

## Small Channel Count Switch Module

### SW Series

The JDS Uniphase SW series Small Channel Count Switch Module is ideal for incorporation into customized test assemblies, and specialized applications involving the use of multiple source measurement instruments, such as optical spectrum analyzers, wavelength meters, and power meters. This high performance switch is suitable for system trial applications where monitoring, testing and routing are required. Other applications include sensing, calibration, reference, research and development.

In operation, the switch connects the optical channels by redirecting the optical signal into a selected output fiber. This action is achieved using optical prisms driven by a high-precision non-latching mechanism and activated by electrical control signal. Switching can either be done by applying direct electrical or TTL control. The SW series of switch is available in both single-mode and multimode.

The use of collimating optics minimizes the insertion loss and improves the repeatability and stability of the optical parameters. The switch is optically passive and therefore is transparent to signalling formats. Configurations can be optimized for bi-directional performance as a factory option.

JDS Uniphase also offers a ruggedized version of this switch module. Contact your JDS Uniphase sales representative for more details.



### Key Features & Benefits

*Wide choice of configurations*

*Compact size*

*Low insertion loss*

*High return loss*

*Direct or TTL control of switching*

*High repeatability over a broad range of environmental conditions*

### Applications

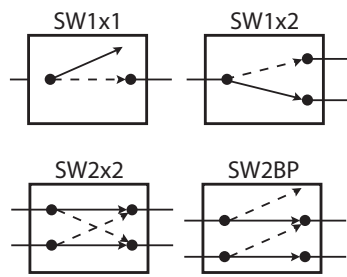
*Incorporation into customized switch assemblies required for test and measurement applications*

*Network monitoring and testing*

*Sensor switching*

*Source/detection selection*

*Research and development*



SW Series Switch Configurations

## Specifications

PARAMETER <sup>1</sup>		SPECIFICATIONS
		Typical (maximum)
Insertion loss <sup>2,3</sup>	SM SW1x1, 1x2, 2xB	0.5 (0.8) dB
	SM SW 2x2	0.7 (1.0) dB
	MM SW1x1, 1x2, 2xB	0.4 (0.7) dB
	MM SW 2x2	0.6 (0.9) dB
Return loss <sup>3</sup>	SM (Low)	50 (45) dB
	SM (Ultra low)	60 (55) dB
	MM	25 (20) dB
Polarization dependent loss <sup>3</sup>	All except SW2x2	0.12 dB at 1310 nm/0.07 dB at 1550 nm maximum
	SW2x2	0.2 dB maximum
Insertion loss stability <sup>2,3,4,5</sup>		± 0.03 (± 0.05) dB
Repeatability <sup>5,6</sup>	1x1, 1x2, 2x2, 2xB	± 0.005 dB maximum
Crosstalk (maximum)	SM	- 70 (- 60) dB
Optical input power	SM	300 mW maximum
Lifetime		At least 10 million cycles
Switching speed	SW1x1, 1x2, 2xB	10 (15) ms
	SW 2x2	15 (20) ms
Duty cycle		5 Hz
Control interface		Direct control or transistor logic (TTL control)
Operating voltage	Direct control	5 ± 5 % V DC at 45 mA
	TTL control	5 ± 5 % V DC at 70 mA
Dimensions W x H x D	SW1x1, 1x2, 2xB	40x17x40 mm (fiber) or 70x17x40 mm (cable) - package A or B
	SW2x2	70x17x40 mm (fiber or cable) - package B
Weight		45 and 80 (package A and B respectively)
Operating temperature		- 5 to 65 °C
Storage temperature		- 40 to 80 °C
Humidity		95 % maximum, non-condensing

1. Customized specifications are available.

2. At room temperature and optimized at 850, 1310 or 1550 nm.

3. Excluding connectors.

4. Drift of any channel relative to the straight-through path at ± 3 °C deviation of ambient temperature over a seven-day period.

5. Please contact JDS Uniphase for details on testing methods.

6. Measured between two consecutive readings over 100 cycles.

Ordering Information

Sample Order: SW101+2075USPE1.5

SW+2.

code	number of input channels
1	1
2	2

code	number of output channels
01	1
02	2
BP	Bypass

code	control type
0	Direct
2	TTL

code	wavelength (nm)
D	1310/1550
3	1310
5	1550
8	850 (MM only)
Q	850/1310 (MM only) <sup>1</sup>

code	fiber type (μm)
7	9/125
1	50/125
2	62.5/125
4	100/140

code	return loss
L	45 dB (SM only)
U	55 dB (SM only, high RL)
M	20 dB (MM only)
B	Bidirectional 55 dB (SM) 20 dB (MM)

code	connector type
FP	FC/PC
FA	FC/APC
SC	SC/PC
SU	SC/APC
SP	ST/PC
S3	STII+
NC	No connector

code	pigtail length
0.3	minimum length
...	...
1.5	1.5 meters (std)
...	...
9.9	9.9 meters

code	pigtail type
L	3.0 mm jacketed cable
E	900 μm tight buffer fiber

1. 850/1310 is not available in the 2x2 switch.  
ST is a registered trademark of Lucent Technologies.

Indicate your requirements by selecting one option from each configuration table. Print the corresponding codes in the available boxes to form your part number.



If the configurations available do not meet your performance requirements, please contact our global sales and customer service team to discuss the potential for specialized solutions.

# *switches*

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