SPEC SHEET

FTBx-9160

OPTICAL SWITCH

- Provides low-loss and repeatable fiber-to-fiber switching. Compact modular format ideal for test system integration.

EXFO | MULTILINK

KEY FEATURES

- Singlemode, multimode and polarization maintaining (PM) fiber models
- 1×N up to 1×32
- 2×2 insert-bypass switching
- Fast, repeatable and long life expectancy

RELATED PRODUCTS AND ACCESSORIES

Rackmount platform
LTB-8

Rackmount platform
LTB-2

Rackmount platform
LTB-12

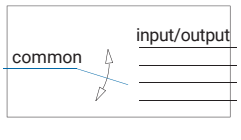
Variable attenuator
FTBx-3500

Light source
FTBx-2150

Power meter
FTBx-1750

1×N

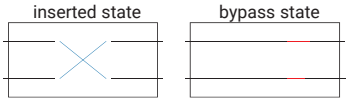
1×2
1×4
1×8
1×12
1×16
1×24
1×32



The 1×N configurations provide precise optical switching between one common port and N input/output ports—perfect for multiple-component or ribbon-fiber testing.

2×2

2×2

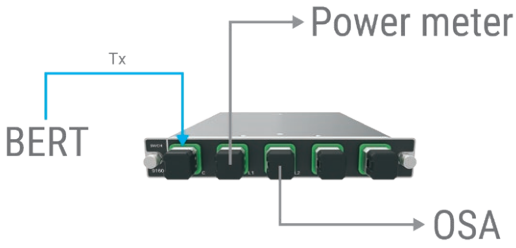


The 2×2 configurations provide precise optical crossover switching. This particular configuration is ideal for bidirectional device testing.

SUPPORTING VARIOUS APPLICATIONS

Optical switches are basic components integrated in almost every test station. The FTBx-9160 offers the specifications and features to support a wide variety of applications. Choose it to:

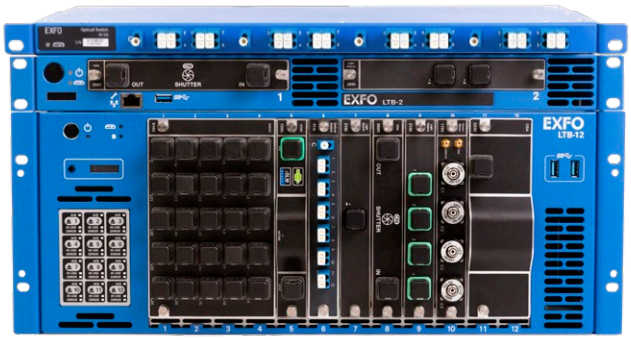
- Analyze transmitted signals using several types of test instruments, such as an optical spectrum analyzer and a bit-error-rate tester
- Reconfigure an R&D or manufacturing test station to allow testing of several types of devices
- Test multiple devices under test (DUTs) in parallel



LABORATORY AND FIELD PLATFORMS

The FTBx-9160 is designed to be used with the LTB-2, LTB-8, LTB-12 or FTB-4 Pro platforms. EXFO platforms are highly scalable and (except FTB-4 Pro) feature hot-swap capabilities for no downtime or interruption in tests, and greatly improved efficiency.

The FTBx-9160 can easily be remote-controlled by means of the standard LAN or GPIB interface using SPCI commands, IVI drivers or any other automation software.



SPECIFICATIONS

SINGLEMODE FIBER [a]							
Switch	**2×2 xt**	**1×2 xt**	**1×4**	**1×8**	**1×12**	**1×16**	**1×24, 1×32**
Technology	Opto-Mech	MEMS					
Insertion loss (dB) at 1310 nm [b, c]	0.9			1.2	1.6	1.8	2.0
Insertion loss (dB) at 1530 nm to 1650 nm [b, c]	0.7			1.0	1.2	1.4	1.5
Repeatability (dB) [d]	±0.02						
Back reflection (dB) [c, f]	−50	−60	−50 (−55)				
Crosstalk (dB) [c]	−65	−65	−50 (−60)				
Polarization-dependent loss (dB) (typical) [c, e]	0.09	0.09	0.09 (0.06)			0.11 (0.08)	
Switching time (ms)	<30		20	30			
Switch life (cycles)	$>10^7$	$>10^9$					
Operating wavelength (nm)	1240 to 1680						
Fiber type	Singlemode 9/125 µm						
Input power (damage threshold) (dBm)	27						

MULTIMODE FIBER [a]					
Switch	**2×2**	**1×2**	**1×4**	**1×8**	**1×12**
Technology	Opto-Mech	MEMS			
Insertion loss (dB) [g, c]	1.0		1.2		
Repeatability (dB) [c, d]	±0.02				
Stability (15 minutes) [c]	±0.01				
Back reflection (dB)	−30	−35		−30	
Crosstalk (dB)	−55	−60		−30	
Switching time (ms)	30				
Switch life (cycles)	$>10^7$	$>10^9$			
Wavelength range (nm)	780 to 1360				
Fiber type	50/125 OM3				
Input power (damage threshold) (dBm)	27				

a. Specifications valid at 23 °C ± 5 °C.
b. Insertion loss per module, including one connector.
c. Typical specifications.
d. Repeatability values are for 100 cycles per switch module at constant temperature with stabilized source/meter.
e. At 1550 nm.
f. With APC connectors.
g. Excluding connectors at 1300 nm.

POLARIZATION MAINTAINING FIBER [a]					
Switch	**2×2**	**1×2**	**1×4**	**1×8**	**1×12**
Technology	Opto-Mech	MEMS			
Insertion loss (dB) [b, c]	1.0			1.2	
Repeatability (dB) [c, d]	±0.02				
Back reflection (dB) [c, e]	−55				
Stability (15 minutes) [c]	±0.01				
Crosstalk (dB)	−65			−55	
Switching time (ms)	<30				
PER (dB) [b]	>18				
Axis alignment	Slow axis aligned with key				
Switch life (cycles)	$>10^7$	$>10^9$			
Wavelength range (nm)	1240 to 1680				
Wavelength dependant loss (dB) [f]	±0.02				
Fiber type	PM13 Panda				
Input power (damage threshold) (dBm)	27				

GENERAL SPECIFICATIONS				
Switch	**2×2, 1×2, 1×4**	**1×8**	**1×12**	**1×16, 1×24, 1×32**
Number of slots	1	2	3	4
Dimensions height width depth	25 mm (1 in) 159 mm (6 ¼ in) 185 mm (7 5⁄16 in)	50 mm (2 in) 159 mm (6 ¼ in) 185 mm (7 5⁄16 in)	75 mm (3 in) 159 mm (6 ¼ in) 185 mm (7 5⁄16 in)	100 mm (4 in) 159 mm (6 ¼ in) 185 mm (7 5⁄16 in)
Temperature operating storage	0 °C to 40 °C (32 °F to 104 °F) −40 °C to 70 °C (−40 °F to 158 °F)			
Maximum relative humidity	80 % non-condensing at 40 °C			
Instrument drivers	IVI drivers, SCPI commands and REST API			
Remote control	Via LTB and FTB platform services: GPIB (IEEE-488.1, IEEE-488.2), Ethernet and RS-232			
Standard accessories	User guide (available online only), certificate of compliance and test report			

a. Specifications valid at 23 °C ± 5 °C.
b. Excluding connectors.
c. Typical specifications.
d. Repeatability values are for 100 cycles per switch module at constant temperature with stabilized source/meter.
e. With APC connector.
f. Over ±20 nm range from 1310 and 1550 nm.

ORDERING INFORMATION

FTBx-9160-XX-XX-XX-XX-XX

Switch configuration
01 = 1×N
02 = 2×N [a]

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

Fiber type
B = 9/125 µm singlemode
C = 50/125 µm multimode
PM13 = PM13 polarization maintaining fiber

Crosstalk optimized [b]
XT = Crosstalk optimized

Connector
50 = FC/PC [c]
54 = SC/PC [c]
58 = FC/APC narrow key [d]
88 = SC/APC [d]
89 = FC/UPC [d]
91 = SC/UPC [d]
101 = LC/UPC [e]
104 = LC/APC [d, e]
EI-EUI-89 = UPC/FC narrow key [f]
EI-EUI-90 = UPC/ST [f]
EI-EUI-91 = UPC/SC [f]
EI-EUI-98 = UPC/LC [f]
EA-EUI-89 = APC/FC narrow key [d, f]
EA-EUI-91 = APC/SC [d, f]
EA-EUI-98 = APC/LC [d, f]

Example: FTBx-9160-01-04-B-EI-EUI-98

a. 2×N configurations available only with 2 channel option.
b. XT option available 1×2 and 2×2 singlemode models.
c. Multimode only.
d. Singlemode and PM13 fiber only.
e. Available for 1×24 and 1×32 switches.
f. Available on 1×2, 1×4, 1×8, 1×12, 1×16, and 2×2 switches.

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