

Optical Switch Model 4400

Ultra Low-Loss, Configurable Optical Switch

The 4400 is a compact and robust photonic switch with ultra-low insertion loss. The 1xN switch has loss of < 0.5 dB, loss repeatability of < 0.005, and PDL of < 0.02 dB typical.

Flexible Configurations

Using alternative mechanical technology, we can configure this switch for 1xN switching, up to 1x32. Call the factory for more information on this low-loss, low-PDL mechanical switching configuration.

Combinations of multiple 1xN switches or custom configuration and additional optical components are available. Standard units can be uniquely configured to a maximum of 36 input and output ports. All come with dBm Optics' robust, reliable and easy-to-use graphical touch interface and outstanding SCPI remote command support.

Reliability

Our technology provides a dependable long-term solution to optical switching applications. Longevity tests have shown many of dBm Optics' switch modules have successfully completed more than 2 billion switch cycles without failure.

Summary

- Ultra-low insertion loss (< 0.3 dB typical)
- Ultra-low PDL (< 0.02 dB)
- Low insertion loss variation (< 0.005 dB)
- High optical power handling (27 dBm typical)
- Low cross-talk/isolation (> 70 dB)
- Fast switching (< 13 ms)
- All-optical switch is protocol and bit-rate independent
- Very simple to use

Ultra Low-Loss, Fully Reconfigurable Optical Switch



Overview

Optical Switch (Model 4400)

Setup stores and recalls configurations

Data entry and instrument setup are easy with the built-in knob

High resolution 4"x6" display brings data to life

Fast 13 ms switching



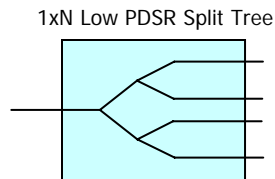
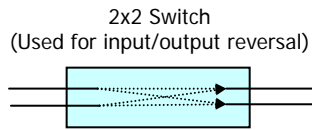
Flexible channel configurations from 1x2 to 1x32

High-speed GPIB makes the 4400 simple to integrate into any automated test rack

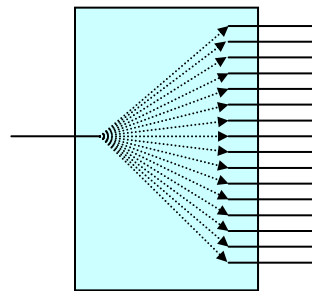
Built-in Ethernet means accessibility over a network, from a desktop, from home or another remote location via a VPN

Optical quality is unparalleled:
 < 0.02 dB PDL
 < 0.05 dB insertion loss repeatability

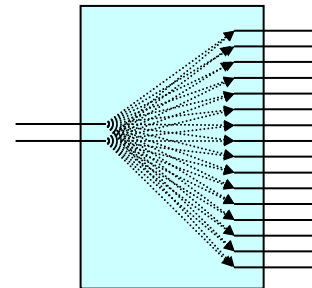
Available Switch Topologies



1xN Switch
(one port to any port)



2xN Switch
(two ports to any port)



Multiple-fiber-type hybrid systems are also available. Contact dBm Optics for more information.

Model 4400: Optical Switch Options and Ordering Information

Part Number	Description
4400	Optical switch mainframe up to 36 connections
705	Rack ear kit
990-0102H	1x2 switch; high performance
990-0102HP	1x2 switch; high power
990-0103	1x3 switch; mid performance
990-0103H	1x3 switch; high performance
990-0104	1x4 switch; mid performance
990-0104H	1x4 switch; high performance
990-0106H	1x6 switch; high performance
990-0108	1x8 switch; mid performance
990-0108H	1x8 switch; high performance
990-0110H	1x10 switch; high performance
990-0112	1x12 switch; mid performance
990-0112H	1x12 switch; high performance
990-0116	1x16 switch; mid performance
990-0116H	1x16 switch; high performance
990-0132	1x32 switch; mid performance
990-0132H	1x32 switch; high performance
990-0204	2x4 switch; mid performance
990-0208	2x8 switch; mid performance
992-cc/ccc	Built-in 1x2 switch for 2 DUTs
993-cc/ccc	Built in 1x3 switch for 3 DUTs

Model 4400: Optical Switch Specifications

Parameter	High Performance		Mid Performance	Multi Mode	High Power
Number of ports ¹	1x3; 1x4; 1x6; 1x8; 1x10; 1x12; 1x16; 1x24; 1x32;	1x2; 2x2	1x4; 1x8; 1x12; 1x16	1x2; 1x4	1x2
Wavelength range	1270-1670 nm	1240-1640 nm	1260-1630 nm	400-1750 nm	1260-1650 nm
Insertion loss ²	< 0.5 dB typical; < 0.7 dB max	< 0.5 dB typical; < 0.9 dB max	< 0.9 dB typical; < 1.4 dB max	< 0.7 dB typical; < 1.0 dB max	< 1.0 dB typical; < 1.5 dB max
Polarization dependent loss (PDL) ²	< 0.02 dB typical; < 0.04 dB max	< 0.04 dB typical; < 0.10 dB max	< 0.1 dB max	N/A	< 0.05 dB
Repeatability ²	< 0.005 dB typical; < 0.01 dB max	< 0.005 dB typical; < 0.01 dB max	≤ 0.01 dB max	< 0.03 dB	< 0.005 dB
Optical return loss (ORL) ²	> 62 dB typical; > 57 dB max	> 75 dB typical; > 50 dB max	≥ 65 dB	> 45 dB typical	> 45 dB
Crosstalk (isolation) ²	< -80 dB	> 75 dB typical; > 50 dB max	≤ -55 dB	< -55 dB	< -80 dB
Switching time	< 25 ms for first channel; < 15 ms additional channel	< 0.40 ms	≤ 2 ms	< 5 ms	< 2 ms
Input optical power	< 24 dBm	< 20 dBm	< 23 dBm	< 23 dBm	< 35 dBm
Enclosure size	16.8" wide x 16.4" deep x 5.25" high (42.6 cm x 41 cm x 10.5 cm)				
Warranty period	Standard mainframe warranty is 4 years. All switch modules carry a one-year warranty.				

¹ Additional configurations available upon request

² For 1xN, N < 25



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