

## Path and Equipment Protection Switch

### BrightSwitch™ 1 x 2

**Key Features**

- Under 25 ms automatic optical switching
- Independent of transmission rate and format
- Monitoring on both active and standby links
- Simple installation
- Low insertion loss
- Fail-safe, field-proven optical technology

**Applications**

- Path protection for ATM, IP, and DWDM systems
- Source or equipment protection

**Compliance**

- NEBS 3 compliant
- FCC Class B, Part 15

The WaveReady™ 2000 series BrightSwitch 1 x 2 module uses low-loss optical switching technology to provide economical protection against fiber cuts and failures. It implements redundant path protection for asynchronous transfer mode (ATM), Internet protocol (IP), and dense wavelength division multiplexing (DWDM) transmission systems.

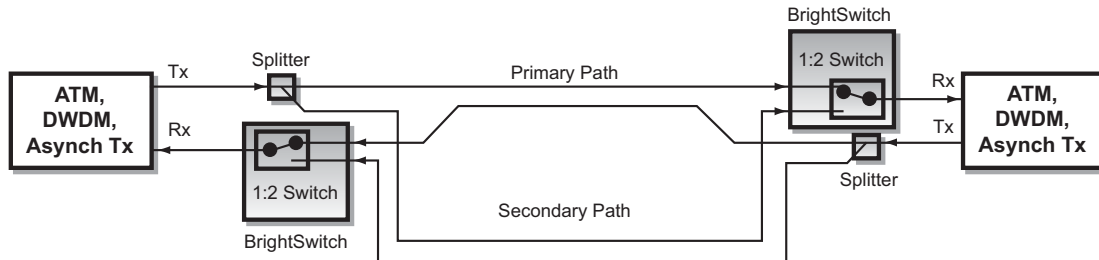
BrightSwitch operation is independent of rate, format, and wavelength, making it a universal solution for all types of transmission equipment.

At the transmit end, a 50:50 optical splitter divides the signal for transmission on primary and secondary paths. At the receive end, BrightSwitch monitors optical power levels on the primary and secondary paths, then compares these levels to a stored threshold. When the primary link power level drops below threshold, BrightSwitch alarms and automatically switches traffic to the secondary link. The switch occurs in less than 25 ms.

The BrightSwitch 1 x 2 module includes substantial configuration and diagnostic capabilities, which are accessible through Transaction Language 1 (TL1) and menu mode interfaces. Light emitting diodes indicate the currently active link and the status of the primary and secondary links' optical power levels. Power levels are set with a manual push-button.

## 2

## Path Protection Application



## Specifications

## Parameter

## Specification

## Optical

Input wavelength	1290 to 1330 nm and 1525 to 1590 nm (all ports)
Fiber type	Single mode
Insertion loss	<2.5 dB
Isolation	>60 dB
Return loss	>30 dB
Monitor operating range	-40 to -5 dBm at 1310, 1550 nm
Monitor accuracy	±0.5 dB
Switching threshold	-6.0 dB
Switching speed	<25 ms (maximum)
Connectors	SC/PC

## Management

Craft interface	TL1 and menu mode
Craft port	DB9 female connector, RS232
Alarms	Three Form B relay output alarms, active closed, one external sense input
Displays	LED display
Controls	Push-button sets threshold mode switch to select auto-switching, primary, or secondary inputs

## Physical

Mounting	FiberShelf
Power	2 W maximum, -48 V DC nominal (-40 to -60 V DC)
Dimensions (including bulkheads)	2.54 x 15.24 x 24.77 cm (1 x 6 x 9.75 in)

## Environmental

Operating temperature	-5 to 55°C
Storage temperature	-40 to 85°C
Humidity	80% RH non-condensing

**Ordering Information**

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at [customer.service@jdsu.com](mailto:customer.service@jdsu.com).

**Sample: 502.200.006 and 519.530.007 (BrightSwitch 1x2 single switch, dual monitor, SC with FiberShelf®)**

Product Code	Description
502.200.006	BrightSwitch 1x2 single switch, dual monitor, SC
500.300.006	Bi-dir coupler/splitter, wavelength independent coupler (1310 or 1550 nm), SC

Accessories Code	Description
519.530.007	FiberShelf®
520.209.315	48/110 V power adapter

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