ASCENT
Communication Technology

AS2308S Multiservice Gigabit Fiber Switch

Quick Reference Guide

Revision A

ACT AS2308S Multiservice Gigabit Ethernet Switch

Quick Reference Guide

ACT Document Number: ACT AS2308S Switch Quick Reference Guide

User Guide Revision A

This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

For more information, contact ACT: support@ascentcomtec. com

Revision History

Revision	Date	Reason for Change
A	08/01/2016	Initial Release

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1 Product Overview

Ascent's AS2308S Gigabit Optical Switch is a photoelectric signal switch which can be used to centralize multiplexed electrical and optical switching of Gigabit Ethernet (Ethernet Fiber Switch) to exchange signals. AS2308S is fully compliant with IEEE802. 3z/A.

AS2308S's fiber transceiver has 2 RJ45 twisted pair interfaces and 8 SFP optical interfaces. They respectively are used to connect with twisted pair and fiber optic cables. It is characterized by its direct line / cross-line adaptive of electrical interface, it can be full duplex mode and half duplex mode. According to user's needs, SFP interfaces can be inserted with SFP optical modules and power modules. It has good habitudes of stability and reliability.

SFP light switch interfaces can operate in 1000M full-duplex mode while RJ45 ports can operate in 10/100/1000M full-duplex or half-duplex mode, it is a 10/100M adaptive optical switch.

SFP optical modules are divided into multi-modes and single-modes. Single-modes have two types, dual-fiber and single-fiber. Dual-fiber SFP requires two-core optical fibers to transmit Ethernet signals while single-fiber SFP only need one core fiber to transmit.

A lightning protection circuit is built-in the transceiver which can effectively reduce damage caused by lightning induction.

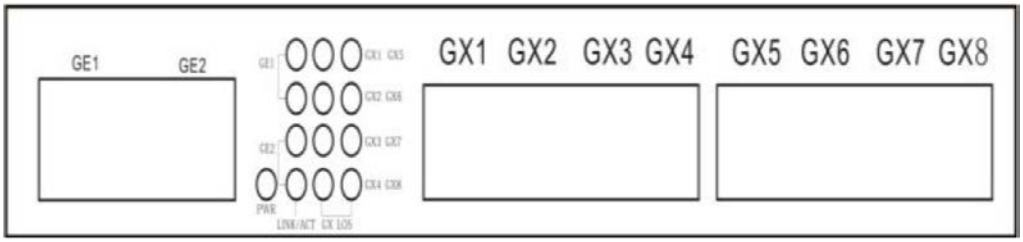
2 Technical Parameters

Item	Description
Compliant Standards	IEEE 802.310BaseT, IEEE 802.3u 100Base-TX, 100Base-FX
Interface	UTP: RJ45
	Fiber: LC
Transfer Rate	UTP: 10 Mbps, 100 Mbps, 1000 Mbps
	Fiber: 1000 Mbps
Duplex Mode	Full duplex or half duplex
Twisted	6, 5E category
Fiber	Multimode: 50/125 µm, 62.5/125 µm
	Single-mode: 8.3/125 µm, 9/125 µm, 10/125µm
Power Supply	AC: 220 V (165 V to 265 V), 50 Hz
	DC: 5 V, 2 A
Working Temperature	0 °C to +50 °C
Storage Temperature	-20 °C to +70 °C
Humidity	5 % to 90 % RH (non-condensing)
Dimensions (L×W×H)	220 mm × 110 mm × 33 mm

3 LED Indicators

AS2308S's fiber optic transceiver has 13 LED indicators which are used to indicate equipment status. Specific meanings are as follows:

(Front schematic diagram)



(Rear schematic diagram)

Indicator Meaning:

LED		Function		
GX1-G X8	GX LOS	Optical port connection status indicator. Green.		
		On: optical connection is normal or data is transmitted		
		Off: No light connection or abnormal connection		
GE1-G E2	LINK/ACT	Top	Bottom	
		OFF	ON	1000 M rate
		OFF	FLASH	Data is being transmitted
		ON	ON	100 M rate
		FLASH	FLASH	Data is being transmitted
		ON	OFF	10 M rate
		FLASH	OFF	Data is being transmitted
		OFF	OFF	There is no link
PWR		Power indicator. Green.		
		On: power is on		
		Off: power is off		

4 Setup Initialization and Precautions

Follow the steps below to install a 10/100/1000M adaptive fiber transceiver:

1. Put the SFP module into the SFP socket, then connect fiber jumpers or pigtails to the optical interface of both ends of the Gigabit optical switches from the terminal box of both sides of the fiber (or one side is a transceiver or Gigabit optical interface of the router) SFP optical ports. Note that the two ends of the same fiber should be respectively inserted into the TX and RX ports of two sides of the optical interface, and cannot be connected to the TX or RX ports at the same time, otherwise the fiber will be unresponsive. A single fiber SFP module only needs one core fiber jumper.

2. Connect the UTP patch from the RJ45 port of the network equipment to the RJ45 interface of AS2308S Gigabit fiber switch. A straight-through cable or crossover cable can also be used. the 1000Base-T standard needs to use four twisted pairs to utilize all 8 cores, and requires the use of 5E or 6 Category UTP. The production process requirements for RJ45 connectors are higher, so users must operate according to specifications otherwise the electrical interface will not be connected, or experience loss or instability.

3. AS2308S's power ports are 10/100/1000M adaptive ports. They will set their rates according to the maximum rate of other equipments' electrical interfaces.

Single fiber transmission characteristics

Product Model	Optical Wavelength	Light Emitting Power	Receiver Sensitivity	Saturation
Single-fiber single-mode LC interface 20 km	1310/1550 nm 1550/1310 nm	-6 dBm to +10 dBm	<-23 dBm	≥-3 dBm
Single-fiber single-mode LC interface 40 km	1310/1550 nm 1550/1330 nm	-5 dBm to 0 dBm	<-24 dBm	≥-3 dBm
Single-fiber single-mode LC interface 60 km	1310/1550 nm 1550/1330 nm	-2 dBm to +3 dBm	<-24 dBm	≥-3 dBm

Dual-fiber transmission characteristics

Product Model	Optical Wavelength	Light Emitting Power	Receiver Sensitivity	Saturation
Dual-fiber multi-mode LC interface 550 m	1310 nm	-10 dBm to -4 dBm	-17 dBm	≥-3 dBm
Dual-fiber single-mode LC interface 20 km	1310 nm	-10 dBm to -6 dBm	-23 dBm	≥-3 dBm
Dual-fiber single-mode LC interface 40 km	1310 nm	-4 dBm to 0 dBm	-24 dBm	≥-3 dBm
Dual-fiber single-mode LC interface 60 km	1310 nm	-5 dBm to 0 dBm	-25 dBm	≥-3 dBm

Notation:

1. This product is only suitable for indoor or outdoor enclosures.
2. When not in use, please insert optical port dust cover.
3. Do not look directly into the light emitting ports.
4. Single fiber products must be used in pairs.

Troubleshooting:

1. The device does not match. If a device (network cards, hubs, switches) which is connected with the product does not match, please adapt the product according to the rate (10M, 100M, 1000M).
2. Fiber optic line loss is too large. If the fiber optic cabling, fiber splicing, or fiber jumper plugs are inappropriate, it may result in excessive wear and tear and abnormal operation of the equipment.

5 Packing List

- 1 × set of fiber optic transceivers
- 1 × power adapter, AC 220 V / DC 5 V 1 A
- 1 × quick reference guide (optional)
- 1 × warranty card (optional)

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