



SwitchPXle-1003

SwitchPXle

Automated Optical Switch

SPEC SHEET

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

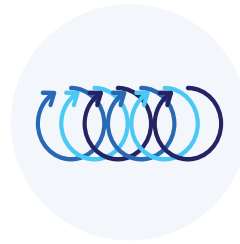


Features



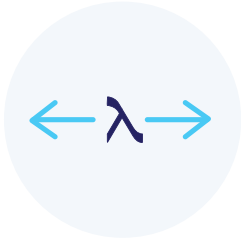
Low insertion loss

Maximise your power budget with the low insertion loss of SwitchPXIe.



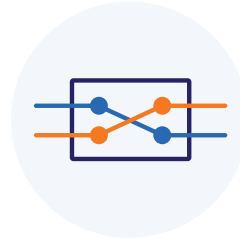
High repeatability

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



Wide coverage of operational wavelengths

One versatile tool to cover a wide variety of applications.



Wide variety of port configurations

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



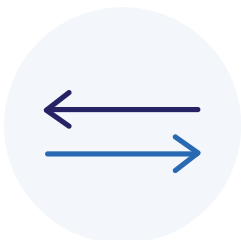
Supports single-mode and multi-mode applications

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



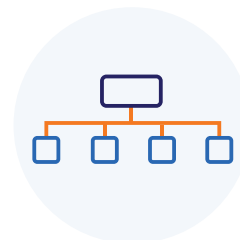
High durability, > 3 x 10⁷ cycles

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



Bidirectional

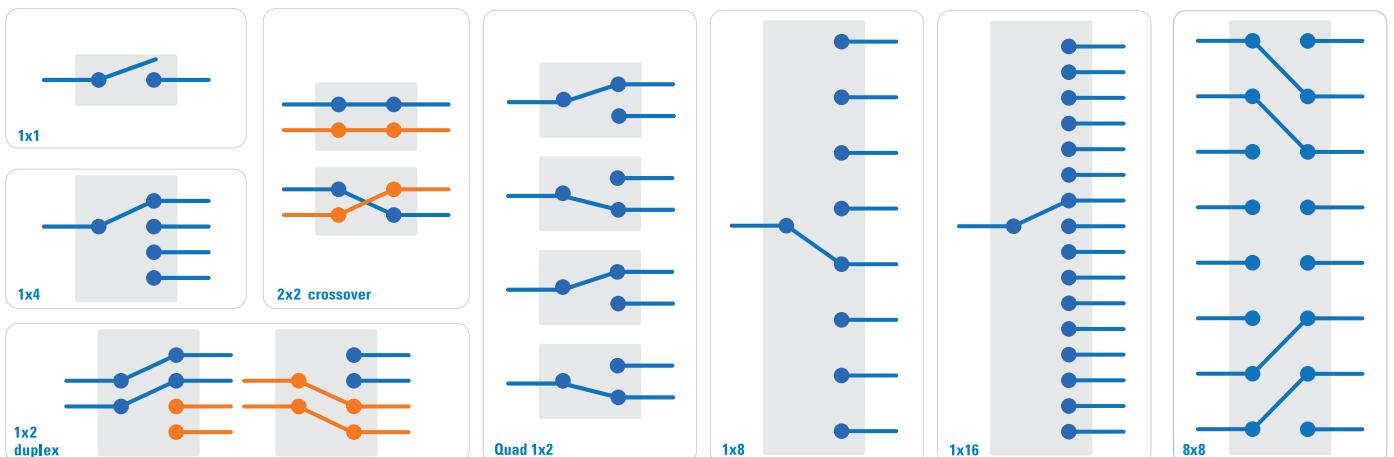
SwitchPXIe's are bidirectional, so you can use it in N x M or M x N configurations for superior versatility.



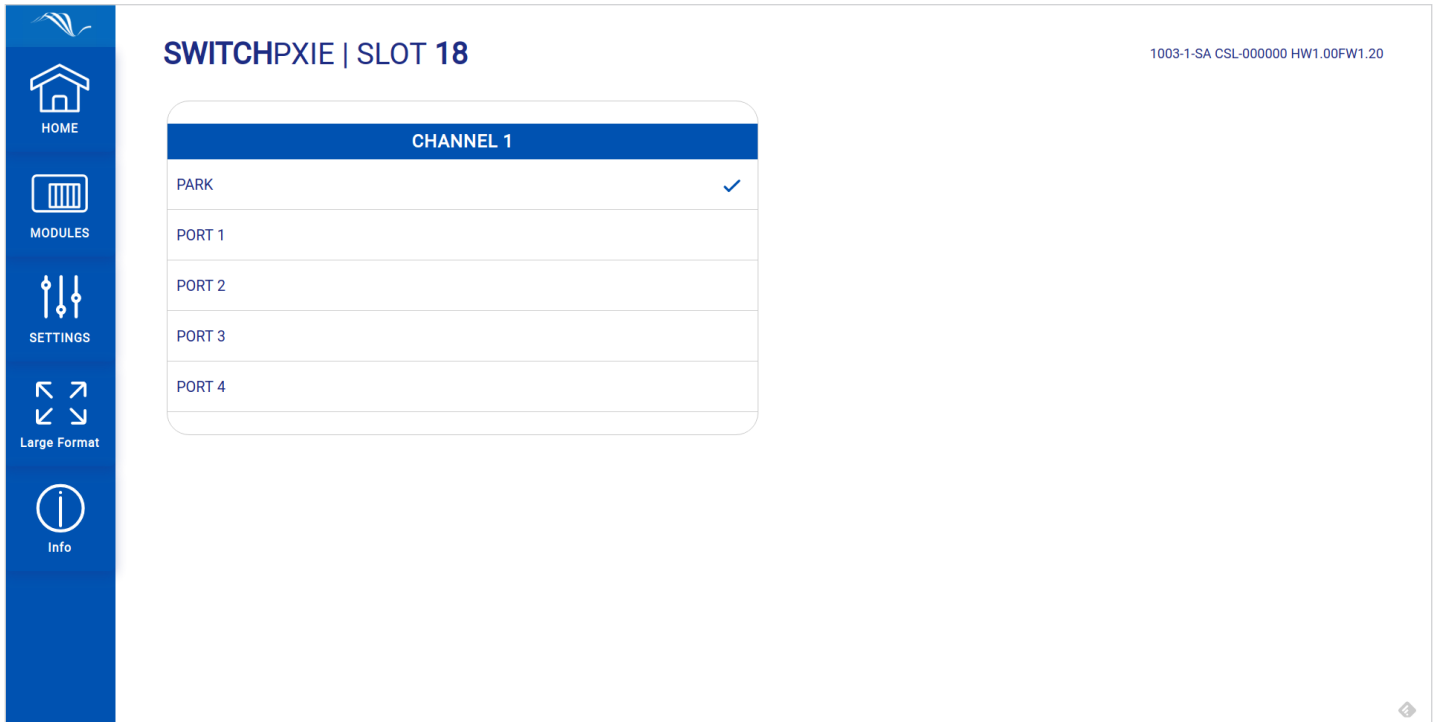
Seamless PXI integration

Take advantage of PXI's integrated triggering and synchronization capabilities across electrical and optical instruments.

Configuration Diagrams



cohesionUI graphical user interface makes it simple to control PXIe instruments from your PC or mobile device. Its cutting edge design offers a sleek modern interface, cross device compatibility, customizable views and remote network access.



SwitchPXIe-1003 1x4 switch control in cohesionUI



SwitchPXIe-1201 8x8 switch connection control in cohesionUI

The world-leader in PXI optical test & measurement

Our portfolio of PXI optical test modules is rapidly expanding to meet a wide range of customer requirements and applications.

Our experience designing and building advanced coherent optical communications instruments gives us the expertise to quickly and cost-effectively customize our products to meet your requirements. If you don't see what you need, contact us today at sales@coherent-solutions.com.



LaserPXIe Versatile Laser Source

Versatile range of laser sources including fully-tunable C and/or L band or fixed wavelength.



PowerPXIe Optical Power Meter

Large-area detector power meter available in various specifications. Options include external trigger input and analog output.



VOAPXIe Variable Optical Attenuator

Operates in fixed attenuation or constant output power modes.

Integrated power meter for precise output power control.



OSAPXIe Optical Spectrum Analyzer

Fast spectral test and measurement in a compact 2-slot module. O, C and L band options.



O2EPXIe Optical-to-Electrical Converter

High bandwidth, broadband O-to-E converter. AC or DC coupling, various conversion gain and operating wavelength range.



SwitchPXIe Automated Optical Switch

Proven reliability and fast switching time. Various wavelength options including 850 nm, 980 nm, 1310 nm & 1550 nm.



PassivePXIe Passive component integration

Integrate passive optical components of your choice in a single or dual slot module. WDM couplers, splitters, band-pass filters, PM beamsplitters, circulators and more.



DopplerPXIe Photonic Doppler Velocimeter

Purpose-built module for Photonic Doppler Velocimetry. A circulator, two VOAs and a passive coupler all built into one compact module.



TrayPXIe Passive Component Organizer

Protect your passive fiber optic components to keep your workspace tidy & safe.



The perfect PXI chassis to suit your application

From a smaller 4-slot to the 18-slot rack mountable chassis, we can provide the perfect National Instruments PXIe chassis to suit your application.



Technical Specifications

General Specifications	SwitchPXle
Bus connection	PXle
Optical connector type	FC/PC, FC/APC, SC/PC, SC/APC (1006, 1106: SC/PC, SC/APC only)
Slot count	1001, 1003, 1004, 1101, 1103, 1113, 1303, 1304: 1 slot 1005, 1006, 1008, 1009, 1104, 1105, 1106, 1108: 2 slots 1201, 1202: 5 slots
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")
Weight	~ 1 kg ~2.2 lbs
Operating temperature range	5 °C to 45 °C 41 °F to 113 °F

1x1 Optical Switch	1001 SMF-28			1101 ⁸ 50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm			800 nm to 1420 nm		
Insertion loss ²		0.5 dB	1.0 dB		0.3 dB ⁵	0.6 dB ⁵
Return loss ⁷		50 dB			TBD	
Polarization dependent loss ²			< 0.1 dB		TBD	
Wavelength dependent loss			< 0.3 dB		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	1003 SMF-28			1103 ⁸ 50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm			800 nm to 1420 nm		
Insertion loss ²		0.6 dB	0.8 dB		0.8 dB ⁵	1.2 dB ⁵
Return loss ⁷	50 dB			20 dB		
Polarization dependent loss ²			< 0.1 dB		TBD	
Wavelength dependent loss			0.2 dB		TBD	
Crosstalk			-50 dB		-25 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 SMF-28		
	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm		
Insertion loss ²		0.7 dB	1.0 dB
Return loss ⁷	50 dB		
Polarization dependent loss ²			< 0.10 dB
Wavelength dependent loss			< 0.20 dB
Crosstalk			-50 dB
Repeatability ⁴			±0.05 dB
Damage level			+27 dBm
Durability	1x10 ⁹ cycles		

1x4 Optical Switch	1113⁸		
	62.5 µm Core MMF		
	Minimum	Typical	Maximum
Wavelength range	800 nm to 1420 nm		
Insertion loss ²		0.8 dB ⁵	1.2 dB ⁵
Return loss ⁷	20 dB		
Polarization dependent loss ²	TBD		
Wavelength dependent loss	TBD		
Crosstalk	-25 dB		
Repeatability ⁴	±0.02 dB		
Damage level	+27 dBm		
Durability	1x10 ⁹ cycles		

2x2 Optical Switch	1004			1104⁸		
	SMF-28			50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm			800 nm to 1420 nm		
Insertion loss ²		0.8 dB	1.0 dB		0.8 dB ⁵	1.0 dB ⁵
Return loss ⁷		55 dB			TBD	
Polarization dependent loss			< 0.05 dB		TBD	
Wavelength dependent loss			< 0.25 dB		TBD	
Crosstalk		-55 dB			-50 dB	
Repeatability ⁴			±0.02 dB			±0.02 dB
Damage level			+27 dBm			+27 dBm
Durability	3x10 ⁷ cycles			3x10 ⁷ cycles		

1x16 Optical Switch	1006			1106⁸		
	SMF-28			50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm			800 nm to 1420 nm		
Insertion loss ²		0.7 dB	1.0 dB			1.6 dB ⁵
Return loss ⁷	50 dB			20 dB		
Polarization dependent loss ²			0.15 dB		TBD	
Wavelength dependent loss			0.30 dB		TBD	
Crosstalk			-50 dB			-25 dB
Repeatability ⁴			±0.05 dB			±0.04 dB
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

1x2 Duplex (2x4) Optical Switch	1005			1105⁸		
	SMF-28			50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Wavelength range	1260 nm to 1650 nm			800 nm to 1420 nm		
Insertion loss ²		0.5 dB	1.0 dB		0.3 dB ⁵	0.6 dB ⁵
Return loss ⁷		50 dB			TBD	
Polarization dependent loss ²			< 0.1 dB		TBD	
Wavelength dependent loss			< 0.3 dB		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		



	1008 SMF-28			1108 50 µm Core MMF		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Quad (1x2) Optical Switch						
Wavelength range	1260 nm to 1650 nm			1260 to 1650nm		
Insertion loss ²		0.5 dB	0.8 dB		0.9 dB	1.1 dB
Return loss ⁷	50 dB			20 dB		
Polarization dependent loss			< 0.1 dB			
Wavelength dependent loss			< 0.2 dB		< 0.25 dB	
Crosstalk			-50 dB			-25 dB
Repeatability ⁴			±0.02dB			±0.02 dm
Damage level			+27 dBm			+27 dBm
Durability	1x10 ⁹ cycles			1x10 ⁹ cycles		

	1201 SMF-28		
	Minimum	Typical	Maximum
8x8 Grid Optical Switch			
Wavelength range	1260 nm to 1650 nm		
Insertion loss ²		0.8 dB	1 dB
Return loss ⁷	45 dB		
Polarization dependent loss ²		< 0.4 dB	
Wavelength dependent loss		< 0.4 dB	
Crosstalk			-50 dB
Repeatability ⁴			±0.03dB
Damage level			+27 dBm
Durability	1x10 ⁹ cycles		

	1202 SMF-28		
	Minimum	Typical	Maximum
16x16 Grid Optical Switch			
Wavelength range	1260 nm to 1650 nm		
Insertion loss ²		0.8 dB	1.3dB
Return loss ⁷	45 dB		
Polarization dependent loss ²		< 0.4 dB	
Wavelength dependent loss		< 0.4 dB	
Crosstalk			-50 dB
Repeatability ⁴			±0.03dm
Damage level			+27 dBm
Durability	1x10 ⁹ cycles		

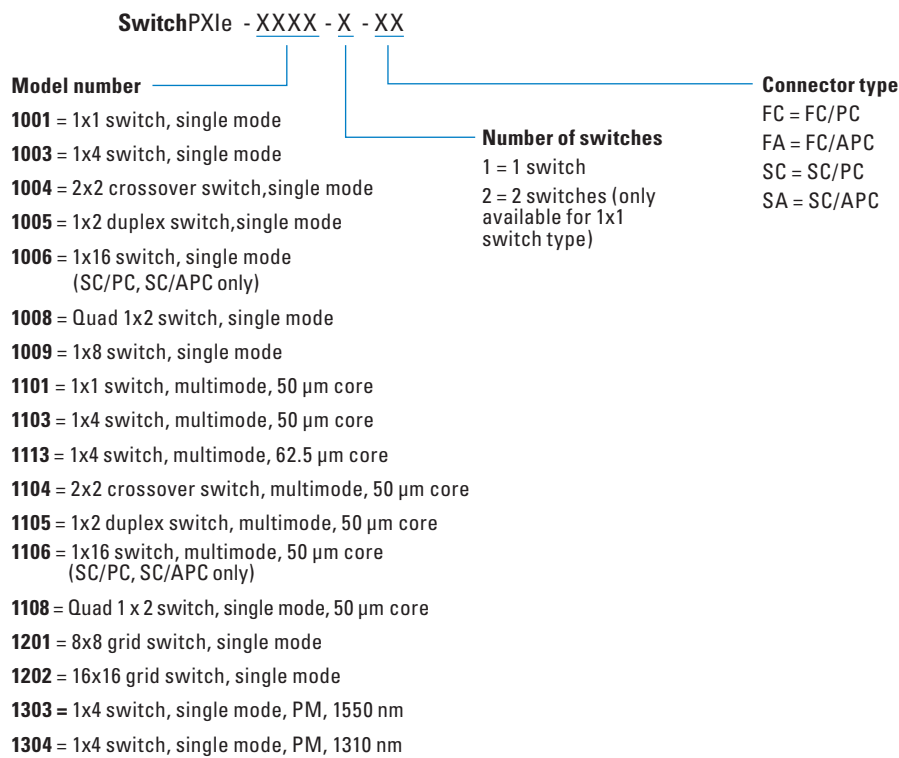
1x4 PM Optical Switch	1303 PM Panda 1550		
	Minimum	Typical	Maximum
Wavelength range	1520 nm to 1570 nm		
Insertion loss ²			1.5 dB
Return loss ⁷	50 dB		
Wavelength dependent loss			< 0.25 dB
Crosstalk			-50 dB
Repeatability ⁴			±0.05 dB
Damage level			+27 dBm
Durability	1x10 ⁹ cycles		

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

Notes:

- 1 Specifications are valid at 23 °C ± 3 °C
- 2 Excluding connectors. Add 0.2dB for SMF (0.1dB for MMF) per connector
- 3 Power off isolation is same as crosstalk
- 4 Repeatability is defined after 100 cycles
- 5 IL guaranteed at 850 and 1310nm, 23°
- 7 With FC/APC connectors
- 8 Preliminary specs

Ordering Information



About Coherent Solutions

Coherent Solutions is the world-leader in PXI optical test and measurement. Our portfolio of PXI optical test modules is rapidly expanding to meet the needs of engineers and scientists around the globe. From enabling pioneering experiments to driving highly-efficient production testing, you'll find us working with customers to solve complex problems with simple and intuitive solutions.

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

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