

Product Specifications

Industrial 5-Port 10/100/1000T

\Wall-mount Gigabit Router

WGR-500

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2019/09/10	Angeline Huang	Initial release

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1. PRODUCT DESCRIPTION

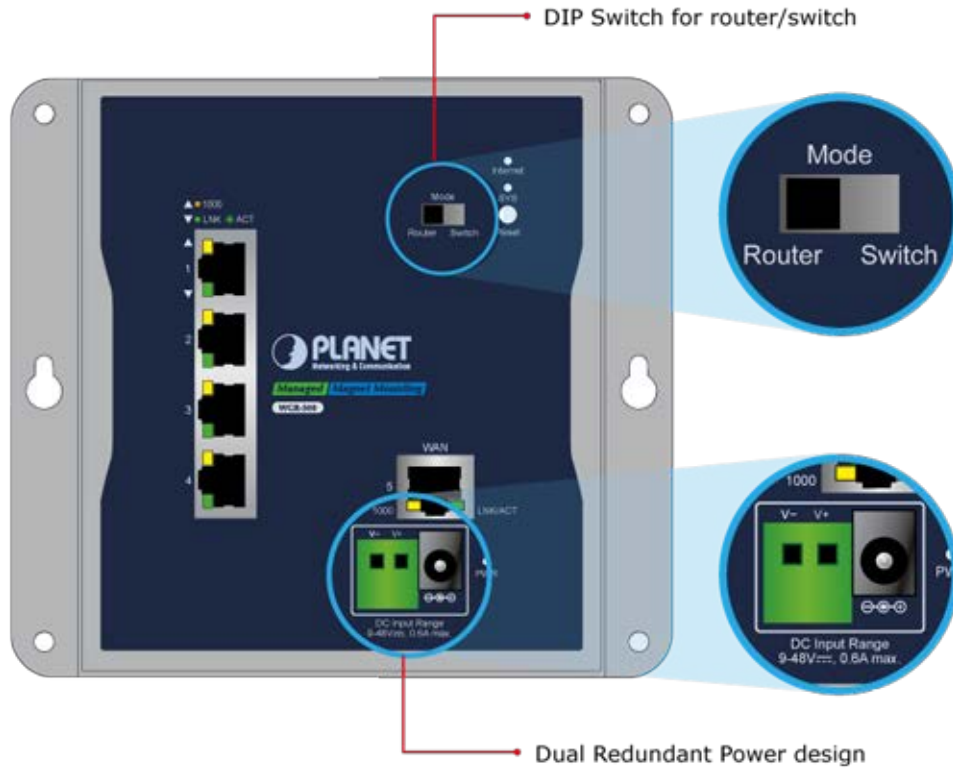


Compact and Cost-effective for Building Industrial IoT Networks

PLANET WGR-500 is an industrial router designed for such Internet of Things (IoT) networks as industry, transportation, government, agriculture and other public areas. Its compact size and redundant power design are perfect for any network environment and stable operation.

The WGR-500, the best solution for any industry router application, features the following special management and operation functions:

- Setup Wizard design and IPv6 / IPv4 support
- Router and switch working mode
- Firewall with 802.1Q VLAN security
- HW NAT accelerates internet NAT routing performance
- 9-48V DC redundant power design



IPv6 Support for IoT Networking

With billions of new IoT devices entering the market each year, IPv4 is faced with the issue of not being able to fulfill the requirements of connecting all the IoT products together. IPv6 offers a highly-scalable address scheme that provides a unique 64-bit host ID to every present and future IoT device. It is sufficient to address the needs of any present and future communication device. That means IPv6 allows IoT products to be uniquely addressable without having to work around all of the traditional NAT and firewall issues.

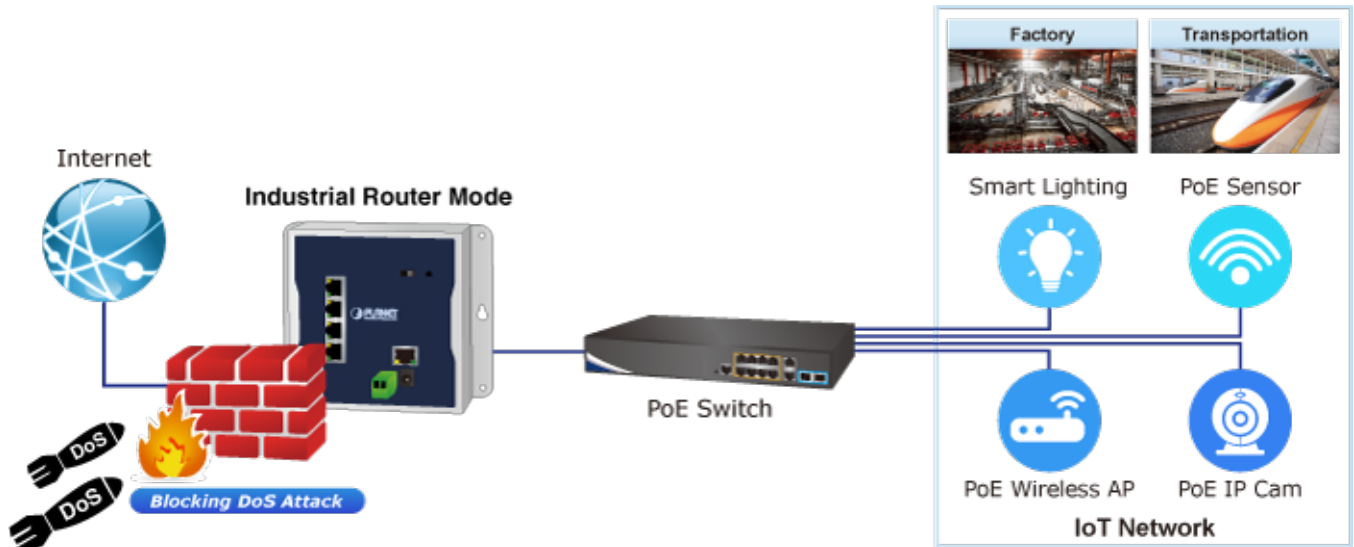
The WGR-500 supports both IPv6 and IPv4 to ensure industrial Ethernet with a smooth migration path from the IPv4-based networks to the full IPv6 infrastructure. It assigns IPv6 addresses to clients and passes the IPv6 traffics through the IPv4 environment. The WGR-500 supports IPv4 tunneling (6to4 transition tunnel) implementations for IoT connectivity.



Secure Firewall Protection

The denial-of-service attacks (DoS) attempt to consume resources and therefore deny users network and application access. There are two types of DoS attacks – SYN floods and ping of death that consume actual server resources, or those of intermediate communication equipment, such as firewalls and load balancers, and the other, volume-based attacks like UDP/ICMP floods and other spoofed-packet floods that would saturate the bandwidth of the attacked site.

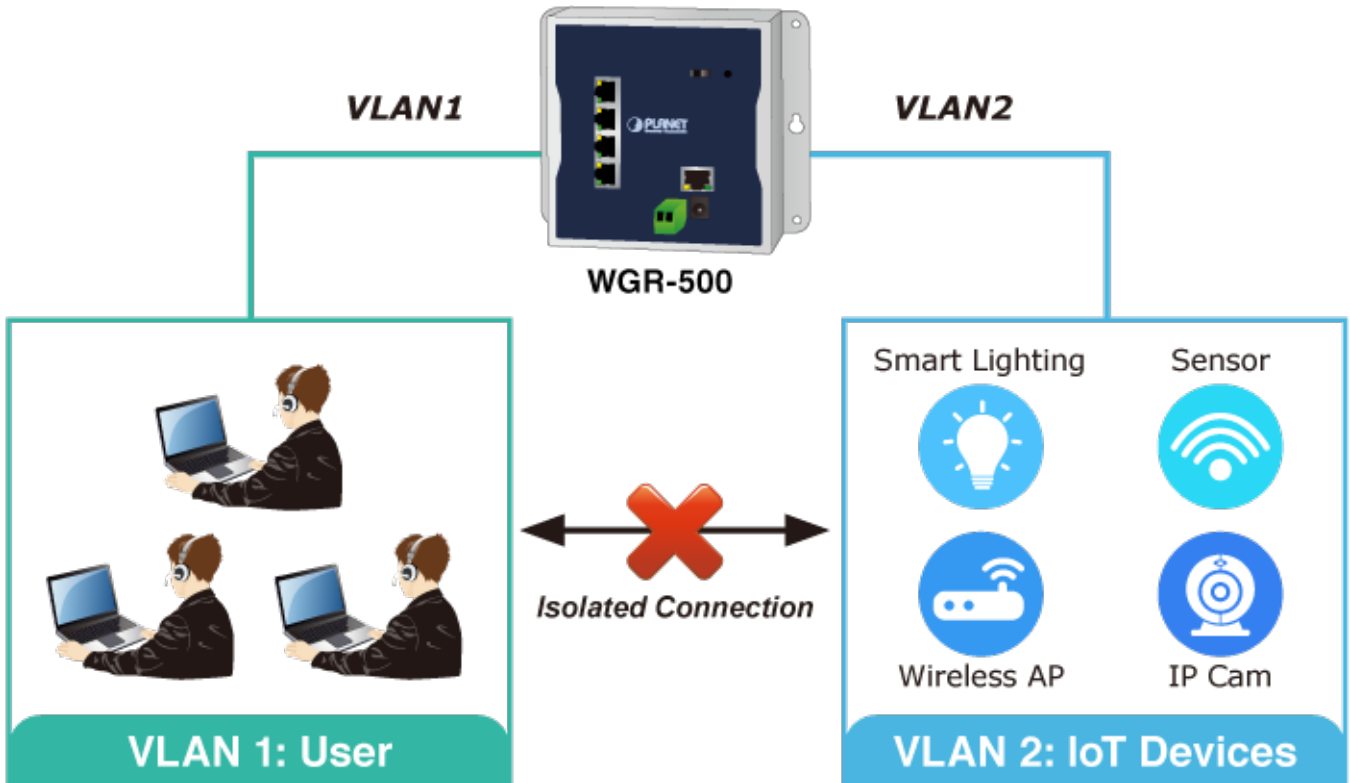
The WGR-500 provides firewall to protect IoT devices against networking attack like denial-of-service (DoS), and emerging malicious traffic before attacks can occur. With firewall protection, it prevents IoT network from threats and keeps networking more secure.



VLAN Support for Isolated Traffic and Security

Virtual LANs (VLANs) offer the logical grouping technique to separate the physical ports of Ethernet switch. It can separate private network into several parts for different users. If there are too many computers or networking devices in the same network segment, it will result in heavy traffics locally. Besides, VLANs provide enhanced network security that network administrators can control over each port and whatever resources it is allowed to use.

The WGR-500 supports 802.1Q VLAN to separate traffic of users and IoT devices and can work as an intelligent traffic forwarder to control traffic and isolate connections of two groups. It will not only optimize bandwidth but also improve network security.



Innovative Wall-mount Installation

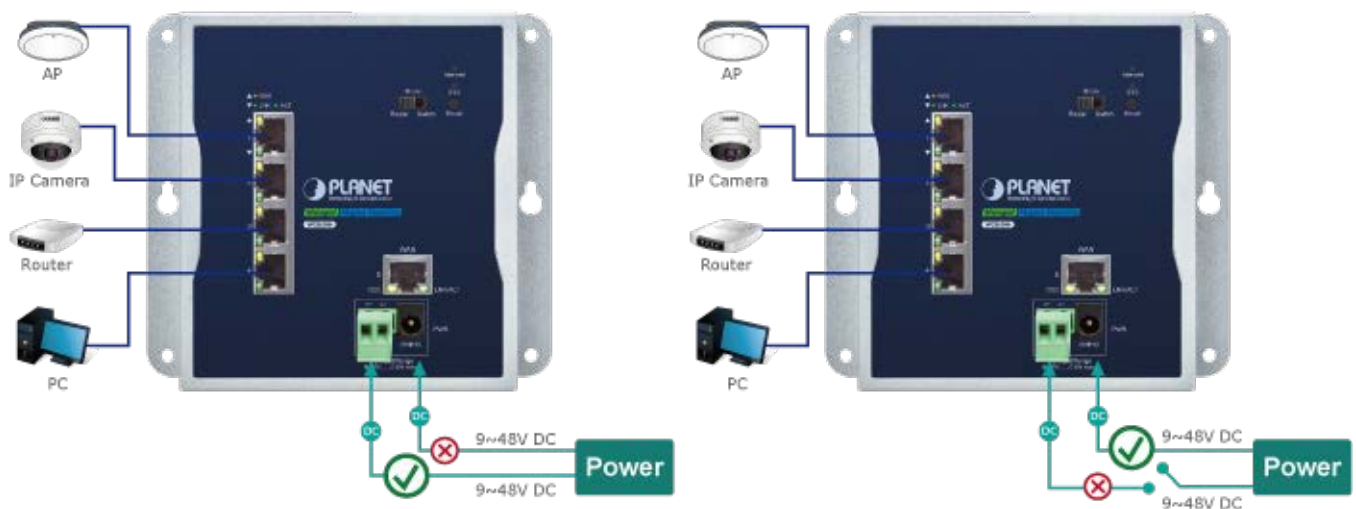
The WGR-500 is specially designed to be installed in a narrow environment, such as wall enclosure. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts the user-friendly “Front Access” design, making the installing and cable wirings easy. The WGR-500 can be installed by fixed wall mounting, magnetic wall mounting or DIN rail, thereby making its usability more flexible.



Dual Power Input for High Availability Network System

The WGS-500 features a strong dual power input system (9V~48V DC) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when the 2-pin terminal block fails to work, the hardware failover function will be activated automatically to keep powering the WGS-500 via the DC plug power alternatively without any loss of operation.

Dual Power Input with Auto Failover



2. PRODUCT FEATURES

➤ **Physical Port**

- Four 10/100/1000BASE-T RJ45 ports
- One 10/100/1000BASE-T RJ45 WAN port or LAN port (router mode / switch mode)

➤ **Industrial Case and Installation**

- Compact size with fixed wall mounting, magnetic wall mounting or DIN-rail design
- IP30 metal case
- Supports **-10 to 60** degrees C operating temperature
- Supports ESD 6KV DC Ethernet protection
- Dual power input design
 - 9V~48V DC wide power input, redundant power with reverse polarity protection
 - 2-pin terminal block or DC jack connector

➤ **Layer 2 Features**

- Supports IEEE 802.1Q tagged VLAN
- Supports IEEE 802.1D Spanning Tree Protocol (STP)

➤ **Layer 3 IP Routing Features**

- IPv6 support
- WAN Internet types: Dynamic IP(DHCP Client), static IP, PPPoE, L2TP, PPTP
- Static and dynamic (RIP1 and 2) routing
- Supports Port Forwarding, DMZ, UPnP and for various networking applications
- IP/MAC-based bandwidth control
- Supports Dynamic DNS and PLANET DDNS

➤ **Security**

- Port filtering lets you either allow or prevent which applications can access the Internet.
- MAC filtering allows you to include or exclude computers and devices based on their MAC address
- URL filtering allows you to control access to Internet websites in an URL list
- IP source guard prevents IP spoofing attacks
- DoS attack prevention

➤ **Management**

- Management Interfaces
 - Web GUI management
- Static and DHCP for IP address assignment
- System Maintenance
 - Firmware upload/download via HTTP
 - Hardware-based reset button for system reboot or reset to factory default
- NTP (Network Time Protocol)
- Event message logging to remote syslog server
- PLANET Smart Discovery Utility for deployment management

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Router SoC:	Realtek RTL8198C
Flash Size:	16 Mbytes
DRAM Size:	128 Mbytes

3.2 FUNCTION SPECIFICATIONS

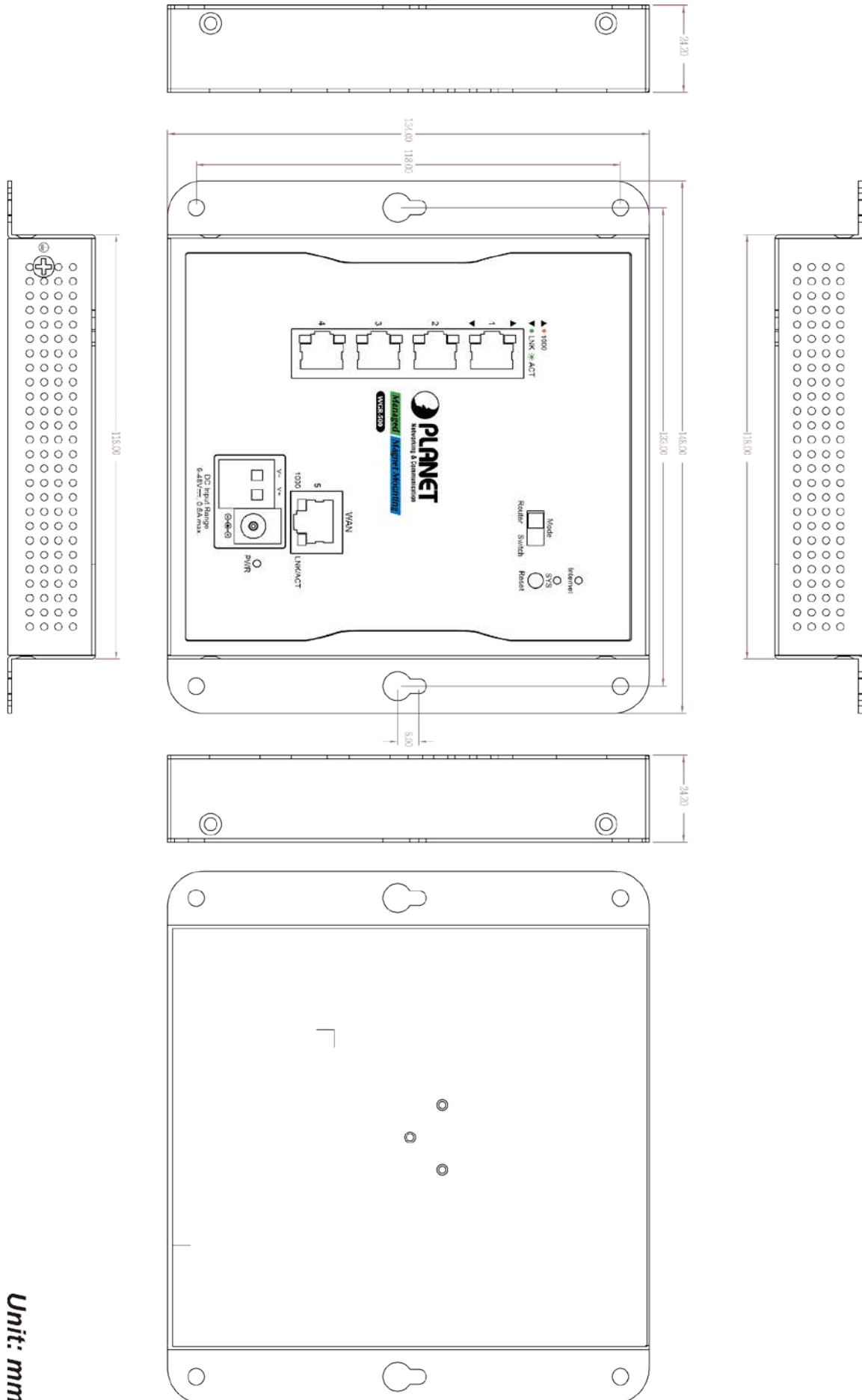
Product	WGR-500	
Hardware Specifications		
Interface	LAN	4 x 10/100/1000 BASE-T, auto-negotiation, auto MDI/MDI-X RJ45 port
	WAN	1 x 10/100/1000 BASE-T, auto-negotiation, auto MDI/MDI-X RJ45 port
DIP Switch	For router and switch mode	
Reset Button	< 5 sec: System reboot > 5 sec: Factory default	
ESD Protection	6KV DC	
Enclosure	IP30 metal case	
Installation	DIN-rail or wall mounting	
Connector	Removable 2-pin terminal block for power input - Pin 1/2 for Power (Pin 1: V+ / Pin 2: V-) DC power jack with 2.1mm central pole	
LED Indicator	System: Internet (Green) PWR (Green) SYS (Green) Per 10/100/1000T RJ45 Ports: 10/100 LNK/ACT (Green) 1000 LNK/ACT (Amber)	
Dimensions (W x D x H)	148 x 24.2 x 134 mm	
Weight	487 g	
Power Requirements	Dual 9~48V DC	
Power Consumption	Max. 1.71 watts/5.84 BTU (Power on without any connection) Max. 4.32 watts/14.75 BTU (Full loading)	
Router Features		
Internet Connection Type	Shares data and Internet access for users, supporting the following internet accesses: ■ PPPoE ■ Static IP ■ Dynamic IP	
Routing Protocol	Static routing RIPv1/2	
Security	DOS protection	

	MAC/IP/Port/URL filtering
Protocol / Feature	802.1Q tag-based VLAN 802.1d spanning tree QoS NAT and HW NAT Port Forwarding DMZ UPnP and PLANET DDNS
System Management	Web-based (HTTP) configuration SNTP time synchronization System log supports remote log SNMP v1, v2c
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 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3ab Gigabit 1000T IEEE 802.1D Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP
Environment	
Operating Temperature	-10 ~ 60 degrees C
Storage Temperature	-20 ~ 70 degrees C
Humidity	5 ~ 95% (non-condensing)

3.3 PHYSICAL SPECIFICATIONS:

Dimensions: 148 x 24.2 x 134 mm (W x D x H)

Weight: 487g

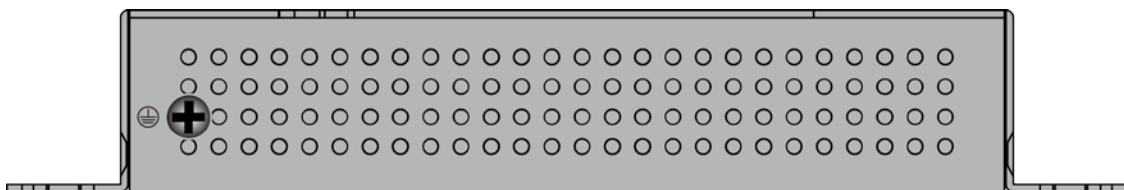


Unit: mm

■ Front Panel:



■ Bottom View:



■ LED Definition

■ System

LED	Color	Function
Internet	Green	Internet is synchronized successfully in the route mode.
	Blink	Internet data is being transmitted.
PWR	Green	Lights to indicate that the Switch has power.
SYS	Green	Lights to indicate the system is working.

■ LAN Per 10/100/1000Mbps RJ45 Port (Port-1 to Port-4)

LED	Color	Function	
LNK/ACT	Green	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.
LNK/ACT	Amber	Lights:	To indicate the link through that port is successfully established at 1000 Mbps .
		Blinks:	To indicate that the switch is actively sending or receiving data over that port.

■ WAN Per 10/100/1000Mbps RJ45 Port (Port-5)

LED	Color	Function	
LNK/ACT	Green	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.
LNK/ACT	Amber	Lights:	To indicate the link through that port is successfully established at 1000 Mbps .
		Blinks:	To indicate that the switch is actively sending or receiving data over that port.

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -10°C ~ 60°C

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

Storage:

Temperature: -20°C ~ 70°C

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

3.5 ELECTRICAL SPECIFICATIONS

Power Consumption (System on):	9V	1.71 watts/ 5.84 BTU
	48V	1.92 watts/ 6.55 BTU
Power Consumption (Full loading):	9V	4.32 watts/ 14.74 BTU
	48V	4.32 watts/ 14.75 BTU

3.6 REGULATORY COMPLIANCE

FCC Class A, CE.

3.7 RELIABILITY

MTBF > 100,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

■ The Wall-mounted Managed Switch	x 1
■ Quick Installation Guide	x 1
■ 2-pin Terminal Block Connector	x 1
■ Wall-mounted Kit	x 1
■ DIN-rail Kit	x 1
■ Magnet Kit	x 1
■ RJ45 Dust-proof Cap	x 5

3.9 PACKING

Box Dimensions (W x D x H)	229 x 197 x 70 mm
Weight	728g
Carton Dimensions (W x D x H)	480 x 420 x 370 mm
Total Weight	15.4kg
Quantity	20pcs in one carton