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Networking & Communication
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Product Specifications

Industrial L3 24-Port 10/100/1000T 802.3at PoE+
Managed Ethernet Switch

IGS-6325-24P4X
IGS-6325-24P4S

Version 1.0

Change History:

Revision	Date	Author	Change List
Version 1.0	03/27/2019	Keithy	Initial release

| Author	Keithy	Editor:	Mark
Reviewed by:	Jonas	Approved by:	Kent

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1. PRODUCT DESCRIPTION

Advanced Layer 3 Manageable PoE Solution for Hardened Environment

PLANET has launched two new PoE+ managed switches, namely the **IGS-6325-24P4X** Industrial L3 24-Port 10/100/1000T 802.3at PoE + 4-Port 10G SFP+ Managed Ethernet Switch and the **IGS-6325-24P4S** Industrial L3 24-Port 10/100/1000T 802.3at PoE + 4-Port Shared 100/1000X SFP Managed Ethernet Switch.

In the following sections, the term "IGS-6325 PoE Series" means the IGS-6325-24P4X and IGS-6325-24P4S.

The IGS-6325 PoE Series features **24 10/100/1000BASE-T 802.3at PoE+ ports** with each port powering up to 36 watts, and 4 shared SFP ports and 4 10G SFP+ ports in a 1U case. It provides user-friendly yet advanced **IPv6/IPv4 management** interfaces, abundant **L2/L4 switching functions, Layer 3 OSPFv2 dynamic routing** capability, and advanced **ITU-G.8032 ERPS Ring** technology to improve the rapid self-recovery capability and PLANET **intelligent PoE** functions for controlling the PoE outdoor IP surveillance and wireless network applications. It is able to operate reliably, stably and quietly in the temperature range from **-40** to **75 degrees C**.
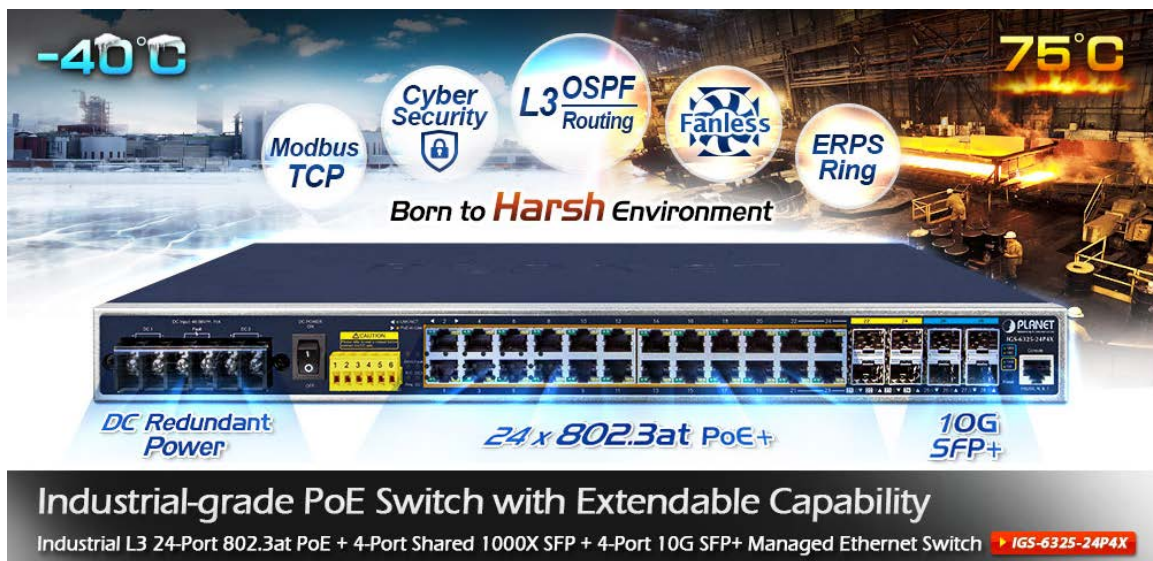
Layer 3 Routing Support

The IGS-6325 PoE Series enables the administrator to conveniently boost network efficiency by configuring Layer 3 IPv4/IPv6 VLAN static routing manually, and the IPv4 **OSPFv2** (Open Shortest Path First) settings automatically. The OSPF is an interior dynamic routing protocol for autonomous system based on link state. The protocol creates a database for link state by exchanging link states among Layer 3 switches, and then uses the Shortest Path First algorithm to generate a route table based on that database.

Cybersecurity Network Solution to Minimize Security Risks

The IGS-6325 PoE Series supports SSHv2, TLS and SSL protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP Snooping**, **IP Source Guard**, **ARP Inspection** Protection, **802.1x port-based** and **MAC-based** network access control, **RADIUS** and **TACACS+** user accounts management, **SNMPv3** authentication, and so on to complement it as an all-security solution.

Redundant Ring, Fast Recovery for Critical Network Applications

The IGS-6325 PoE Series supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology, Spanning Tree Protocol (802.1s MSTP), and **redundant power** input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In a simple Ring network, the recovery time of data link can be as fast as 10ms.
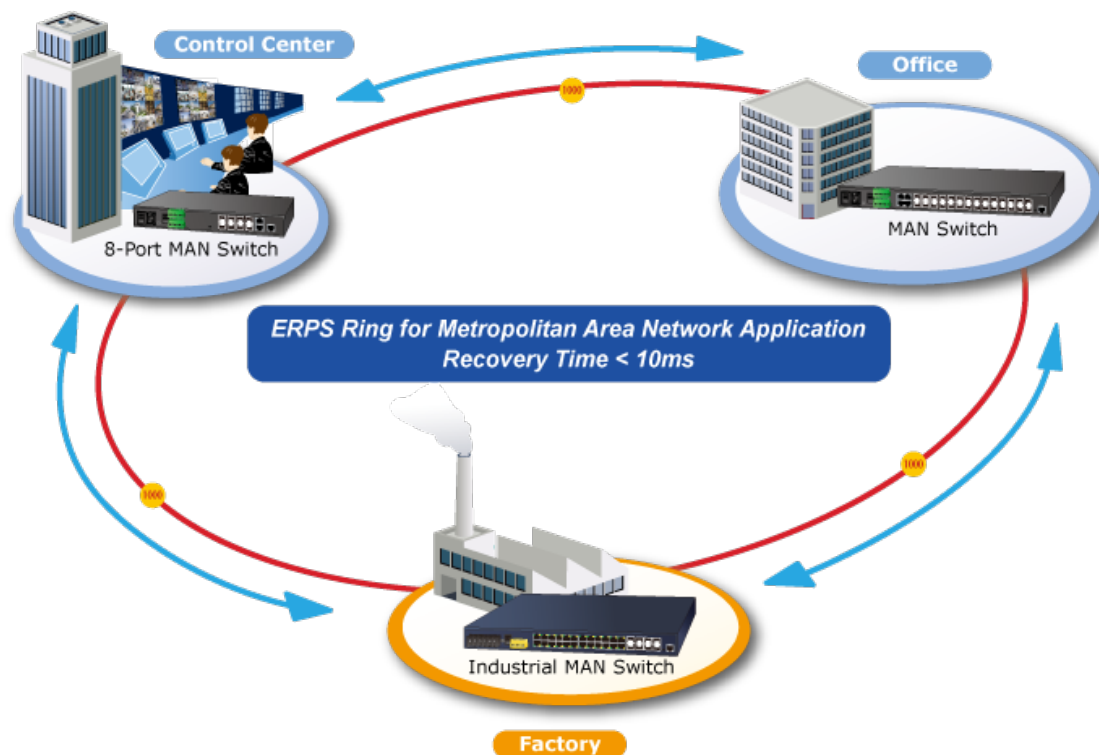
High Power PoE for Security and Public Service Applications

As the whole system comes with a total **440-watt** PoE budget, the IGS-6325 PoE Series is designed specifically to satisfy the growing demand of higher power consuming network PDs (powered devices) such as multi-channel (802.11a/b/g/n) wireless LAN access points, PTZ (pan, tilt, zoom) speed dome network cameras and other PoE network devices.

Convenient and Smart ONVIF Devices with Detection Feature

PLANET has newly developed an awesome feature -- ONVIF Support -- which is specifically designed for co-operating with video IP surveillances. From the IGS-6325 PoE Series GUI, clients just need one click to search and show all of the ONVIF devices via network application. In addition, clients can upload floor images to the switch series, making the deployments of surveillance and other devices easy for planning and inspection purposes. Moreover, clients can get real-time surveillance's information and online/offline status; the PoE reboot can be controlled from the GUI.
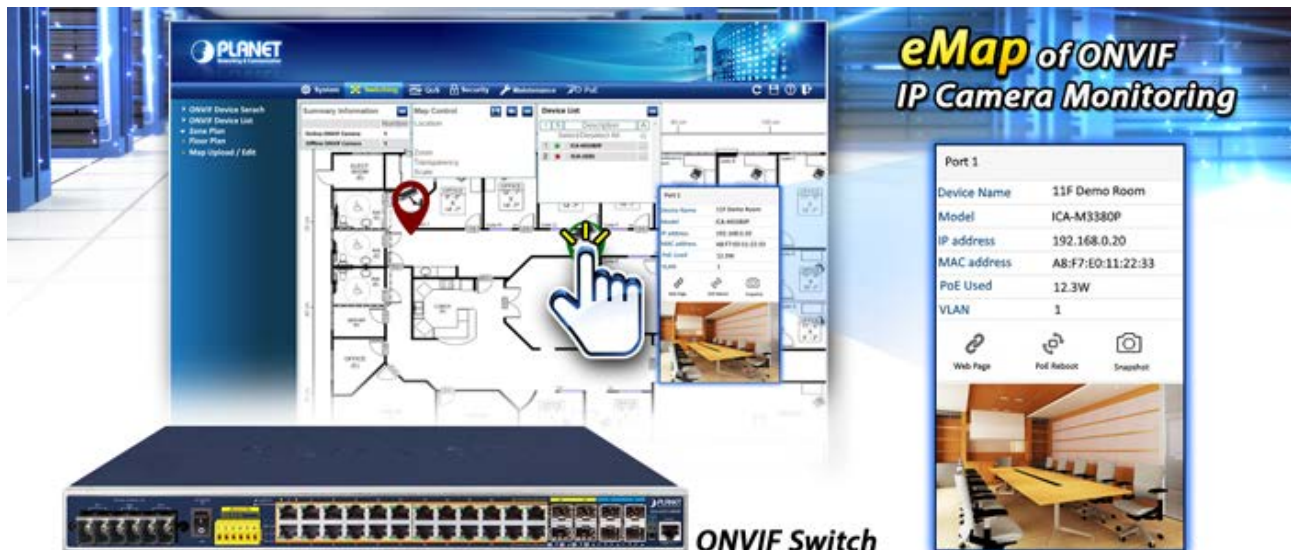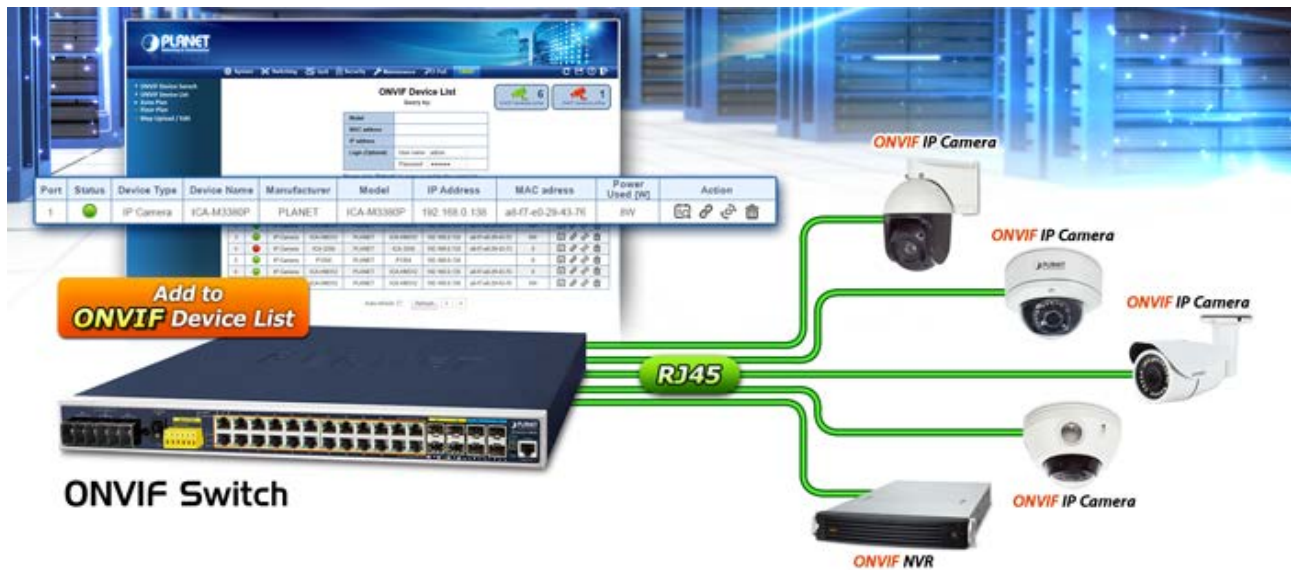
Intelligent Alive Check for Powered Device

The IGS-6325 PoE Series can be configured to monitor connected PD's status in real time via ping action. Once the PD stops working and responding, the IGS-6325 PoE Series will recycle the PoE port power and bring the PD back to work. It also greatly enhances the reliability in that the PoE port will reset the PD power, thus reducing administrator's management burden.
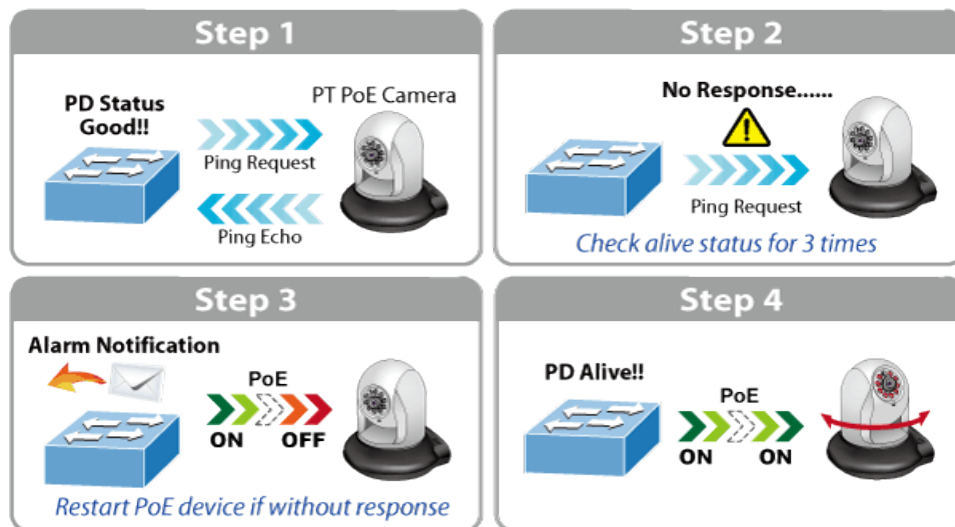
PoE Schedule for Energy Saving

Under the trend of energy saving worldwide and contributing to environmental protection on the Earth, the IGS-6325 PoE Series can effectively control the power supply besides its capability of giving high watts power. The built-in **"PoE schedule"** function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and money.

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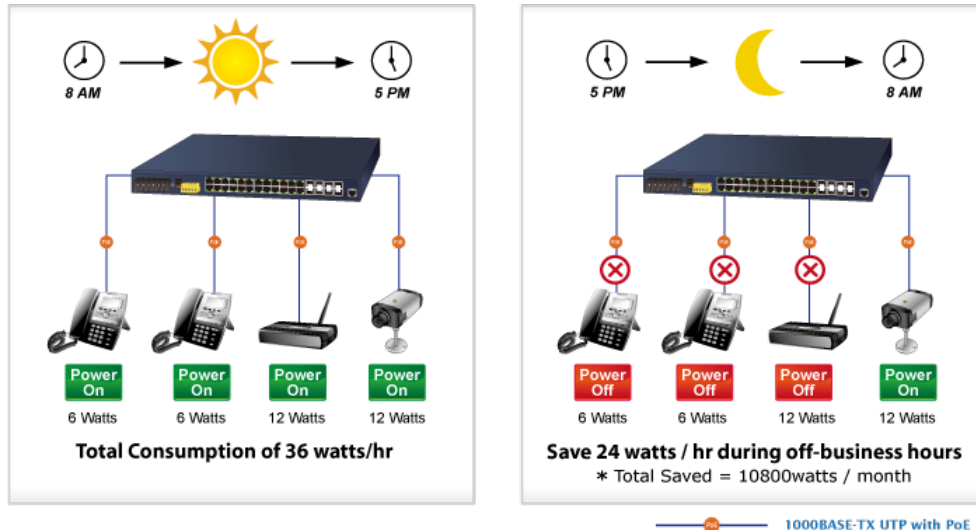
Scheduled Power Recycling

The IGS-6325 PoE Series allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.
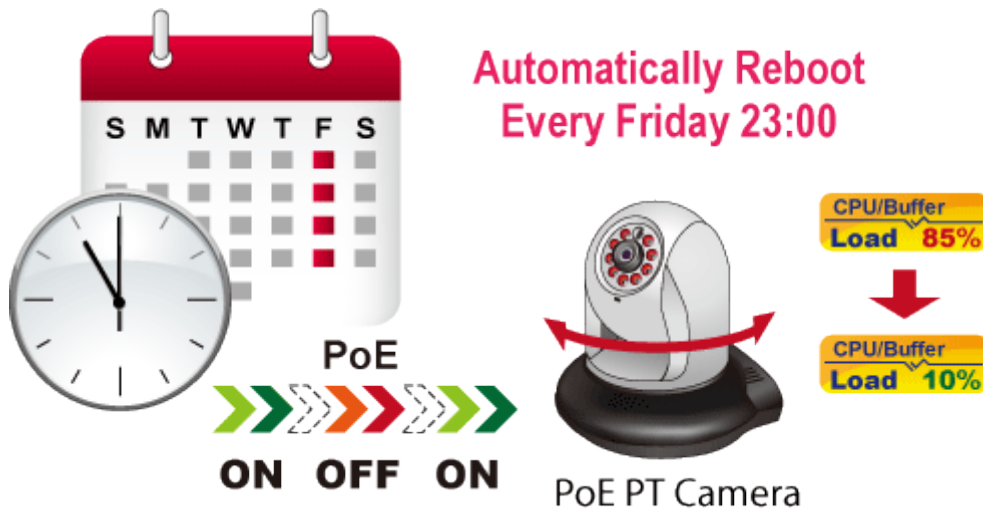
SMTP/SNMP Trap Event Alert

The IGS-6325 PoE Series provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, or the rebooting response.

Effective Alarm Alert for Better Protection

The IGS-6325 PoE Series supports a Fault Alarm feature which can alert the users when there is something wrong with the switches. With this ideal feature, the users would not have to waste time finding where the problem is. It will help to save time and human resource.

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Fault Alarm Feature
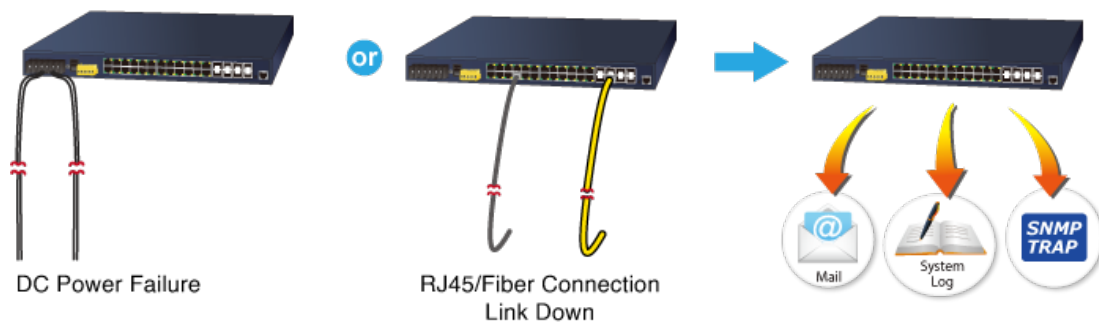
Digital Input and Digital Output for External Alarm

The IGS-6325 PoE Series supports Digital Input and Digital Output on its front panel. This external alarm enables users to use Digital Input to detect and log external device status (such as door intrusion detector), and send an event alarm to the administrators. The Digital Output could be used to alarm the administrators if the IGS-6325 PoE Series' port shows link down, link up or power failure.

Digital Input

Security OK!!

Enclosure

Door Detector
(Door Closed)

Alarm Warning

Enclosure

Door Detector
(Door Open)

Alarm Messaging

Mail

System
Log

SNMP
TRAP

Digital Output

Power Failure

RJ45 Cable
Link Down

Fiber Cable
Link Down
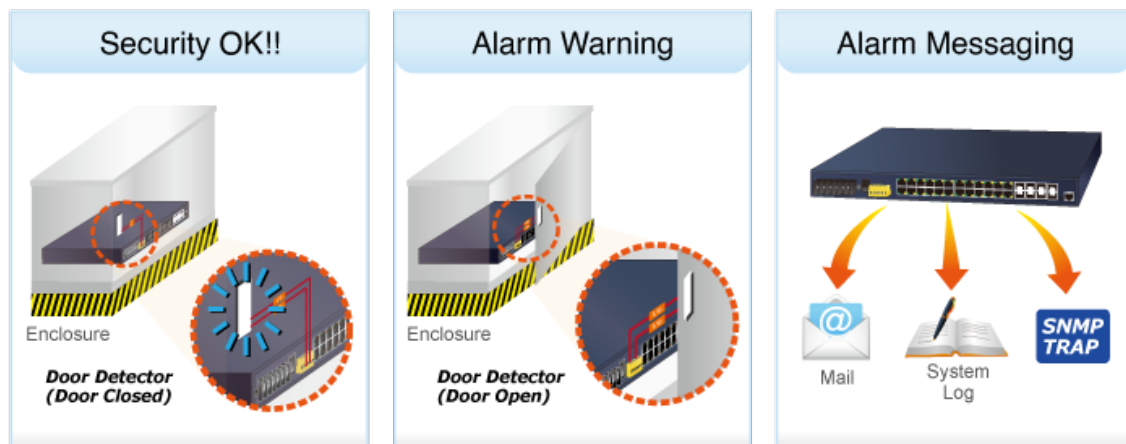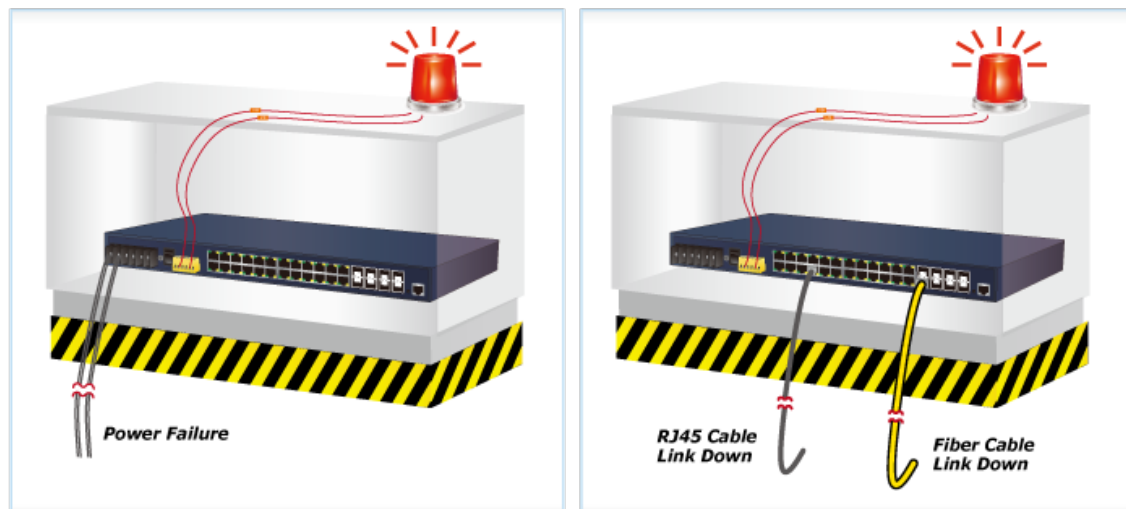
Robust Layer 2 Features

The IGS-6325 PoE Series can be programmed for advanced switch management functions such as dynamic port link aggregation, Q-in-Q VLAN, private VLAN, Rapid Spanning Tree Protocol, Layer 2 to Layer 4 QoS, bandwidth control and IGMP snooping. The IGS-6325 PoE Series provides 802.1Q tagged VLAN, and the VLAN groups allowed will be maximally up to 255. Via aggregation of supporting ports, the IGS-6325 PoE Series allows the operation of a high-speed trunk combining multiple ports. It enables a maximum of up to 14 trunk groups with 16 ports per trunk group, and supports fail-over as well.

L2/L4
Managed Switch

L2/L4
Managed Switch
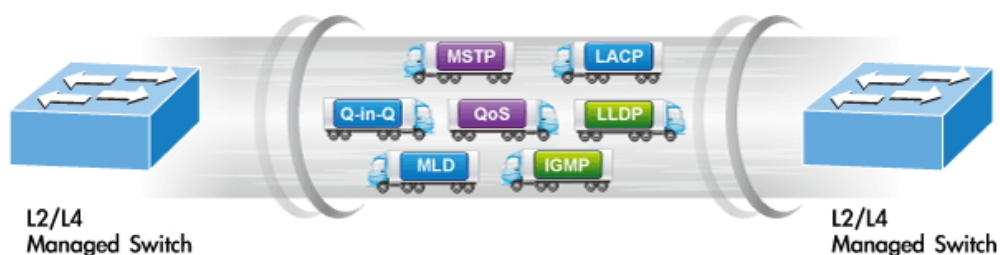
Powerful Security

The IGS-6325 PoE Series offers comprehensive Layer 2 to Layer 4 Access Control List (ACL) for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises 802.1x Port-based and MAC-based user and device authentication. With the private VLAN function, communication between edge ports can be prevented to ensure user privacy. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Modbus TCP Provides Flexible Network Connectivity for Factory Automation

With the supported **Modbus TCP/IP** protocol, the IGS-6325 PoE Series can easily integrate with **SCADA** systems, **HMI** systems and other data acquisition systems in factory floors. It enables administrators to remotely monitor the industrial Ethernet switch's **operating information**, **port information** and **communication status**, thus easily achieving enhanced monitoring and maintenance of the entire factory.

1588 Precision Time Protocol for Industrial Computing Networks

The IGS-6325 PoE Series is ideal for telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.
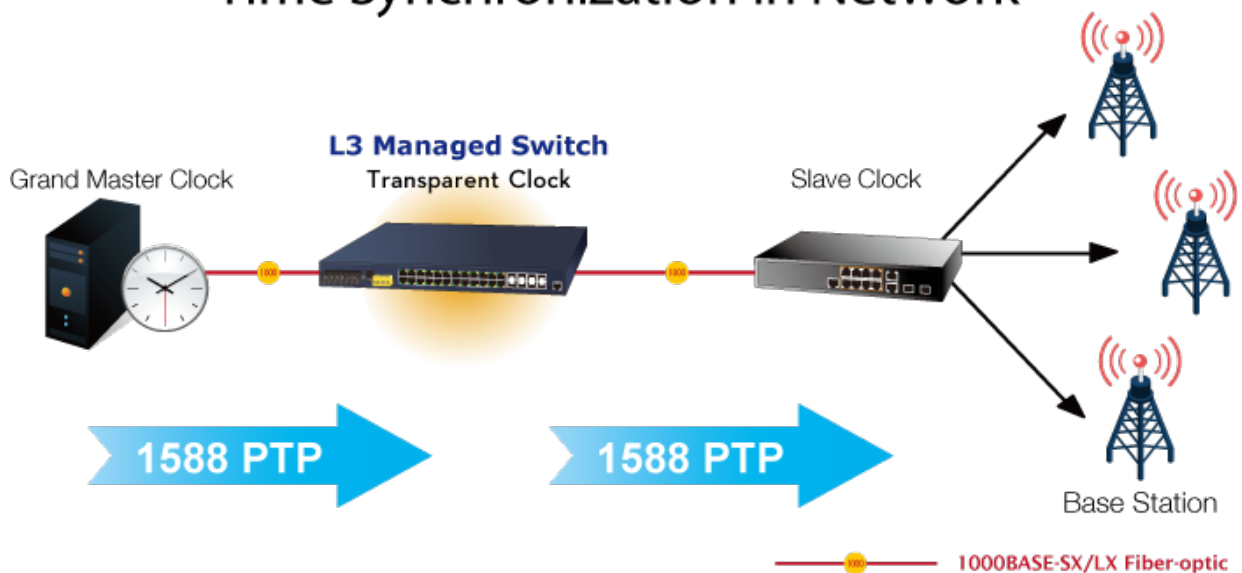
Flexible and Extendable 10Gb Ethernet Solution

10G Ethernet is a big leap in the evolution of Ethernet. Each of the 10G SFP+ slots in the IGS-6325-24P4X supports **dual speed** and **10GBASE-SR/LR or 1000BASE-SX/LX**. With its 4-port, 10G Ethernet link capability and additional 4-port 1G Ethernet link capability, the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. The IGS-6325-24P4X provides broad bandwidth and powerful processing capacity.

Intelligent SFP Diagnosis Mechanism

The IGS-6325 PoE Series supports SFP-**DDM** (Digital Diagnostic Monitor) function that greatly helps network administrator to easily monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

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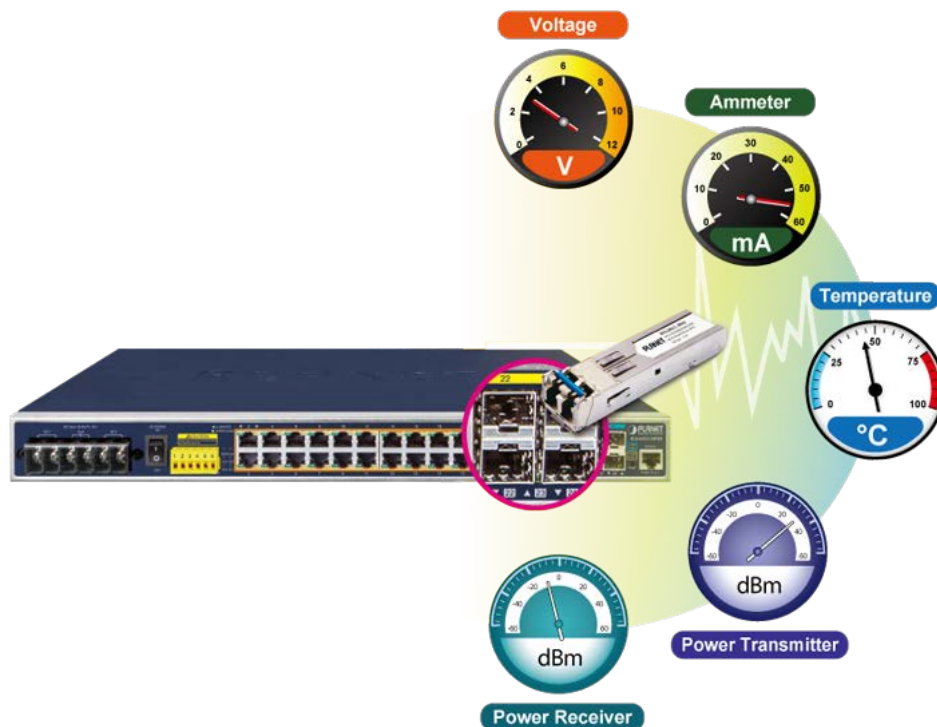
2. PRODUCT FEATURES

➢ **Physical Port**

- **24 10/100/1000BASE-T** Gigabit Ethernet RJ45 ports with **IEEE 802.3at PoE+** Injector function
- **4 100/1000BASE-X mini-GBIC/SFP** slots, shared with Port-21 to Port-24 compatible with 100BASE-FX SFP
- 4 10GBASE-SR/LR SFP+ slots, compatible with 1000BASE-SX/LX/BX SFP
- RJ45 to RS232 DB9 console interface for basic management and setup

➢ **Power over Ethernet**

- Complies with IEEE 802.3at Power over Ethernet Plus/end-span PSE
- Up to 24 IEEE 802.3af devices powered
- Supports PoE power up to 36 watts for each PoE port
- 440-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m
- PoE management features
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE admin-mode control
  - PoE port power feeding priority
  - Per PoE port power limit
  - PD classification detection
- Intelligent PoE features
  - Temperature threshold control
  - PoE usage threshold control
  - PD alive check
  - PoE schedule

➢ **Industrial Protocol**

- Modbus TCP for real-time monitoring in the SCADA system
- IEEE 1588v2 PTP (Precision Time Protocol)

➢ **Industrial Case and Installation**

- IP30 metal case
- 19-inch rack-mountable design
- Dual 48~56V DC, redundant power with reverse polarity protection

- Active-active redundant power failure protection

- Backup of catastrophic power failure on one supply

- Fault tolerance and resilience

■ Supports EFT protection for 6KV DC power and 5KV DC Ethernet ESD protection

■ -40 to 75 degrees C operating temperature

➢ **Digital Input and Digital Output**

■ 2 digital input (DI)

■ 2 digital output (DO)

■ Integrate sensors into auto alarm system

■ Transfer alarm to IP network via email and SNMP trap

➢ **Layer 2 Features**

■ Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)

■ High performance of Store-and-Forward architecture, and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth

■ Storm Control support

- Broadcast/Multicast/Unicast

■ Supports VLAN

- IEEE 802.1Q tagged VLAN

- Up to 256 VLANs groups, out of 4096 VLAN IDs

- Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)

- Private VLAN Edge (PVE)

- Protocol-based VLAN

- MAC-based VLAN

- Voice VLAN

- GVRP (GARP VLAN Registration Protocol)

■ Supports Spanning Tree Protocol

- IEEE 802.1D Spanning Tree Protocol (STP)

- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)

- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), spanning tree by VLAN

- BPDU Guard

■ Supports Link Aggregation

- 802.3ad Link Aggregation Control Protocol (LACP)

- Cisco ether-channel (static trunk)

- Maximum 14 trunk groups with 16 ports per trunk group

- Up to 32Gbps bandwidth (duplex mode)

- Provides port mirror (many-to-1)

- Port mirroring to monitor the incoming or outgoing traffic on a particular port

- Loop protection to avoid broadcast loops

- Supports ERPS (Ethernet Ring Protection Switching)

- Compatible with Cisco **Uni-directional link detection**(UDLD) that monitors a link between two switches and blocks the ports on both ends of the link if the link fails at any point between the two devices

- Link Layer Discovery Protocol (LLDP)

> **Layer 3 IP Routing Features**
- Supports maximum 128 static routes and route summarization

- IPv4 dynamic routing protocol supports OSPFv2

- IPv4/IPv6 hardware static routing

- Routing interface provides per VLAN routing mode

> **Quality of Service**
- Ingress Shaper and Egress Rate Limit per port bandwidth control

- 8 priority queues on all switch ports

- Traffic classification
  - IEEE 802.1p CoS
  - IP TOS/DSCP/IP precedence
  - IP TCP/UDP port number
  - Typical network application

- Strict priority and Weighted Round Robin (WRR) CoS policies

- Traffic-policing on the switch port

- DSCP remarking

> **Multicast**
- Supports IPv4 IGMP snooping v1, v2 and v3

- Supports IPv6 MLD snooping v1 and v2

- Querier mode support

- IPv4 IGMP snooping and port filtering

- IPv6 MLD snooping and port filtering

- MVR (Multicast VLAN Registration)

> **Security**
- Authentication
  - IEEE 802.1x port-based / MAC-based network access authentication

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- Built-in RADIUS client to co-operate with the RADIUS servers

- TACACS+ login users access authentication

- RADIUS / TACACS+ users access authentication

■ Access Control List

- IP-based Access Control List (ACL)

- MAC-based Access Control List

■ Source MAC / IP address binding

■ DHCP Snooping to filter untrusted DHCP messages

■ Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding

■ IP Source Guard prevents IP spoofing attacks

■ IP address access management to prevent unauthorized intruder

➢ **Management**

■ IPv4 and IPv6 dual stack management

■ Switch Management Interfaces

- Console/Telnet Command Line Interface

- Web switch management

- SNMP v1 and v2c switch management

- SSH, TLS, SSL and SNMP v3 secure access

■ SNMP Management

- Four RMON groups (history, statistics, alarms, and events)

- SNMP trap for interface Link Up and Link Down notification

■ IPv6 IP address/NTP/DNS management

■ Built-in Trivial File Transfer Protocol (TFTP) client

■ BOOTP and DHCP for IP address assignment

■ System Maintenance

- Firmware upload/download via HTTP/TFTP

- Reset button for system reboot or reset to factory default

- Dual Images

■ DHCP Relay and DHCP Option 82

■ DHCP Server

■ User Privilege levels control

■ Network Time Protocol (NTP)

■ SFP-DDM (Digital Diagnostic Monitor)

■ Network Diagnositc

- ICMPv6/ICMPv4 Remote Ping

- Cable diagnostic technology provides the mechanism to detect and report potential cabling issues

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- PLANET Remote Management (MQTT) and Smart Discovery Utility for deployment management
- SMTP/Syslog remote alarm
- System Log

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch ASIC	IGS-6325-24P4X: Microchip Vitesse VSC7448 IGS-6325-24P4S: Microchip Vitesse VSC7442	x 1
CPU	500MHz MIPS 24KEc CPU (integrated with VSC7448)	x 1
Giga PHY	Vitesse VSC8512XJG-03	x 2
PoE Controller	Microchip PD69200C	x 1
PoE PSE	Microchip PD69208M	x 3
Flash Size	64Mbytes	x 1
DRAM Size	512M bytes	x 1

3.2 FUNCTION SPECIFICATIONS

Product	IGS-6325-24P4X	IGS-6325-24P4S
Hardware Specifications		
Copper Ports	24 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
SFP/mini-GBIC Slots	4 100/1000BASE-X SFP interfaces, shared with Port-21 to Port-24 Backward compatible with 100BASE-FX SFP transceiver	
SFP+ Slots	4 10GbBASE-SR/LR SFP+ interfaces (Port-25 to Port-28) Backward compatible with 1000BASE-SX/LX/BX SFP transceiver	N/A
Console	1 x RS232-to-RJ45 serial port (115200, 8, N, 1)	
Switch Architecture	Store-and-Forward	
Switch Fabric	128Gbps/non-blocking	48Gbps/non-blocking
Throughput	95.2Mpps@64Bytes	35.7Mpps@64Bytes
Address Table	16K entries, automatic source address learning and aging	
Shared Data Buffer	32M bits	
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex	
Jumbo Frame	10K bytes	
Reset Button	< 5 sec: System reboot > 5 sec: Factory default	
ESD Protection	5KV DC	
Enclosure	IP30 metal case	

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Connector	Fixed 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2		
	Removable 6-pin terminal block for DI/DO interface Pin 1/2 for DI 1 & 2, Pin 3/4 for DO 1 & 2, Pin 5/6 for GND		
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V DC		

DI and DO	2 Digital Input (DI):
	  Level 0: -24~2.1V (±0.1V)
	  Level 1: 2.1V~24V (±0.1V)
	Max. input current: 10mA
	2 Digital Output (DO): Open collector to 24VDC, 100mA		

LED Indicators	System:
	   DC1 (Green), DC2 (Green), Fault (Red)
	   Ring (Green), R.O. (Green), DI/DO (Red)		

	10/100/1000T RJ45 PoE+ Interfaces (Port 1 to Port 24):
	  PoE-in-Use (Amber)
	  LNK/ACT (Green)		

	100/1000Mbps SFP Combo Interfaces (Port 21 to Port 24):
	  1000Mbps LNK/ACT (Green)
	  100Mbps LNK/ACT (Amber)		

	1/10Gbps SFP+ Interfaces (Port 25 to Port 28) for IGS-6325-24P4X:
	  10Gbps LNK/ACT (Green)
	  1Gbps LNK/ACT (Amber)		

Dimensions (W x D x H)	440 x 300 x 44 mm, 1U height		
Weight	3800g	3740g	
Power Consumption	Max. 33 watts/112.51 BTU (Power on without any connection)	Max. 33 watts/112.51 BTU (Power on without any connection)	
	Max. 540 watts/1841.13 BTU (Full loading with PoE function)	Max. 536 watts/1828.90 BTU (Full loading with PoE function)	
Power Requirements	Dual 48~56V DC (>53V DC for PoE+ output recommended), 11A		
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~51V DC (depending on the power supply), max. 15.4 watts IEEE 802.3at Standard		

	- Per port 52V~56V DC (depending on the power supply), max. 36 watts
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	48V Power input 　- Single power input: 240W maximum (depending on power input) 　- Dual power input: 300W maximum (depending on power input) 52~56V Power input 　- Single power input: 240W maximum (depending on power input) 　- Dual power input: 440W maximum (depending on power input) ※Dual power input must be the same as DC voltage, like dual 56V
Max. Number of Class 2 PDs	24
Max. Number of Class 3 PDs	24
Max. Number of Class 4 PDs	16
Layer 3 Functions	
IP Interfaces	Max. 128 VLAN interfaces
Routing Table	Max. 128 routing entries
Routing Protocols	IPv4 hardware static routing IPv6 hardware static routing IPv4 OSPFv2 dynamic routing
Layer 2 Functions	
Port Configuration	Port disable/enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable/enable Power saving mode control
Port Status	Display each port's speed duplex mode, link status, flow control status, auto negotiation status, trunk status
Port Mirroring	TX / RX / Both Many-to-1 monitor
VLAN	IEEE 802.1Q tag-based VLAN IEEE 802.1ad Q-in-Q tunneling Private VLAN Edge (PVE) MAC-based VLAN Protocol-based VLAN Voice VLAN MVR (Multicast VLAN Registration) GVRP (GARP VLAN Registration Protocol) Up to 256 VLAN groups, out of 4096 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP/static trunk

	Supports 14 trunk groups with 16 ports per trunk group
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol

QoS	Traffic classification based, strict priority and WRR
	8-level priority for switching
	  - Port number
	  - 802.1p priority
	  - 802.1Q VLAN tag
	  - DSCP/TOS field in IP packet

IGMP Snooping	IPv4 IGMP (v1/v2/v3) snooping, up to 255 multicast groups IPv4 IGMP querier mode support
MLD Snooping	IPv6 MLD (v1/v2) snooping, up to 255 multicast groups IPv6 MLD querier mode support
Access Control List	IP-based ACL/MAC-based ACL Up to 256 entries

Bandwidth Control	Per port bandwidth control
	  Ingress: 10Kbps~13000Mbps
	  Egress: 100Kbps~13000Mbps

Management	
Basic Management Interfaces	Console; Telnet; Web browser; SNMP v1, v2c
Secure Management Interfaces	SSH, TLS, SSL, SNMP v3
SNMP MIBs	RFC 1213 MIB-II RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB RFC 4292 IP Forward MIBIEEE 802.1X PAE LLDP

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Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10BASE-T
	IEEE 802.3u 100BASE-TX/100BASE-FX
	IEEE 802.3z Gigabit SX/LX
	IEEE 802.3ab Gigabit 1000T
	IEEE 802.3ae 10Gigabit Ethernet
	IEEE 802.3x flow control and back pressure
	IEEE 802.3ad port trunk with LACP
	IEEE 802.1D Spanning Tree Protocol
	IEEE 802.1w Rapid Spanning Tree Protocol
	IEEE 802.1s Multiple Spanning Tree Protocol
	IEEE 802.1p Class of Service
	IEEE 802.1Q VLAN tagging
	IEEE 802.1ad Q-in-Q VLAN stacking
	IEEE 802.1X Port Authentication Network Control
	IEEE 802.1ab LLDP
	IEEE 802.3af Power over Ethernet
	IEEE 802.3at Power over Ethernet Plus
	IEEE 1588 PTPv2
	RFC 768 UDP
	RFC 783 TFTP
	RFC 791 IP
	RFC 792 ICMP
	RFC 2068 HTTP
	RFC 1112 IGMP v1
	RFC 2236 IGMP v2
	RFC 3376 IGMP version 3
	RFC 2710 MLD version 1
	RFC 3810 MLD version 2
	ITU G.8032 ERPS Ring
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

3.3 PHYSICAL SPECIFICATIONS:
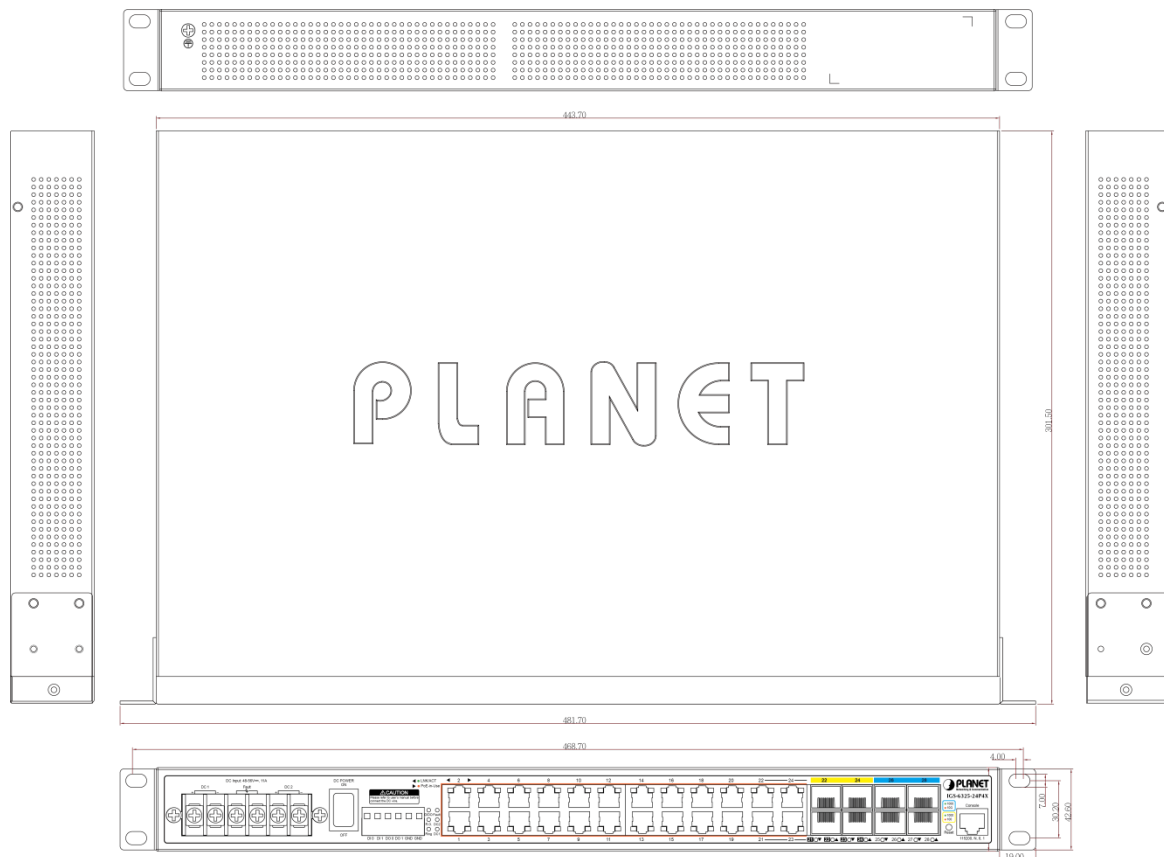
➢ **Dimensions**

440 x 300 x 44 mm (W x D x H)
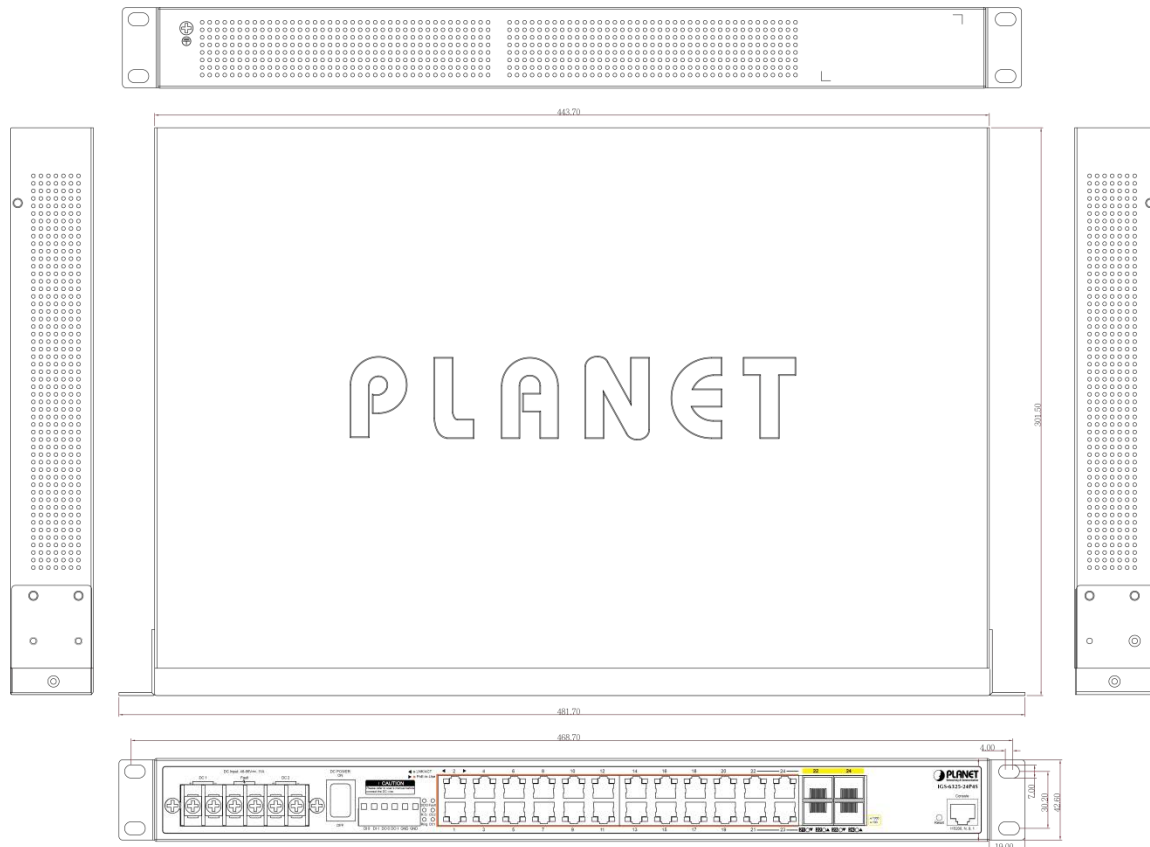
➢ **Weight**

IGS-6325-24P4X: 3800g
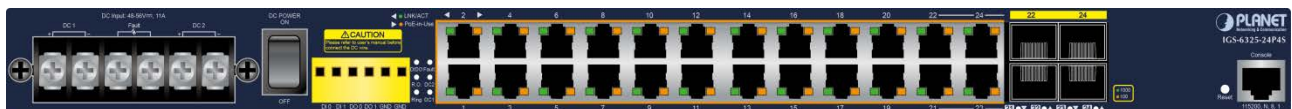
IGS-6325-24P4S:

➢ **Diagram**

■ **IGS-6325-24P4X**

■ **IGS-6325-24P4S**

> **LED Definition**

- **IGS-6325-24P4X**

- **IGS-6325-24P4S**

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■ **System LED**

LED	Color	Function
DC1	Green	Lights to indicate DC power input 1 has power.
DC2	Green	Lights to indicate DC power input 2 has power.
Fault	Red	Lights to indicate that Switch DC or port has failed.
Ring	Green	Lights to indicate that the ERPS Ring has been created successfully.
R.O.	Green	Lights to indicate that Ring state is in idle mode.
		Blinks to indicate that the Ring state is in protected mode.
DI/DO	Red	Blinks to indicate that Switch power or port has failed or DI has event.

■ **Per 10/100/1000BASE-T Port with PoE+ (Port-1~Port-24)**

LED	Color		Function
10/100/1000 LNK/ACT	Green	Lights	Indicating the port is running at **10/100/1000Mbps** speed and successfully established.
		Blinks	Indicating that the switch is actively sending or receiving data over that port.
PoE-in-Use	Amber	Lights	Indicating the port is providing 48~56V DC in-line power.
		Off	Indicating the connected device is not a PoE PD.

■ **Per 100/1000BASE-X SFP Interface (Shared with Port 21 to Port 24)**

LED	Color		Function
1000 LNK/ACT	Green	Lights	Indicating the port is running at **1000Mbps** speed and successfully established.
		Blinks	Indicating that the switch is actively sending or receiving data over that port.
100 LNK/ACT	Amber	Lights	Indicating the port is running at **100Mbps** speed and successfully established.
		Blinks	Indicating that the switch is actively sending or receiving data over that port.

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■ **Per 1/10G SFP+ Interface (Port 25 to Port 28; only for IGS-6325-24P4X)**

LED	Color		Function
10G LNK/ACT	**Green**	**Lights**	Indicating the port is running at **10Gbps** speed and successfully established.
		Blinks	Indicating that the switch is actively sending or receiving data over that port.
1G LNK/ACT	**Amber**	**Lights**	Indicating the port is running at **1Gbps** speed and successfully established.
		Blinks	Indicating that the switch is actively sending or receiving data over that port.

➢ **DI/DO Connector Definition**

Confidential
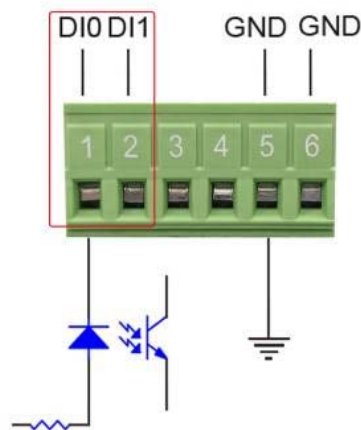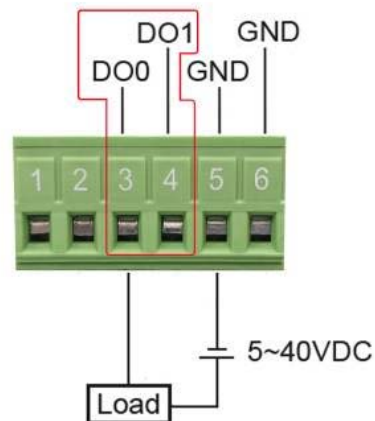
3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -40 ~75 degrees C

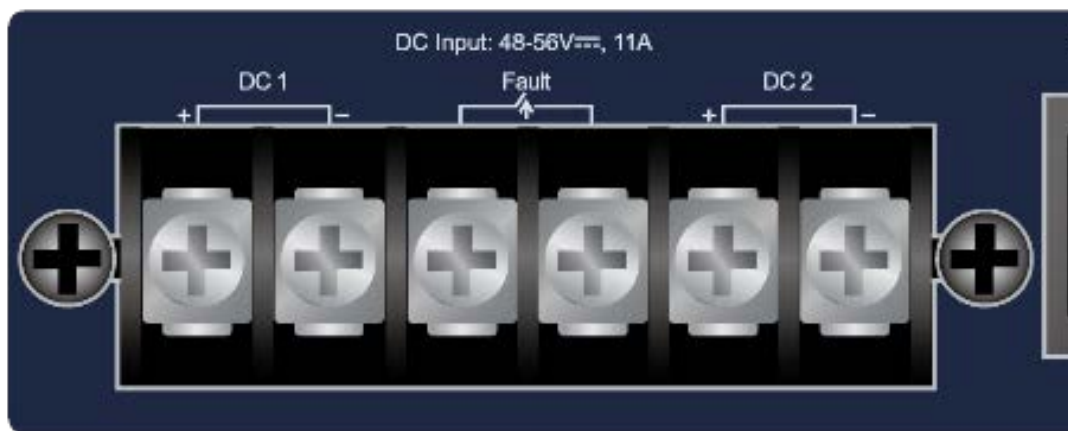**Relative Humidity**: 5% ~ 95% (non-condensing)

Storage:

Temperature: -40 ~80 degrees C

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

3.5 ELECTRICAL SPECIFICATIONS

Power Requirements: 48~56V DC, redundant power with reverse polarity protection

Power Consumption:

■ **IGS-6325-24P4X**

Condition / Power Input	System ON	Ethernet Full Loading	Ethernet + PoE (440W) Full Loading
DC 48V	24W	40W	522W
DC 52V	26W	42W	524W
DC 56V	30W	49W	528W

■ **IGS-6325-24P4S**

Condition / Power Input	System on without any devices attached	Ethernet Full Loading	Ethernet + PoE (440W) Full Loading
DC 48V	23W	35W	520W
DC 52V	25W	37W	522W
DC 56V	29W	42W	524W

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 RELIABILITY

MTBF > 100,000hrs @ 25 degrees C

3.8 BASIC PACKAGING

- The Industrial Managed Switch x 1
- Quick Installation Guide   x 1
- RJ45-to-DB9 RS232 Cable   x 1
- 19" Rack Mounting Kit   x 1
- RJ45 Dust Cap   x 25
- SFP Dust Cap   x 4 (for IGS-6325-24P4S)
                                  x 8 (for IGS-6325-24P4X)

3.9 PACKING INFORMATION

Box Dimensions (W x D x H)	567 x 392 x 93 mm
Weight	4.8 kg
Carton Dimensions (W x D x H)	585 x 206 x 412 mm
Carton Weight	10.6 kg
Quantity	2pcs in one carton