## LTBe-9110

MEMS OPTICAL SWITCH


## KEY FEATURES

RELATED PRODUCTS AND ACCESSORIES
Arrays of $1 \times 4$ and $1 \times 8$ to optimize port density
Fast switching time of $<30 \mathrm{~ms}$
Product lifespan of more than $1 \times 10^{9}$ cycles

[^0]

Rackmount platform LTB-12


Platform FTB-4 Pro


Optical light source FTBx-2150

## MEMS-BASED DESIGN

With its MEMS-based design, EXFO's LTBe-9110 delivers durable performance in a compact package. Fast switching time and a 1-billion-cycle product lifespan make it the perfect optical switch for demanding manufacturing applications. The LTBe-9110 MEMS optical switch is available for singlemode fibers with a choice of $1 \times 4$ (array of 4 ) and $1 \times 8$ (array of 8 ). Other port count and configurations may be available upon request.

## SUPPORTING VARIOUS APPLICATIONS

Optical switches are basic components integrated in almost every test station. The LTBe-9110 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

LTBe-9110 product is designed to be used with LTB-2, LTB-8, LTB-12, FTB-4 Pro or LTK-1 platforms. Simply connect the LTBe-9110 to the USB port and it is automatically recognized by the ToolBox system. EXFO platforms are highly scalable and (except FTB-4 Pro and LTK-1) feature hot-swap capabilities for no downtime or interruption in tests, and greatly improved efficiency.

The LTBe-9110 can easily be remote-controlled when connected to the LTB or FTB platforms. Automation is possible by means of the standard LAN or GPIB interface using SCPI commands, IVI drivers or any other automation software.



The $1 \times N$ configurations provide precise optical switching between one common port and $N$ input/output ports-perfect for multiple-component or ribbon-fiber testing. Array configurations repeat this pattern.


| SPECIFICATIONS ${ }^{\text {a }}$ |  |  |  |
| :---: | :---: | :---: | :---: |
| Switch | 1×4 |  | 1×8 |
| Insertion loss (dB) ${ }^{\mathrm{b}, \mathrm{c}, \mathrm{d}}$ | 0.9 |  | 1.2 |
| Operating wavelength ( nm ) |  | 1240 to 1680 |  |
| Repeatability (dB) ${ }^{\text {e }}$ |  | $\pm 0.02$ |  |
| Backreflection (dB) ${ }^{\text {c }}$ |  | -50 |  |
| Crosstalk (dB) (typical) |  | 50 (60) |  |
| Polarization-dependent loss (dB) ${ }^{\text {c,f }}$ |  | 0.15 |  |
| Switching time (ms) ${ }^{\text {c }}$ |  | < 30 |  |
| Fiber type |  | Singlemode 9/125 $\mu \mathrm{m}$ |  |
| Input power (damage threshold) (dBm) |  | 27 |  |

## GENERAL SPECIFICATIONS

| Size ( $\mathrm{H}^{\text {x W x D }}$ ) |  | $22 \mathrm{~mm} \times 440 \mathrm{~mm} \times 203 \mathrm{~mm}\left(14 / 16\right.$ in $\times 17^{5 / 16}$ in $\times 8$ in $)$ |
| :---: | :---: | :---: |
| Switch life |  | 1 billion ( $10^{9}$ ) cycles minimum |
| Temperature | Operating Storage | $0^{\circ} \mathrm{C}$ to $40^{\circ} \mathrm{C}\left(32^{\circ} \mathrm{F}\right.$ to $\left.104^{\circ} \mathrm{F}\right)$ <br> $-40^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right.$ to $\left.158^{\circ} \mathrm{F}\right)$ |
| Maximum relative humidity |  | $80 \%$ non-condensing at $40{ }^{\circ} \mathrm{C}$ |
| Operation |  | LTBe-9110 must be connected to an EXFO platform using the provided USB cable. Supported platforms: LTB-1, LTB-2, LTB-8, LTB-12 and FTB-4 Pro. |
| 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 |  | USB cable, user guide ${ }^{\text {g }}$, rackmount bracket and test report |

[^1]
## ORDERING INFORMATION



Example: LTBe-9114-01-04-B-101
a. Available for 4 array configurations.

EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to www.EXFO.com/contact.

For the most recent patent marking information, please visit www.EXFO.com/patent. EXFO is certified ISO 9001 and attests to the quality of these products. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit www.EXFO.com/recycle. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.
For the most recent version of this spec sheet, please go to www.EXFO.com/specs.
In case of discrepancy, the web version takes precedence over any printed literature.


[^0]:    Very compact $1 ⁄ 2 \mathrm{U}$ rackmount

[^1]:    a. Specifications valid at $23^{\circ} \mathrm{C} \pm 2{ }^{\circ} \mathrm{C}$.
    b. Insertion loss per module, including one connector. For guaranteed specification, add 0.55 dB .
    c. Typical specifications.
    d. From 1240 to 1260 nm and 1650 to 1680 nm , add 0.5 dB insertion loss (typical).
    e. Repeatability values are for 100 cycles per switch module at constant temperature with stabilized source/meter.
    f. At 1550 nm .
    g. Available online only.

