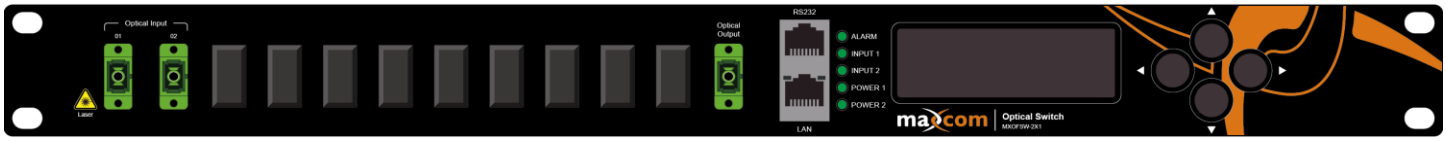


MX-OFSW-2X1

OPTICAL FIBER 2×1 SWITCH

USER MANUAL

SUMMARY

The **MXOFSW-2X1** is a 2×1 prism optical switch. It will support two optical fibers input and one fiber output with an auto detect switch. The unit supports a wide operating wavelength range and a quick switching rate.

The MXOFSW-2X1- has two operational modes:

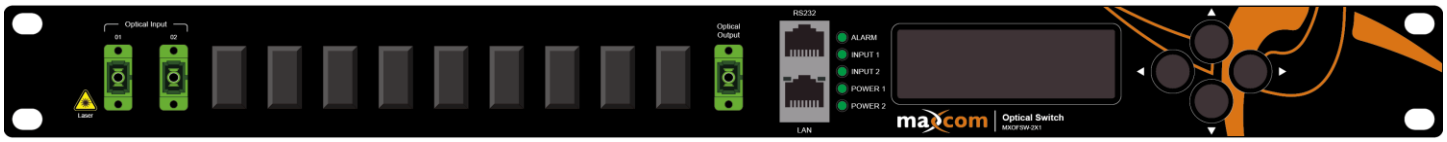
① **Manual mode**: Through the LCD control interface or via a GUI web interface over a network, the operator may trigger a switch of the fiber route in real time.

② **Automatic mode**: Automatically detects and switches fiber inputs based on the parameters set by the operator, or requirement. Example: if input 1 is set to -5 dBm, and if the input power drops to a level below -5 dBm, the unit will automatically switch to input 2.

The **MXOFSW-2X1** is mounted in a 19" rack mount 1U chassis. The LCD is located at the front panel and provides all operating parameters and the current operator scheme. The RS232 interface and RJ45 ethernet interface provide remote management and control, as well as SNMP.

CONTROLS, INDICATORS, AND ALARMS

This section of the manual will give a brief overview of the available menu in the **MXOFSW-2X1** series optical switch and their descriptions. All instructions in this Section refer to the representation of the front panel shown in the diagram below. The user may scroll through the menu using the push buttons found on the front panel, these are located just on the right of the LCD screen.



Using the menu and operation of the control panel

Connect the power supplies. Turn the power switch on the rear panel if equipped with AC power supplies.

Navigating the front panel menu with the push buttons:

Press the ▸ button to modify the interface, and then press ▸ button to enter the edited status, press ▲\▼ button to choose type, press ▸ button to save, press ◂ button to exit. *Note some units may be equipped with a key to lock or unlock some functions of the menu.

Start-up main menu

Pressing the Right Arrow ▸ button will display the menu below in sequence.

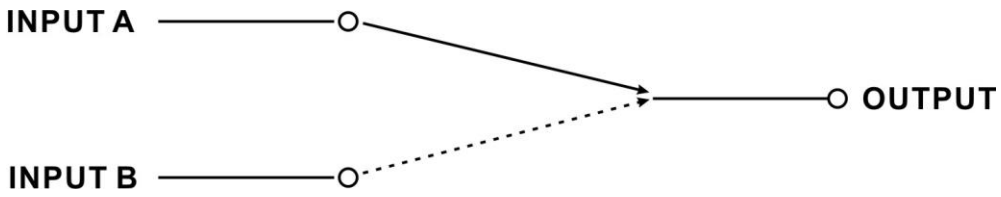
Descriptor
Read-only menu, indicates the description of this equipment.
S/N
Read-only menu, indicates the serial-number
INPUT 1
Read-only menu, indicates the input optical power of INPUT 1
INPUT 2
Read-only menu, indicates the input optical power of INPUT 2
OUTPUT POWER
Read-only menu, indicates the output optical power
CONTROL MODE
Read-only menu, indicates the optical switch type (Auto/Manual)
INPUT
Read-only menu, indicates the input optical currently routed to output

TH Low
Adjustable menu, +10 to -50 dBm. Allows the operator to set the optical power level. While in AUTO, if the optical power falls below this set point, the switcher will automatically switch to the alternate input. An alarm will also be displayed.
TH High
Adjustable menu, +10 to -50 dBm. The operator may select "Enable" or "Disable". This feature allows the operator to set the optical power level. While in AUTO, if the optical power exceeds this set point, the switcher will automatically switch to the alternate input. An alarm will also be displayed.
Restore
Adjustable menu. The operator may select "Enable" or "Disable". This feature allows the operator to instruct the switch to return back to the primary input once the primary optical input has been restored. While in "Enable", you may set the delay time to restore the primary route up to 400 seconds. This allows you to ensure the primary input is stable before switching back to primary.
AMBIANT TEMP
Read-only menu, indicates the ambient temperature
Power 1
Read-only menu, indicates online or offline
Power 2
Read-only menu, indicates online or offline
IP
Adjustable menu, Static/DHCP
SUBMASK
Adjustable menu, displays the address of sub net mask
GATEWAY
Adjustable menu, displays the gateway address of SNMP
TRAP ADDR1
Adjustable menu, displays the TRAP1 address of SNMP
TRAP ADDR2
Adjustable menu, displays the TRAP2 address of SNMP
MAC
Read-only menu, indicates the MAC address
Console Baud
Adjustable menu, allow the user to adjust
HW Version
Read-only menu, indicates the version
SW Version
Read-only menu, indicates the version

Reboot
Adjustable menu, allows user to select
Factory Reset
Adjustable menu, allows user to select
LCD Brightness
Adjustable menu, allows user to select

STANDARD OPERATION METHOD

Four indicators on the front panel show which light path is being used. Inputs are represented by 1 and 2 respectively, where 1 is the main input and 2 is the backup input. The main and standby optical paths are automatically switched:

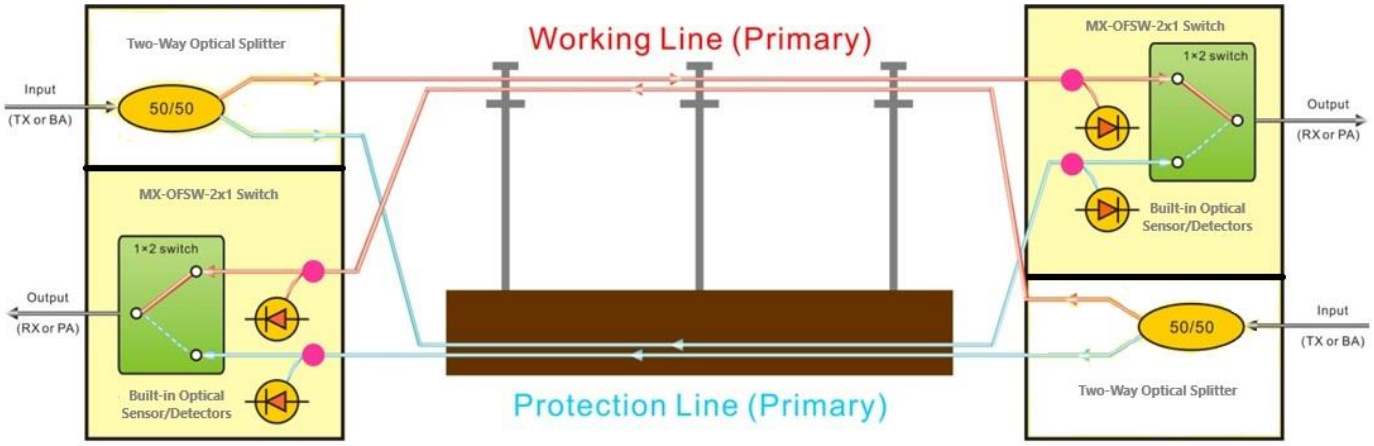


The operator may set the Optic Switch Point by adjusting the threshold settings in the menu (TH Low and TH High)

* If optical signal powers are both less than switch point power, the device will maintain the current state.

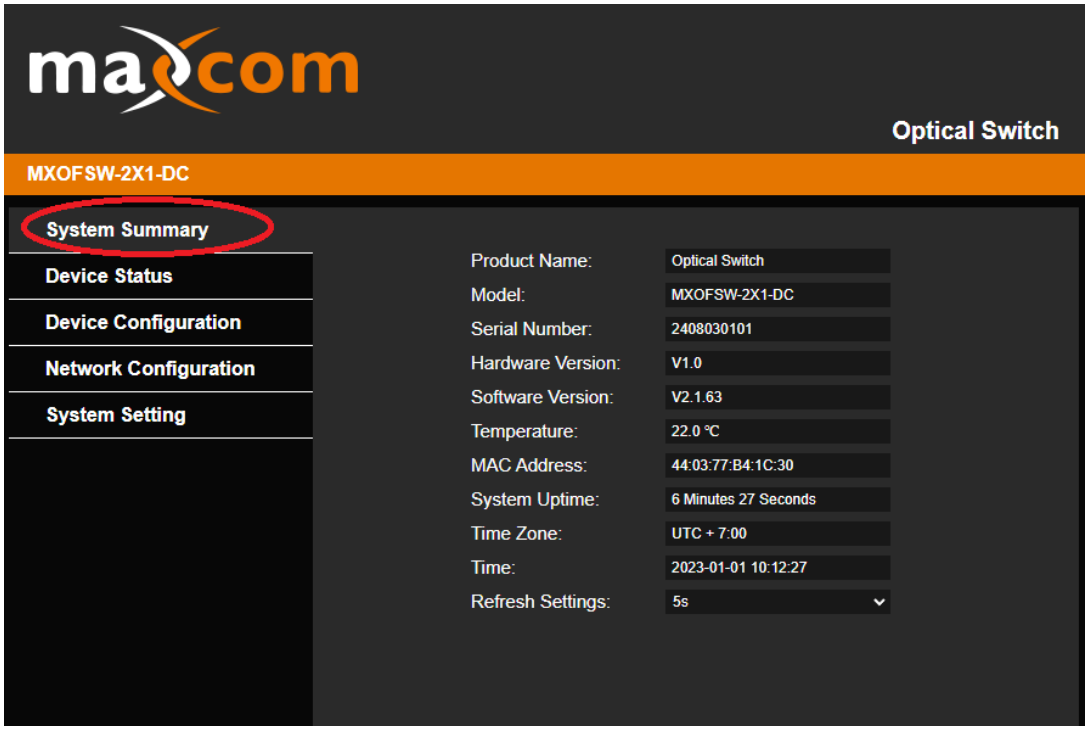
DUAL FIBER BI-DIRECTIONAL METHOD

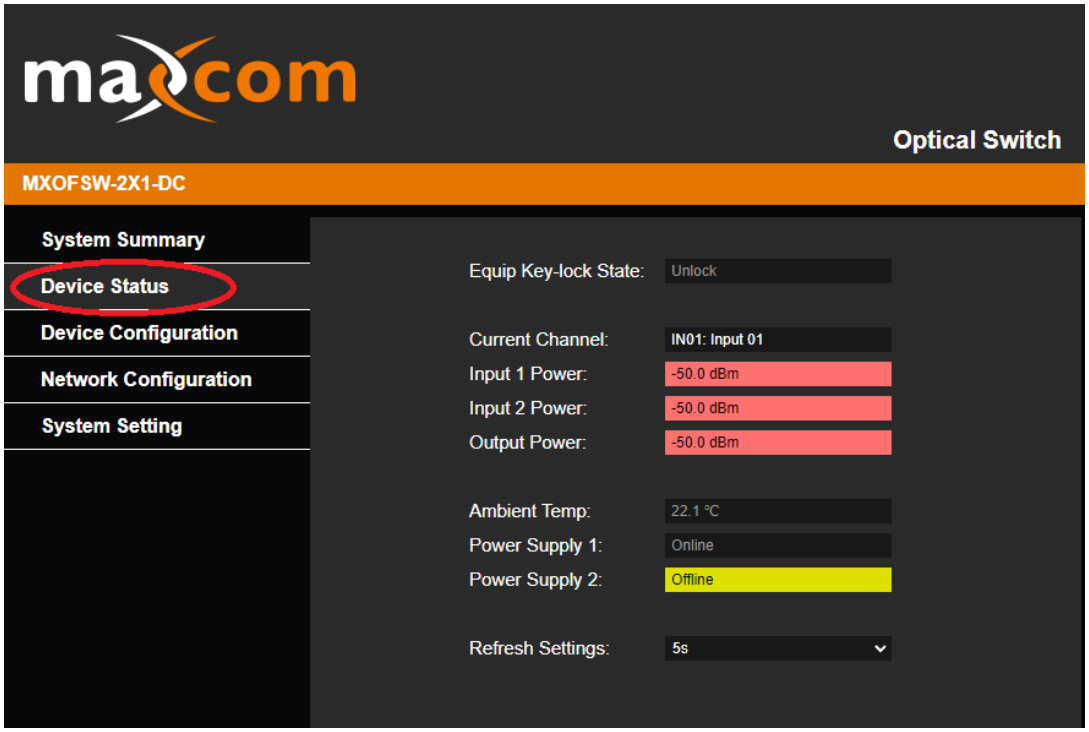
For Dual Fiber Bi-Directional protection, two **MXOFSW-2X1** switches may be used as shown in the illustration below. In this scenario, a two-way fiber splitter is used on the transmit signal at both ends, and a **MXOFSW-2X1** switch is used for the receive signal at both ends. This is an excellent solution for redundant route protection in a bi-directional dual fiber set-up.

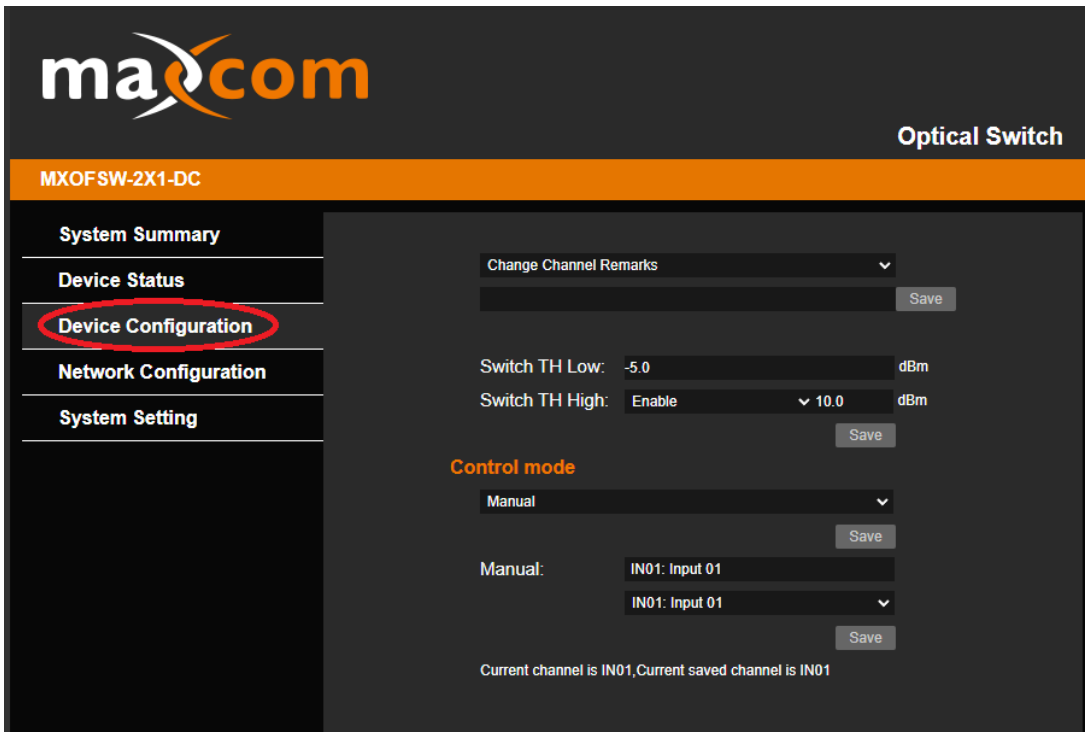


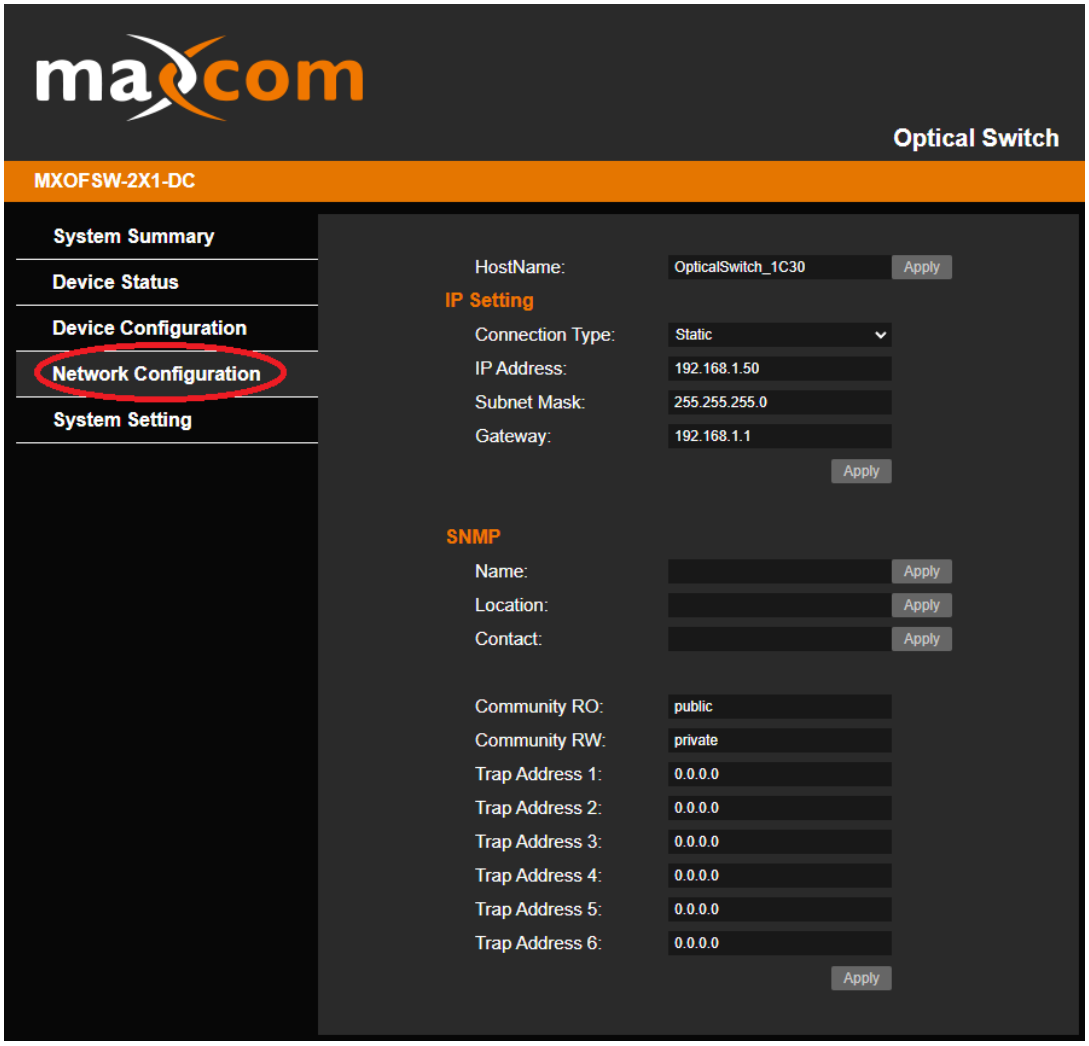
Supplemental: Web Interface

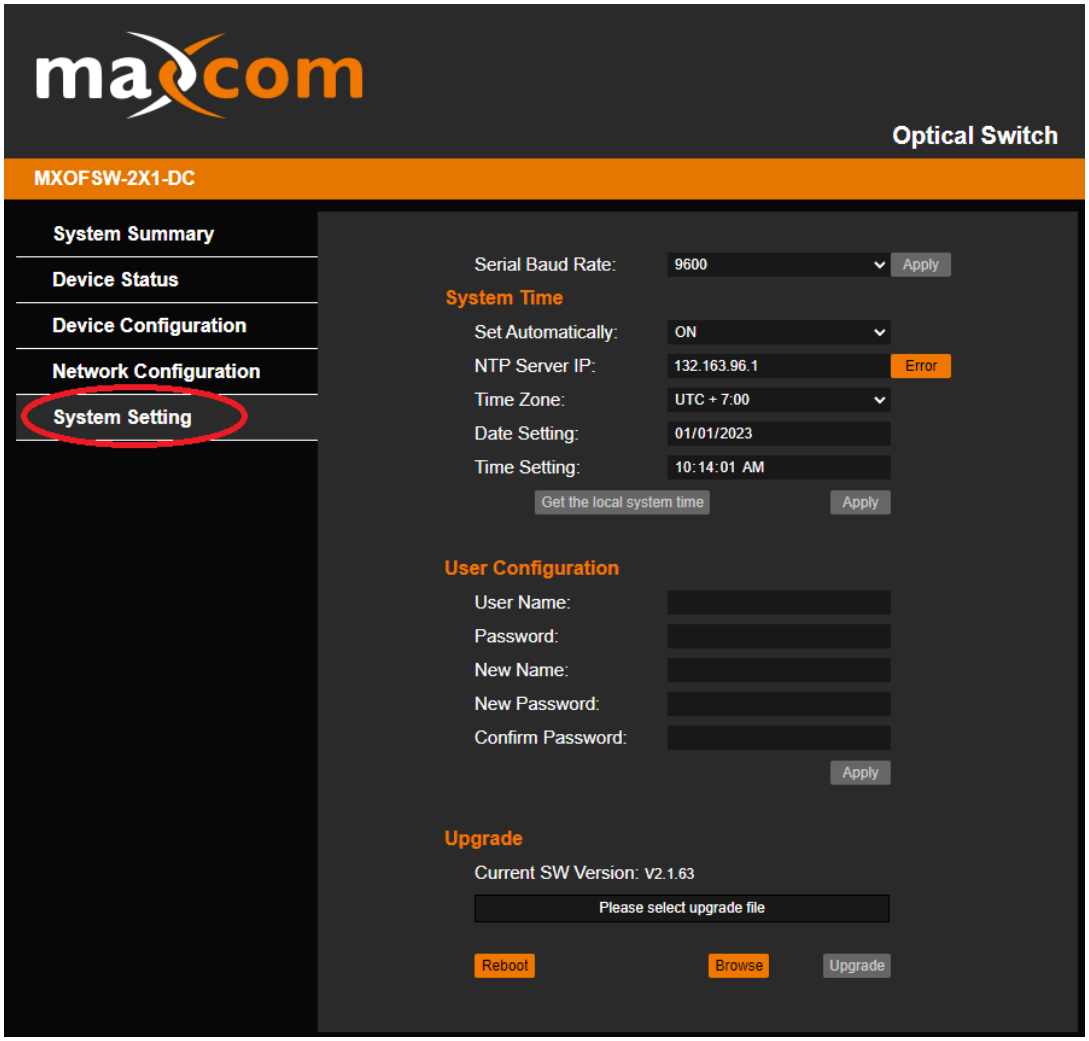
The **MX-OFSW-2x1** may be accessed from a web interface using the RJ45 port.
The web interface can be viewed using the default IP address 192.168.1.50
The default username is "admin", and the default password is "admin"
The categories will be displayed on the left side of the screen as follows. The right side of the screen will display the parameters and settings:



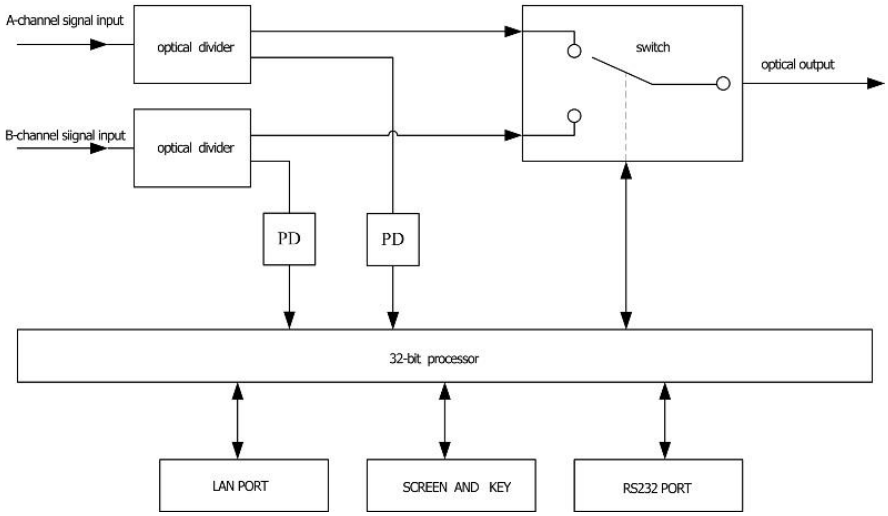


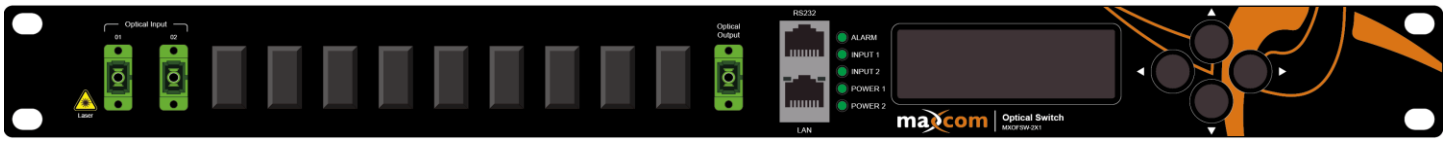

maxcom
Optical Switch
MXOFSW-2X1-DC
System Summary
Device Status
Device Configuration
Network Configuration
System Setting
Change Channel Remarks
Save
Switch TH Low: -5.0 dBm
Switch TH High: Enable 10.0 dBm
Save
Control mode
Manual
Save
Manual: IN01: Input 01
IN01: Input 01
Save
Current channel is IN01,Current saved channel is IN01


maxcom
Optical Switch
MXOFSW-2X1-DC
System Summary
Device Status
Device Configuration
Network Configuration
System Setting
HostName: OpticalSwitch_1C30 Apply
IP Setting
Connection Type: Static
IP Address: 192.168.1.50
Subnet Mask: 255.255.255.0
Gateway: 192.168.1.1
Apply
SNMP
Name: Apply
Location: Apply
Contact: Apply
Community RO: public
Community RW: private
Trap Address 1: 0.0.0.0
Trap Address 2: 0.0.0.0
Trap Address 3: 0.0.0.0
Trap Address 4: 0.0.0.0
Trap Address 5: 0.0.0.0
Trap Address 6: 0.0.0.0
Apply



Reference Internal Operation Diagram:





Front Panel Indicator Lights:

Turns Red if Alarm Condition Exists

Turns Red if Input 1 Levels fall outside set parameters

Turns Red if Input 1 Levels fall outside set parameters

Turns off if not power to PS 1

Turns off if no power to PS 2

*The Active Input routed to the output will blink

Specification:

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical features	Insertion loss	(dB)		1.6	2.5	
	Wavelength	(nm)	1290		1650	
	Return loss	(dB)	55	60		
	Switch cross talk	(dB)	55	60		
	PDL	(dB)			0.2	
	Switching time	(mS)			20	
	Auto Detect Optical Levels Switch point	dBm	The settable range for the Low and High Threshold is +10 dBm to -50 dBm			User Adjustable
	Fiber type		9 / 125			
	Optical connector		SC/APC			
General feature	10/100M Ethernet interface (LAN)		RJ45			
	Networking protocol		SNMP			
	Communication interface		RS232			
	Power supply (AC)	(VAC)	90		265	50 / 60Hz
	Power supply (DC)	(VDC)		-48 VDC		
	Operating temp.	(℃)	-20		65	
	Storage temp.	(℃)	-40		85	
	Relative humidity	(%)	5		95	
	Size (W) x (D) x (H)		19×11.75×1.75 (")			1U
			483×315×44 (mm)			