

OPERATING MANUAL

GS1008-1SFP Switch

and GSL1008-1SFP Switch



**Unmanaged Switch with 8 10/100/1000-TX Ports
and 1 GBIC slot for 1000Base-SX or LX Fiber**

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1.0 SPECIFICATIONS

OPERATIONAL CHARACTERISTICS

MAC Address Table

8K

Switching Mode

Store-and-forward

Memory Buffer Size

144KB

Jumbo frame support 8K

Performance

Non-blocking wire speed

Auto negotiation

Auto-MDIX

Back pressure flow control for half duplex

Flow control for full duplex

NETWORK STANDARDS:

IEEE 802.3

IEEE 802.3u

IEEE 802.3ab

IEEE 802.3z

IEEE 802.3x

EMI/SAFETY COMPLIANCE:

FCC Class A & CE

UL, cUL, CE/EN60950

NETWORK CABLE CONNECTORS:

RJ45 shielded female ports

10/100/1000Mbps: CAT5 UTP or better

MM or SM with LC connectors

POWER SUPPLY:

Internal power supply

Input Voltage

100 to 240 VAC, 50 to 60Hz

Power Consumption

6.4 watts maximum

OPERATING ENVIRONMENT

Ambient Temperature:

32° to 113°F (0° to 45°C)

Ambient Humidity

0% to 90%

MECHANICAL:

Enclosure: Cooling Method: Convection

PHYSICAL CHARACTERISTICS

Dimensions GS-1008-1SFP:

11 x 10.5 x 2.25 in

279 x 267 x 55 mm

Dimensions: GSL1008-1SFP

8.5 x 5.5 x 1.75 in

217 x 140 x 43 mm)

WARRANTY:

Limited Lifetime

2.0 Package Contents

Examine the shipping container for obvious damage prior to installing this product. Notify the carrier of any damage that you believe occurred during shipment. Ensure that the items listed below are included. If an item is missing, please contact your supplier.

- 8 port 10/100/1000 Ethernet switch (GS1008-1SFP or GSL1008-1SFP)
- User's manual
- AC power cord
- Four rubber pads

3.0 Introduction

The Waters' GS1008/GSL1008 switch is an eight port unmanaged switch which meets all IEEE802.3/u/x/z specifications. The switch has eight 10/100/1000Mbps ports and one mini GBIC slot for 1000Base-SX or LX fiber. This workgroup switch will seamlessly integrate with the rest of your network through its auto negotiating and non-blocking design. The switch provides a 10Gbps back plane for high speed networking to the desktop.

If the mini GBIC slot is used for fiber, the corresponding 10/100/1000Base-TX port (Port 1) is disabled. The switch provides a total of eight usable ports.

In addition to the features listed above, the Waters GS1008-1SFP is enclosed in a rugged security housing that protects the electronics and limits tampering.

3.1 NETWORK APPLICATION

This section provides a few examples of network topology for the GS1008/GSL1008-1SFP switch. Both models are designed as a workgroup or desktop switch ideal for connecting network segments. Workstations, servers, printers and other devices can communicate with each other by directly connecting the switch.

The switch automatically learns node addresses used to filter and forward all traffic based on the destination address.

By using uplink port, the switch can connect with other switches to form a larger switched network.

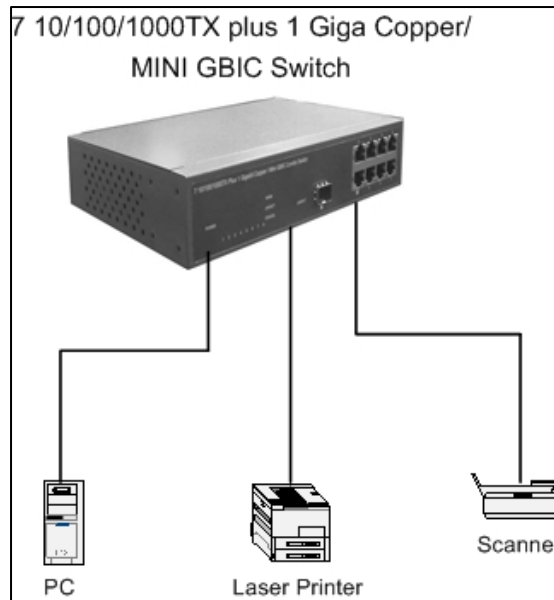


Figure 3.1 – Network Application

For larger networks with large data broadcasts that are constantly processed, the switch is an ideal solution for connection to the core switch.

Two GS1008 or GSL1008 switches can be connected via a central switch in an MDF or IDF. The mini GBIC slot allows you to connect the switch to an IDF or MDF with either multimode or singlemode fiber. All devices in this network can communicate with each other through the copper ports and longer distances can be connected through the fiber ports. Multimode or singlemode connectivity is based on the type of transceiver that you have purchased.

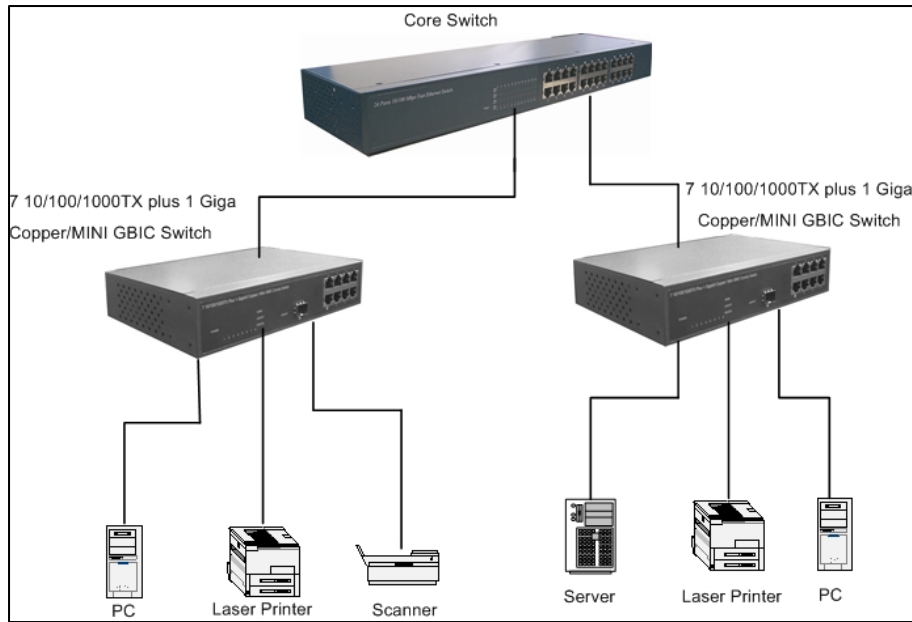


Figure 3.1 – Segment Bridge

4.0 INSTALLATION

Choose a surface for your switch that is clean, smooth and near a power outlet. Make sure there is enough clearance around the switch to allow attachment of cables, power cord and air circulation.

1. Plug in the power cord into the switch.
2. Install the proper cable for network connection.
3. Plug the power cord into the power source.

4.1 OPTIONAL SFP MODULES

The following lists the SFP modules that are available for the switch:

- SFP-1000SX-LC – multimode fiber transceiver with LC connector
- SFP-1000LX-LC-10 – singlemode (10km) fiber transceiver with LC connector
- SFP-1000LX-LC-30 – singlemode (30km) fiber transceiver with LC connector

The SFP modules are hot swappable, so you can plug or unplug the modules before and after the switch is turned on. If you are installing the optional SFP fiber transceivers, follow these guidelines:

1. Verify that the SFP module is the correct module and conforms to the chassis.
2. Slide the module along the slot.
3. Seat the module against the slot socket/connector.
4. Install the proper cable for network connection.

4.2 SWITCH TOPOLOGY

Theoretically, the switch partitions the collision domain for each port so you may link switches without limitations. However, network extension (cascading levels & overall diameter) must follow IEEE 802.3/802.3u/802.3z and other 802.1 series protocol specifications, in which the limitations are the timing requirement from physical signals defined by 802.3 series specification of Media Access Control (MAC) and PHY, and layer 2 protocols such as 802.1d, 802.1q, and LACP.

5.0 LEDs

The following table provides the status and description of the LEDs:

LED	Status	Color	Description
PWR	ON	Green	Powered on
	OFF	–	No power or power cord disconnected
10/100/1000Mbps	ON	Green	The port is operating at 1000Mbps
	ON	Orange	The port is operating at 100Mbps
	OFF	–	The port is operating at 10Mbps or no device attached
LNK /ACT	ON	Green	The port is successfully connecting with the device
	BLINK	Green	The port is receiving or transmitting data
	OFF	–	No device attached

LED	Status	Color	Description
FDX /COL	ON	Orange	The port is operating in full-duplex mode
	BLINK	Orange	Packet collisions occurring
	OFF	–	The port is operating in half-duplex mode or no device attached
LNK /ACT (MINI GBIC)	ON	Green	The port is successfully connecting with the device
	BLINK	Green	The port is receiving or transmitting data
	OFF	–	No data transmitted or no device connected

Table 5.1

If there is a no link status, the possible causes are as follows:

- The attached device is not powered on.
- The cable may not be the correct type or is faulty.
- The installed building premise cable is faulty.
- The port may be faulty.

6.0 Troubleshooting

All Waters' switching products are designed to provide reliability and consistently high performance in all network environments. The installation of a Waters' GS1008/GSL1008-1SFP switch is a straightforward procedure. Should problems develop during installation or operation, this section is intended to help locate, identify and correct these types of problems. Please follow the suggestions listed below prior to contacting your supplier. However, if you are unsure of the procedures described in this section or if the Waters' GS switch is not performing as expected, do not attempt to repair the unit; instead contact your supplier for assistance or contact Waters Network Systems'

Customer Support Center at **800.328.2275** or email carolynl@watersnet.com.

6.1 BEFORE CALLING FOR ASSISTANCE

1. If difficulty is encountered when installing or operating the unit, refer back to the Installation Section of this manual. Also check to make sure that the various components of the network are operational and compatible.
2. Check the cables and connectors to ensure that they have been properly connected and the cables/wires have not been crimped or in some way impaired during installation. (About 90% of network downtime can be attributed to wiring and connector problems.)
3. Make sure that an AC power cord is properly attached to the GS switch.
4. Be certain that each AC power cord is plugged into a functioning electrical outlet. Use the PWR LEDs to verify each unit is receiving power.
5. If the problem is isolated to a network device other than the Waters' GS switch, it is recommended that the problem device be replaced with a known good device. Verify whether or not the problem is corrected. If not, go to next step. If the problem is corrected, the Waters' GS switch and its associated cables are functioning properly.
6. If the problem continues, contact Waters Network Systems Customer Service at 800.328.2275 or email carolynl@watersnet.com for assistance.

When Calling for Assistance

Please be prepared to provide the following information.

1. A complete description of the problem, including the following:
 - a. The nature and duration of the problem
 - b. Situations when the problem occurs
 - c. The components involved in the problem
 - d. Any particular application that, when used, appears to create the problem
2. An accurate list of Waters Network Systems product model(s) involved. Include the date(s) that you purchased the products from your supplier.
3. It is useful to include other network equipment models and related hardware, including personal computers, workstations, terminals and printers; plus, the various

network media types being used.

4. A record of changes that have been made to your network configuration prior to the occurrence of the problem. Any changes to system administration procedures should all be noted in this record.

6.2 RETURN MATERIAL AUTHORIZATION (RMA) PROCEDURE

All returns for repair must be accompanied by a Return Material Authorization (RMA) number. To obtain an RMA number, call Waters Network Systems Customer Service at 800.328.2275 during business hours of 8:00 am to 5:00 pm (CT) or email carolynl@watersnet.com. When calling, please have the following information readily available:

- Name and phone number of your contact person
- Name of your company/institution
- Your shipping address
- Product name
- Failure symptoms, including a full description of the problem
- Waters Network Systems will carefully test and evaluate all returned products, will repair products that are under warranty at no charge, and will return the warranty-repaired units to the sender with shipping charges prepaid (see Warranty Information at the end of this manual for complete details). However, if Waters cannot duplicate the problem or condition causing the return, the unit will be returned as: **No Problem Found.**

Waters Network Systems reserves the right to charge for the testing of non-defective units under warranty. Testing and repair of product that is not under warranty will result in a customer (user) charge.

6.3 SHIPPING AND PACKAGING INFORMATION

Should you need to ship the unit back to Waters Network Systems, please follow these instructions: Package the unit carefully. It is recommended that you use the original container if available. Units should be wrapped in a "bubble-wrap" plastic sheet or bag for shipping protection. (You may retain all connectors and this Installation Guide.)

CAUTION: Do not pack the unit in Styrofoam "popcorn" type packing material. This

material may cause electro-static shock damage to the unit.

Clearly mark the Return Material Authorization (RMA) number on the outside of the shipping container. Waters Network Systems is not responsible for your return shipping charges.

Ship the package to:

Waters Network Systems
Attention: Customer Service
945 37th Avenue, NW
Rochester, MN 55901

7.0 Warranty

Waters Network Systems' Warranty Statement

Waters Network Systems' products are warranted against defects in materials and workmanship. The warranty period for each product will be provided upon request at the time of purchase. Unless otherwise stated, the warranty period is for the useable life of the product.

In the event of a malfunction or other indication of product failure attributable directly to faulty materials and/or workmanship, Waters Network Systems will, at its option, repair or replace the defective products or components at no additional charge as set for herein. This limited warranty does not include service to repair damage resulting from accident, disaster, misuse, neglect, lightning, acts of God, tampering or product modification.

If a product does not operate as warranted during the applicable warranty period, Waters shall, at its option and expense, repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item. All products that are replaced will become the property of Waters. Replacement products may be new or reconditioned. Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

Waters shall not be responsible for any custom software or firmware, configuration information, or memory data of Customer contained in, stored on, or integrated with any products returned to Waters pursuant to any warranty.

Service under the warranty may be obtained by contacting Waters Network Systems and receiving a Return Material Authorization (RMA) number from Waters Network Systems. Returned product accompanied with the issued RMA number and prepaid shipping will be repaired or replaced by Waters Network Systems. Repaired or replaced products will be returned at no cost to the original Buyer and shipped via the carrier and

method of delivery chosen by Waters Network Systems.

Specific warranty by product family is as follows:

ProSwitch-FixPort:	Limited Lifetime
ProSwitch-FlexPort:	Limited Lifetime
ProSwitch-GS Series	Limited Lifetime
ProSwitch-Lite:	3 Years from date of manufacture (see note)
ProSwitch-POE Series	Limited Lifetime
ProSwitch-Secure:	Limited Lifetime (see note)
ProSwitch-SecureAir+:	Limited Lifetime
ProSwitch-Xpress:	Limited Lifetime
ProSwitch-Xtreme:	Limited Lifetime (see note)
ProSwitch-CS and CSX	3 Years from date of manufacture (see note)
ProMedia Converters	3 Years from date of manufacture (see note)

Note: Warranty period for any and all external power supplies is one (1) year from date of purchase.

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