

Product Specifications

16-Port 10/100/1000T 802.3at PoE+ Ethernet Switch

GSW-1600HP

Version 2.0

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Change History:

Revision:	Date:	Author:	Change List
Version 2.0	2018/2/1	Marc Liao	Initial Release Hardware Revision. - PoE Controller Chip Replacement PowerDsine PD69008 to IC Plus IP808 - Hardware Per Port PoE PIN Assignment change to be 1/2 (+), 3/6 (-)
Version 1.0	2013/2/19	Bryant Wu	Initial Release

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1. PRODUCT DESCRIPTION



Centralized Power Management for Gigabit Ethernet PoE Networking

To facilitate 30W PoE power network applications with Gigabit speed transmission, PLANET **GSW-1600HP 16-port Gigabit 802.3at Power over Ethernet Plus Switch** features high-performance Gigabit **IEEE 802.3af PoE (Up to 15.4W)** and **IEEE 802.3at PoE+ (Up to 30.8W)** capabilities on all ports. By offering reliable switching technology and advanced networking features, the GSW-1600HP optimizes the installation and power management of network devices such as wireless access points (APs), VoIP phones, and security cameras. It also eliminates time and cost of deployment by integrating power and data switching into one unit, and freeing network devices from restrictions of power outlet locations and the additional AC wiring.

Perfect Integrated Solution for PoE IP Surveillance

The GSW-1600HP brings an ideal secure surveillance system at a lower total cost. The GSW-1600HP provides 16 10/100/1000Mbps 802.3at PoE+ ports able to feed sufficient PoE power for 16 IEEE 802.3af/IEEE 802.3at PoE+ IP cameras at the same time. It is also able to connect with one 16-channel NVR or two 8-channel NVR systems, uplinked to backbone switch and the monitoring center. With such a high-performance switch architecture, the recorded video files from the PoE IP cameras can be saved to the NVR system where the administrators can control and monitor the surveillance images in both the local LAN and the remote sites.

Energy-saving Design

The GSW-1600HP uses a new engine that incorporates two advanced Green Networking technologies:

- **Idle Mode Link Down power saving**
- **Intelligent Scales Power based on cable length**

The Idle mode Link Down power saving of the GSW-1600HP complies with IEEE 802.3az Energy Efficient Ethernet (EEE) standard to automatically lower power for a given port when it is not linked. The Intelligent Scales Power technology actively determines the appropriate power level based on the cable length. When connecting to the GSW-1600HP with Ethernet cable shorter than 20m, a device can obtain maximum power saving because the GSW-1600HP would automatically detect the Ethernet cable length and reduce power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy saving.

Easy Installation and Cable Connection

Providing data transfer and high Power PoE in one unit, the GSW-1600HP is able to reduce the need of extension cables and dedicated electrical outlets on the wall, ceiling or any unreachable place. It helps to lower the installation costs and simplify the installation effort. All RJ45 copper interfaces of the GSW-1600HP supports 10/100/1000Mbps auto-negotiation for optimal speed detection through RJ45 Category 6, 5 or 5e cables. It also supports standard auto-MDI/MDI-X that can detect the type of connection to any Ethernet device without requiring special straight or crossover cables.

2. PRODUCT FEATURES

■ Interface

- 16-port 10/100/1000BASE-T Gigabit Ethernet RJ45 ports

■ Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus Standard
- Complies with IEEE 802.3af Power over Ethernet
- Up to 16 ports of IEEE 802.3af/802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- Each port supports 52V DC power to PoE powered device
- 220-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

■ Switching

- Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
- Flow control for full duplex operation and back pressure for half duplex operation
- Integrates address look-up engine, supporting 8K absolute MAC addresses
- 9K Jumbo frame supports all speeds (10/100/1000Mbps)
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging
- Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)

■ Hardware

- 19-inch desktop size, 1U height
- LED indicators for PoE ready and PoE activity
- Ethernet Link Energy-Saving technology
 - Link down power saving
 - Intelligent scales power based on cable length

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch ASIC:	Realtek RTL8376 x1	x 1
PoE Controller:	IC Plus IP808	x 2

3.2 FUNCTION SPECIFICATIONS

Model	GSW-1600HP
Hardware Specifications	
Hardware Version	2
10/100/1000BASE-T Copper Ports	16 auto-MDI/MDI-X ports
802.3af / 802.3at PoE Injector Port	16
Switch Architecture	Store-and-Forward
Switch Fabric	32Gbps/non-blocking
Switch Throughput@64 bytes	23.8Mpps@64 bytes
MAC Address Table	8K entries
Jumbo Frame	9216 bytes
Flow Control	IEEE 802.3x pause frame for full-duplex; back pressure for half-duplex
LED	System: Power (Green) 10/100/1000T RJ45 Interfaces 1000 LNK / ACT (Green), 10/100 LNK/ACT (Orange) PoE (Orange)
Enclosure	Metal
Power Requirements	AC 100~240V, 50/60Hz, 3.5A max.
Power Consumption/Dissipation	Max. 260 watts/885 BTU
Thermal Fan	2
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet/PSE IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	End-span: 1/2 (+), 3/6 (-)
PoE Power Output	Per port 52V DC, 300mA. max. 15.4 watts (IEEE 802.3af) Per port 52V DC, 600mA. max. 30 watts (IEEE 802.3at)
PoE Power Budget	220 watts
Number of PDs, 7 watts	16
Number of PDs, 15.4 watts	14
Number of PDs, 30 watts	7
Standards Conformance	
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3x flow control and back pressure IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus IEEE 802.3az Energy-Efficient Ethernet

3.3 PHYSICAL SPECIFICATIONS:

- **Dimensions:**
445 x 207 x 45 mm (W x D x H), 1U height
- **Weight:**
2.65kg
- **Front Panel:**



- **Rear Panel:**



■ LED Definition

- **System**

LED	Color	Function
PWR	Green	Lights to indicate the Switch has power.

- **Per 10/100/1000BASE-T Port**

LED	Color	Function
1000 LNK/ACT	Green	Lights to indicate the link through that port is successfully established at 1000Mbps. Blinks to indicate that the Switch is actively sending or receiving data over that port.
10/100 LNK/ACT	Orange	Lights to indicate the link through that port is successfully established at 10/100Mbps. Blinks to indicate that the Switch is actively sending or receiving data over that port.
PoE in Use	Orange	Lights to indicate the port is providing 52V DC in-line power.

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

- Temperature: 0°C ~ 50 degrees C
- Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

- Temperature: -10°C ~ 70 degrees C
- Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Input Voltage:	100~240V AC, 50/60Hz, Auto-sensing	
Power Consumption (System on):	110V: 16 watts	54BTU
	220V: 15 watts	51BTU
Power Consumption (Ethernet Full Load):	110V: 20 watts	68BTU
	220V: 20 watts	68BTU
Power Consumption (PoE+ Ethernet Full Load):	110V: 250 watts *	853BTU
	220V: 244 watts *	832BTU

* With a total PoE power output limited at 220 watts

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

- GSW-1600HP x 1
- User's Manual x 1
- 19" Rack Mount Accessory Kit x 1
- Rubber Feet x 4
- Power Cord x 1

3.9 PACKING INFORMATION

Box Dimensions (W x D x H):	555 x 295 x 88 mm
Gross Weight (include power cord):	2.6kg
Carton Dimensions (W x D x H):	580 x 395 x 325 mm
Total Weight:	15.2kg
Quantity:	4pcs in one carton