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Product Specifications

8-Port 10/100/1000T Wall-mounted Gigabit Ethernet Switch with 4-/8-Port PoE+

WGS-814HP

WGS-818HP

Version 1.0

Change History:

Revision:	Date:	Author:	Change List
1.0	2020/3/2	Ricebean	Initial Release

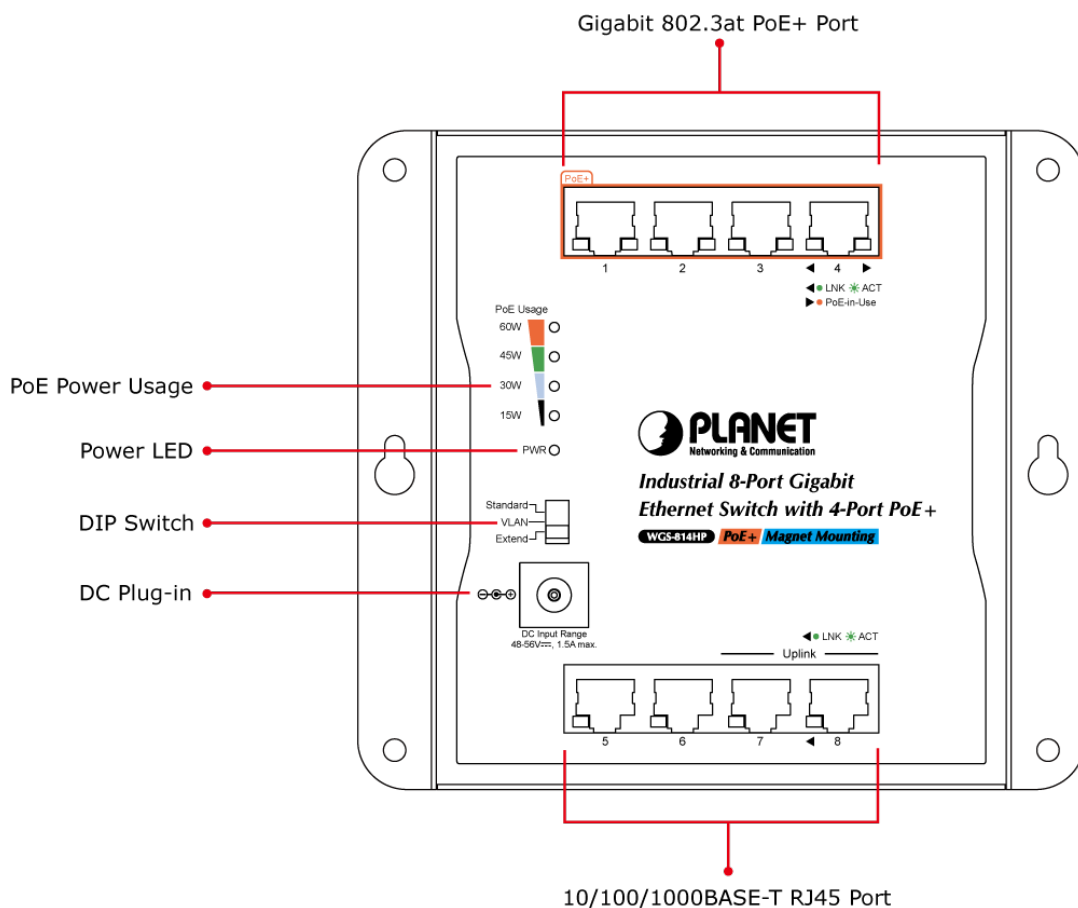| **Author:**	Ricebean	**Editor:**	Mark Kao
Reviewed By:	Reyo Wu	**Approved By:**	Kent Kang

1. PRODUCT DESCRIPTION

Easily-deployed and Expanded PoE Network

Designed to be installed in a wall enclosure or simply mounted at any convenient location on a wall, PLANET WGS-814HP and WGS-818HP are innovative, **wall-mounted industrial 8-port Gigabit Ethernet Switches with 4-/8-port 802.3at Power over Ethernet Plus injector**. They come in a compact but rugged IP30 metal housing. Featuring a total PoE budget of **60/120 watts,** ultra networking speed and operating temperature ranging from **-20** to **60 degrees C**, the WGS-814HP and WGS-818HP are ideal solutions to meet the demand for sufficient PoE power for the following network applications.

- Building/Home automation network
- Internet of things (IoT)
- IP surveillance and wireless

The WGS-814HP and WGS-818HP are able to operate reliably, stably and quietly in any environment without affecting its performance, and provides a quick, safe and easy deployment of PoE PDs with power feeding.
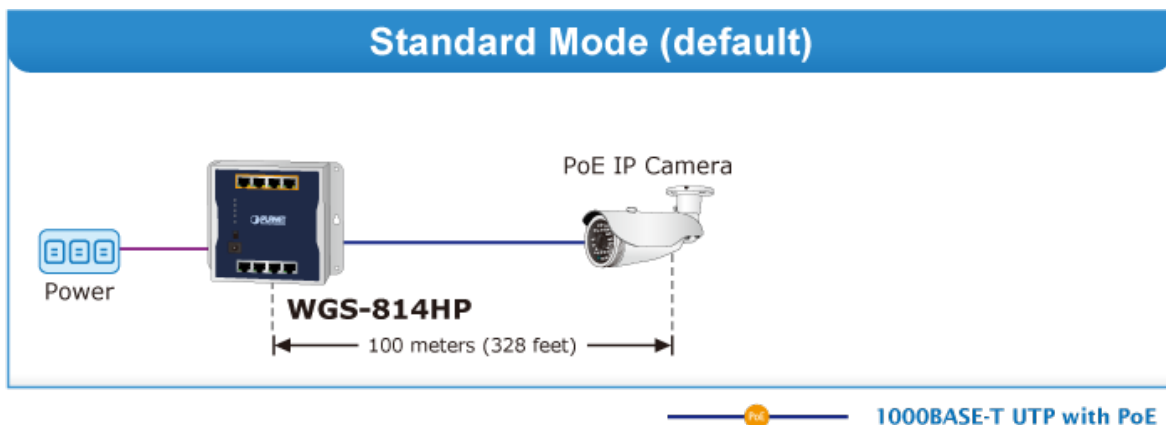
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Innovative Wall-mount Installation

The WGS-814HP and WGS-818HP are specially designed to be installed in a narrow environment, such as wall enclosure or electric box. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts "**Front Access**" design, making the installing, cable wiring, LED monitoring and maintenance of the WGS-818HP placed in an enclosure very easy for technicians to manage. **Fixed wall mounting**, **magnetic wall mounting** or **DIN rail** installation can be had to suit your working environment, thereby making its usability more flexible.
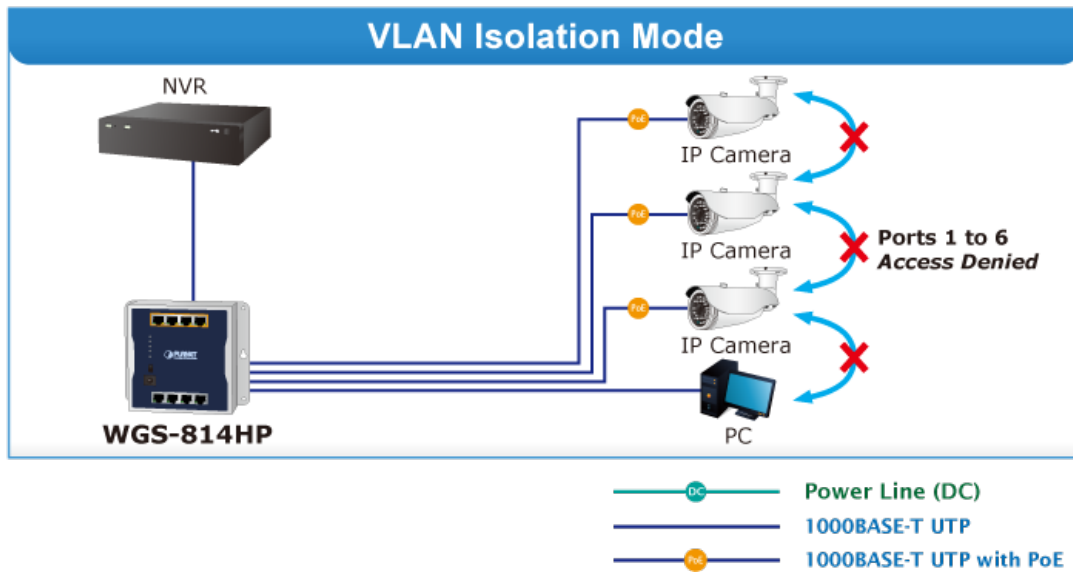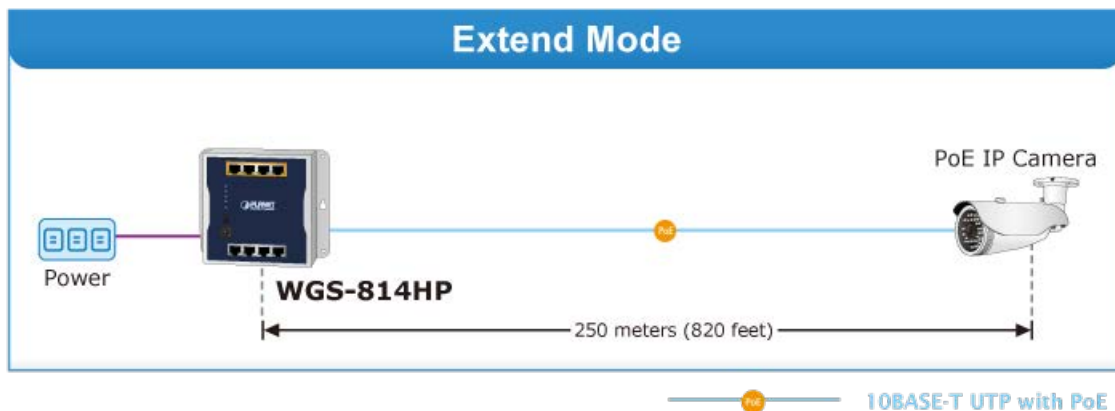

Standard, VLAN and Extend Operation Modes

The WGS-814HP and WGS-818HP provide Standard, VLAN and Extend operation modes. The WGS-814HP and WGS-818HP can operate as a normal IEEE 802.3at/ PoE+ switch in the standard operation mode.

The **VLAN operation mode** features the port-based VLAN function that can help to prevent the IP camera's multicast or broadcast storm from influencing each other. With two uplink ports with 1000Mbps transfer rate, it ensures high-speed data and video transmission, and reliable assurance for connection between the surveillance system and outside network where the four PoE+ ports can be used to their full potential.

In the **Extend operation mode**, the WGS-814HP and WGS-818HP operate on a per-port basis at 10Mbps duplex operation but can support 20-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, both WGS-814HP and WGS-818HP provide an additional solution for 802.3at PoE distance extension, thus saving the cost of Ethernet cable installation. Its VLAN isolation function isolates ports so as to prevent broadcast storm and defend DHCP spoofing in the extend operation mode.

Centralized Power Distribution for Small Ethernet Networking

The WGS-814HP and WGS-818HP provide four/Eight PoE ports that combine up to **60/120 watts** of power output budget for catering to small-scale PoE network applications. Compliant with both IEEE 802.3at and IEEE 802.3af Power over Ethernet standards, each PoE port supplies up to 30 watts of power output and data transmission in Gigabit speed both delivered over one Cat.5e/6 Ethernet cable, powering remote PoE PD at distance up to 100 meters.

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Intelligent LED Indicator for Real-time PoE Usage

To facilitate auto power management, the WGS-818HP implements **Power Budget Control** function that helps to prevent power budget overloading. Moreover, the WGS-818HP helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indication. Called "**PoE Power Usage**", the front panel of the WGS-814HP has four LEDs indicating **15W**, **30W**, **45W** and **60W** of power usage while the front panel of the WGS-818HP has four LEDs indicating **30W**, **60W**, **90W** and **120W** of power usage

Quick, Safe and Easy PoE Network Deployment

Carrying both Ethernet data and power simultaneously, the WGS-814HP and WGS-818HP reduce cabling requirements and eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. It helps users to utilize just one Ethernet cable to install and deploy IP camera, wireless AP or VoIP phone more efficiently and cost-effectively.

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2. PRODUCT FEATURES

▶ **Physical Port**

WGS-814HP

- ■ **8-Port 10/100/1000BASE-T** Gigabit RJ45 copper with 4-Port **IEEE 802.3at PoE+** Injector (Port-1 to Port-4)

WGS-818HP

- ■ **8-Port 10/100/1000BASE-T** Gigabit RJ45 copper with 8-Port **IEEE 802.3at PoE+** Injector (Port-1 to Port-8)

▶ **Power over Ethernet**

- ■ Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- ■ Backward compliant with IEEE 802.3af Power over Ethernet end-span PSE
- ■ Up to 4 ports of IEEE 802.3at devices powered (WGS-814HP)
- ■ Up to 8 ports of IEEE   802.3at devices powered (WGS-818HP)
- ■ Supports PoE Power up to 30.8 watts for each PoE port
- ■ Auto detects powered device (PD)
- ■ Circuit protection prevents power interference between ports
- ■ Remote power feeding up to 250 meters (in extend mode)

▶ **Layer 2 Features**

- ■ High performance Store and Forward architecture; runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- ■ IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- ■ 9K Jumbo frame supports in 1000Mbps duplex mode
- ■ Automatic address learning and address aging

▶ **Industrial Case** and **Installation**

- ■ Compact size; wall-mounted, magnetic wall-mounted and DIN-rail designs
- ■ IP30 metal chassis
- ■ Supports -20 to 60 degrees C operating temperature
- ■ LED indicators for real-time PoE usage
- ■ 48V~56V DC input range for booting with reverse polarity protection

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3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENTS

Switch ASIC:	Realtek RTL8370N	x 1
PoE Chip	TI TPS23861	x 1

3.2 FUNCTION SPECIFICATIONS

Model	WGS-814HP	WGS-818HP
Hardware Specifications		
Network Connector	8-Port RJ45 for 10/100/1000BASE-T	8-Port RJ45 for 10/100/1000BASE-T
PoE Inject Port	4-Port with802.3at PoE+ injector function (Port-1 to Port-4)	8-Port with 802.3at PoE+ injector function (Port-1 to Port-8)
Switch Architecture	Store and forward	
MAC Address Table	4K MAC address table with auto learning function	
Switch Fabric	16Gbps / non-blocking	
Switch Throughput	11.9Mpps@64Bytes	
Jumbo Frame	9Kbytes	
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex	
LED Indicators — Power LED:	· Power (Green)	
LED Indicators — PoE Power Usage LED:	· 15W, 30W, 45W, 60W (Amber)	30W, 60W, 90W, 120W (Amber)
LED Indicators — PoE Port	· PoE-in-Use (Amber) · LNK/ACT (Green)	· PoE-in-Use (Amber) · LNK/ACT (Green)
LED Indicators — 10/100/1000BASE-T Port	· LNK/ACT (Green)	-
ESD Protection	4KV DC	
DIP Switch	Selectable operation modes: ■ Standard: IEEE 802.3at PoE+ transmission distance of 100m ■ VLAN: Port-based VLAN ■ Extend: 25-watt PoE transmission distance of 250m at speed of 10Mbps	
Connector	DC power jack with 2.0mm central pole	
Power Requirements	48~56V DC, 1.5A (max.)	48~56V DC, 3A (max.)
Power Consumption	70 watts / 239BTU	137 watts / 467BTU
Enclosure	IP30 metal	
Dimensions (W x D x H)	148 x 25 x 134 mm	

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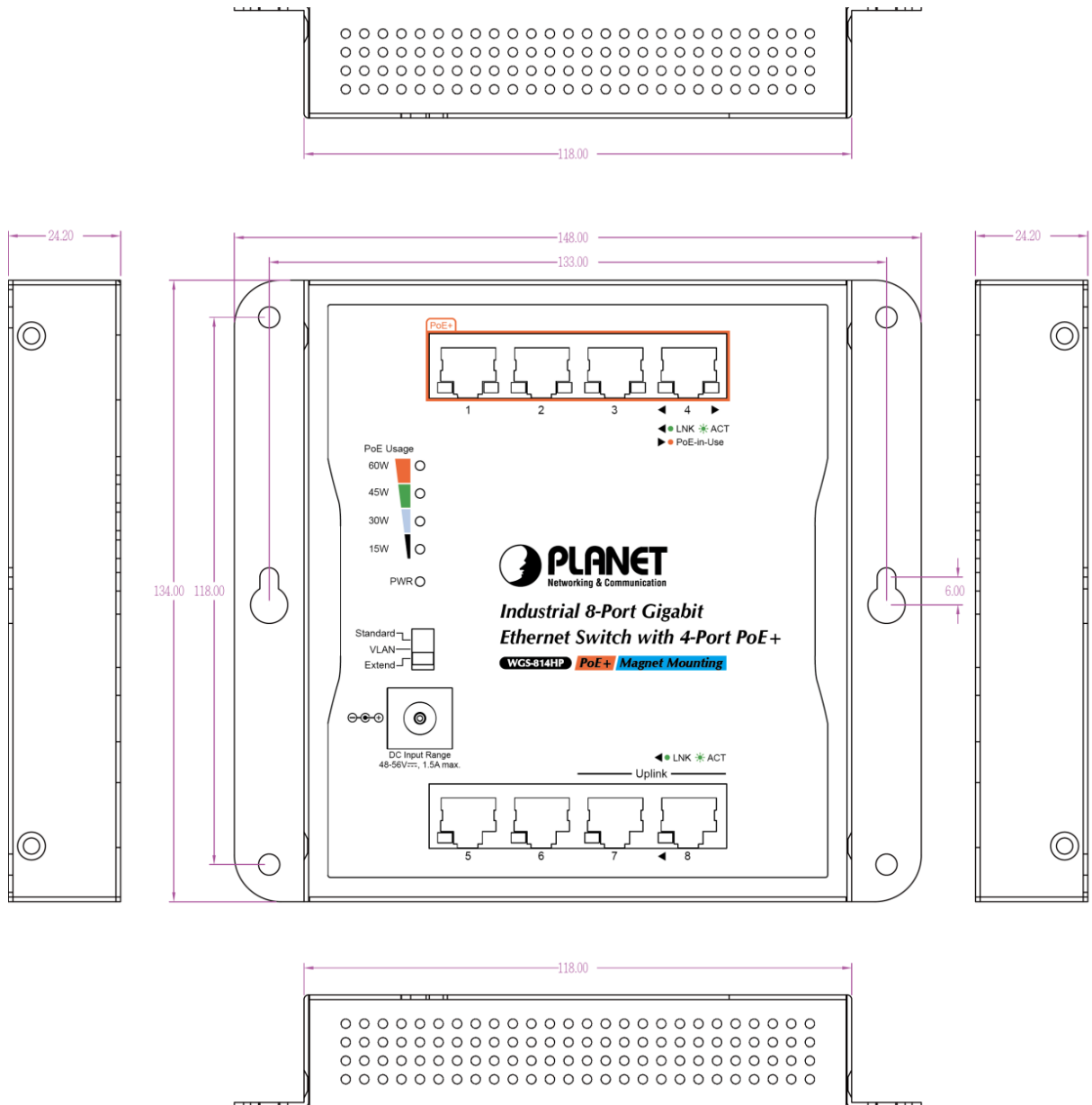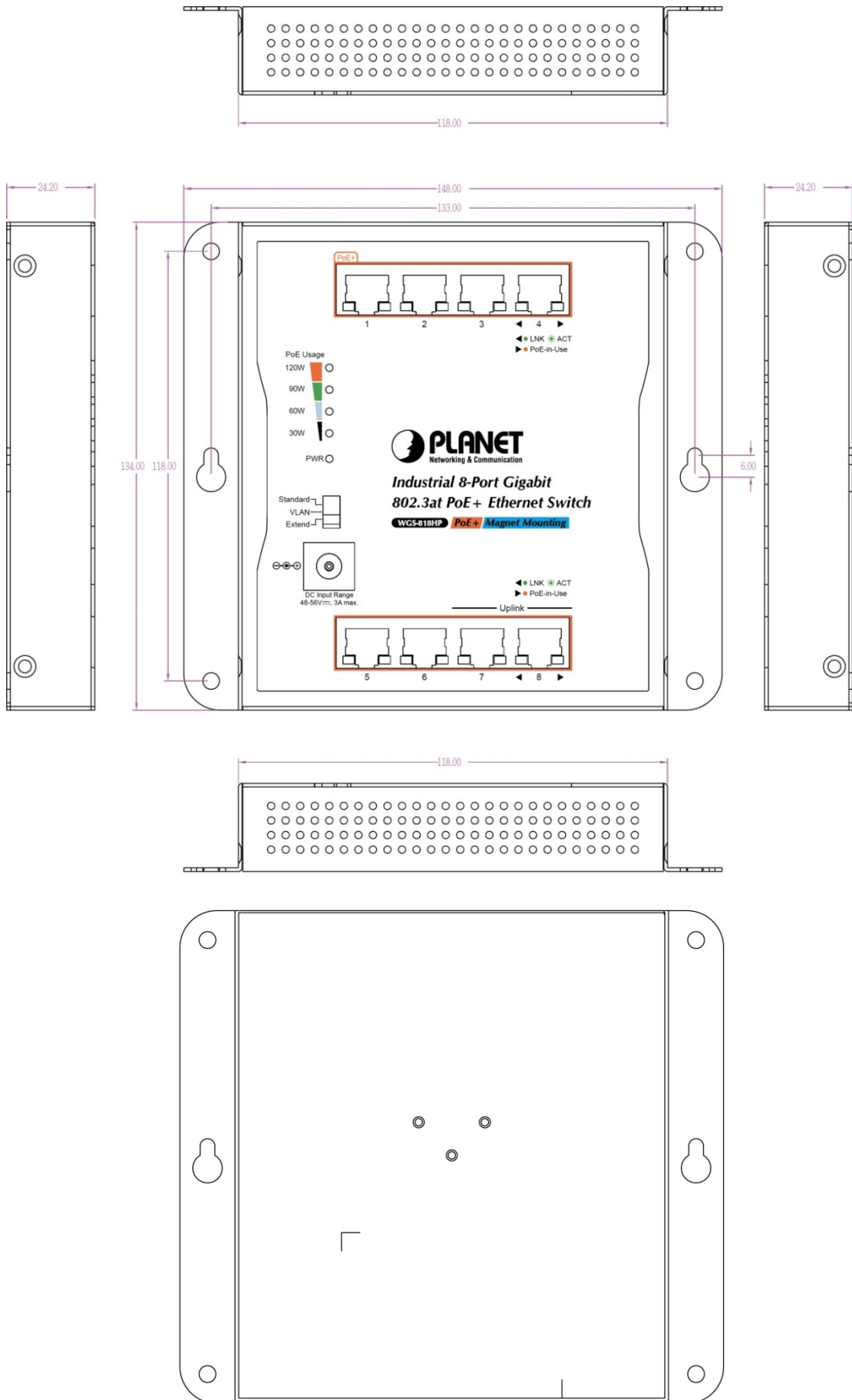| Weight	472 g	474 g
Installation	Fixed wall mounting, magnetic wall mounting and DIN-rail mounting	
Power over Ethernet		
PoE Standard	IEEE 802.3at Power over Ethernet Plus PSE	
PoE Power Supply Type	End-span	
PoE Power Output	IEEE 802.3af Standard - Per port 48V~56V DC (depending on the power supply), max. 15.4 watts IEEE 802.3at Standard - Per port 50V~56V DC (depending on the power supply), max. 30 watts	
Power Pin Assignment	1/2(+), 3/6(-)	
PoE Power Budget	60 watts (depending on power input)	120 watts (depending on power input)
Max. Number of Class 2 PD	4	8
Max. Number of Class 3 PD	4	8
Max. Number of Class 4 PD	2	4
Standard Conformance		
Standard Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Flow Control IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet plus IEEE 802.3z Energy Efficient Ethernet	
Regulation Compliance	FCC Part 15 Class A, CE	
Stability Testing	IEC 60068-2-32 (Free fall) IEC 60068-2-27 (Shock) IEC 60068-2-6 (Vibration)	
Environment		
Operating	Temperature: -20 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -20 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	

3.3 PHYSICAL SPECIFICATIONS:

Dimensions:
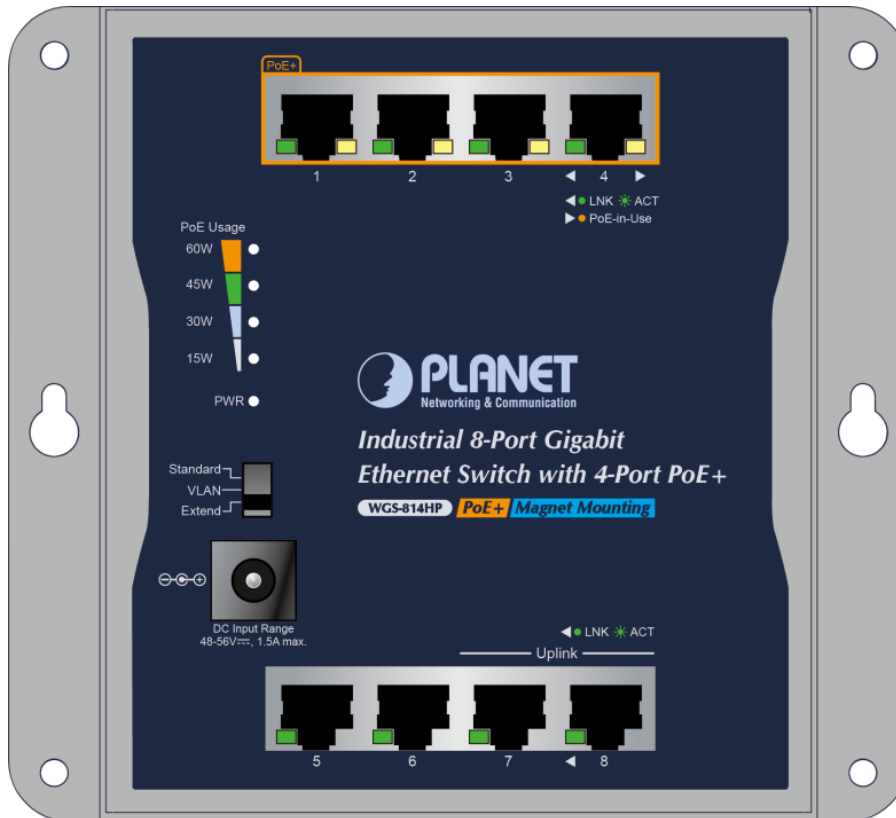
148 x 25 x 134mm (W x D x H), 1U height
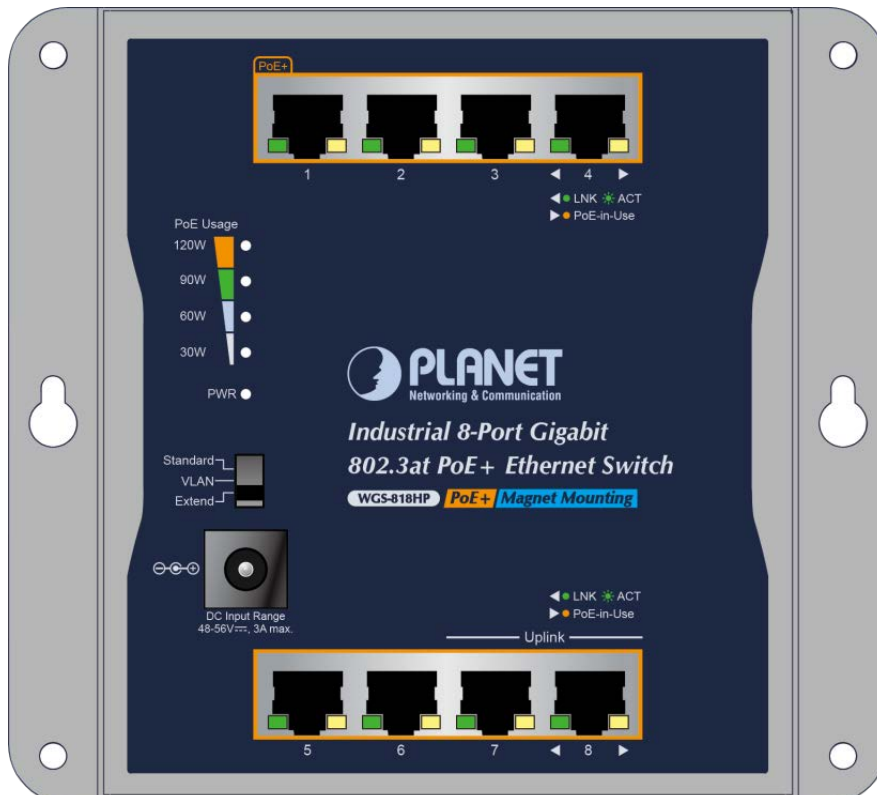
Weight:

WGS-814HP: 472 g

WGS-818HP: 474 g

■ **Front Panel:**

WGS-814HP

WGS-818HP

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■ **LED Definition**

■ **System and Ports**

LED	Color	Function	
PWR	**Green**	**Lights** to indicate that the Switch has power.	
LNK/ACT	**Green**	**Lights**	To indicate the link through that port is successfully established.
		Blinks	To indicate that the switch is actively sending or receiving data over that port.
PoE-in-Use	**Amber**	**Lights**	To indicate the port is providing DC in-line power.
		Off	To indicate the connected device is not a PoE powered device (PD).

■ **PoE Power Usage of WGS-814HP (Unit: Watt)**

LED	Color	Function	
15	**Amber**	**Off**	To indicate the PoE usage is less than 7W.
		Blinks	To indicate the PoE usage is around 8W to 14W.
		Lights	To indicate the PoE usage is over 15-watt PoE power budget.
30	**Amber**	**Blinks**	To indicate the PoE usage is around 23W to 29W.
		Lights	To indicate the PoE usage is over 30-watt PoE power budget.
45	**Amber**	**Blinks**	To indicate the PoE usage is around 38W to 44W.
		Lights:	To indicate the PoE usage is over 45-watt PoE power budget.
60	**Amber**	**Blinks**	To indicate the PoE usage is around 53W to 59W.
		Lights:	To indicate the PoE usage is at the maximum.

■ **PoE Power Usage of WGS-818HP (Unit: Watt)**

LED	Color	Function	
30	**Amber**	**Off**	To indicate the PoE usage is less than 7W.
		Blinks	To indicate the PoE usage is around 8W to 14W.
		Lights	To indicate the PoE usage is over 15-watt PoE power budget.
60	**Amber**	**Blinks**	To indicate the PoE usage is around 23W to 29W.
		Lights	To indicate the PoE usage is over 30-watt PoE power budget.
90	**Amber**	**Blinks**	To indicate the PoE usage is around 38W to 44W.
		Lights:	To indicate the PoE usage is over 45-watt PoE power budget.
120	**Amber**	**Blinks**	To indicate the PoE usage is around 53W to 59W.
		Lights:	To indicate the PoE usage is at the maximum.

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -20°C ~ 60 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

Temperature: -40°C ~ 70 degrees C

Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Model		WGS-814HP	WGS-818HP
DC Power Input Voltage Range:		DC 48~56V, 1.5A max.	DC 48~56V, 3A max.
Power Consumption	System on	1 watts / 3.4 BTU	3 watts / 10.2 BTU
	PoE Full Loading	70 watts / 239 BTU	137 watts / 467 BTU

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 RELIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

- The wall-mounted PoE switch   x 1
- User manual   x 1
- Power adapter   x 1
- Power cord   x 1
- Wall-mounted kit   x 1
- DIN-rail kit   x 1
- Magnet kit   x 1
- RJ45 dust-proof cap   x 8

3.9 PACKING INFORMATION

Item	WGS-814HP	WGS-818HP
Box Dimensions (W x D x H)	243 x 290 x 76 mm	
Weight (with power supply)	1.29 kg	1.41kg
Carton Dimensions (W x D x H)	424 x 324 x 296 mm	
Carton Weight (with power supply)	7.05 kg	7.6 kg
Quantity	5pcs in one carton	