LevelOne

GSW-0506
GSW-0806

5/8-Port Gigabit Switch

User Manual
Benutzerhandbuch

Version 1.0-0603

FCC Warning

This equipment has been tested and found to comply with the regulations for a Class B 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 radio frequency energy and, if not installed and used in accordance with this user's guide, 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 his own expense.

CE Mark Warning

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

ABOUT THIS MANUAL

This user manual tells you how to install your **GSW-0506/0806** 5/8-Port Gigabit Switch, how to connect it to your Gigabit Ethernet network.

Terms

For simplicity, this documentation uses the terms "Switch" (first letter upper case) to refer to the GSW-0506/0806 5/8-Port Gigabit Switch, and "switch" (first letter lower case) to refer to all Ethernet switches, including the GSW-0506/0806 5/8-Port Gigabit Switch.

Overview of this User Manual

Introduction. Describes the Switch and its features.

Unpacking and Setup. Helps you get started with the basic installation of the Switch.

Identifying External Components. Describes the front panel, rear panel and LED indicators of the Switch.

Technical Specifications. Lists all the technical specifications of the Switch.

INTRODUCTION

This section describes the features of the Switch, as well as providing some background information about Gigabit Ethernet and switching technology.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, flow control, and management objects, but with a tenfold increase in theoretical throughput over 100-Mbps Fast Ethernet and a hundredfold increase over 10-Mbps Ethernet. Since it is compatible with all 10-Mbps and 100-Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting a company's existing investment in hardware, software, and trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to coping with the network bottlenecks that frequently develop as computers and their busses get faster and more users use applications that generate more traffic. Upgrading key components, such as your backbone and servers to Gigabit Ethernet can greatly improve network response times as well as significantly speed up the traffic between your subnets.

Gigabit Ethernet supports video conferencing, complex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet NIC's are

able to perform 10 times the number of operations in the same amount of time.

Switching Technology

Another key development pushing the limits of Ethernet technology is in the field of switching technology. A switch bridges Ethernet packets at the MAC address level of the Ethernet protocol transmitting among connected Ethernet or fast Ethernet LAN segments.

Switching is a cost-effective way of increasing the total network capacity available to users on a local area network. A switch increases capacity and decreases network loading by making it possible for a local area network to be divided into different segments which don't compete with each other for network transmission capacity, giving a decreased load on each.

The switch acts as a high-speed selective bridge between the individual segments. Traffic that needs to go from one segment to another is automatically forwarded by the switch, without interfering with any other segments. This allows the total network capacity to be multiplied, while still maintaining the same network cabling and adapter cards.

Switching LAN technology is a marked improvement over the previous generation of network bridges, which were characterized by higher latencies. Routers have also been used to segment local area networks, but the cost of a router and the setup and maintenance required make routers relatively impractical. Today's switches are

an ideal solution to most kinds of local area network congestion problems.

Features

The Switch was designed for easy installation and high performance in an environment where traffic on the network and the number of users increase continuously.

◆ **5/8-port 10/100/1000 Mbps Gigabit Switch**
◆ **Conforms to IEEE 802.3, 802.3u,802.3ab and 802.3x**
◆ **Auto-MDIX on all ports**
◆ **10/16 Gbps back-plane**
◆ **N-Way Auto-Negotiation**
◆ **Back pressure half duplex**
◆ **Flow control full duplex**
◆ **Store-and-Forward switching architecture**

This chapter provides unpacking and setup information for the Switch.

Unpacking

Open the shipping carton of the Switch and carefully unpack its contents. The carton should contain the following items:

◆   One Gigabit Switch

◆   Four rubber feet with adhesive backing

◆   One external power adapter

◆   This User Manual

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the Switch can be performed using the following steps:

◆   Install the Switch in a fairly cool and dry place. See *Technical Specification* for the acceptable operation temerature and humidity ranges.

◆   Install the Switch in a site free from strong electromagnetic source,vibration, dust,and direct sunlight.

◆   Leave at least 10cm of space at the left and right hand side of the Switch for ventilation.

◆   Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.

IDENTIFYING EXTERNAL COMPONENTS

This chapter describes the front panel, rear panel and LED indicators of the Switch.

GSW-0506

Front Panel

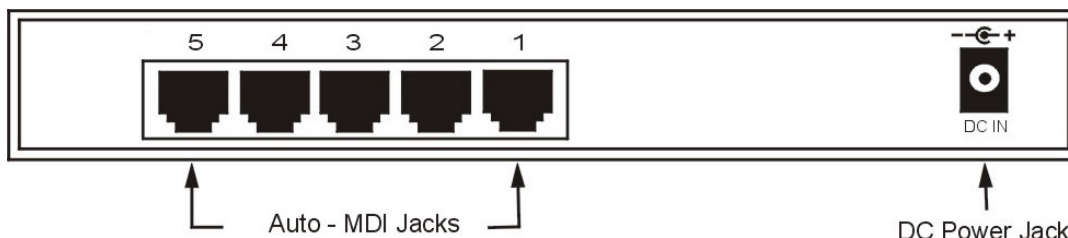The figure below shows the front panels of the switch.

Front panel view of the Switch

LED Indicators

Comprehensive LED indicators display the conditions of the Switch and status of the network. A description of these LED indicators follows (see LED Indicators).

Rear Panel

The rear panel of the Switch consists of an DC power connector. The following figure shows the rear panel of the Switch.

Rear panel view of the Switch

DC Power Jack:

Power is supplied through an external AC power adapter. Check the technical specification section for information about the AC power input voltage.

1000BASE-T Ports:

Five Gigabit Ethernet ports of 10/100/1000Mbps Auto-Negotiation interface.

LED Indicators

The LED indicators of the Switch include Power, Link/Act, 1000Mbps and 100Mbps. The following shows the LED indicators for the Switch along with an explanation of each indicator.

● Power

This indicator lights green when the Switch is receiving power, otherwise, it is off.

● Link/Act

These LED indicators are lighted up when there is a secure connection (or link) to the desired port. The LED indicators blinking whenever there is reception or transmission (i.e. Activity—Act) of data occurring at a port.

● 1000M

These LED indicators are lighted up when there is a secure connection (or link) to 1000Mbps Gigabit Ethernet device at the desired port.
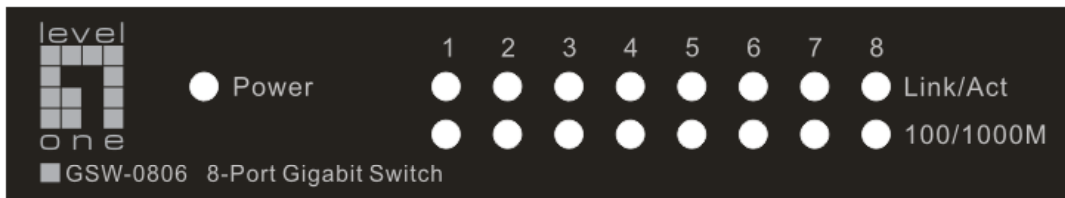
● 100M

These LED indicators are lighted up when there is a secure connection (or link) to 100Mbps Fast Ethernet device at the desired port.

When the connection (or link) is 10Mbps, both of 1000Mbps and 100Mbps LED indicators are off.

GSW-0806

Front Panel

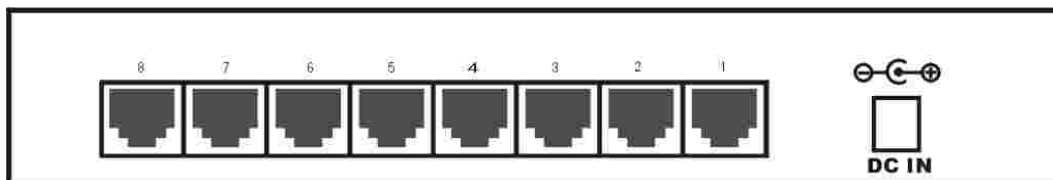The figure below shows the front panels of the switch.

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Rear Panel

The rear panel of the Switch consists of an DC power connector. The following figure shows the rear panel of the Switch.

Rear panel view of the Switch

DC Power Jack:

Power is supplied through an external AC power adapter. Check the technical specification section for information about the AC power input voltage.

1000BASE-T Ports:

Eight Gigabit Ethernet ports of 10/100/1000Mbps Auto-Negotiation interface.

LED Indicators

The LED indicators of the Switch include Power, Link/Act, 1000Mbps and 100Mbps. The following shows the LED indicators for the Switch along with an explanation of each indicator.

- Power

This indicator lights green when the Switch is receiving power, otherwise, it is off.

- Link/Act

These LED indicators are lighted up when there is a secure connection (or link) to the desired port. The LED indicators blinking whenever there is reception or transmission (i.e. Activity—Act) of data occurring at a port.

- 100/1000M

These LED indicators are lighted up in green when there is a secure connection (or link) to 1000Mbps Gigabit Ethernet device at the desired port. These LED indicators are lighted up in amber when there is a secure connection (or link) to 100Mbps Fast Ethernet device at the desired port.

When the connection (or link) is 10Mbps, the 10/1000Mbps LED indicator is off.

TECHNICAL SPECIFICATIONS

General		
Model:	**GSW-0506**	**GSW-0806**
Standards:	IEEE 802.3ab 1000BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3 10BASE-T IEEE 802.3x Flow Control	
Protocol:	CSMA/CD	
Data Transfer Rate:	Ethernet: 10Mbps (Half-duplex) 20Mbps (Full-duplex) Fast Ethernet: 100Mbps (Half-duplex) 200Mbps (Full-duplex) Gigabit Ethernet: 2000Mbps (Full-duplex)	
Topology:	Star	
Network Cables:	Ethernet: 2-pair UTP Cat. 3,4,5, Unshield Twisted Pair (UTP)Cable Fast Ethernet: 2-pair UTP Cat. 5, Unshield Twisted Pair (UTP)Cable Gigabit Ethernet: 4-pair UTP Cat. 5, Unshield Twisted Pair (UTP)Cable	
Number of Ports:	5 Gigabit Ethernet ports	8 Gigabit Ethernet ports

Physical and Environmental		
Model:	**GSW-0506**	**GSW-0806**
DC inputs:	7.5V 1A	
Power Consumption:	5 watts maximum	7.5 watts maximum
Operating Temperature:	0 °C ~ 40°C	
Storage Temperature:	-10°C ~ 70°C	
Humidity:	5% ~ 95% RH, non-condensing	
Dimensions:	175 x 104 x 33 mm (W x H x D)	
Certification:	FCC Class B, CE Marking Class B,	
Performance		
Model:	**GSW-0506**	**GSW-0806**
Transmission Method:	Store-and-forward	
RAM Buffer:	112KBytes per device	144KBytes per device
Filtering Address Table:	8K MAC address per device	
Packet Filtering/Forwarding Rate:	Full wire speed	
MAC Address Learning:	Self-learning, auto-aging	

ÜBER DIESE ANLEITUNG

Diese Anleitung wird ihnen erklären, wir Sie ihren **GSW-0506/0806** 5/8-Port Gigabit Switch, mit ihrem Gigabit Ethernet Netzwerk verbinden.

Features

Der Swtich wurde für eine einfache Installation und hohe Performance konzipiert. 5/8-port 10/100/1000 Mbps Gigabit Switch

- ◆ **Entspricht IEEE 802.3, 802.3u,802.3ab und 802.3x**
- ◆ **Auto-MDIX an allen Ports**
- ◆ **10/16 Gbps back-plane**
- ◆ **N-Way Auto-Negotiation**
- ◆ **Back pressure Half Duplex**
- ◆ **Flow Control Full Duplex**
- ◆ **Store-and-Forward Switching Achitektur**

Dieses Kapitel enthält Information zum Lieferumfang und Anschliessen des Switches.

Packungsinhalt

Dieses Packet sollte folgende Gegenstände enthalten:

◆ Einen Gigabit Switch

◆ Vier Gummifüße

◆ Ein externes NetzteilOne external power adapter

◆ Diese Anleitung

Falls ein Teil fehlen sollte oder beschädigt ist kontaktieren Sie bitte ihren Händler.

Einrichtung

Die Einrichtungs des Switches geschieht mit folgenden Schritten:

◆ Installieren Sie den Switch an einen trockenen und kühlen Platz.

◆ Installieren Sie den Switch in eine Umgebung ohne starke elektromagenetischen Quellen, Vibrationen, Staub und direkten Sonnenlicht.

◆ Es sollten 10cm Abstand nach Links und Rechts gehalten werden, um die Belüftungs des Switches nicht zu stören.

◆ Suchen Sie den DC Stromanschluß und stellen Sie sicher, dass das Netzteil angeschlossen ist.

Dieses Kapitel beschreib die Vorder- und Rückseite und die LED Anzeigen des Switches

GSW-0506

Vorderseite

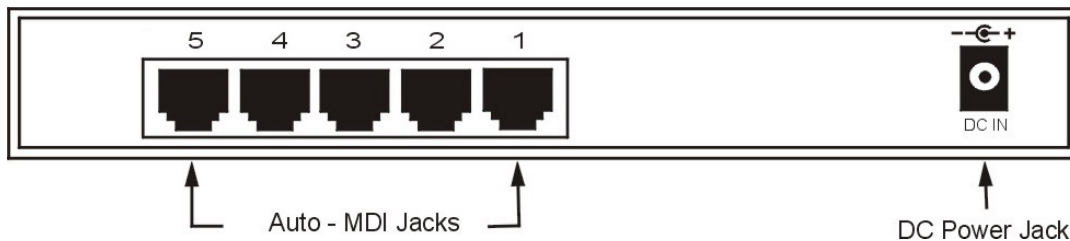Diese Abbildung zeigt die Vorderseite des Switches.

Vorderansicht des Switches

LED Anzeigen

Mehrere LED Anzeigen, zeigen des Zustand des Switches und den Status des Netzwerkes an. Eine Beschreibung der LED folgt später.

Rückseite

Auf der Rückseite ist ein Gleichstromanschluß (DC). Die folgende Abbildung zeigt die Rückseite des Switches.

Rückseite des Switches

DC Anschluß:

Die Stromversorgung erfolgt durch ein externes Netzteil. Für die technischen Spezifikationen schauen sie bitte im Anhang.

1000BASE-T Ports:

Fünf Gigabit Ethernet Port mit 10/100/1000Mbps Auto.Negotiation Interface.

LED Anzeige

Die LED Anzeige des Switches beinhaltet Power, Link/Act, 1000Mbps und 100Mbps. Es folgt eine Erklärung der einzelnen LEDs

● Power

Diese Anzeige leuchtet grün, wenn der Switch Stom bekommt, andernfalls ist sie aus.

● Link/Act

Diese LED leuchtet, wenn eine Verbindung zum entsprechenden Port hergestellt ist. Die LED blinkt, wenn Daten auf diese Port empfangen oder gesendet werden..

● 1000M

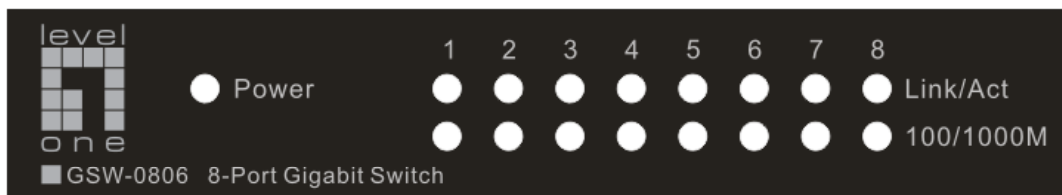Diese LED leuchtet, wenn eine 1000Mbps Verbindung an dem entsprechenden Port hergestellt wurde.

● 100M

Diese LED leuchtet, wenn eine 100Mbps Verbindung an dem entsprechenden Port hergestellt wurde-

Wenn die Verbindung nur mit 10Mbps hergestellt wird, sind die 1000Mbps und 100Mbps LEDs aus.

Vorderseite

Diese Abbildung zeigt die Vorderseite des Switches.

Vorderansicht des Switches

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Diese LED leuchtet, wenn eine Verbindung zum entsprechenden Port hergestellt ist. Die LED blinkt, wenn wenn Daten auf diese Port empfangen oder gesendet werden..

● 1000M

Diese LED leuchtet, wenn eine 1000Mbps Verbindung an dem entsprechenden Port hergestellt wurde.

● 100M

Diese LED leuchtet, wenn eine 100Mbps Verbindung an dem entsprechenden Port hergestellt wurde-

Wenn die Verbindung nur mit 10Mbps hergestellt wird, sind die 1000Mbps und 100Mbps LEDs aus.