# XH-FSW-8X8-Q

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## 8×8 Matrix Rack Optical Switch

# USER MANUAL

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# Introduction:

XH-FSW-8×8 rack-mounted optical switch is a kind of functional device,with the ability of controlling and switching optical route. It can be manually selected from front panel or controlled via RS232 port, Ethernet port and auto-scanned on certain frequency. In 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 its component test, outdoor cable test and multi-spot optical sensors monitoring system.

# Features:

◆Low insertion loss, Fast switching

◆ SerialNet, High Reliability, High Stability

◆LED display panel. Visual display, Convenient operation.

◆Transparent transmission signal. High stability and reliability.

◆Channel and time interval of automatic scanning can be set up.

◆ RS232 Control and Ethernet Remote Management

# Applications:

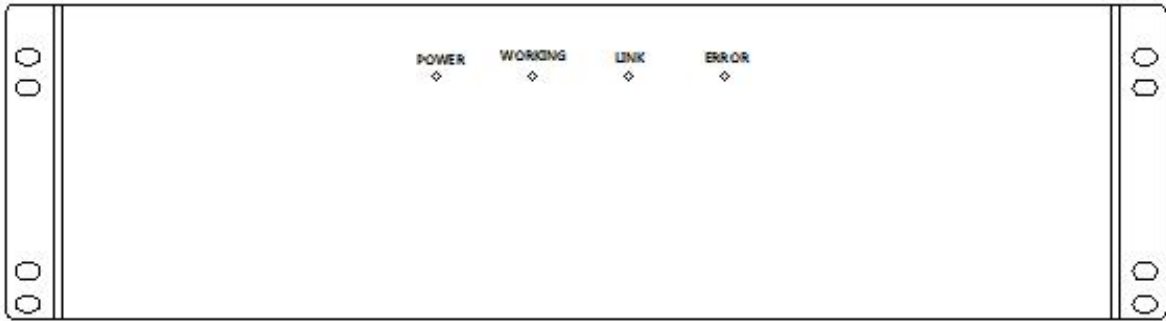◆ FITL

◆ Automatic Measurement

◆ Optical Network Remote Monitoring

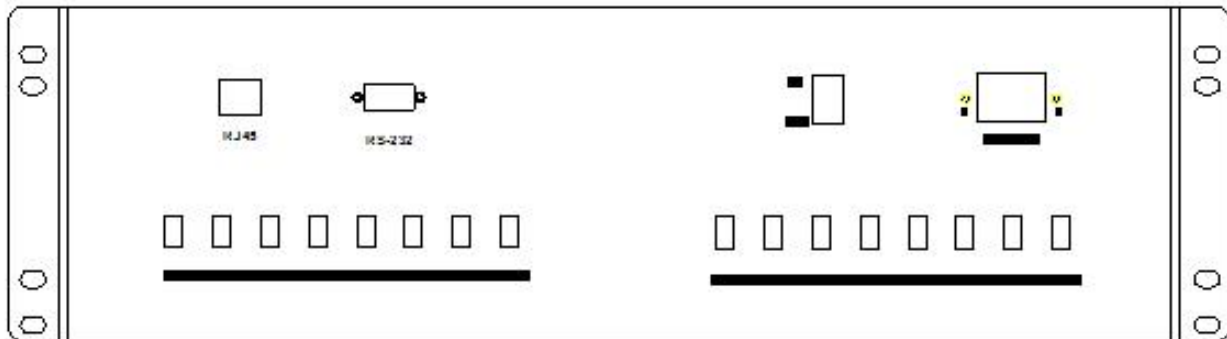◆ Cable Monitoring and Maintaining system

# Specifications:

| Parameters | Unit | Indicators |
|---|---|---|
| Channel No. | | 8x8 |
| Wavelength Range | nm | 1260~1650 |
| Test Wavelength | nm | 1310/1550 |
| Insertion Loss | dB | ≤2.5 dB |
| Repeatability | dB | ≤ 0.04 |
| Return Loss | dB | ≥ 50 |
| Crosstalk | dB | ≥ 55 |
| WDL | dB | ≤ 0.50 |
| PDL | dB | ≤ 0.1 |
| Optic Power | mW | ≤ 500 |
| Fiber Type | | SM（9/125um） |
| Connector | | FC/APC |
| Monitoring Port | | RJ45、RS-232 |
| Working Power Supply（Plug-type） | V | AC:100～240   (50/60Hz) |
| Power Consumption | W | ＜ 30 |
| Operating Temperature | ℃ | -10 ～ 60 |
| Size | mm | 4U:483 x 500 x 178 |

# Panel to Explain：

**Front Panel**

POWER　　WORKING　　LINK　　ERROR

**Back Panel**

RJ45　　RS-232

## Sketch Map:

| IN | | OUT |
|---|---|---|
| IN1 | | OUT1 |
| IN2 | | OUT2 |
| IN3 | | OUT3 |
| IN4 | | OUT4 |
| IN5 | | OUT5 |
| IN6 | | OUT6 |
| IN7 | | OUT7 |
| IN8 | | OUT8 |
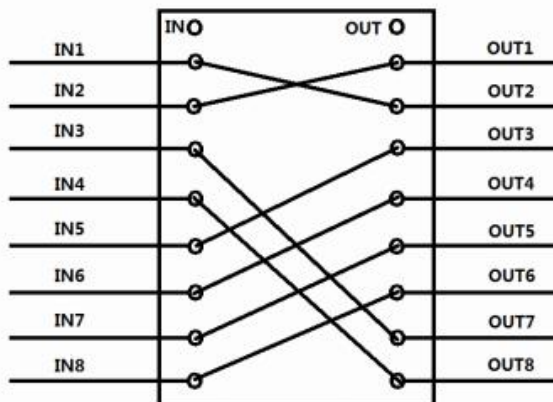
# Communication Protocol:

◆ "_":A underline;

◆ Communication protocol all in uppercase characters;

◆ The device executes an instruction each time;

◆ "<" As the start instruction; ">" As an end instruction;

## Instruction set

| Name | Instructions | Describe |
|---|---|---|
| Set Optical Switch Channel | Send:<OSW_OUT_01_02_03_04_05_06_07_08> | Setup the optical switch channel to IN1-OUT1,IN2-OUT2,.......IN7-OUT7,IN8-OUT8 ,returned successfully; |
| | Return1:<OSW_OUT_OK>or Return2:<OSW_OUT_E1> (go beyond)or Return3:<OSW_OUT_E2>(fault) | |
| Query Optical | Send:<OSW_OUT_?> | Query the optical switch channel,returned successfully; |

| Switch Channel | Return:<OSW_OUT_01_02_03_04_05_06_08_07> | IN1-OUT1;<br>IN2-OUT2;<br>IN3-OUT3;<br>.....<br>IN7-OUT8<br>IN8-OUT7 |
|---|---|---|
| Set the IP Addrese | Send:<OSW_IP_192.168.1.100> | Setup the IP addresse to 192.168.1.100,returned successfully |
| | Return:<OSW_IP_OK> | |
| Query IP Address | Send:<OSW_IP_?> | Query the IP address, returned successfully 192.168.1.100:IP address to 192.168.1.100 |
| | Return:<OSW_IP_192.168.1.100> | |
| Set the Port Number | Send:<OSW_PORT_5000> | Setup the port number to 5000,returned succe |
| | Return:<OSW_PORT_OK> | |
| Query Port Number | Send:<OSW_PORT_?> | Query the port number ,returned successfully 5000:port number to 5000 |
| | Return:<OSW_PORT_5000> | |

| | | |
|---|---|---|
| Set the Subnet Mask | Send:<OSW_SM_255.255.255.0> | Setup the subnet mask to 255.255.255.0,returned successfully |
| | Return:<OSW_SM_OK> | |
| Query Subnet Mask | Send:<OSW_SM_?> | Query the subnet mask ,returned successfully 255.255.255.0:subnet mask to 255.255.255.0 |
| | Return:<OSW_SM_255.255.255.0> | |
| Set the Default Gateway | Send:<OSW_GW_192.168.1.1> | Setup the default gateway to 192.168.1.1,returned successfully |
| | Return:<OSW_GW_OK> | |
| Query Default Gateway | Send:<OSW_GW_?> | Query the default gateway, returned successfully 192.168.1.1:default gateway to 192.168.1.1 |
| | Return:<OSW_GW_192.168.1.1> | |
| Set the Baud Rate | Send:<OSW_BAUD_9600> | Set the baud rate to 9600,returned successfully |
| | Return:<OSW_BAUD_OK> | |
| Query Baud Rate | Send:<OSW_BAUD_?> | Query the baud rate ,returned successfully 9600:baud rate to 9600 |
| | Return:<OSW_BAUD_9600> | |

| | | |
|---|---|---|
| Device Restarts | Send:<OSW_RESET> | Setup the device restarts , returned successfully |
| | Return:<OSW_RESET_OK> | |
| Query Device Information | Send:<OSW_TYPE_?> | Query the device information ,returned successfully; Model：XH-FSW-8X8-Q wavelength:1260~1650nm Fiber Type ： SM(9/125um) Connector：FC/APC |
| | Return:<OSW_TYPE_XH-FSW-8X8_1260~1650_9/125_FA> | |
| Query Version | Send:<OSW_VERSION_?> | Query the version, returned successfully Hardware version： V1.0.1 SOFTWARE： V1.0.1 |
| | Return:<OSW_VERSION_HARDWARE:V1.0.1SOFTWARE:V1.0.1> | |

**Matters need attention**

◆Return "<OSW_ER>" is command syntax error occurred.

◆Return "<OSW_E2>" is not operating properly.

◆Return "<OSW_E1>",The channel of setting up are outside the scope of this article

◆ "OSW01"， Indicate that the device address is 01

◆Send arbitrary the Instructions in automatic mode, Stop to Automatic mode

◆In RS-232 serial port communication, the system require that the baud rate of dispatcher and sink should keep consistent