

## Description

XH-OSW-1XN Optical switch is an optical path control device, which has the role of controlling the optical path and converting the optical path. It has an important role in optical communication applications. The optical switch is mainly used in optical transmission system for multiple optical monitoring, LAN multi-source/detector automatic switching and optical sensing multi-point dynamic monitoring system optical test system for optical fiber, optical devices, network and field engineering optical cable testing; optical device installation and adjustment.



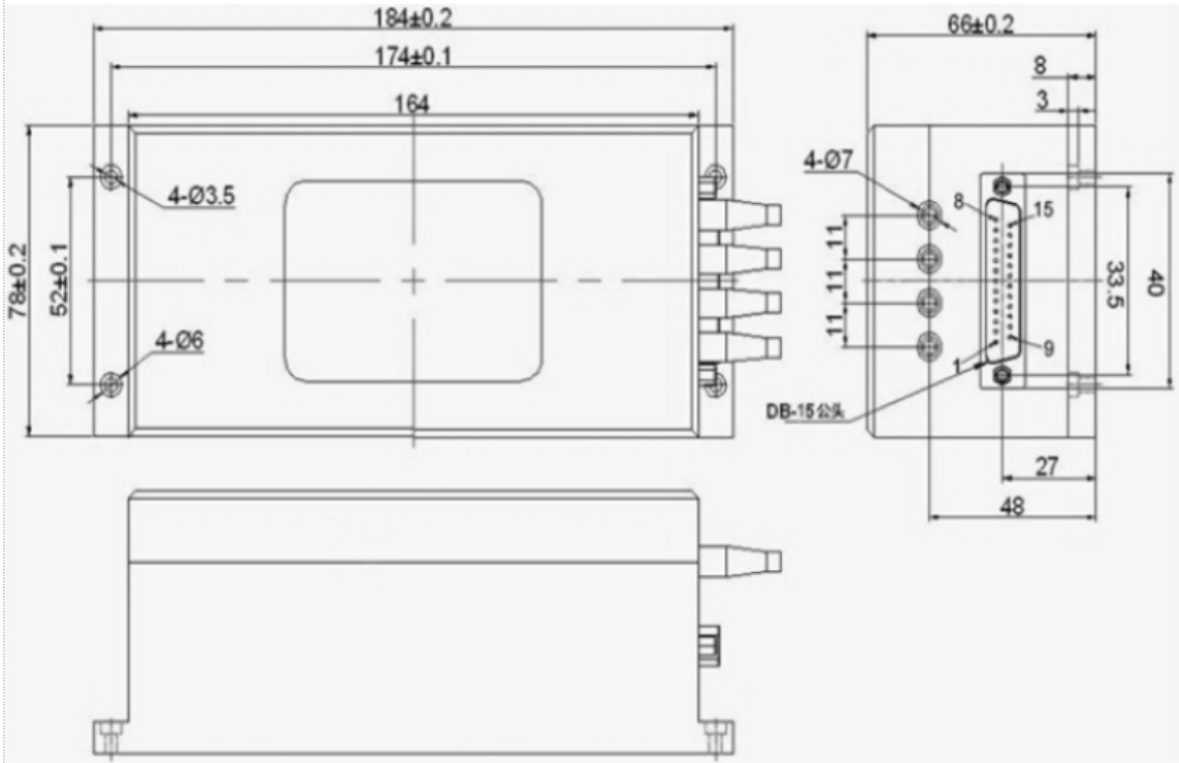
## Features

- Low insertion loss, wide wavelength range
- Low channel crosstalk, high stability, high reliability
- Proprietary technology, no glue in the optical path
- Locking and non-locking control types are available

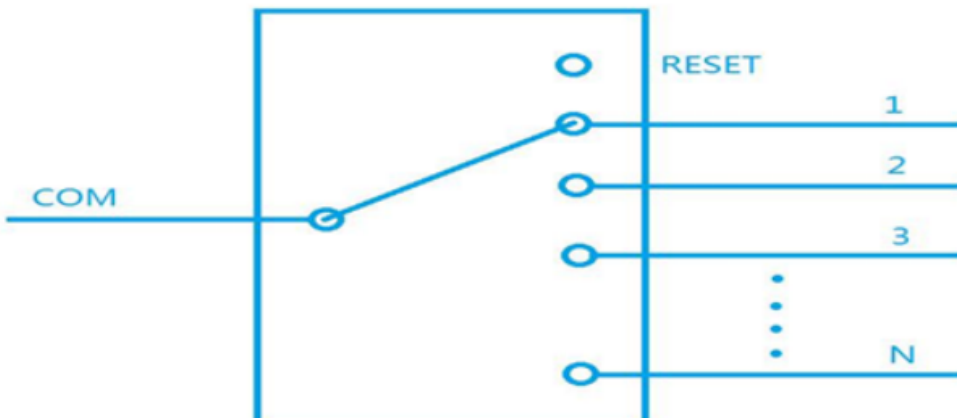
## Performance

Parameter	Parameter Values	
Model	XH-OSW-1XN	
Insertion Loss	1<N≤64	
	Typ : 0.5 dB Max : 1.0 dB	
Wavelength Range	532~1064 nm	1260~1650 nm
Wavelength Testing	532/650/780/850/980 nm	1310/1490/1550/1625 nm
Return Loss	MM ≥ 30 SM ≥ 50	
Crosstalk	MM ≥ 70 SM ≥ 70	
PDL	≤0.05dB	
WDL	≤0.25 dB	
TDL	≤0.25 dB	
Repeatability	≤0.02 dB	
Lifetime	≥10 <sup>7</sup>	
Switching Time	≤8 ms	
Transmission Power	≤500 mW	
Connector	FC、LC、SC、ST	
Control	TTL	
Operating Voltage	5V	
Working Current	500mA	
Operating Temperature	-20 ~ +70	
Storage Temperature	-40 ~ +85	

**Dimensions**



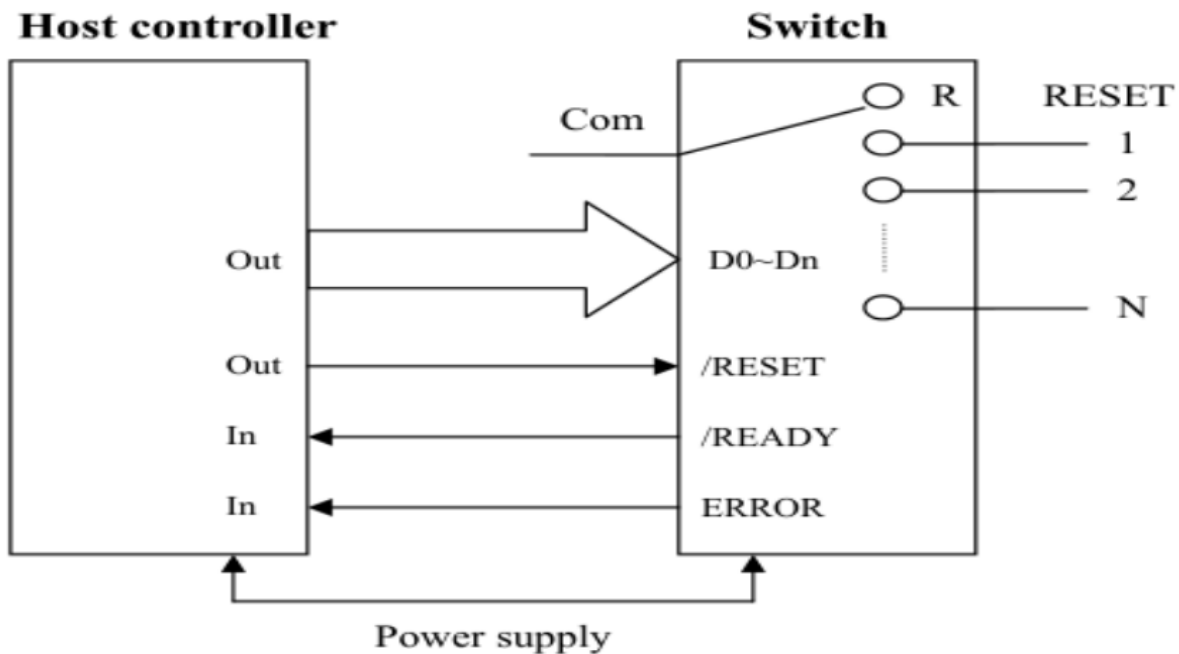
**Optical Route**



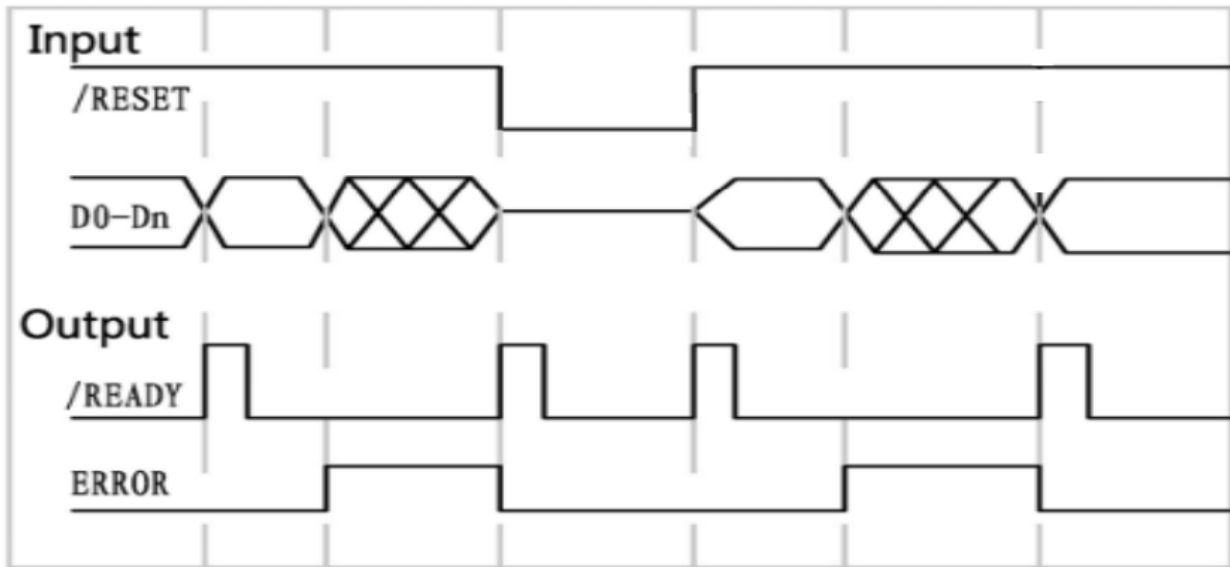
## Pins

DB15 male connector			
Pin	type	name	Features
2	Input	D0	D5~D0 are the channel selection data bits, D5 is the high bit, D0 is the low bit (when more than 32 channels, the D5 data bit is valid)
3	Input	D1	
4	Input	D2	
5	Input	D3	
6	Input	D4	
10	Input	D5	
7	Out	READY	low level indicates that the optical switch channel is switched, and the high level indicates that the optical switch channel is switching.
8	Out	ERROR	Low level indicates that the optical switch is operating normally, and high level indicates that the optical switch channel selection data bit signal overflows or there is a fault in the optical switch.
11	Input	RESET	Low level indicates that the channel is reset, and the data bit is valid at high level.
1,9	Power	GND	Power supply ground
12	Power	VCC1	Power supply ground
15	Power	VCC2	Positive motor power supply
13,14	NC	NC	air

## Control Schematic



## Control timing diagram



## Control Logic Table

channel	D0	D1	D2	D3	D4	D5	RESET
COM-0	x	x	x	x	x	0	0
COM-1	0	0	0	0	0	0	1
COM-2	1	0	0	0	0	0	1
COM-3	0	1	0	0	0	0	1
...						0	1
COM-30	1	0	1	1	1	0	1
COM-31	0	1	1	1	1	0	1
COM-32	1	1	1	1	1	0	1
...							
COM-63	0	1	1	1	1	1	1
COM-64	1	1	1	1	1	1	1

\*0 represents low level 0V, 1 represents high level 5V, the module has internal 5V pull-up resistor to support 3.3V microcontroller chip pin control.

## Ordering Information : XH-OSW-1XN-A-B-C-D-E

Channel(N)	Wavelength(A)	Fiber Type(B)	Fiber Diameter(C)	Fiber Length (D)	Connector(E)
N:≤64	850:850nm 1310:1310nm 1550:1550nm 1310/1550:1310nm/1550nm X:Others	SM:SM,9/125 M5:MM,50/125 M6:MM,62.5/125 5 HI1060:HI1060 X:Others	25::250um 90:900um 200:200um X:Others	05:0.5m 10:1.0m 15:1.5m X:Others	OO:None FP: FC/PC FA: FC/APC SP: SC/PC SA: SC/APC LP: LC/PC LA: LC/APC X:Others