

## OPTICAL SWITCH

# IQS-9100

R&D AND MANUFACTURING – OPTICAL

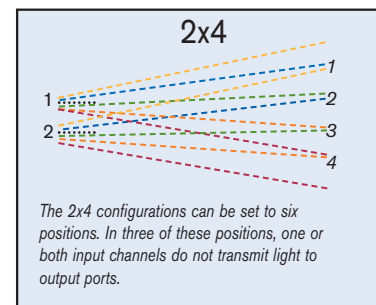
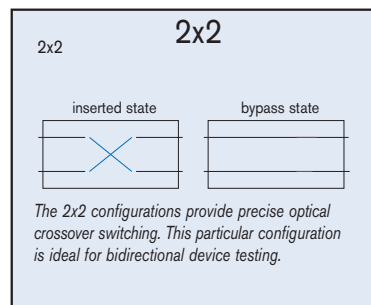
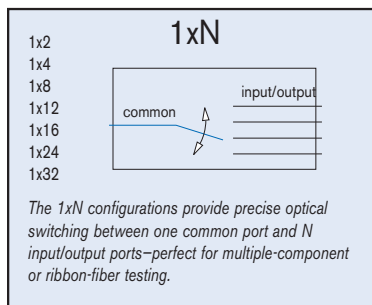


- 1x2, 1x4, 1x8, 1x12, 1x16, 1x24, 1x32, 2x2, 2x4
- Singlemode and multimode
- High performance
- Variety of connector options



# The Optical Switching Solution

The IQS-9100 Optical Switch series provides highly accurate and repeatable fiber-to-fiber switching. As part of the IQS-500 Intelligent Test System, the IQS-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.

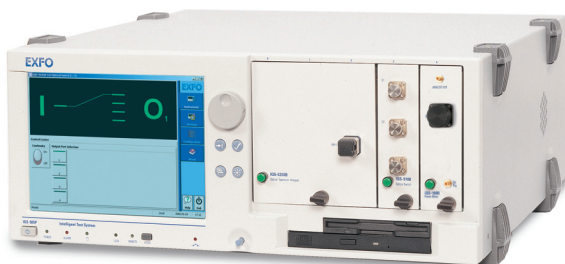


A variety of switch configurations are available for both singlemode and multimode fibers. Singlemode options may be configured specifically for low PDL.

## THE IQS-500 INTELLIGENT TEST SYSTEM

The new IQS-500 Intelligent Test System provides a flexible approach to optical test and measurement for manufacturing, automation, optical qualification and R&D. It combines powerful features and control capabilities for up to 100 modules.

Based on standard industrial PC architecture, the IQS-500 Intelligent Test System is a scalable modular platform that includes controllers, expansion units and a comprehensive range of plug-in test modules. The IQS-500 is also backward-compatible with most of EXFO's IQ-generation modules, allowing you to maximize the return on previous investments. The IQS-500 Intelligent Test System offers a powerful, easy-to-use environment to match your most demanding needs.



An IQS-9100 Optical Switch, an IQS-5250B Optical Spectrum Analyzer and an IQS-1600 High-Speed Power Meter combined with an IQS-505P five-slot controller

## KEY FEATURES

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

## MEASUREMENT APPLICATIONS

The IQS-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

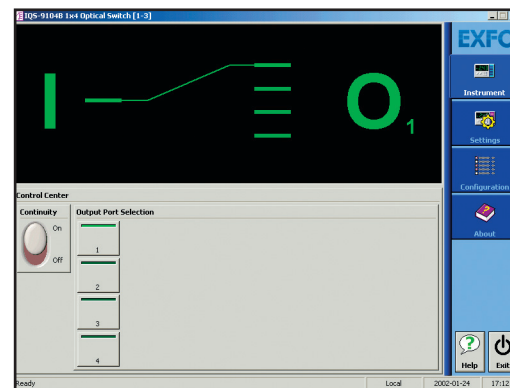
### SIMPLE AND FLEXIBLE GUI

- 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

### IQS-9100 OPTICAL SWITCH APPLICATION INTERFACE



Simple manual-switch operation

### SPECIFICATIONS <sup>a</sup>

Model	1x2		1x4, 1x8, 1x12, 1x16, 1x24, 1x32, 2x4 <sup>f</sup>				
	Singlemode	Multimode	Singlemode	Multimode	Singlemode	Multimode	
Insertion loss <sup>b</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>c</sup> (dB)	maximum	-55	-24	-55	-24	-55	-24
Repeatability <sup>d</sup> (dB)	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>e</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	25
Number of channels		1x2	1x2	1x4, 1x8, 1x12, 1x16, 1x24, 1x32	2x2	2x2	2x2
Crosstalk (dB)		-80	-80	-80	-80	-80	-80

#### NOTES

- a. Specifications valid at 23 °C  $\pm$  5 °C.
- b. Insertion loss per module, excluding connectors, measured at singlemode wavelengths of 1310 nm and 1550 nm, and multimode wavelength of 850 nm.
- c. Backreflection is measured at singlemode wavelengths of 1310 nm and 1550 nm, with APC connectors, and multimode wavelength of 850 nm.
- d. 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.
- e. Measured at 1550 nm. Lower polarization-dependent loss is available upon request.
- f. Non-blocking.

GENERAL SPECIFICATIONS

Switch		1x2	1x4	1x8, 1x12	1x16	1x24, 1x32	2x2	2x4
Number of slots		1	1	2 <sup>h</sup>	3 <sup>a</sup>	5	1	2 <sup>b</sup>
Dimensions	Width	3.6 cm (1 7/16 in)	3.6 cm (1 7/16 in)	7.4 cm (2 15/16 in)	11.2 cm (4 7/16 in)	18.8 cm (7 7/16 in)	3.6 cm (1 7/16 in)	7.4 cm (2 15/16 in)
	Height	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)	12.5 cm (4 15/16 in)
	Depth	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)	28.2 cm (11 1/8 in)
Weight		0.5 kg (1.1 lb)	0.8 kg (1.8 lb)	0.9 kg (2.0 lb)	0.9 kg (2.0 lb)	1.4 kg (3.2 lb)	0.5 kg (1.1 lb)	1.0 kg (2.3 lb)
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						

Instruments Drivers

LabVIEW™ drivers, SCPI commands and COM/DCOM libraries

Remote Control

With IQS-500: GPIB (IEEE-488.1, IEEE-488.2) Ethernet and RS-232

Standards Accessories

User Guide and Certificate of Compliance

NOTES

- a. 2 slots for MU/UPC connectors
- b. 1 slot for MU/UPC connectors
- c. 2xN configurations available only with 2- and 4-channel options.
- d. Singlemode only.
- e. Multimode only.
- f. Available on 1x2, 1x4, 1x8, 1x12, 1x24, 2x2 and 2x4 switches.
- g. Available for singlemode units. Not with FC/APC, SC/APC or MU/UPC connectors.
- h. 1x12 switches w/ EU1 connectors use 3 slots.

ORDERING INFORMATION

IQS-9100-XX-XX-X-XX-XX

Switch configuration

- 01 = 1xN
- 02 = 2xN<sup>c</sup>

Channel configuration

- 02 = 2 channels
- 04 = 4 channels
- 08 = 8 channels
- 12 = 12 channels
- 16 = 16 channels
- 24 = 24 channels
- 32 = 32 channels

Fiber

- B = 9/125 µm singlemode
- C = 50/125 µm multimode
- D = 62.5/125 µm multimode

Low-PDL

- 00 = No Low-PDL requested
- LP = Low-PDL<sup>g</sup>

Connector

- 50 = FC/PC<sup>e</sup>
- 54 = SC/PC<sup>e</sup>
- 58 = FC/APC<sup>d</sup> narrow key
- 74 = ST/PC<sup>e</sup>
- 88 = SC/APC<sup>d</sup>
- 89 = FC/UPC<sup>d</sup>
- 90 = ST/UPC<sup>d</sup>
- 91 = SC/UPC<sup>d</sup>
- 99 = MU/UPC<sup>d</sup>
- EI-EUI-28 = UPC/DIN 47256<sup>f</sup>
- EI-EUI-76 = UPC/HMS-10/AG<sup>f</sup>
- EI-EUI-89 = UPC/FC narrow key<sup>f</sup>
- EI-EUI-90 = UPC/ST<sup>f</sup>
- EI-EUI-91 = UPC/SC<sup>f</sup>
- EI-EUI-95 = UPC/E-2000<sup>f</sup>
- EA-EUI-28 = APC/DIN 47256<sup>d,f</sup>
- EA-EUI-89 = APC/FC narrow key<sup>d,f</sup>
- EA-EUI-91 = APC/SC<sup>d,f</sup>
- EA-EUI-95 = APC/E-2000<sup>d,f</sup>

Example: IQS-9100-01-04-B-LP-EI-EUI-89

Also available for the IQ-200 Optical Test System

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.EXFO.com](http://www.EXFO.com).

EXFO Corporate Headquarters > 400 Godin Avenue, Quebec City (Quebec) G1M 2K2 CANADA | Tel.: 1 418 683-0211 | Fax: 1 418 683-2170 | [info@EXFO.com](mailto:info@EXFO.com)

Toll-free: 1 800 663-3936 (USA and Canada) | [www.EXFO.com](http://www.EXFO.com)

<b>EXFO America</b>	3701 Plano Parkway, Suite 160	Plano, TX 75075 USA	Tel.: 1 800 663-3936	Fax: 1 972 836-0164
<b>EXFO Europe</b>	Omega Enterprise Park, Electron Way	Chandlers Ford, Hampshire S053 4SE ENGLAND	Tel.: +44 2380 246810	Fax: +44 2380 246801
<b>EXFO Asia</b>	151 Chin Swee Road, #03-29 Manhattan House	SINGAPORE 169876	Tel.: +65 6333 8241	Fax: +65 6333 8242
<b>EXFO China</b>	No.88 Fuhua, First Road Central Tower, Room 801, Futian District	Shenzhen 518048, CHINA	Tel.: +86 (755) 8203 2300	Fax: +86 (755) 8203 2306
	Beijing New Century Hotel Office Tower, Room 1754-1755 No. 6 Southern Capital Gym Road	Beijing 100044 P. R. CHINA	Tel.: +86 (10) 6849 2738	Fax: +86 (10) 6849 2662

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