OPTICAL
SYSTEMS
DESIGN

Quick Start Guide

OSD2258

10-PORT REDUNDANT RING

GIGABIT ETHERNET SWITCH

INDEX 1

1 INTRODUCTION

Thank you for choosing the OSD2258 10-Port Redundant Ring Gigabit Ethernet Switch. This Quick Start Guide is designed to guide you through the installation and basic software function.

2 INSTALLATION

ELECTROMAGNETIC COMPATIBILITY

WARNING: This is a **Class A product**. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

OPTICAL OUTPUT OPERATION

WARNING: **Laser Safety:** Class 1 Laser Product (SFP) per IEC 60825-1:2014 standard.

Class 1
The OSD2258 is a **Class 1 laser product.**


PRECAUTIONS

- All service personnel should be provided training as to the hazards of direct viewing of laser radiation and of the precautionary measures during servicing of equipment
- Areas where laser products are installed should be restricted in access to trained service personnel only and appropriate warning signs posted in the work area.
- All laser apertures should be covered by protective covers when not connected to optical fibers. Never leave outputs uncovered.
- Laser equipment should be positioned above or below eye level where possible. Apertures should be positioned away from personnel.
- Protective eyewear should be worn in the vicinity of laser equipment.

2.1 LOCATION

As with any electric device, the OSD2258 should be placed where it will not be subjected to extreme temperatures, humidity, or electromagnetic interference. Specifically, the site selected should meet the following requirements:

- The ambient temperature should be between -20°C to 75℃ (-4℉ to 167℉).
- The relative humidity should be less than 95 percent, non-condensing.
- Surrounding electrical devices should not exceed the electromagnetic field (RFC) standards.
- Make sure that the switch receives adequate ventilation. Do not block the ventilation holes on any side of the switch.

3 OSD2258 FRONT AND REAR PANELS

3.1 FRONT PANEL

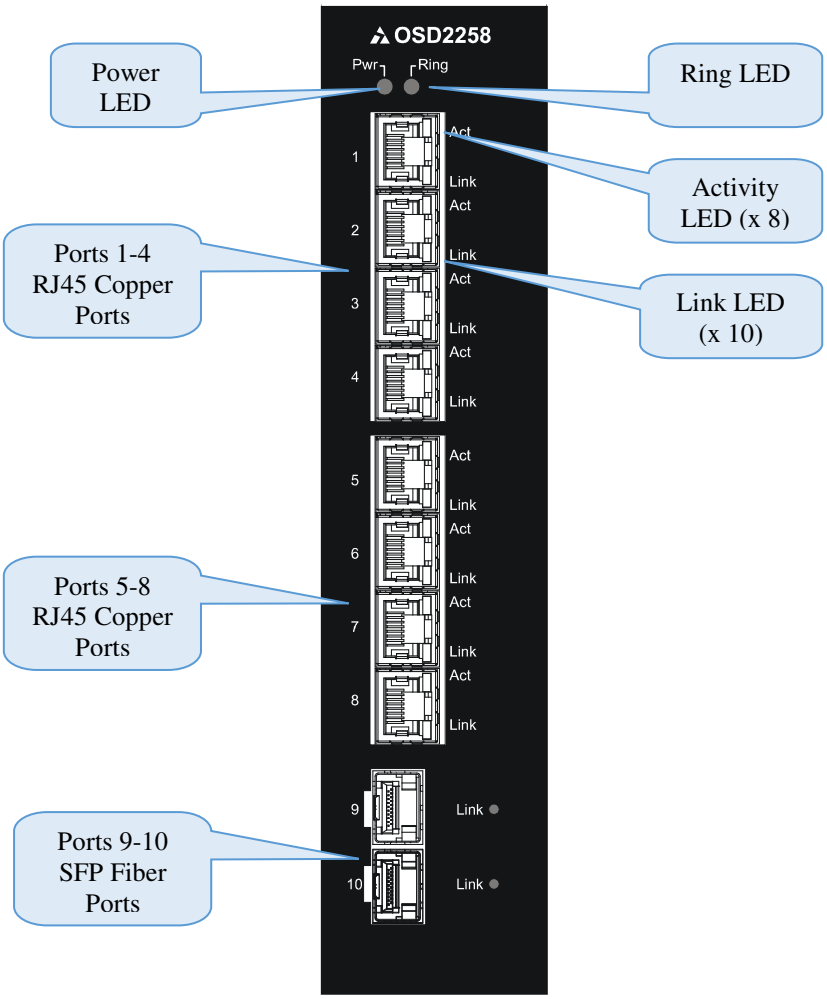


FIGURE 1: FRONT PANEL

3.2 TOP PANEL

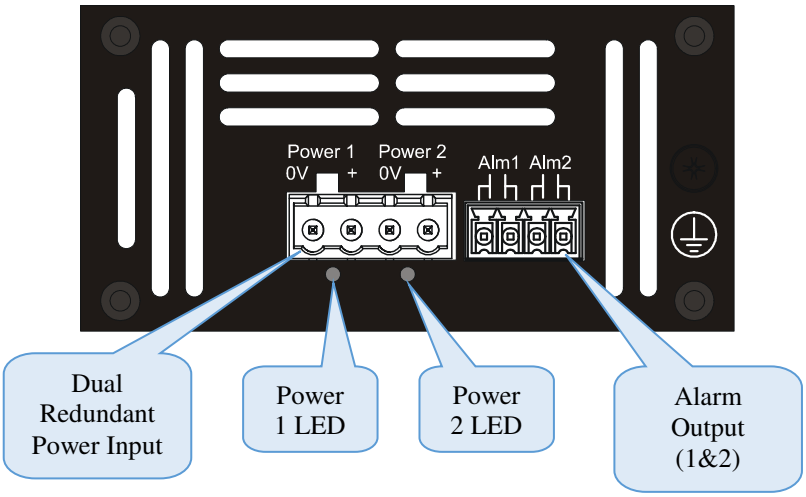


FIGURE 2: TOP PANEL

3.3 BOTTOM PANEL

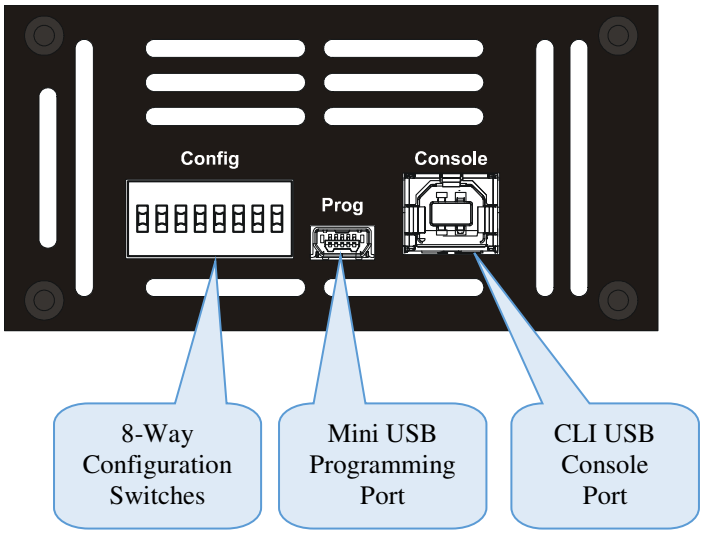


FIGURE 3: BOTTOM PANEL

4 Power Supply Connections

Connect the dual redundant power to the 4-way terminal block located on the top of the unit.

The OSD2258 requires external +10 to +36V_{DC} or 22 to 28V_{AC} @ 10VA Max power.

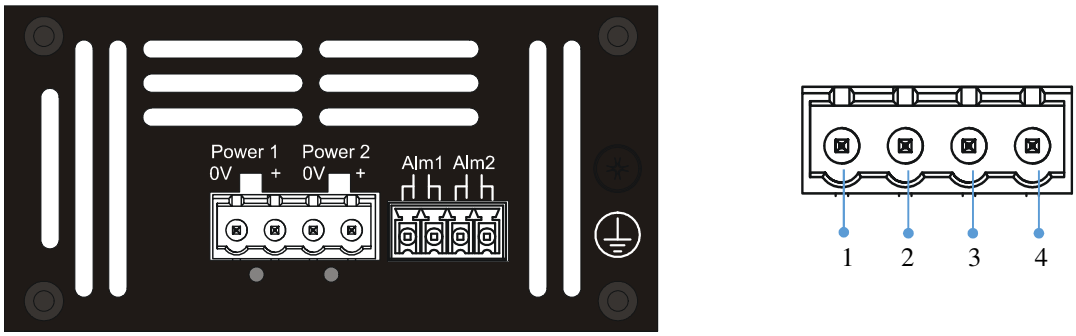


FIGURE 4: POWER CONNECTION

TABLE 1: DC POWER CONNECTION

External Power Pin	Specification
Pin 1, Pin 3	0V (Ground Isolated)
Pin 2, Pin 4	+10 to +36V_{DC} or 22 to 28V_{AC} @ 10VA

5 Alarm Connections

The OSD2258 has two monitoring alarm outputs: 1) Ring to Bus Alarm and 2) Temperature Alarm. The alarm connections and conditions for alarm outputs are as set out in Table 2. There are four pins on the 3.5mm terminal block used alarm output. Maximum ratings the relay can drive is 100mA @ 46$V_{(max)}$. Note: Alarm output has no polarity.

TABLE 2: ALARM CONNECTIONS

Alarm Output	Alarm1 Ring /Bus Status	Alarm CH2 Temperature
Open	Ring	Less than 80°C
Closed	Bus*	Higher than 80°C

*Note: Bus alarm is only triggered *after* a ring connection is established.

6 Switch Configuration

The OSD2258 has an 8-way DIP switch located on the bottom of the unit to control a number of functions. Table 3 outlines the function of each switch. Default position of switch 1-8 is all Off (down position) – see Figure 5.

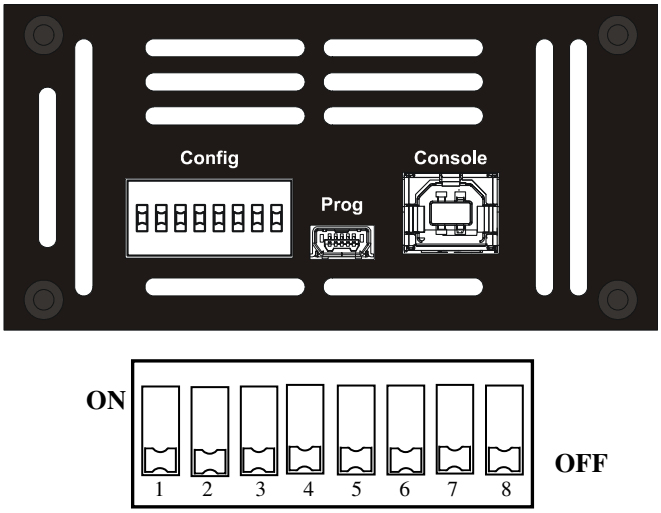


FIGURE 5: SWITCH DEFAULT POSITION

TABLE 3: SWITCH SETTINGS

SWITCH NUMBER	DESCRIPTION	FUNCTION	SWITCH POSITION
1	GUI Mode	Enable WebGUI	On
		Disable WebGUI	Off*
2	Not Used	-	On
		-	Off*
3	Not Used	-	On
		-	Off*
4	High PoE	60W per port	On
		Auto Mode	Off*
5	Not Used	-	On
		-	Off*
6	Ring/Non-Ring	Ring Mode Disabled	On
		Ring Mode Enabled	Off*
7	EEE† Disable	Disable EEE Function	On
		Enable EEE Function	Off*
8	Reserved	Programming Mode	On
		User Mode	Off*

* Default settings. SW1-5,8 switch should remain in OFF position at all times.

† EEE- Energy Efficient Ethernet (IEE802.3az standard) - enabling this function lowers the power consumption around 10% on ports 1-8 only.

7 LED Indicators

TABLE 4: LED FUNCTION

LED	Function	
Redundant Power 1 and 2	Off	Power is Not Applied to Corresponding Input
	Green	Power Connected to Corresponding Input
Power	Off	Unit is Off
	Green	Unit is Powered On
Ring	Off	Non-Ring Mode (SW6 On)
	Green	Redundant Ring
	Amber	Bus
	Green/Amber	Initializing
Link (speed) Copper Port 1-8	Off	10Mb or No Link
	Blink Amber	100Mb
	Amber	1Gb
Act Copper Port 1-8	Off	No Connection/No Activity
	Green	Link Established
	Blink	Activity
SFP Ports 9-10	Off	No Link Established
	Blink	SFP Link OK/Activity

8 Fitting SFP Connectors

Care should be taken when inserting/removing the SFP connectors from the SFP port as SFP modules are Electrostatic (ES) sensitive and Electrostatic Discharge (ESD) precautions should be taken when installing. Ensure that the SFP is fully engaged and latched into position.

Inserting SFP – Ensure that the SFP lever is in the locked position and insert into appropriate SFP port. Gently push the SFP until it locks into place. Remove plastic/rubber dust cap and fit appropriate fiber cable.

Removing SFP – Remove fiber connector. Pull the SFP lever down to unlock SFP from housing. Using the lever, gently pull the SFP out.

Fiber SFP

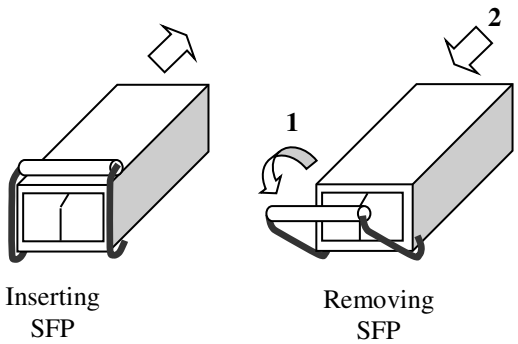
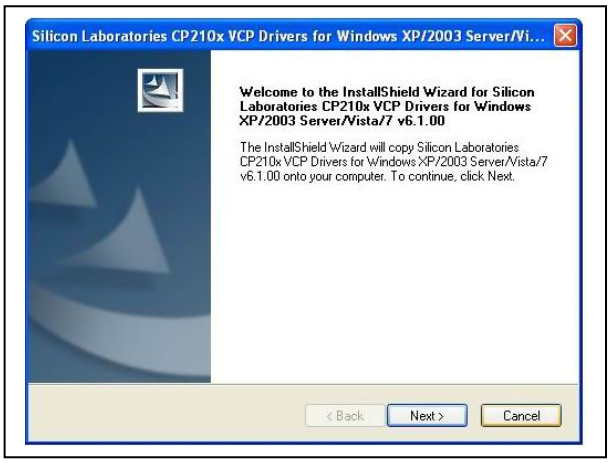


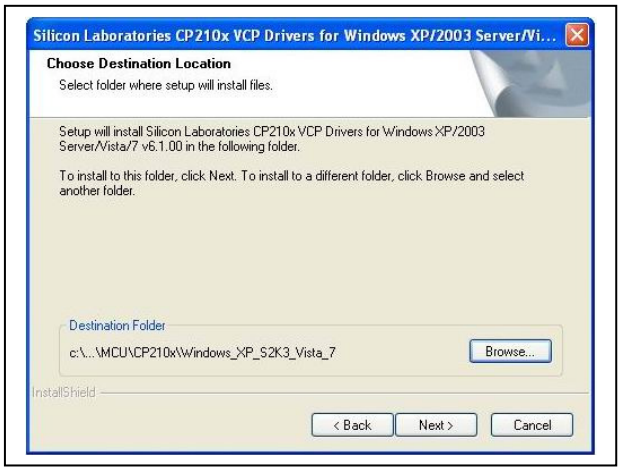
FIGURE 6: FITTING/REMOVING SFP CONNECTORS

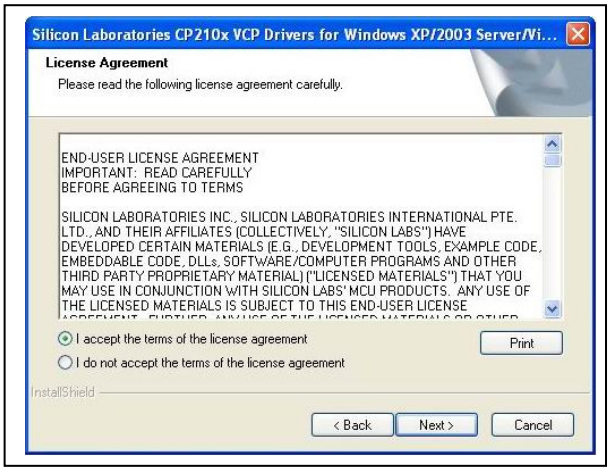
9 CLI OVERVIEW

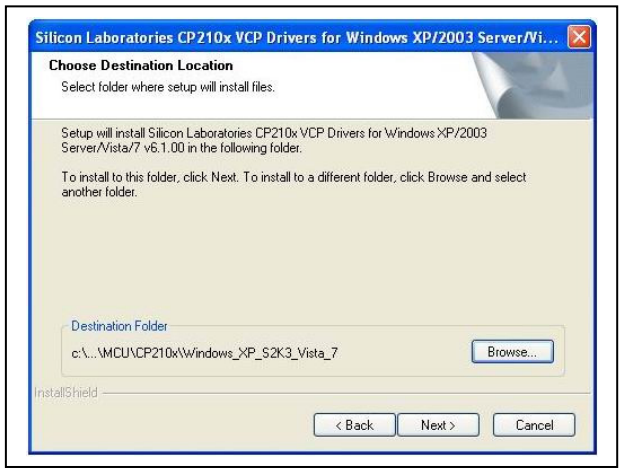
9.1 CONNECT TO CLI

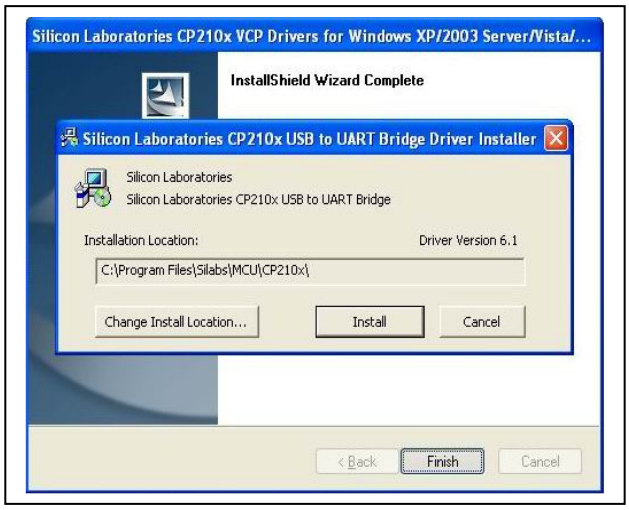
The Silicon Laboratories CP210x VCP Drivers is needed to be installed on the PC before connecting the switch.

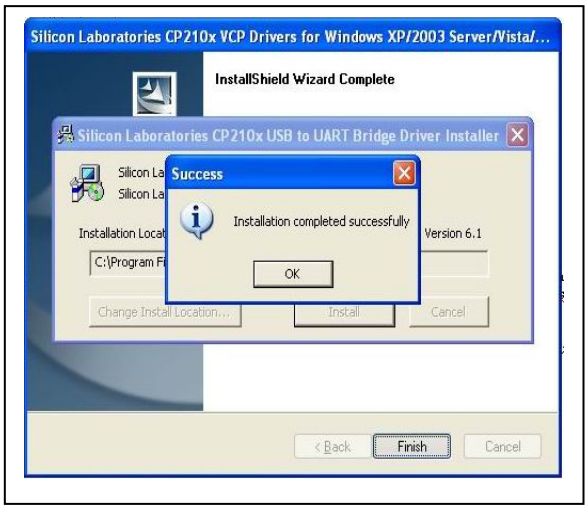












1. Connect the Console Port on UUT to PC with USB cable (Type A to Type B).
2. Using HyperTerminal to set up the following parameters.
   - Baud Rate: 57600
   - Data Bits: 8
   - Parity: None
   - Stop Bits: 1
   - Flow Control: None
3. Check the link by pressing <ENTER>. The line should jump to the next line.

9.2 CLI COMMANDS FOR IP CONFIGURATION

```
--- Common Format ---

{command_name} <parameter>

      vc(version_check): Get software version number

      defaultsetting: Reset configuration to default

      topo_check
        Function: Get topology status of an established Ring/Bus.
        Format: {tc}

      node_check
        Function: Get running status of the node with given MAC address.
        Format: {nc} <00:26:dc:xx:xx:xx>(hex)
        Example: 'nc 00:26:dc:00:22:51' --> check the Node with given out MAC Address.

      local_node_check
        Function: Get running status of local node.
        Format: {lnc}

      float_backup_enable
        Function: Enable Float Backup function for all nodes in a Ring(Bus).
        Format: {fbe}

      float_backup_disable
        Function: Disable Float Backup function for all nodes in a Ring(Bus).
        Format: {fbd}

      node_ip_set
        Function: Setup ip of the node with given MAC address.
        Format: {node_ip_set/nis} <00:26:dc:xx:xx:xx>(hex) <ip address> <net mask> <gateway address>

      node_all_set
        Function: Setup ip for all nodes on a bus or ring.
        Format: {node_all_set/nas} <base ip address> <net mask> <gateway address> <step>

      configsnmp: Change to snmp configuration sub menu

      configoam: Change to OAM configuration sub menu

--- The end ---
```

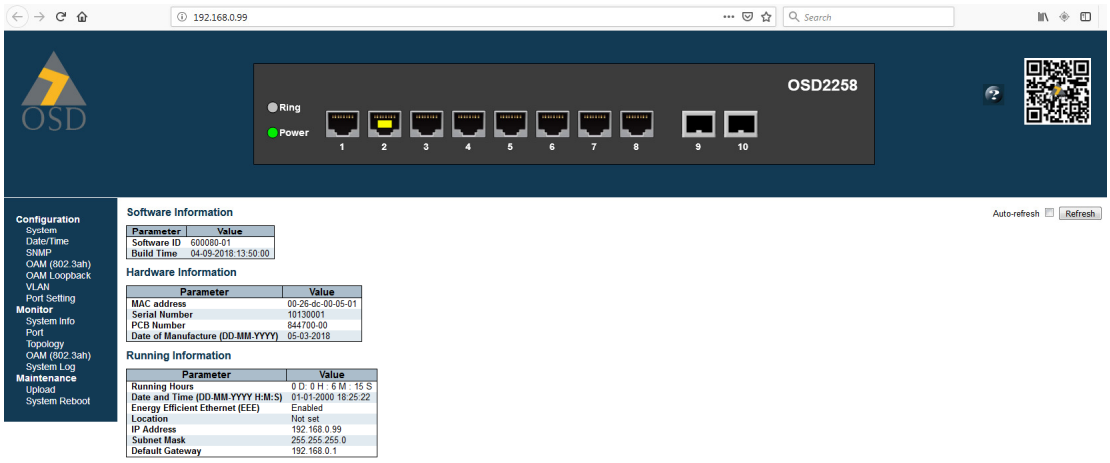
10 GUI Overview

10.1 DEFAULT SETTING

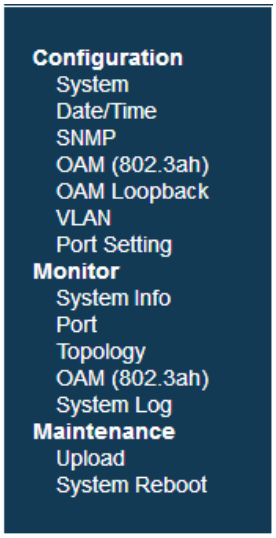
- IP Address: 192.168.0.99
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.0.1

10.2 LOG INTO THE SWITCH

- Connect a switch port to a PC, Change the PC's network IP address to connect to the switch (i.e.: 192.168.0.2).
- In a web browser, enter the URL default 192.168.0.99.
- The GUI should now have access to the OSD2258 through the web browser

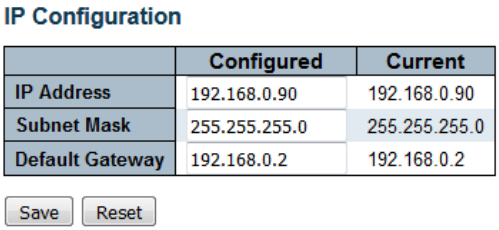


- **Configuration** settings, **Monitoring** and **Maintenance** can all be accessed vis the drop down menu titles located on the left of the screen



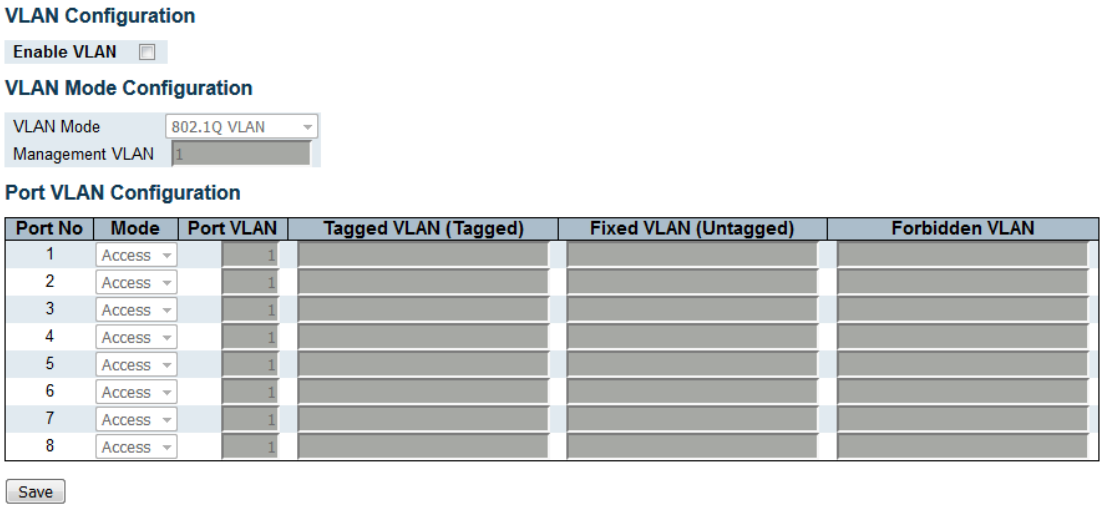
10.3 IP CONFIGURATION

The IP can be configured to user requirements/settings. Click “Save” button to save changes.



10.4 VLAN

To Enable VLAN and enable settings, click the Enable VLAN box. Click “Save” button to save changes. Earlier versions will have the VLAN function permanently enabled.



11 Reset to Factory Default

Changes made to settings, IP, VLAN etc through the GUI are saved when in default position. If for any reason the unit requires to be reset to factory settings the following command using the CLI (see section 9) should be used. Note: All previous settings will be erased!

default_setting

Function: Reset configuration to default.

Format: {ds}

12 WARRANTY

Thank you for purchasing equipment designed, manufactured and serviced by Optical Systems Design (OSD). OSD warrants that at the time of shipment, its products are free from defects in material and workmanship and conforms to specifications. Our Warranty conditions are outlined below:

12.1 WARRANTY PERIOD

For warranty period, please call your local OSD distributor.

12.2 REPAIRS

Optical Systems Design reserves the right to repair or replace faulty modules/units. Please obtain a "Return Material Authorisation" (RMA) form and number before returning goods.
Goods must be returned in adequate packing material to Optical Systems Design, Warriewood or its nominated authorised representative, for all repairs.

12.2.1 WARRANTY REPAIRS

Return shipments to OSD shall be at customer's expense and freight back to the customer will be at OSD expense.

12.2.2 OUT-OF-WARRANTY REPAIRS

OSD reserves the right to repair or replace any faulty goods. Freight costs and insurance for both journeys are met by the user. All equipment repaired by OSD will have a 3-Month Warranty from the date of dispatch.

12.2.3 SITE REPAIRS

By agreement site repairs may be undertaken for which out of pocket, hotel and travel expenses will be charged.

12.2.4 EXCLUSIONS

This warranty does not apply to defects caused by unauthorized modifications, misuse, abuse or transport damage to the equipment. All modifications to OSD's standard product will need written authorization and will be charged at normal repair rates. All modifications are to be carried out by OSD Technicians. Warranty is void if unauthorized removal and/or tampering with serial number and/or repair labels is evident.

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Printed in Australia