



XH-OSW-4X8-N

4×8 Mechanical Optical Switch

USER MANUAL

Nanning Xionghua Photoelectric Technology Co., Ltd.

www.xhphotoelectric.com

Introduction

XH-OSW-4x8 mechanical optical switch is a kind of light path control equipment. It can realize multi-channel fiber optic light path switching. In the optical fiber transmission system, it is used for multi-channel fiber monitoring, multi light source/detector selection, and optical fiber path protection etc. Besides, it is also used in optical fiber test system for optical fiber and related component test, outdoor cable test and multi-spot optical sensors monitoring system.

Features

- Low Loss and High Reliability
- Serial Interface (RS-232)
- Modularized Design
- Epoxy-free on Optical Path

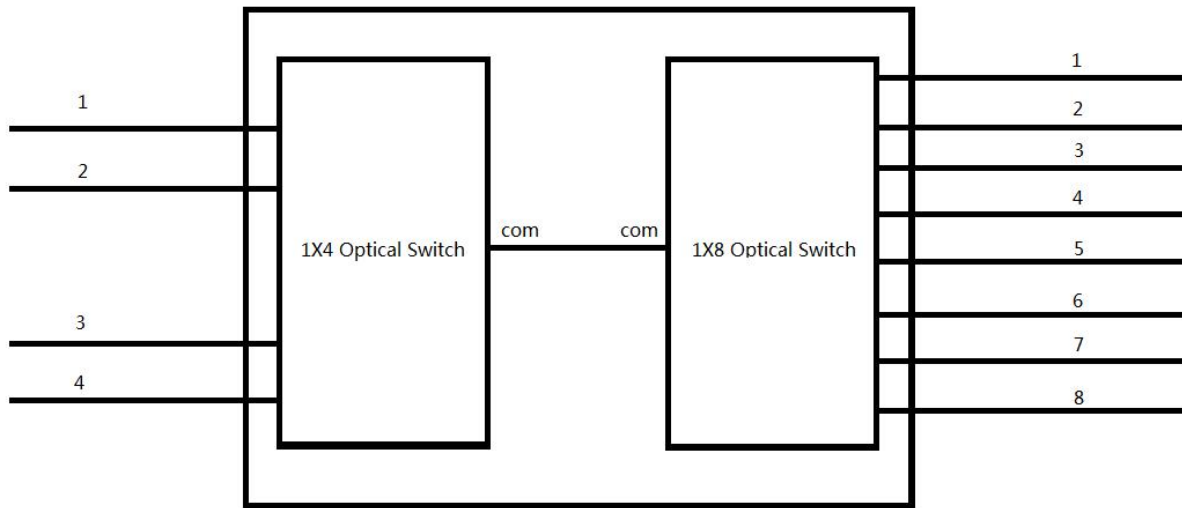
Applications

- Ring Network
- Remote Monitoring in Optical Network
- Testing of Fiber Optical Component

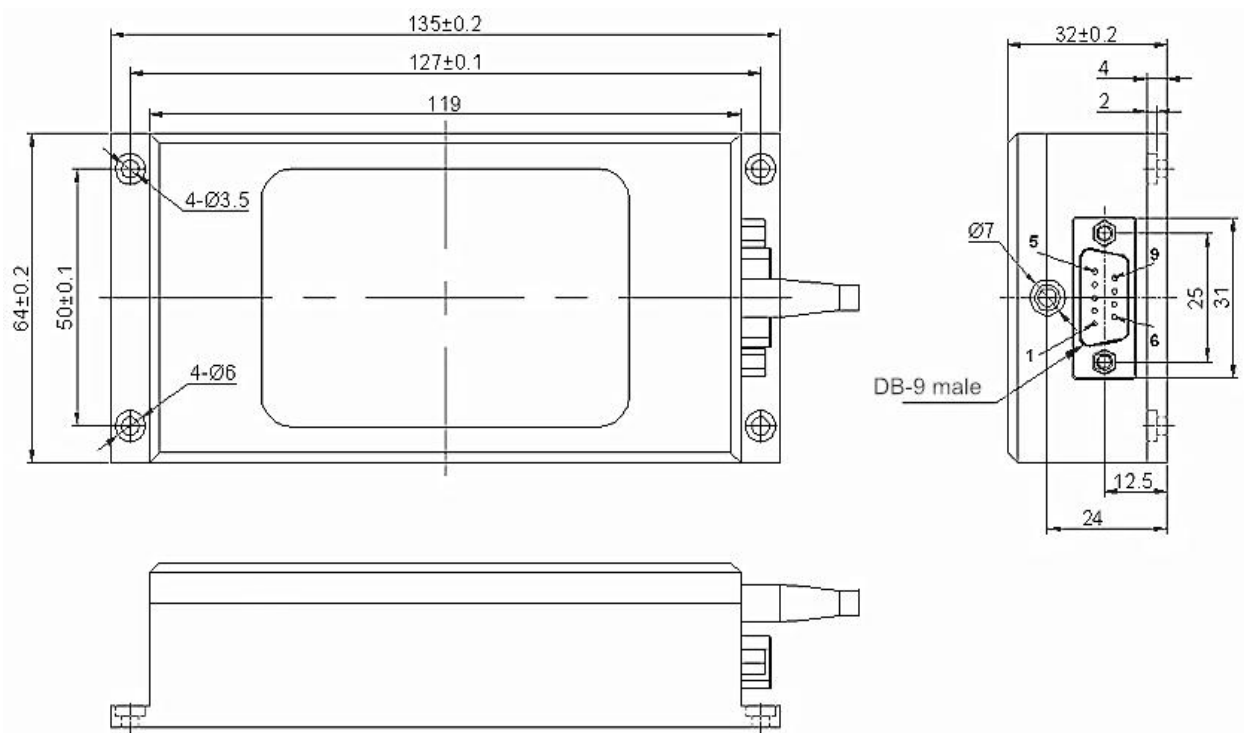
Specifications

Parameter	Parameter Values
Model	XH-OSW-4X8-N
Insertion Loss	≤ 1.5 dB
Wavelength Range	1260~1650 nm
Fiber Type	9/125um
Return Loss	≥ 50 dB
Crosstalk	≥ 55 dB
PDL	≤ 0.10 dB
WDL	≤ 0.30 dB
TDL	≤ 0.30 dB
Repeatability	≤ 0.05 dB
Lifetime	$> 10^7$
Switching Time	≤ 20 ms (Adjacent channel)
Connector	LC/UPC
Control Mode	RS-232
Working Power Supply	5V/800 mA
Product Size	135x64x32
Operating Temperature	-20 °C to +70 °C
Operating Temperature	-40 °C to +85 °C

Optical Route



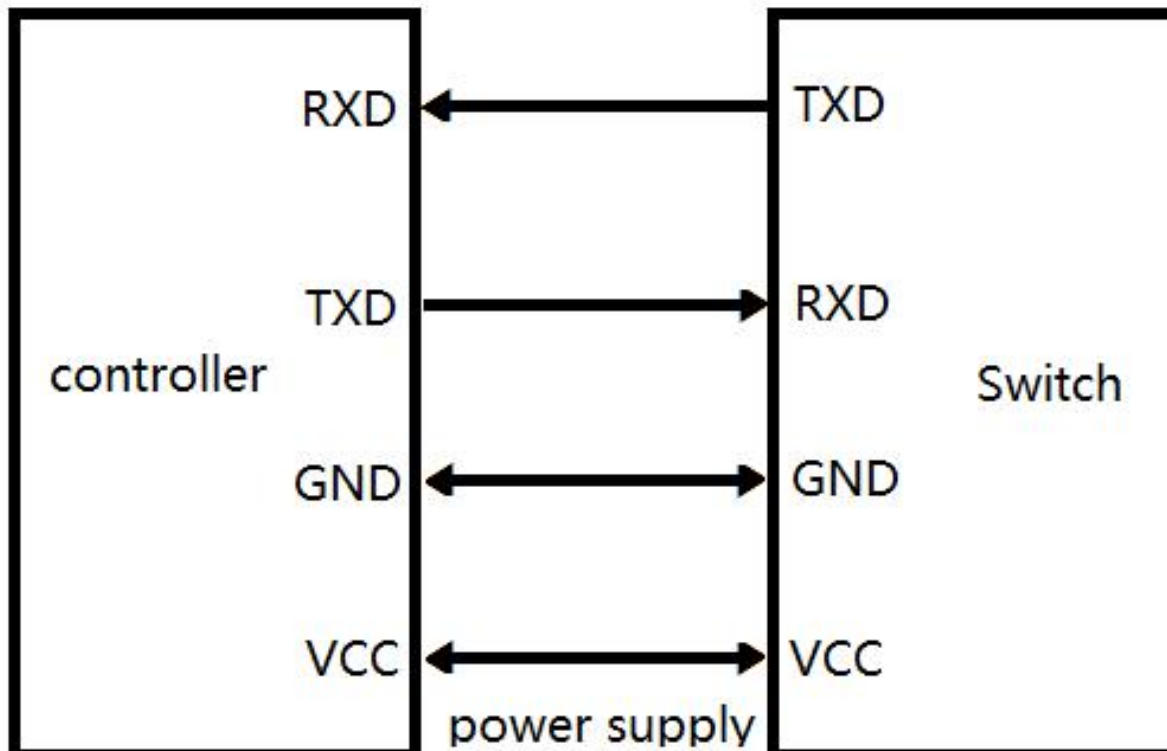
Dimension



Pin Specifications

DB-9 Male Connector			
Pin No.	I / O	Signal	Description
2	Input	RXD	Receive Data
3	Out	TXD	Send Data
5	Power	GND	Ground
8	Power	GND	Ground
9	Power	VCC1	5.0±5% VDC Power Supply (500mA)
1,4,6,7	NC	NC	Vacancy

Control Chart



Communication Protocol

- “_” expression underline.
- Communication protocols are all capital letters.
- The communication protocol commands, “<” as the start,“>” as a terminator.

Usage	Instruction	Description
Set optical switch channels	Send: <OSW_OUT_XX-YY>	Set the "XX" and "YY" value to select the fiber channel. XX is the selected input channel
	Return1: <OSW_OUT_OK> Return2: <OSW_OUT_OVERFLOW>	.When "YY" is 00, the switch will be reset. Set 01 to select channel 1. A successful setup will return 1. It returns 2 when "YY" is larger than total channel amount.
Queue	Send: <OSW_OUT_?>	

ry opti cal swit ch cha nnel s	Return: <OSW_OUT_ XX-YY>	Send the query command and it will return an "XX" and "YY" value to indicate the current channel.
Que ry opti cal swit ch type	Send: <OSW_TYPE_ ?> Return: <OSW_TYPE_ XH-OSW-4X8- N_1260~1650 _9/125_90_10 _R_FA>	Send the query command and it will return following basic information of the switch. Model: XH-OSW-4X8-N Wavelength Range: 1260~1650 Fiber Type: 9/125um Protective Casing: 0.9mm Fiber Length: 0.5m Control Interface: RS-232 Connector: LC/UPC

Note: COM settings , Baud rate: 9600, Data bits: 8 bit, Stop bit: 1 bit , parity bit: None, Command error return “<OSW_ERROR>” .

Operation

(1) The optical switch transmits the command to control the optical switch through RS232 serial communication. The optical switch receives the command successfully and returns the response.

(2) To program the switch directly over USB (RS232 control), we would throw in a DB9 to USB adaptor (connector), and then the switch can be connected to the USB port on your device.

(3) The optical switch is bidirectional in operation.

Software Control Chart (For Reference Only)

