM Panda 1310			1304 ⁹ PM Panda 1310		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1290 to 1330 nm	1290 to 1330 nm	1290 to 1330 nm	1290 to 1330 nm	1290 to 1330 nm	1290 to 1330 nm
Insertion loss ^{2,7}			1.5 dB			1.5 dB
Return loss ⁸	50 dB			50 dB		
Wavelength dependent loss			0.25 dB			0.25 dB
Crosstalk			-50 dB			-50 dB
Repeatability ⁴			±0.05 dB			±0.05 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

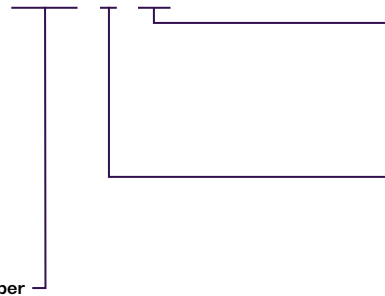
SWITCH TECHNICAL SPECIFICATIONS

2x2 Crossover PM optical switch 1310 nm	1305 ⁹ PM Panda 1310			1305 ⁹ PM Panda 1310		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1270 to 1350 nm	1270 to 1350 nm	1270 to 1350 nm	1270 to 1350 nm	1270 to 1350 nm	1270 to 1350 nm
Insertion loss ^{2,5,7}		0.8 dB	1.2 dB		0.8 dB	1.2 dB
Return loss ⁸		55 dB			55 dB	
Wavelength dependent loss		< 0.2 dB			< 0.2 dB	
Crosstalk		-60 dB			-60 dB	
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁷ cycles			1x10 ⁷ cycles		
PER	> 18 dB (20 dB typical)			> 18 dB (20 dB typical)		

2x2 Crossover PM optical switch 1550 nm	1306 ⁹ PM Panda 1310			1306 ⁹ PM Panda 1310		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1510 to 1590 nm	1510 to 1590 nm	1510 to 1590 nm	1510 to 1590 nm	1510 to 1590 nm	1510 to 1590 nm
Insertion loss ^{2,7}		0.8 dB	1.2 dB		0.8 dB	1.2 dB
Return loss ⁸		55 dB			55 dB	
Wavelength dependent loss		< 0.2 dB			< 0.2 dB	
Crosstalk		-60 dB			-60 dB	
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		
PER	> 18 dB (20 dB typical)			> 18 dB (20 dB typical)		

ORDERING INFORMATION

SWITCH - **XXXX** - **X** - **XX** - **PXIE**
SWITCH - **XXXX** - **X** - **XX** - **MTRQ**



Connector type

FC = FC/PC
FA = FC/APC
SC = SC/PC
SA = SC/APC
MT = Multi-fiber connector

Number of switches

1 = 1 switch
2 = 2 switches (only available for models 1001 and 1101)
4 = 4 switches (only available for models 1008 and 1108)

Model number

SINGLE-MODE FIBER

1001 = 1x1 switch, single-mode, SMF-28
1003 = 1x4 switch, single-mode, SMF-28
1004 = 2x2 crossover switch, single-mode, SMF-28
1005 = 1x2 duplex switch, single-mode, SMF-28
1006 = 1x16 switch, single-mode, SMF-28, (SC/PC, SC/APC only)
1008 = Quad 1x2 switch, single-mode, SMF-28, (SC/PC, SC/APC only)
1009 = 1x8 switch, single-mode, SMF-28
1010 = 1x8 switch, single-mode, SMF-28, (MT connector only)
1012 = 1x12 switch, single-mode, SMF-28 (MT connector)
1201¹ = 8x8 grid switch, single-mode, SMF-28
1202¹ = 16x16 grid switch, single-mode, SMF-28

POLARIZATION MAINTAINING FIBER

1303 = 1x4 switch, PM Panda 1550
1304 = 1x4 switch, PM Panda 1310
1305 = 2x2 crossover switch, PM Panda 1310
1306 = 2x2 crossover switch, PM Panda 1550

MULTI-MODE FIBER

1101 = 1x1 switch, multi-mode, 50 µm core OM3
1103 = 1x4 switch, multi-mode, 50 µm core OM3
1104 = 2x2 crossover switch, multi-mode, 50 µm core OM3
1105 = 1x2 duplex switch, multi-mode, 50 µm core OM3
1106 = 1x16 switch, multi-mode, 50 µm core OM3 (SC/PC, SC/APC only)
1107 = 1x12 switch, multi-mode, 50 µm core OM3 (MT connector only)
1108 = Quad 1x2 switch, multi-mode, 50 µm core OM3 (SC/PC, SC/APC only)
1111 = 1 x 7 switch, multi-mode, 50 µm core OM3 (SC/PC, SC/APC only)
1112 = 1 x 15 switch, multi-mode, 50 µm core OM3 (SC/PC, SC/APC only)
1403 = 1x4 switch, multi-mode, 62.5 µm core OM1
1405 = 1x2 duplex switch, multi-mode, 62.5 µm core OM1
1406 = 1x16 switch, multi-mode, 62.5 µm core OM1 (SC/PC, SC/APC only)
1409 = 1x8 switch, single-mode, SMF-28

1. This model is not available in MTRIQ

WARRANTY INFORMATION

This product comes with a
standard 3 year warranty.

An optional 5 year extended warranty is also available, please discuss with your sales representative at the time of purchase.

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.

See our website for more details.

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 optimal solutions.

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



© 2020 Quantifi Photonics Ltd. All rights reserved. No part of this publication may be reproduced, adapted, or translated in any form or by any means without the prior permission from Quantifi Photonics Ltd. All specifications are subject to change without notice. Please contact Quantifi Photonics for the latest information.

Version 1.18.0