## FTBx-9150 Optical Switch



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

## KEY FEATURES

$1 \times 2,1 \times 4,1 \times 8,1 \times 12,1 \times 16,1 \times 24,1 \times 32,2 \times 2,2 \times 4$
Singlemode and multimode
High performance
Variety of connector options

RELATED PRODUCTS AND ACCESSORIES

## THE OPTICAL SWITCHING SOLUTION

The FTBx－9150 Optical Switch series provides highly accurate and repeatable fiber－to－fiber switching．As part of the LTB－8－based test systems，the FTBx－9150 Optical Switch offers a choice of $1 \times 2,1 \times 4,1 \times 8,1 \times 12,1 \times 16,1 \times 24,1 \times 32,2 \times 2$ and $2 \times 4$ 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．



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


## SUPPORTING VARIOUS APPLICATIONS

Optical switches are basic components integrated into almost every test station．The FTBx－9150 offers specifications and features to support a wide variety of applications：
，Multiple component testing
，Bidirectional testing
，Automated testing
，Remote testing
，Signal monitoring
，Equipment sharing

## 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－9150 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．


| SPECIFICATIONS ${ }^{\text {a }}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model | $1 \times 2$ |  | $1 \times 4,1 \times 8,1 \times 12,1 \times 16,1 \times 24,1 \times 32,2 \times 4{ }^{\text {b }}$ |  | $2 \times 2$ |  |
| Mode | Singlemode | Multimode | Singlemode | Multimode | Singlemode | Multimode |
| Insertion loss ${ }^{\text {c }}$ (dB) typical maximum | $\begin{aligned} & 0.5 \\ & 1.5 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.5 \end{aligned}$ | $\begin{aligned} & 0.7 \\ & 1.7 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.7 \end{aligned}$ | $\begin{aligned} & 0.8 \\ & 1.5 \end{aligned}$ | $\begin{aligned} & 0.5 \\ & 1.5 \end{aligned}$ |
| Backreflection ${ }^{\text {d }}(\mathrm{dB})$ maximum | -55 | -24 | -55 | -24 | -55 | -24 |
| Repeatability ${ }^{e}(\mathrm{~dB}) \quad$ maximum | $\pm 0.01$ | $\pm 0.01$ | $\pm 0.03$ | $\pm 0.03$ | $\pm 0.01$ | $\pm 0.01$ |
| Operating wavelengths (nm) | 1290 to 1650 | 780 to 1350 | 1290 to 1650 | 780 to 1350 | 1290 to 1650 | 780 to 1350 |
| Polarization-dependent loss ${ }^{\dagger}(\mathrm{dB})$ typical standard maximum | $\begin{gathered} \leq 0.05 \\ 0.10 \end{gathered}$ | - | $\begin{gathered} \leq 0.05 \\ 0.10 \end{gathered}$ | - | $\begin{gathered} \leq 0.05 \\ 0.10 \end{gathered}$ | - |
| Maximum input power ( dBm ) | +24 | +24 | +24 | +24 | +24 | +24 |
| Switching time (ms) | 25 | 25 | 25 per chann | debouncing) | 25 | 25 |
| Number of channels | $1 \times 2$ | $1 \times 2$ | $1 \times 4,1 \times 8,1 \times$ | , $1 \times 24,1 \times 32$ | $2 \times 2$ | $2 \times 2$ |
| Crosstalk (dB) | -80 | -80 | -80 | -80 | -80 | -80 |

## GENERAL SPECIFICATIONS

| Switch | $1 \times 2$ | $1 \times 4$ | $1 \times 8$ | $1 \times 12,1 \times 16$ | $1 \times 24,1 \times 32$ | $2 \times 2$ | $2 \times 4$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number of slots | 1 | 2 | 3 | 4 | 4 | 1 | 2 |
| DimensionsHeight <br>  <br>  <br>  <br>  <br> Width <br> Depth | $\begin{aligned} & 25 \mathrm{~mm}(1 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}(67 / 8 \mathrm{in}) \end{aligned}$ | $\begin{aligned} & 50 \mathrm{~mm}(2 \mathrm{in}) \\ & 159 \mathrm{~mm}\left(6^{1 / 4} \mathrm{in}\right) \\ & 185 \mathrm{~mm}\left(6^{7 / 8} \mathrm{in}\right) \end{aligned}$ | $\begin{aligned} & 75 \mathrm{~mm}(3 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}(67 / 8 \mathrm{in}) \end{aligned}$ | $\begin{aligned} & 100 \mathrm{~mm}(4 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}(67 / 8 \mathrm{in}) \end{aligned}$ | $\begin{aligned} & 100 \mathrm{~mm}(4 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}\left(6^{7 / 8} \mathrm{in}\right) \end{aligned}$ | $\begin{aligned} & 25 \mathrm{~mm}(1 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}(67 / 8 \mathrm{in}) \end{aligned}$ | $\begin{aligned} & 50 \mathrm{~mm}(2 \mathrm{in}) \\ & 159 \mathrm{~mm}(61 / 4 \mathrm{in}) \\ & 185 \mathrm{~mm}(67 / 8 \mathrm{in}) \end{aligned}$ |
| Switch life | 10 million cycles minimum |  |  |  |  |  |  |
| Temperature operating storage | $10^{\circ} \mathrm{C}$ to $40^{\circ} \mathrm{C} \quad\left(50^{\circ} \mathrm{F}\right.$ to $104^{\circ} \mathrm{F}$ ) $-20^{\circ} \mathrm{C}$ to $60^{\circ} \mathrm{C}\left(-4^{\circ} \mathrm{F}\right.$ to $\left.140^{\circ} \mathrm{F}\right)$ |  |  |  |  |  |  |
| Relative humidity maximum | $80 \%$ non-condensing at $40^{\circ} \mathrm{C}$ |  |  |  |  |  |  |
| Instruments Drivers <br> IVI drivers and SCPI commands |  |  |  |  |  |  |  |
| Remote Control <br> With LTB-8 and Ethernet |  |  |  |  |  |  |  |
| Standards Accessories <br> User guide and certificate of compliance |  |  |  |  |  |  |  |

## Notes

a. Specifications valid at $23^{\circ} \mathrm{C} \pm 5^{\circ} \mathrm{C}$
b. Non-blocking.
c. Insertion loss per module, excluding connectors, measured at singlemode wavelengths of 1310 and 1550 nm , and multimode wavelength of 850 nm .
d. Backreflection is measured at singlemode wavelengths of 1310 and 1550 nm , with APC connectors, and multimode wavelength of 850 nm .
e. Repeatability values are for 100 cycles per switch module at constant temperature with stabilized source/meter at singlemode wavelengths of 1310 and 1550 nm , and multimode wavelengths of 850 and 1300 nm .
f. Measured at 1550 nm .

## ORDERING INFORMATION



Example: FTBx-9150-01-04-B-EI-EUI-89

## Notes

a. $2 \times \mathrm{N}$ configurations available only with 2 - and 4 -channel options.
b. Singlemode only.
c. Multimode only.
d. Available on $1 \times 2,1 \times 4,1 \times 8,1 \times 12,1 \times 16,2 \times 2$ and $2 \times 4$ switches.
e. Available for $1 \times 24$ and $1 \times 32$ switches.

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