Industrial 1-Port 10/100/1000T 802.3bt PoE++ to 4-Port 802.3at PoE+ Wall-mounted Extender

PoE Solution for Long-reach Distance

PLANET WGS-E304PT is an industrial 1-Port 802.3bt PoE++ to 4-Port 802.3af/at Gigabit PoE Extender designed especially for the point to multipoint PoE application. The WGS-E304PT can obtain a maximum of 95-watt PoE power from 802.3bt PoE++ input port and supplies a maximum of 70-watt PoE power budget for 4 PoE output ports, extending both the reach of **Gigabit Ethernet Data** and **IEEE 802.3at Power over Ethernet** over the standard 100m (328 ft.) Cat. 5/5e/6 UTP cable to 250m where up to 4 powered devices (PDs) can be powered at the same time. The WGS-E304PT provides a simple solution for adding PoE ports without running more cabling and achieves more flexible network applications without requiring an external power adapter.

Environmentally-hardened Design

With industrial-grade IP30 metal case, the WGS-E304PT provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets. Being able to operate under the temperature range from **-40 to 75 degrees C**, the WGS-E304PT can be placed in almost any difficult environment.

Physical Port

- **Five 10/100/1000BASE-T** Gigabit RJ45 interfaces
    - 1-port **data** + **power input**
    - 4-port **data** + **power output**

Power over Ethernet

- 1-port data + power input
    - Complies with 802.3bt Power over Ethernet Plus Plus end-span and mid-span PD
    - Complies with IEEE 802.3at Power over Ethernet Plus end-span/mid-span PD
    - Supports PoE input power up to 95 watts
- 4-port data + power output
    - Complies with IEEE 802.3af/at PoE/end-span PSE
    - Up to 4 IEEE 802.3af/at devices powered
    - Supports PoE power up to 30 watts for each PoE port
    - Auto detects powered device (PD)
- Extends the range of PoE to an additional 100 meters (328ft.)
- Forwards both Ethernet **data** and **PoE** power to remote device

Layer 2 Features

- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- Integrates address look-up engine, supporting 2K absolute MAC addresses
- 9K jumbo frame support in 1000Mbps duplex mode
- Automatic address learning and address aging

Industrial Case and Installation

- IP30 metal case
- DIN-rail and wall-mount designs
- DIP switch for multi-operation mode options (Standard/VLAN/Extend) selection
- Supports 6000V DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- No external power cable required for installation
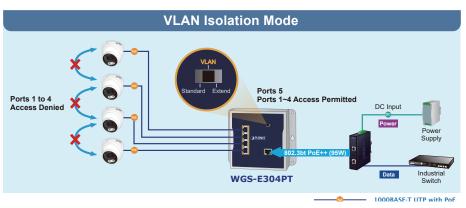- **Plug and Play** installation

Standard/VLAN/Extend Mode DIP Switch

IP30 Rugged Case

1 802.3bt PoE++ In

4 IEEE 802.3at PoE+ Out

-40°C   75°C
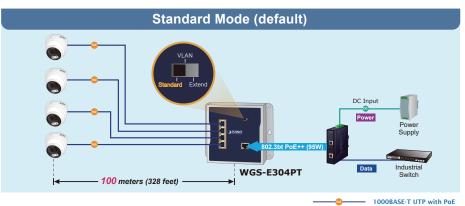
WGS-E304PT

DIP Switch for Operation Mode Selection

The WGS-E304PT offers "**Standard**", "**VLAN**" or "**Extend**" mode. The WGS-E304PT operates as a normal Gigabit Ethernet Switch in the "**Standard**" operation mode.
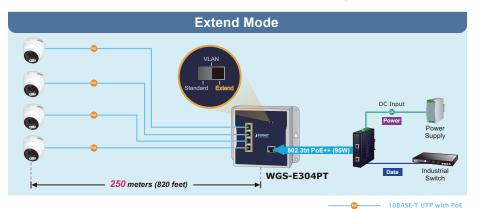
The "**VLAN**" operation mode features port-based VLAN function that can help to prevent the connected clients' multicast or broadcast storm from influencing each other.

VLAN Isolation Mode

Ports 1 to 4 Access Denied

VLAN

Standard   Extend

Ports 5 Ports 1~4 Access Permitted

DC Input

Power

Power Supply

802.3bt PoE++ (95W)

Data

Industrial Switch

WGS-E304PT

1000BASE-T UTP with PoE

In the "**Extend**" operation mode, the WGS-E304PT operates on a per-port basis at 10Mbps duplex operation but can transmit data over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the WGS-E304PT provides an additional solution for distance extension, thus saving the cost of Ethernet cable installation.

Standard Mode (default)

VLAN

Standard   Extend

DC Input

Power

Power Supply

802.3bt PoE++ (95W)

Data

Industrial Switch

WGS-E304PT

100 meters (328 feet)

1000BASE-T UTP with PoE

Extend Mode

VLAN

Standard   Extend

DC Input

Power

Power Supply

802.3bt PoE++ (95W)

Data

Industrial Switch

WGS-E304PT

250 meters (820 feet)

10BASE-T UTP with PoE

DIP Switch Mode	Function
Standard (default)	This mode makes the WGS-E304PT operate as a general switch and all ports operate at 10/100/1000Mbps auto-negotiation.
VLAN	This mode makes the WGS-E304PT operate as a VLAN isolation switch and 1. Port 1 to port 4 will isolate respectively. 2. Port 1 to port 4 can only communicate with port 5 (uplink port).
Extend	This mode makes the WGS-E304PT operate as a distance extension switch and port 1 to port 4 can only transmit distance of 250m at speed of 10Mbps.

Innovative Wall-mount Installation

The WGS-E304PT is specially designed to be installed in a narrow environment, such as wall enclosure. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts the user-friendly "**Front Access**" design, making the installing, cable wiring, LED monitoring and maintenance of the WGS-E304PT placed in an enclosure very convenient for technicians. The WGS-E304PT can be installed by **fixed wall mounting**, **magnetic wall mounting** or **DIN rail**, thereby making its usability more flexible.

Flat Design · **DIN-rail Installation** · **Touch LCD** · **PoE Usage**

802.3bt PoE++ · **Fiber Connection** · **Magnetic Installation** · **Front Access** · **Dual Power Input**

* The above pictures are for illustration only.

Plug and Play, Easy Cabling Installation

The WGS-E304PT can be easily installed by way of Plug and Play. It is used between a power source equipment (PSE) and the PD. The WGS-E304PT injects power to the PD without affecting the data transmission performance. The WGS-E304PT offers a cost-effective and quick solution to doubling the standard range of PoE from 100 to 250 meters. The WGS-E304PT is designed in a compact box containing 5 RJ45 ports, of which 1 **"PoE IN"** port functions as **PoE (Data and Power)** input and 4 **"PoE OUT"** ports on the other side functions as **PoE (Data and Power)** output. The **"PoE OUT"** port is also the power injector where DC voltage is transmitted over Cat. 5/5e/6 cable, and data and power are simultaneously transferred between the PSE and PD.
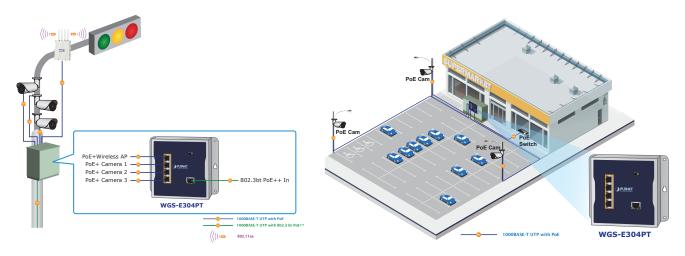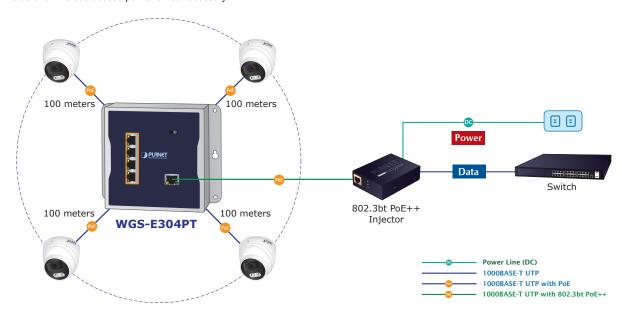

Innovative yet Tough 1-to-4 PoE Extender

Applications

One Power Source for Multi Powered Devices

Is 100-meter cable long enough for a wide range of IP surveillance deployments? The answer is certainly not. To achieve the benefits of IP surveillance where IP cameras are installed in a remote location, PLANET WGS-E304PT is very useful for expanding the network already set up without worrying about the cabling distance limitation. In contrast, the conventional networking does not have the flexibility of network expansion.

The WGS-E304PT industrial 1-Port 802.3bt PoE++ to 4-Port 802.3af/at Gigabit PoE Extender requires very little installation time and does not require any additional setup or programming by using standard RJ45 cable from power sourcing device, such as 802.3bt PoE++ injector supplying 802.3bt PoE++ power, to the WGS-E304PT and converting power for 4 powered devices that are IEEE 802.3af/at PoE standard compliant, meaning any additional power adapter for IP cameras and wireless access points is not necessary.
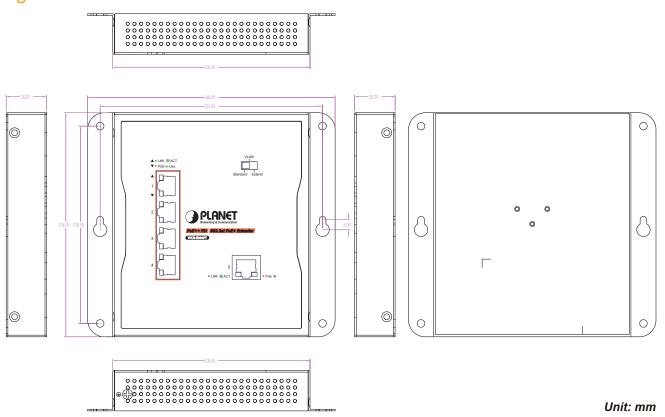
Specifications

Model	WGS-E304PT
Hardware Specifications	
Network Connector	**PoE In Port** - 1 x 10/100/1000BASE-T Ethernet with 802.3bt PoE++ **"Data + DC"** in - Auto MDI/MDI-X, auto-negotiation RJ45 connector **PoE Out Port** - 4 x 10/100/1000BASE-T Ethernet with IEEE 802.3af/at PoE **"Data + DC"** out - Auto MDI/MDI-X, auto-negotiation RJ45 connector
Switch Architecture	Store-and-Forward switch architecture
MAC Address Table	2K MAC address table with auto learning function
Switch Fabric	10Gbps
Switch Throughput	7.44Mpps @ 64Bytes
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	9Kbytes
ESD Protection	Air 8KV DC Contact 6KV DC
Surge Protection	6KV
Enclosure	IP30 metal case
Installation	DIN-rail kit and wall-mount ear
Dimensions (W x D x H)	148 x 24.2 x 134 mm
Weight	457g
LED	**PoE Input Port (Port 5):** LNK/ACT(Green) PoE: Power-in-use (Amber) **PoE Output Ports (Ports 1~4):** LNK/ACT(Green) PoE: Power-in-use (Amber)
DIP Switch	Multi-operation mode options (Standard/VLAN/Extend) selection
Power Consumption	8.6 watts/29 BTU (Power On) 82 watts/279 BTU (Full loading with PoE function)
Power over Ethernet	
PoE Standard	**PoE in Port** - IEEE 802.3bt PoE++ Type 4 standard PD - IEEE 802.3at PoE+ end-span/mid-span PD **Per PoE out Port** IEEE 802.3at Power over Ethernet Plus end-span PSE
PoE Power	**PoE in Port** 50~57V DC, max. 95 watts **Per PoE out Port** 44~55V DC, max. 30.8 watts
Power Pin Assignment	**PoE in Port** 1/2(-), 3/6(+), 4/5(+), 7/8(-) or 1/2(+), 3/6(-), 4/5(+), 7/8(-) **Per PoE out Port** 1/2(+), 3/6(-)
PoE Power Budget	65-70 watts (max.) @ 802.3bt PoE++ Type 4 input
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 free fall IEC60068-2-27 shock IEC60068-2-6 vibration
Standards 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 802.3bt Power over Ethernet Plus Plus IEEE 802.3az Energy Efficient Ethernet(EEE)

Environment	
Operating	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Diagram

Unit: mm

Ordering Information

WGS-E304PT	Industrial 1-Port 10/100/1000T 802.3bt PoE++ to 4-Port 802.3at PoE+ Wall-mounted Extender

Related 802.3bt PoE++ Injector Products

IGS-6329-8UP2S2X	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP + 2-Port 10G SFP+ Managed Ethernet Switch
IGS-6329-8UP2S4X	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP + 4-Port 10G SFP+ Managed Ethernet Switch
IGS-6325-8UP2S2X	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 100/1000X SFP + 2-Port 10G SFP+ Managed Ethernet Switch
IGS-6325-8UP2S	Industrial L3 8-Port 10/100/1000T 802.3bt PoE + 2-Port 100/1000X SFP + Managed Ethernet Switch
IGS-5225-4UP1T2S	Industrial L2+ 4-Port 10/100/1000T 802.3bt PoE + 1-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IPOE-171-95W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Injector (95 Watts, -40~75 degrees C, 12~48V DC)
IPOE-171-60W	Industrial Single-Port 10/100/1000Mbps 802.3bt PoE++ Injector (60 Watts, -40~75 degrees C)
IGUP-1205AT	Industrial 2-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-2205AT	Industrial 2-Port 100/1000X SFP to 2-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-805AT	Industrial 1-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IPOE-270 Series	Industrial 2-port Multi-Gigabit 802.3bt PoE++ Injector Hub
IPOE-470 Series	Industrial 4-port Gigabit 802.3bt PoE++ Injector Hub
UPOE-400	4-Port Multi-Gigabit 802.3bt PoE++ Injector Hub
UPOE-800G	8-Port Gigabit 802.3bt PoE++ Managed Injector Hub (400 watts)
UPOE-1600G	16-Port Gigabit 802.3bt PoE++ Managed Injector Hub (600 watts)
UPOE-2400G	24-Port Gigabit 802.3bt PoE++ Managed Injector Hub (800 watts)

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