



LevelOne

FSW-2106

**5-Port 10/100 TX
+ 1-Port SC 100FX Switch**

User Manual

Version 1.0-0604

1. Introduction

Thank you for purchasing LevelOne FSW-2106. The 5-port 10/100 TX + 1-port SC 100FX switch is a compact desktop size switch which is an ideal solution for small office or SOHO network user. It provides wire-speed, Fast Ethernet switching function that allows high-performance, low-cost connection.

FSW-2106 provides 5 switched N-Way 10/100Mbps RJ-45 Ethernet ports with Auto MDI/MDI-X function and one SC 100Base-FX fiber port. The multi-mode fiber port can be used to connect to a remote side and supports distance up to 2 KM.

The switch will automatically detect the speed of the device that you plug into it to allow you to use both 10 and 100Mbps devices. The 10Mbps bandwidth will accommodate 10Mbps workgroup hubs while simultaneously providing the 100Mbps bandwidth needed to accommodate multimedia applications. The switch features a store-and-forward switching and it can auto-learn and store source address on a 2K-entry MAC address table.

Features

- 5 10/100Mbps N-Way ports
- Supports Auto MDI/MDI-X function
- One SC 100Mbps Fast Fiber port
- Manual select full-duplex or half-duplex mode for fiber port
- Store and forward switching architecture
- Full wire speed forwarding rate

Package Content

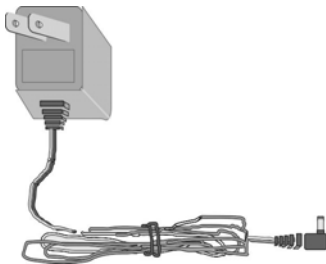
- One FSW-2106 switch
- Four Rubber Feet with adhesive pads
- Power adapter (9V DC, 700mA)
- User Manual



FSW-2106



Rubber Feet



DC power Adapter



User's Manual

Package Contents

Compare the contents of your FSW-2106 package with the standard checklist above. If any item is missing or damaged, please contact your local dealer for service.

2. Hardware Description

This section mainly describes the hardware of the FSW-2106 switch. This switch is a compact palm size switch (6.5 inches) with 5x 10/100 N-Way UTP ports plus one 100Baes-FX fiber port.

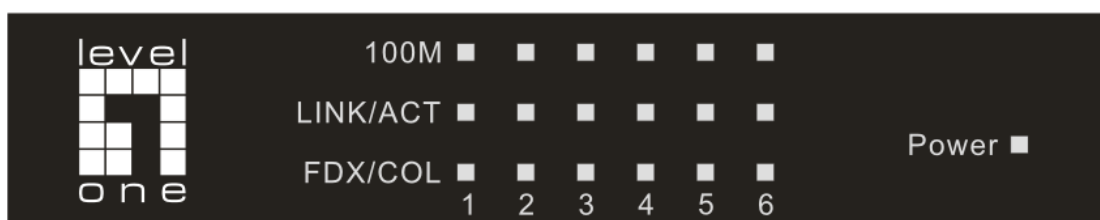


The physical dimensions of FSW-2106 are: 165mmx 100mmx 24mm

Front Panel

The LED indicators are located on the front panel of the switch. They provide a real-time indication of systematic operation status.

LED Indicators

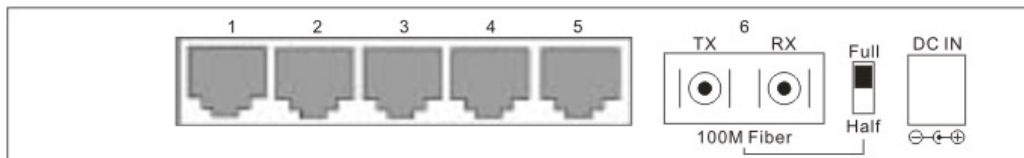


The following table provides descriptions of the LED statuses and meaning.

LED	Status	Color	Description
Power	On	Green	The power of switch is On
100M	On	Green	The port is operating at the speed of 100Mbps.
	Off		In 10Mbps mode or no device attached
LINK /ACT	On	Green	The port is successfully connecting with the device.
	Blinks		The port is receiving or transmitting data.
	Off		No device attached.
FDX/COL	On	Yellow	The port is operating in Full-duplex mode.
	Blinks		Collision of Packets occurs in the port.
	Off		Half-duplex mode or no device attached.

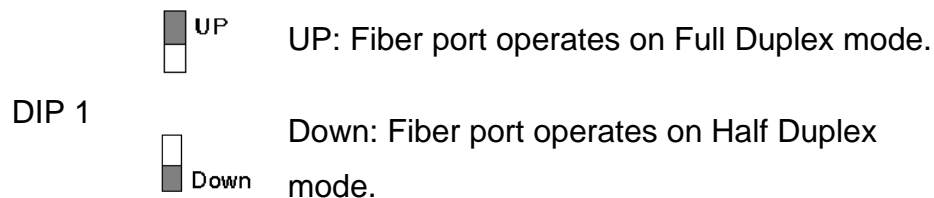
Back Panel

The back panel of the switch consists of 5 10/100 N-Way UTP switch ports, one 100Base-FX fiber port, 1 DIP-switch and DC power connector.



Back Panel of FSW-2106 switch

- **RJ-45 Ports:** Five 10/100 N-Way auto-sensing for 10Base-T or 100Base-TX connections.
- **100Base-FX Fiber Port:** One SC 100Base-FX fiber port. The distance for fiber cabling can be extended up to 2 kilometers.
- **DIP-switch:** the DIP-switch is to select switch's function.



- **DC Power Connector:** Plug DC Power Adapter's female end into this device, and the male end of DC Power Adapter into a power outlet. The Adapter supply the switch with Voltage 9V, 700mA.

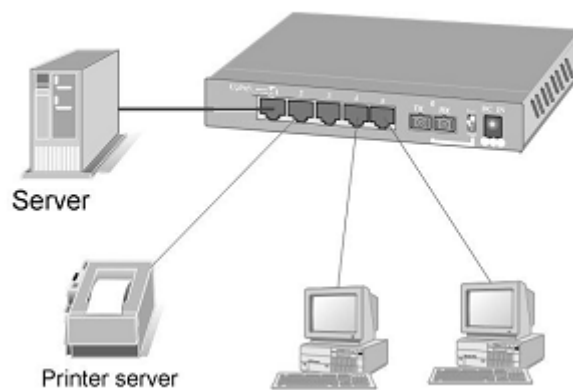
3. Network Application

This section provides you a few samples of network topology in which the switch is used. In general, the switch is designed to be as a desktop or segment switch.

The switch automatically learns node address, which are subsequently used to filter and forward all traffic based on the destination address.

Desktop Application

The switch is designed to be a compact desktop size switch that is an ideal solution for small workgroup. The switch can be used as a standalone switch to which personal computers, server, printer server are directed connect to form small workgroup.



Desktop Application

Collapsed Backbone Application

You can use any port of the switch to connect with another hub or switch to interconnect each of your small-switched workgroups to form a larger switched network. Meanwhile, you can also use fiber ports to connect switches. The distance between two switches via fiber cable can be up to 2Kms.

The switch support Auto MDI/MDI-X function, the function can auto detects the cable is straight or crossover cable. That is to say, you can connect another hub or switch without crossover table.

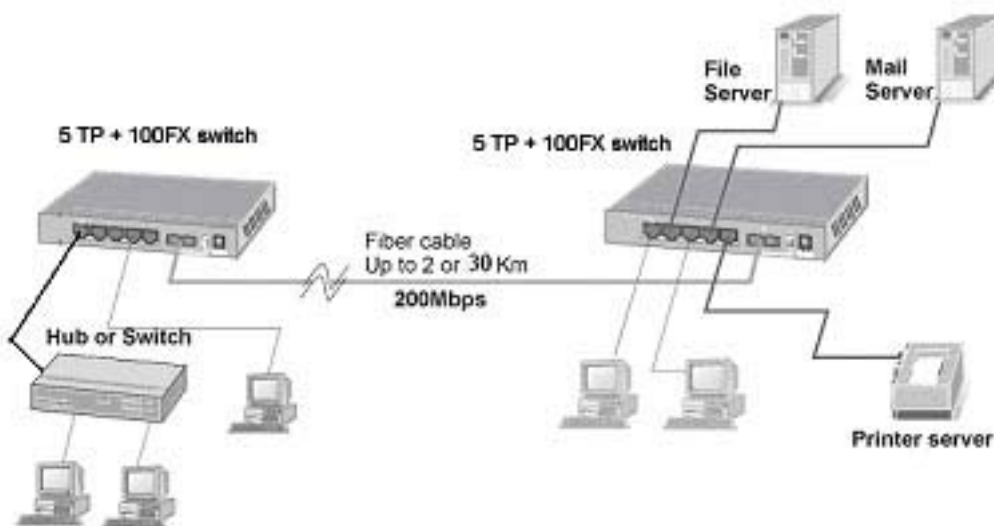


Figure 3-2. Collapsed Backbone Application

In the above illustration, two switches are used to interconnect two small workgroup via fiber cable. All the devices in this network can communicate with each other. Connecting servers to the switch allow other users to access the server's data.

4. Troubleshooting

The switch can be easily monitored through panel indicators to assist in identifying problems. This section describes common problems you may encounter and where you can find possible solutions.

■ Diagnosing LED Indicator

If “LINK/ACT” indicator does not light up after connection, you may check whether network interface (e.g., a network adapter card on the attached device), network cable, or switch port is defective or not. Verify that the switch and attached device are power on. Be sure the cable is plugged into both the switch and corresponding device. Verified the proper cable type is used and its length does not exceed specified limits.

■ Power

IF “Power” indicator does not light up when the power cord is plugged in, you may have a problem with power outlet, or power cord. However, if the switch powers off after running for a while, you should check for loose power connections, power losses or surges at power outlet. IF you still cannot resolve the problem, contact your local dealer for assistance.

■ Cabling

A、**RJ-45 ports:** Use unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: 100Ω Category3,4 or 5 cable for 10Mbps connections or 100Ω Category 5 cable for 100Mbps connections. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

B、**100Base-FX fiber port:** Fiber multi-mode connector type must use 62.5/125 um multi-mode fiber cables. You can connect two devices over a 2-kilometer distance.

5. Technical Specification

Standards Compliance	IEEE 802.3 10Base-T Ethernet, IEEE 802.3u 100Base-TX/FX Fast Ethernet ANSI/IEEE 802.3 N-Way auto-negotiation
Protocol	CSMA/CD
Max Forwarding Rate and Max Filtering Rate	14,880 pps per Ethernet port, 148,800 pps per Fast Ethernet port
LED Indicators	RJ-45: 100M, LK/ACT, FD/COL (3 LEDs) 100M Fiber: 100M, LK/ACT, FD/COL (3 LEDs) Per Unit: Power
Network Cables	10Base-T: 2-pair UTP Cat. 3, 4, 5 cable (100m), EIA/TIA-568 100-ohm STP (100m) 100Base-TX: 2-pair UTP Cat. 5 cable (100m), EIA/TIA-568 100-ohm STP (100m) 100Base-FX: 50, 62.5/125 micron multi-mode fiber-optics 8,9/125 micron single-mode fiber-optics
Fiber Link Max. Distance	SC Multi-mode: Full-duplex 2Km, Half-duplex- 412m
Dimensions	165mm x 100mm x 24mm (L x W x H)
Operational Temperature	0°C to 45°C (32°F to 113°F)
Operational Humidity	10% to 90% (Non-condensing)
External Power Supply	9 VDC, 700mA
Power Consumption	5.5 Watt (maximum)
EMI	FCC Class A, CE Mark

