

# Optical Switch

IQ-9100



1x2, 1x4, 1x8, 1x12, 1x16, 1x24, 1x32, 2x2, 2x4

Singlemode and multimode

High performance

Fully programmable

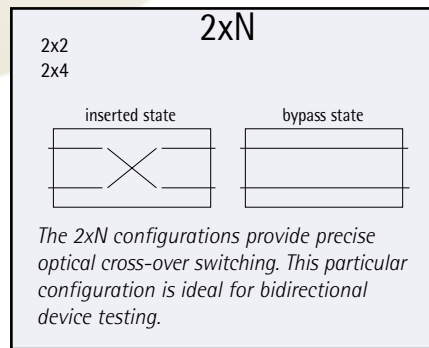
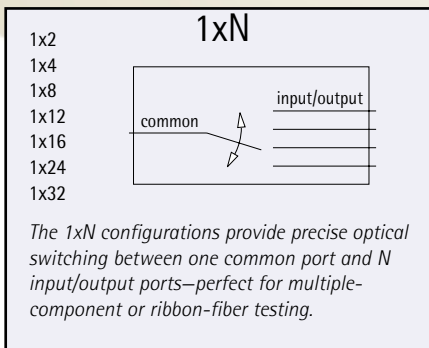


Fiber-optic test, measurement  
and monitoring instruments

**EXFO**

# The Optical Switching Solution

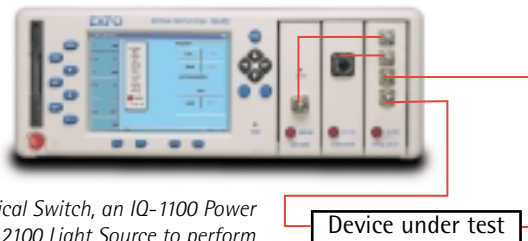
The IQ-9100 Optical Switch series provides highly accurate and repeatable fiber-to-fiber switching. As part of the IQ-200 Optical Test System, the IQ-9100 Optical Switch offers a choice of 1x2, 1x4, 1x8, 1x12, 1x16, 1x24, 1x32, 2x2 and 2x4 modules. Designed for minimal reflectance, the switches integrate precision optical components into a compact modular package. Both singlemode and multimode versions are available and offer a solution for all your optical switching needs.



A variety of switch configurations are available for both singlemode and multimode fibers. Singlemode options may be configured specifically for low PDL.

## The IQ Solution

The IQ product family includes a wide variety of modules along with vast expansion and integration capabilities. Configure applications using the IQ-9100 Optical Switches to be as simple or complex as needed. Benefit from a full line of compatible test modules that offer easy operation and flexible programmability in the user-friendly Windows environment.



Use an IQ-9122 2x2 Optical Switch, an IQ-1100 Power Meter and an IQ-2100 Light Source to perform bidirectional insertion loss measurements.



## Key Features

- Reduced instrument requirements
- Reduced manual intervention
- Increased flexibility
- Increased overall efficiency

## Measurement Applications

The IQ-9100 is ideal for the following measurement applications:

- Multiple-component testing
- Bidirectional testing
- Remote testing
- Signal routing
- Multichannel monitoring
- Complex automated testing
- Ribbon-fiber testing
- Bypass switching

# User-Friendly Interface

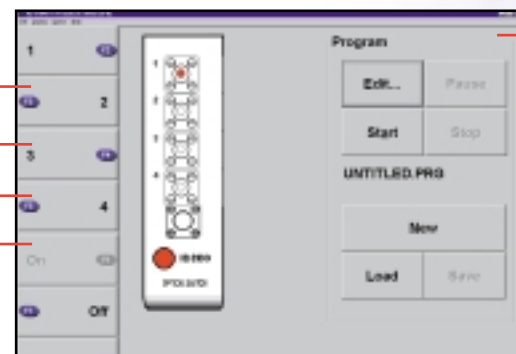
## Simple and Flexible GUI

- Windows interface
- Easy software control with buttons, front panel keys or keyboard
- Multiple-user configuration storage
- Simultaneous multiple applications for true multitasking
- Online help

## Impressive Performance

- 0.5 dB insertion loss (typical)
- $\pm 0.01$  dB repeatability
- $-80$  dB crosstalk
- $-55$  dB backreflection
- Bidirectional
- Low PDL option (singlemode)
- Over 10 million cycles

## IQ-9100 Optical Switch Application Interface



Create an automatic switching operation. Program up to 100 steps with a dwell time of up to 100 hours for excellent flexibility.

Simple manual-switch operation

## Specifications<sup>1</sup>

Model	1x2		1x4, 1x8, 1x12, 1x16, 1x24, 1x32, 2x4 <sup>6</sup>		2x2		
	Singlemode	Multimode	Singlemode	Multimode	Singlemode	Multimode	
Insertion loss <sup>2</sup> (dB)	typical	0.5	0.5	0.7	0.5	0.8	0.5
	maximum	1.5	1.5	1.7	1.7	1.5	1.5
Backreflection <sup>3</sup> (dB)	maximum	-55	-24	-55	-24	-55	-24
	maximum	$\pm 0.01$	$\pm 0.01$	$\pm 0.03$	$\pm 0.03$	$\pm 0.01$	$\pm 0.01$
Operating wavelengths (nm)	1290 to 1570	780 to 1350	1290 to 1650	780 to 1350	1290 to 1570	780 to 1350	
Polarization-dependent loss <sup>5</sup> (dB)	typical	$\leq 0.05$	-	$\leq 0.05$	-	$\leq 0.05$	-
	standard maximum	0.10	-	0.10	-	0.10	-
	on request maximum	0.05	-	0.05	-	0.05	-
	Maximum input power (dBm)	+24	+24	+24	+24	+24	+24
Switching time (ms)	25	25	25 per channel + 425 (debouncing)		25	25	
Number of channels	1x2	1x2	1x4, 1x8, 1x12, 1x16, 1x24, 1x32		2x2	2x2	
Crosstalk (dB)	-80	-80	-80	-80	-80	-80	

### Notes

1. Specifications valid at  $23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ .
2. Insertion loss per module, excluding connectors, measured at singlemode wavelengths of 1310 nm and 1550 nm, and multimode wavelength of 850 nm.
3. Backreflection is measured at singlemode wavelengths of 1310 nm and 1550 nm, with APC connectors and multimode wavelength of 850 nm.
4. Repeatability values are for 100 cycles per switch module at constant temperature with stabilized source/meter at singlemode wavelengths of 1310 nm and 1550 nm, and multimode wavelengths of 850 nm and 1300 nm.
5. Measured at 1550 nm. Lower polarization-dependent loss is available upon request.
6. Non blocking

## General Specifications

Switch		1x2	1x4	1x8, 1x12	1x16	1x24, 1x32	2x2	2x4
Number of slots		1	1	2	3	5	1	2
Dimensions cm (in)	Width	3.8 (1 1/2)	3.8 (1 1/2)	7.6 (3)	11.4 (4 1/2)	19.1 (7 1/2)	3.8 (1 1/2)	7.6 (3)
	Height	12.1 (4 3/4)	12.1 (4 3/4)	12.1 (4 3/4)	12.1 (4 3/4)	12.1 (4 3/4)	12.1 (4 3/4)	12.1 (4 3/4)
	Depth	26.2 (10 5/16)	26.2 (10 5/16)	26.2 (10 5/16)	26.2 (10 5/16)	26.2 (10 5/16)	26.2 (10 5/16)	26.2 (10 5/16)
Weight kg (lb)		0.5 (1.1)	0.8 (1.8)	0.9 (2.0)	0.9 (2.0)	1.4 (3.2)	0.5 (1.1)	1.0 (2.3)
Switch life		10 million cycles minimum						
Temperature	operating	10 °C to 40 °C (50 °F to 104 °F)						
	storage	-20 °C to 60 °C (-4 °F to 140 °F)						
Relative humidity maximum		80 % non-condensing at 40 °C						

## Software Options

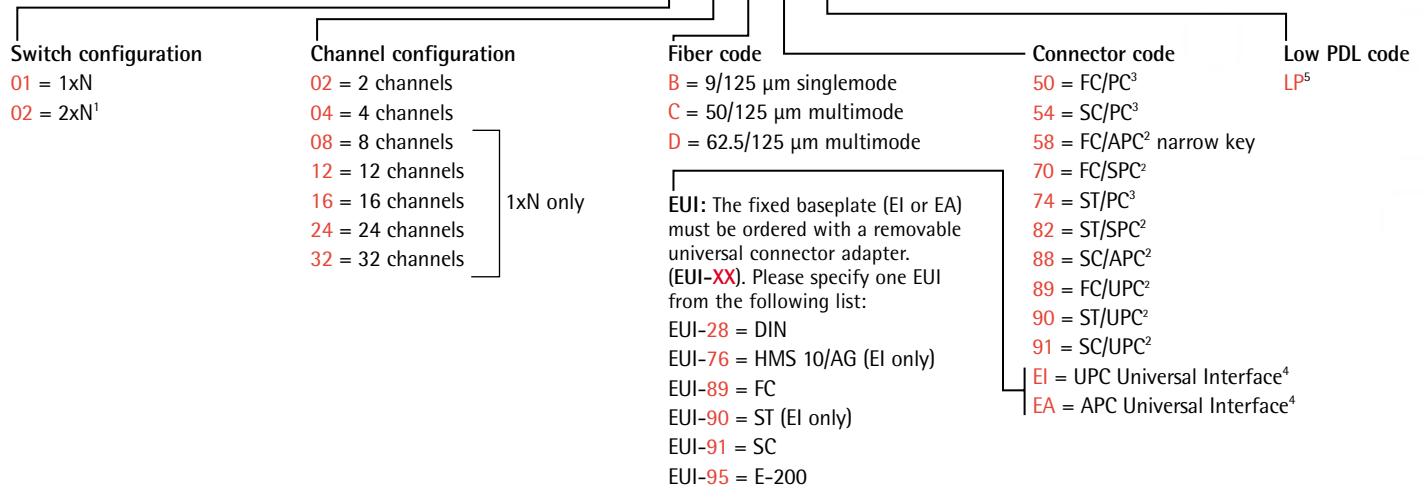
OCX controls and LabVIEW™ drivers

## Standards Accessories

Instruction manual and Certificate of Compliance

## Ordering Information

### IQ-9100-XX-XX-X-XX-XX



## Notes

- 2xN configurations available only with 02 and 04 channel options.
- Singlemode only.
- Multimode only.
- Available on 1x2, 1x4, 1x8, 2x2 and 2x4 switches.
- Available for singlemode units. Not with FC/APC or SC/APC connector.

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