Provides highly accurate and repeatable fiber-to-fiber switching.

KEY FEATURES
- Singlemode 1 x N up to 1 x 32
- Fast switching time of ≤30 ms
- Lifetime expectancy of more than 1 x 10⁹ cycles
- Variety of connector options

COMPATIBLE PRODUCTS AND ACCESSORIES
- Rackmount Platform LTB-8
- Variable Attenuator FTBx-3500
- Multi-User Interface EXFO Multilink
MEMS-BASED DESIGN

With its MEMS-based design, EXFO’s FTBx-9160 delivers durable performance in a compact package. Fast switching time and a 1-billion-cycle lifetime expectancy make it the perfect optical switch for demanding manufacturing applications. The FTBx-9160 MEMS Optical Switch is available for singlemode fibers with a choice of 1 x 2, 1 x 4, 1 x 8, 1 x 12, 1 x 16, 1 x 24 and 1 x 32 modules.

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

LTB-8 PLATFORM

The LTB-8 is a highly scalable and compact platform featuring the industry’s best 100G port density and hot-swap capabilities for no downtime or interruption in tests, and greatly improved efficiency.

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

#### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Switch</th>
<th>1 x 2, 1 x 4</th>
<th>1 x 8</th>
<th>1 x 12</th>
<th>1 x 16</th>
<th>1 x 24, 1 x 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating wavelength (nm)</td>
<td>1290 to 1650</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion loss (dB) at 1310 nm</td>
<td>0.9</td>
<td>1.2</td>
<td>1.6</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Insertion loss (dB) at 1530 nm to 1650 nm</td>
<td>0.7</td>
<td>1.0</td>
<td>1.2</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Repeatability (dB)</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Backreflection (dB) (typical)</td>
<td></td>
<td>–50 (–55)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crosstalk (dB) (typical)</td>
<td>50</td>
<td>(60)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polarization-dependent loss (dB) (typical)</td>
<td>0.09 (0.06)</td>
<td>0.11 (0.08)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Switching time (ms)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Fiber type</td>
<td>Singlemode 9/125 μm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input power (damage threshold) (dBm)</td>
<td>27</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Switch</th>
<th>1 x 2, 1 x 4</th>
<th>1 x 8</th>
<th>1 x 12</th>
<th>1 x 16, 1 x 24</th>
<th>1 x 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of slots</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>height</td>
<td>25 mm (1 in)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>width</td>
<td>159 mm (6 ¼ in)</td>
<td>159 mm (6 ¼ in)</td>
<td>159 mm (6 ¼ in)</td>
<td>159 mm (6 ¼ in)</td>
<td>159 mm (6 ¼ in)</td>
</tr>
<tr>
<td>depth</td>
<td>185 mm (7 ½ in)</td>
<td>185 mm (7 ½ in)</td>
<td>185 mm (7 ½ in)</td>
<td>185 mm (7 ½ in)</td>
<td>185 mm (7 ½ in)</td>
</tr>
<tr>
<td>Switch life</td>
<td>1 billion (10⁹) cycles minimum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>operating</td>
<td>0 °C to 40 °C (32 °F to 104 °F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>storage</td>
<td>–40 °C to 70 °C (–40 °F to 158 °F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum relative humidity</td>
<td>80 % non-condensing at 40 °C</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Instrument Drivers

IVI drivers and SCPI commands.

#### Remote Control

With LTB-8 and Ethernet.

#### Standard Accessories

User guide, certificate of compliance and calibration certificate.

### Notes

a. Specifications valid at 23 °C ± 5 °C.
b. Insertion losses 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.
## ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Channel configuration</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>02 = 2 channels</td>
<td>88 = FC/APC narrow key</td>
</tr>
<tr>
<td>04 = 4 channels</td>
<td>89 = FC/UPC</td>
</tr>
<tr>
<td>08 = 8 channels</td>
<td>91 = SC/UPC</td>
</tr>
<tr>
<td>12 = 12 channels</td>
<td>101 = LC/UPC</td>
</tr>
<tr>
<td>16 = 16 channels</td>
<td>104 = LC/APC</td>
</tr>
<tr>
<td>24 = 24 channels</td>
<td>EI-EUI-89 = UPC/FC narrow key</td>
</tr>
<tr>
<td>32 = 32 channels</td>
<td>EI-EUI-90 = UPC/ST</td>
</tr>
<tr>
<td></td>
<td>EI-EUI-91 = UPC/SC</td>
</tr>
<tr>
<td></td>
<td>EI-EUI-98 = UPC/LC</td>
</tr>
<tr>
<td></td>
<td>EA-EUI-89 = APC/FC narrow key</td>
</tr>
<tr>
<td></td>
<td>EA-EUI-91 = APC/SC</td>
</tr>
<tr>
<td></td>
<td>EA-EUI-98 = APC/LC</td>
</tr>
</tbody>
</table>

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

### Notes

a. For 2 x N and multimode configurations, please refer to the FTBx-9150 ordering information.

b. Not available for 1 x 32 switches.

c. Available for 1 x 32 switches only.