

**10 Ports Modular 10/100BaseT(X) to 100BaseFX Ethernet/Fiber Switch  
8 x 10/100BaseT(X) Ports, 2 x 100M SFP Port**

*Installation/Operation Instructions*

**Fiber Optic 10/100Mbps Ethernet Transmission System**

Part Number: AFS6328  
8-ch 10/100Mbps Ethernet Fiber Switch



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## 1.0 Safety Instructions

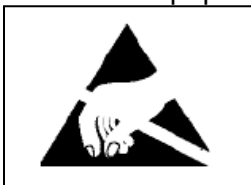
The safety information contained in this section, and on other pages of this manual, must be observed whenever this unit is operated, serviced, or repaired. Failure to comply with any precaution, warning, or instruction noted in the manual is in violation of the standards of manufacture, warranty and intended use of the unit. ALBA assumes no liability for the customer's failure to comply with any of these safety requirements.

**LASER RADIATION CAUTION:  
DISCONNECTED OPTICAL CONNECTORS MAY EMIT OPTICAL ENERGY.  
DO NOT VIEW BEAM WITH OPTICAL INSTRUMENTS (MAGNIFIERS).**

### This product contains Class 1M lasers

- Class 1M laser product according to IEC60825-1:1993+A1+A2
- **CAUTION: Use of controls or adjustments or procedures other than those specified herein may result in hazardous radiation exposure.**
- Precautions should be taken to prevent exposure to optical radiation if the internal PCB removed from its enclosure or when the fiber is disconnected from the unit.
- Laser radiation may be present on a fiber connection to this unit even when the power has been removed from the unit.
- This unit is intended for installation in locations where only trained service personnel have access to the fiber connections.
- The optical connectors are listed in the Connection Diagrams and Function section of this manual.
- Optical outputs and wavelengths are listed in the Specifications section of this manual.

The optical devices used in this equipment are Hazard Level 1M. As required by IEC60825-1, the installer is responsible for insuring that the label depicted below is present in the restricted locations where this equipment is installed.



This assembly contains parts sensitive to damage by electrostatic discharge (ESD). Use ESD precaution procedures when touching, removing or inserting parts or assemblies.



Units are not waterproof; please install in an appropriate NEMA Enclosure.

When units are installed in extremely hot environments, the metal enclosures may become hot to the touch. Please install in restricted areas where properly trained personnel have access.

## 2.0 Fiber Installation Hints

### Fiber Information

Alba Fiber Transmission Systems are manufactured with optical connector covers to keep them from accumulating dirt. In addition to safety precautions, our manual also provides the following guidelines when working with optical fibers.

Please maintain optical fiber connectors as clean as possible to reduce loss of optical transmission output. Cleanliness is extremely important to proper operations.

1. Protect optical connectors by leaving the connector covers in place on unused fiber connections and on the fiber tips themselves.
  - a. Personnel who remove and replace fiber connectors or fiber pigtails should be equipped with a fiber cleaning kit. These are available as off-the-shelf items from a supplier of fiber optic accessories.
  - b. Propyl Alcohol and lint-free tissue or cloth may be used to clean fiber connector tips.
  - c. Do not use rubbing alcohol mixed with water. This can cause additional spots.
  - d. Clean the fiber by pulling the connector tip across the tissue, then turn the connector 90 degrees and repeat it in a different spot on the tissue.
  - e. Don't pull the fiber across and then push it back. This will put the dirt that was cleaned off back on again.
  - f. Repeat the process on a dry, folded tissue.
2. When removing fiber cables from fiber system ports, it is good practice to clean them again.
3. Installer must pay attention to the bend radius of the fibers. A general rule is to have a 3-inch (8cm) bend radius. A bend radius less than 3 inches may cause attenuation also known as optical signal loss.
4. Installers of fiber equipment should be equipped with an Optical Light Source and an Optical Power Meter to measure the optical inputs and outputs in a system. These instruments are available from Alba at great savings, especially to our customers. The use of these tools will save much time and effort in getting optical communications links up and running. Properly equipped and trained installers can quickly determine the source of any problems that occur.

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### 3.0 Product Description

The ALBA FIBER SYSTEMS Series AFS6328 are Ethernet fiber switches designed to transmit and receive 8-ch 10/100 Mbps data over two user selectable SFP options. Available in commercial temperature grade, units feature half or full duplex mode and Auto-Negotiation to 10Mbps or 100 Mbps Ethernet rate without adjustments. The optical interfaces operate at a 100Mbps rate. Plug-and-play design ensures ease of installation and no user electrical or optical adjustments required. Features included are low power consumption, LED indicators for monitoring equipment link and performance operating status and auto resettable voltage transient fuses. With 12-48VDC input voltage on standalone, industry highest density 7 card slots, 1 PSU or 6 slots and 2 PSU per 19"Lx4U Rackmount Chassis, the Series AFS6328 are outstanding products for transmission of 8-ch 10/100Mbps Ethernet signals.

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### 4.0 Product Features

- 8 x 10/100Mbps Ethernet Ports
- 2 x 100BASE-FX SFP Port (SC or LC)
- Electrical port supports Auto-Negotiation for 10Mbps or 100Mbps, full or half duplex mode
- Optical port supports 100 Mbps full duplex data
- Automatic MDI/MDI-X crossover cables
- Transparent to data encoding/compatible with major data protocols; IEEE 802.3 compliant
- No Electrical or Optical User Adjustments
- Performance and Link Status Indicator LEDs
- Voltage Transient Protection on Power/Signals
- Auto Resettable Fuses on Power Lines
- Hot-Swappable Rackmount Cards
- Designed with Lowest Power Consumption
- Highest Density - 7 Slots and Power Supply
- 12-48VDC Input Voltage (Standalone)
- 90-130VAC or 180-264VAC (19" Chassis)
- PoE or PoE+ selectable
- Compliance with CE, FCC, ROHS

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## 5.0 Installation

The ALBA FIBER SYSTEMS Series AFS6328 products are interchangeable between Standalone and Rackmount. Cards units occupy two slots in Alba’s standard 19"x4U chassis series AFS945-1 with one power supply (total 7 cards) or ASF945-2 with 2 power supplies. To install card and power supply, keep the orientation of Alba logo on top and slide onto the top and bottom card guides in the chassis. Press securely on the top and bottom of the card to ensure that it is fully seated so that the electrical connector mates with the chassis-mounted motherboard. Once installed, manually tighten the two thumbscrews located at the top and bottom of the card. Do not use tools to secure these and do not over tighten.

## 6.0 Product Signal Format & Specifications

The tables below identify the specifications for the various signals that these fiber switches.

<b>CONNECTORS</b>	
Optical	SC or LC (SFP)
Power	Terminal Block
Ethernet	8 x RJ-45

<b>OPTICAL PARAMETERS</b>	
Fiber	SFP Dependent
Wavelengths (MM)	850/1310nm
Wavelengths (SM)	1310/1550nm

<b>DATA</b>	
Data Interface	8 x 10/100BaseT(X) RJ-45 ports
Data Rate	10/100 Mbps IEEE 802.3 Compliant Full Duplex or Half Duplex Electrical Port / Full Duplex Optical Port

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## 7.0 Panels Layout and Pinout Assignment Diagrams

Figures 7.1 and 7.2 below show the front panel layout; Figures 7.3 below show the connector diagrams of rear panel layout;  
Figures 8.1 and 8.2 below are showing the LED indicators of the rear panel.



Figure 7.1: the layout of front panel



Figure 7.2: the layout of front panel in Card (rackmount) version

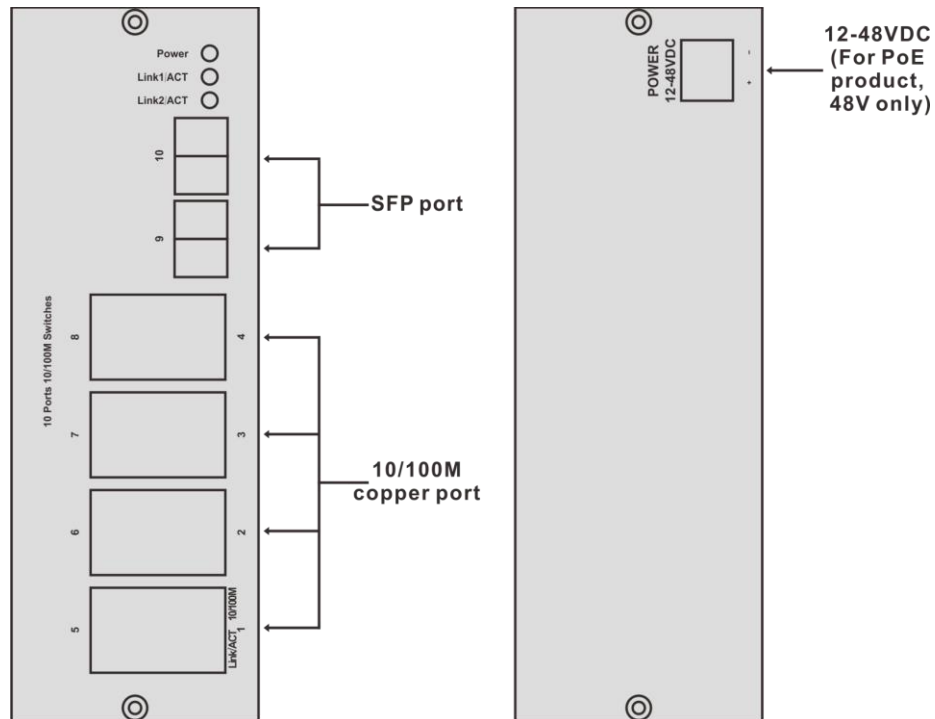


Figure 7.3: the connection diagram of rear panel



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### 8.0 Front Panel LED Indicators

Front panel mounted indicators to provide visual operational status of the card and each of the channels. Below are listed and described the functions of the various LED indicators.

### AFS6328 LED STATUS INDICATORS

LED indicator lamp	Status	Explanation
Link/Act	On	Active Optic Signal
	Blink	Active data connection
Power	On	Power is on and normal

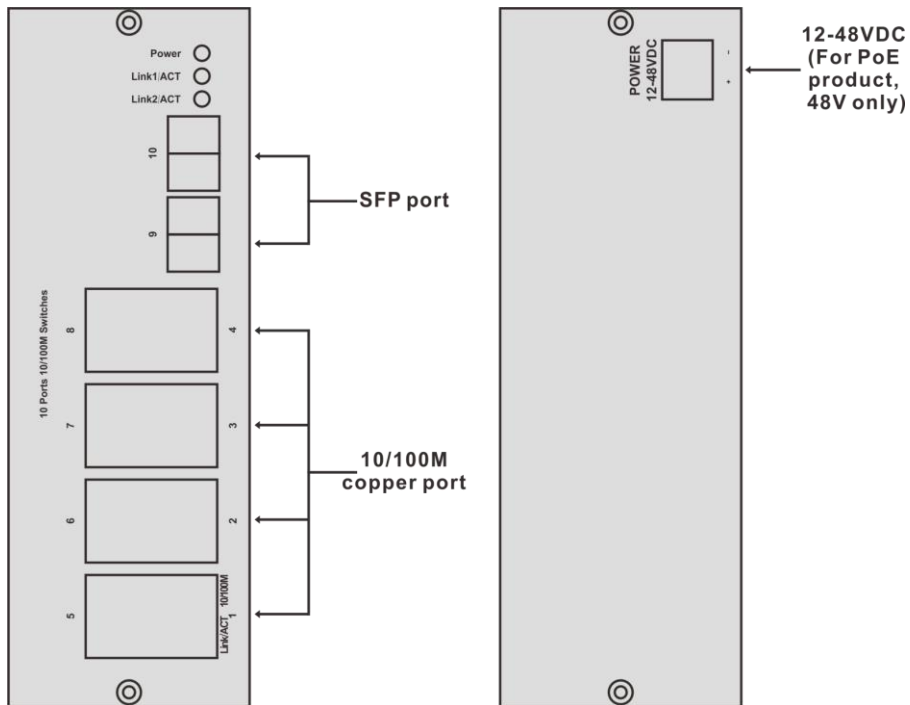


Figure 8.1: LED indicators of rear panel

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## 9.0 Product Part Number Variations

The table below lists the various part numbers associated with different versions of the products.

### ORDER INFORMATION

MODEL	DESCRIPTION	FIBER PORT	COPPER PORT	DISTANCE
<b>AFS6328</b>	8 x 10/100BaseT(X) Ports, 2 x 100M SFP Port	2	8	See SFP options for optional distances, fiber type and connector type.
<b>AFS6328-PoE</b>	8 x 10/100BaseT(X) Ports PoE, 2 x 100M SFP Port	2	8 with PoE	
<b>AFS6328-PoE+</b>	8 x 10/100BaseT(X) Ports PoE+, 2 x 100M SFP Port	2	8 with PoE+	

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## 10.0 Warranty

- 3 years warranty for product - please refer to Alba Fiber Systems warranty document.
- Repair
  - If product is found to be defective, and user must contact a local distributors or re-seller. In order to return any items for repair or credit, buyer must receive a dated Return Materials Authorization form (RMA #), assigned by Alba Fiber Systems Customer Service department. Please contact [RMA@albafiber.net](mailto:RMA@albafiber.net). Returns must be shipped prepaid, fully insured, door to door service and clearly identified with RMA on package exterior or it will not be accepted. Alba reserves the right to apply repair charges to any products that have been dismantled or modified by anyone other than an Authorized Alba Security engineer.
    - Please attach a statement clearly describing the problem.
- Alba will repair defective product under warranty free of charge to our customers.
- Any unauthorized modification of hardware and software voids the warranty.
- Warranty does not cover mishandling and/or abuse of the product.

Products comply with the following Safety Label for International Fiber Communication Equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses and can radiate radiofrequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful Interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

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