

Industrial 16/24-Port 10/100/1000Mbps + 4-Port 100/1000X SFP Managed Gigabit Switch

IGS-5225-16T4S

IGSW-24040T



Outlines

- ◆ Product Positioning
- ◆ Product Overview
- ◆ Product Benefits
- ◆ Product Features
- ◆ Applications
- ◆ Appendix



Product Positioning

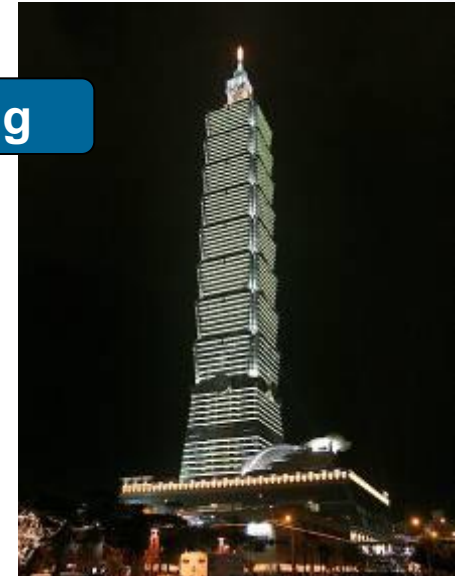


Modes of Application Overview

Factory



Building



Transportation



Product Overview

◆ Types of PLANET Industrial Ethernet Products



19-inch
Rack-mounted



DIN-rail type
DIN-rail/Wall-mounted



Water-proof
DIN-rail/
Wall-mounted



Flat-type
Wall-mounted

Product Overview

- ◆ **Hardened Environments, Wide Operating Temperature for AC and DC Input.**



Product Overview

- ◆ **Fanless and noiseless Design** collocating with the effective cooler



DI/DO *Quiet, Stable and High-performance Industrial Network Solution*

DC+AC Redundant

ERPS Ring

Fault Alarm

75°C / -40°C

PTP

19-inch Rack-mount Industrial/Metro Managed Switch

Industrial Type

IGS-5225-24P4S

- 24 1G RJ45 PoE+
- 4 1G Fiber (combo)
- 40~75 degrees C
- 2 DC
- 2 DI/DO
- Fanless



IGSW-24040T(V3)

- 24 1G RJ45
- 4 1G Fiber (combo)
- 40~75 degrees C
- AC + 2 DC
- 2 DI/DO
- Fanless



IGS-5225-16T4S

- 16 1G RJ45
- 4 1G Fiber
- 40~75 degrees C
- AC + 2 DC
- 2 DI/DO
- Fanless



IGS-5225-20T4C2X

- 24 1G RJ45
- 4 1G RJ45/Fiber Combo
- 2 10G Fiber
- 40~75 degrees C
- AC + 2 DC
- 2 DI/DO
- Fanless



Fan Less

Front Access



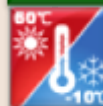
Metro Type

MGSW-24160F

- 16 1G Fiber
- 8 1G RJ45
- 0~60 degrees C
- AC + 2 DC
- 2 DI/DO



Front Access



MGSW-28240F




- 20 1G Fiber
- 4 1G RJ45/Fiber Combo
- 4 10G Fiber
- 10~60 degrees C
- AC + 2 DC
- 2 DI/DO



Without 10G

With 10G

Quick Table of Selected Models

Functions	Layer 2+		
Model	IGS-5225-16T4S	IGSW-24040T(v3)	IGS-5225-20T4C2X
Photo			
10/100/1000T RJ45	16	24	24
100/1000X SFP	4	4 (shared)	4 (shared)
1G/10G SFP+	-	-	2
DI/DO	2/2	2/2	2/2
Power Input	1 AC + 2 DC	1 AC + 2 DC	1 AC + 2 DC
Layer 3 Routing	IPv4, IPv6 static routing	IPv4, IPv6 static routing	IPv4, IPv6 Hardware accelerator
G.8032 ERPS	■	■	■

Product Overview



Product Overview

◆ Front Access Designs

IGS-5225-16T4S Front Panel

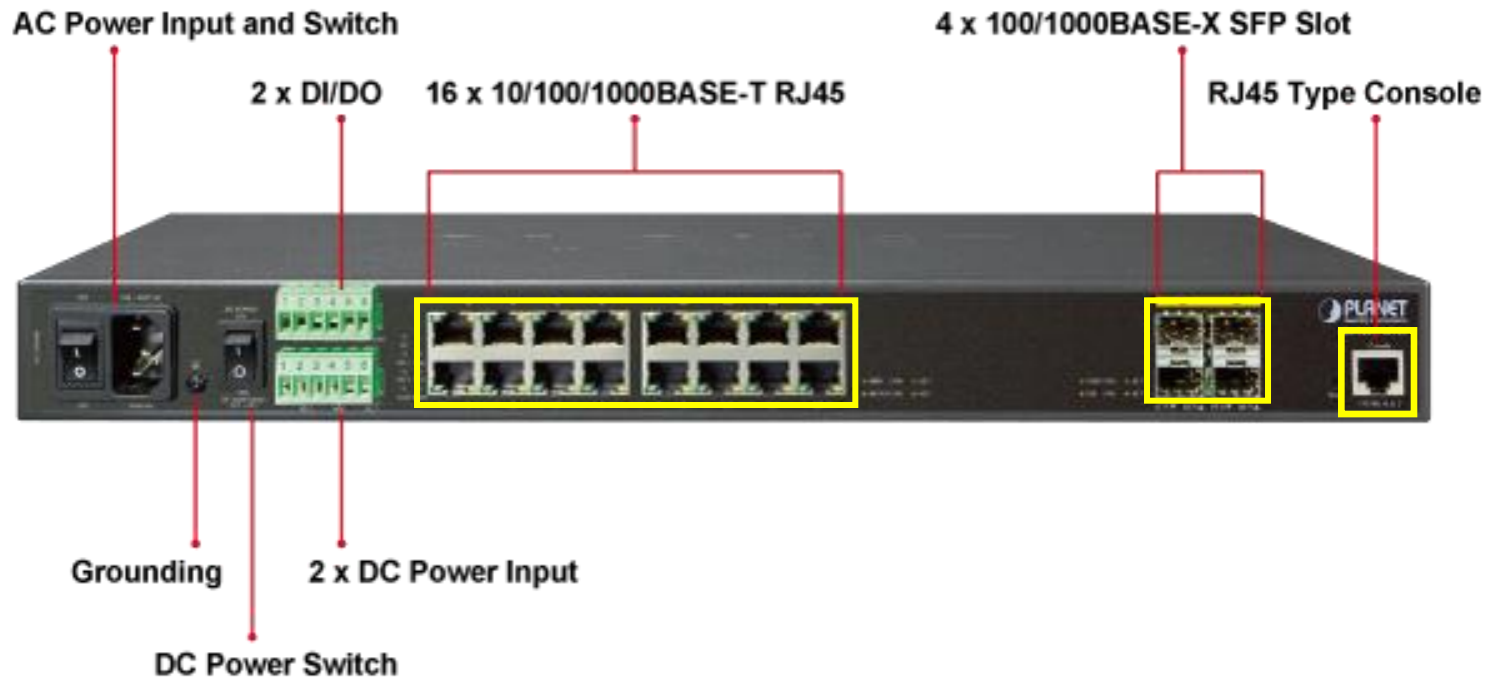


IGSW-24040T(v3) Front Panel



Product Overview – IGS-5225-16T4S

- ✓ **16 10/100/1000BASE-T RJ45 Ports**
 - Auto-MDI/MDI-X, auto negotiation
- ✓ **4 100/1000X SFP Ports**
 - Compatible with 100BASE-FX SFP transceiver
- ✓ **RJ45 type Console Port**



Product Overview – IGS-5225-16T4S

✓ **AC power input**

- 100~240V AC, 50/60Hz
- -10~60 degrees C

✓ **2 DC power input**

- 36~60 V DC
- -40~75 degrees C

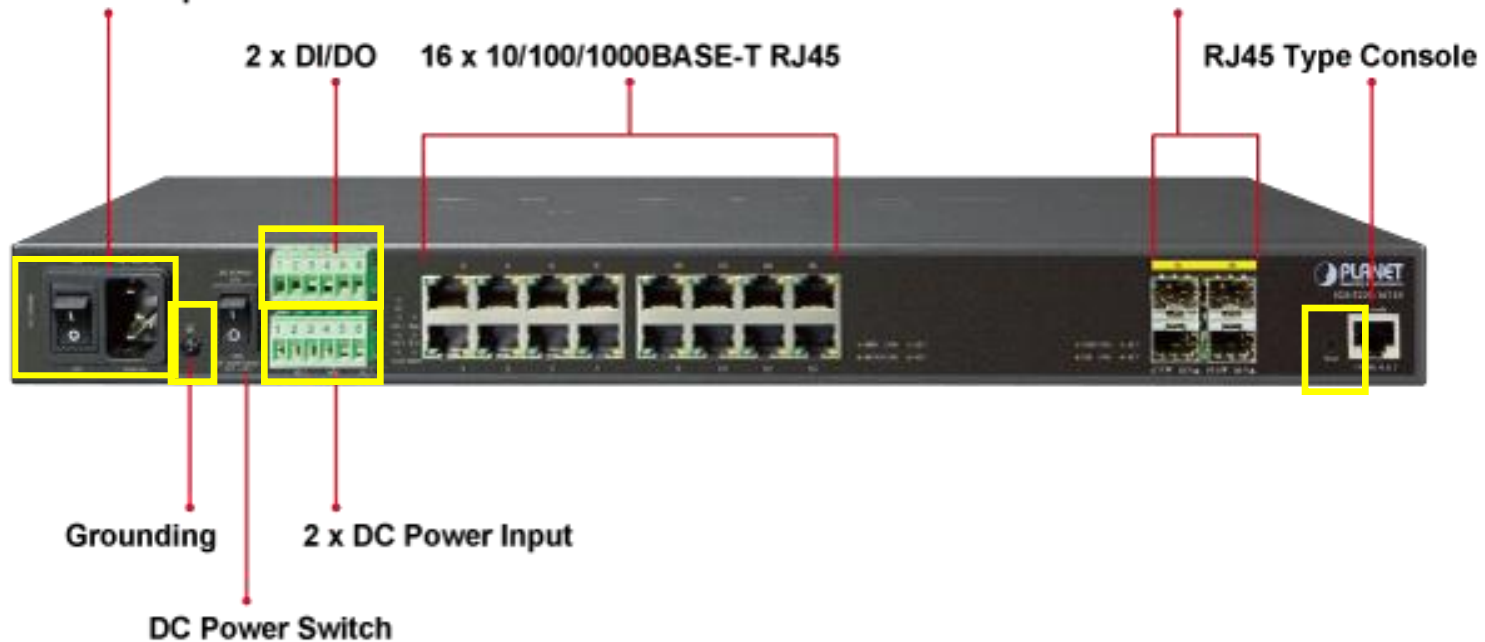
✓ **2 Digital input and digital output**

✓ **Grounding screw**

✓ **Reset button**

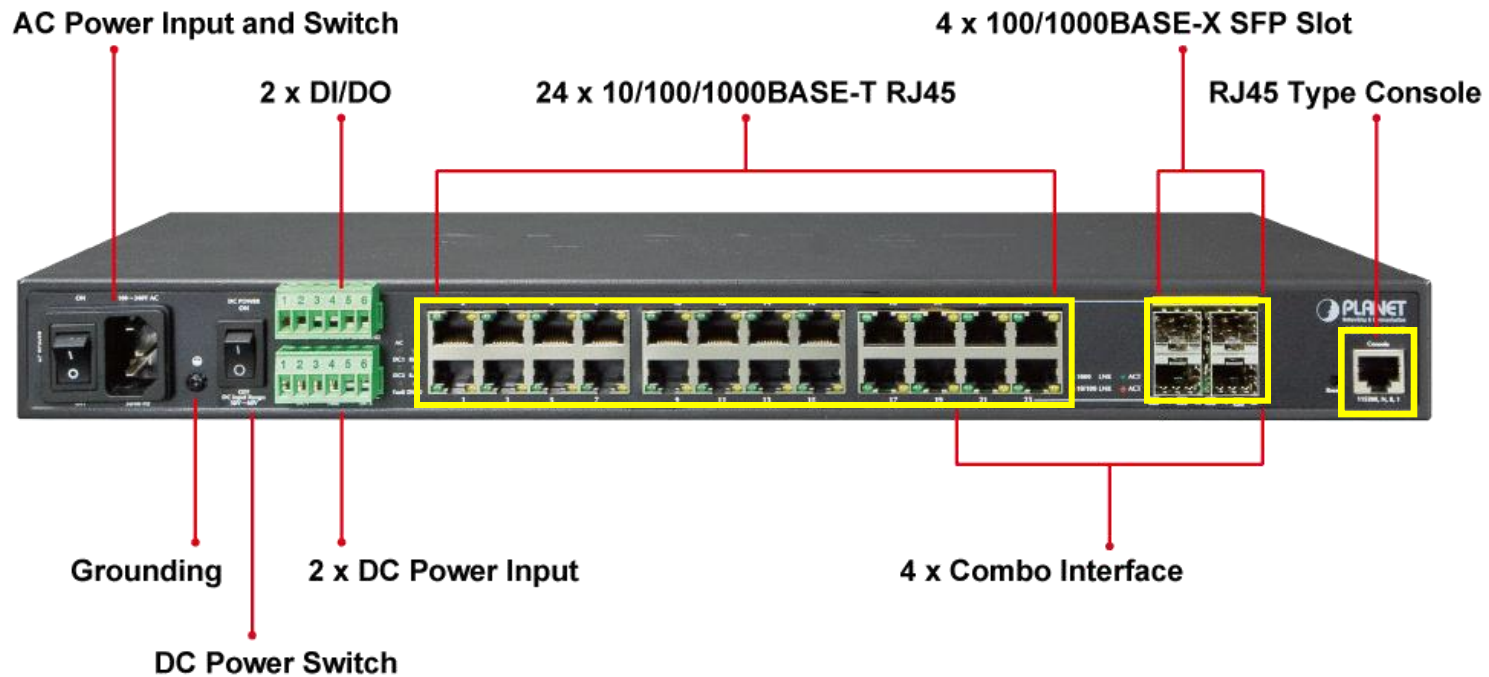
AC Power Input and Switch

4 x 100/1000BASE-X SFP Slot



Product Overview – IGSW-24040T(v3)

- ✓ **24 10/100/1000BASE-T RJ45 Ports**
 - Auto-MDI/MDI-X, auto negotiation
- ✓ **4 shared 100/1000X SFP Ports**
 - Compatible with 100BASE-FX SFP transceiver
- ✓ **RJ45 type Console Port**



Product Overview – IGSW-24040T(v3)

✓ **AC power input**

- 100~240V AC, 50/60Hz
- -10~60 degrees C

✓ **2 DC power input**

- 36~60 V DC
- -40~75 degrees C

✓ **2 Digital input and digital output**

✓ **Grounding screw**

✓ **Reset button**

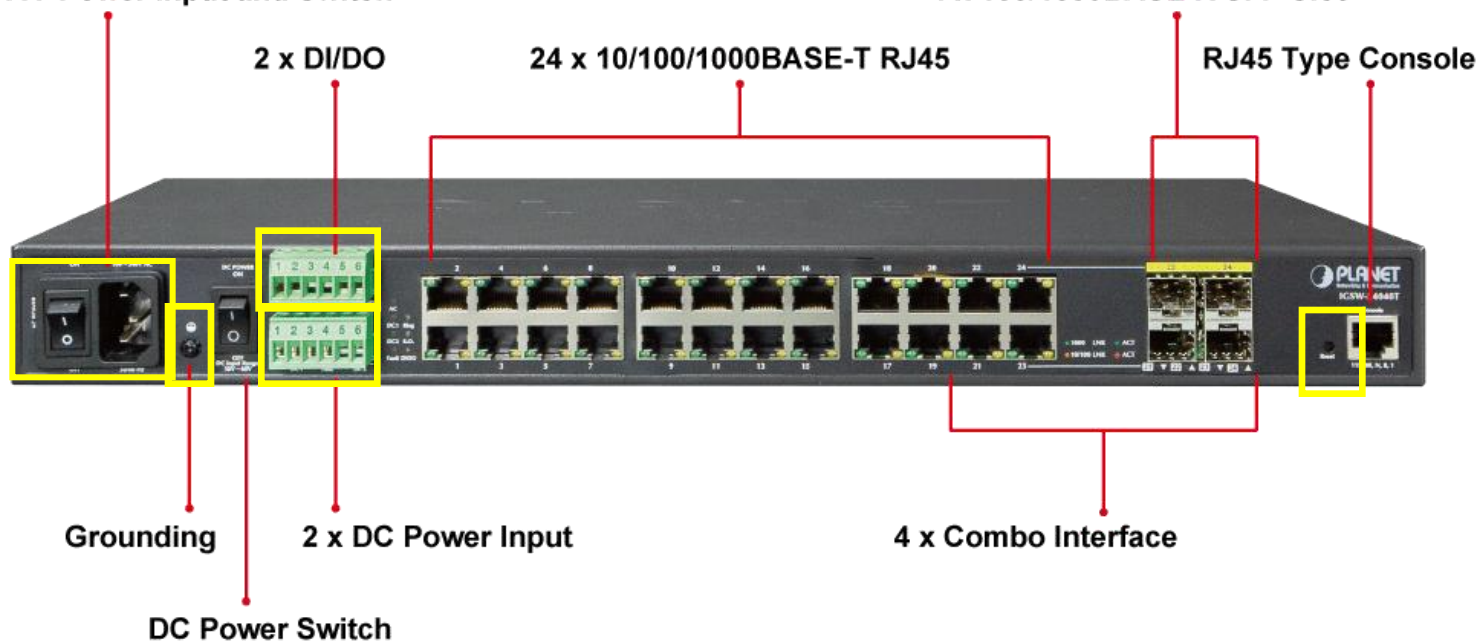
AC Power Input and Switch

2 x DI/DO

24 x 10/100/1000BASE-T RJ45

4 x 100/1000BASE-X SFP Slot

RJ45 Type Console



Grounding

2 x DC Power Input

DC Power Switch

4 x Combo Interface

IGS-5225-16T4S and IGSW-24040T(v3)

- ✓ Fanless design
- ✓ IP30 metal case protection



Diagram – IGS-5225-16T4S

- ✓ Fanless design
- ✓ IP30 metal case protection

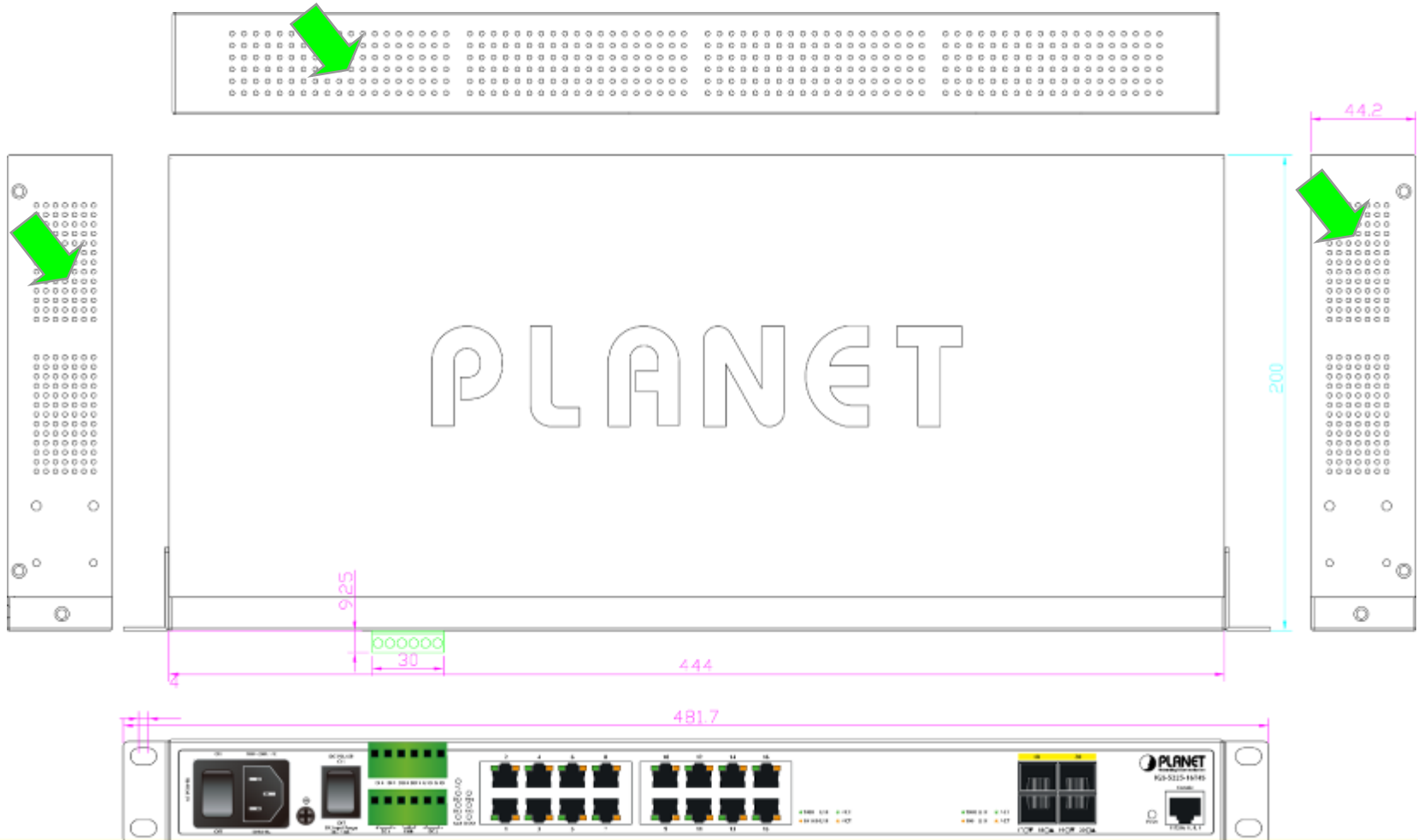
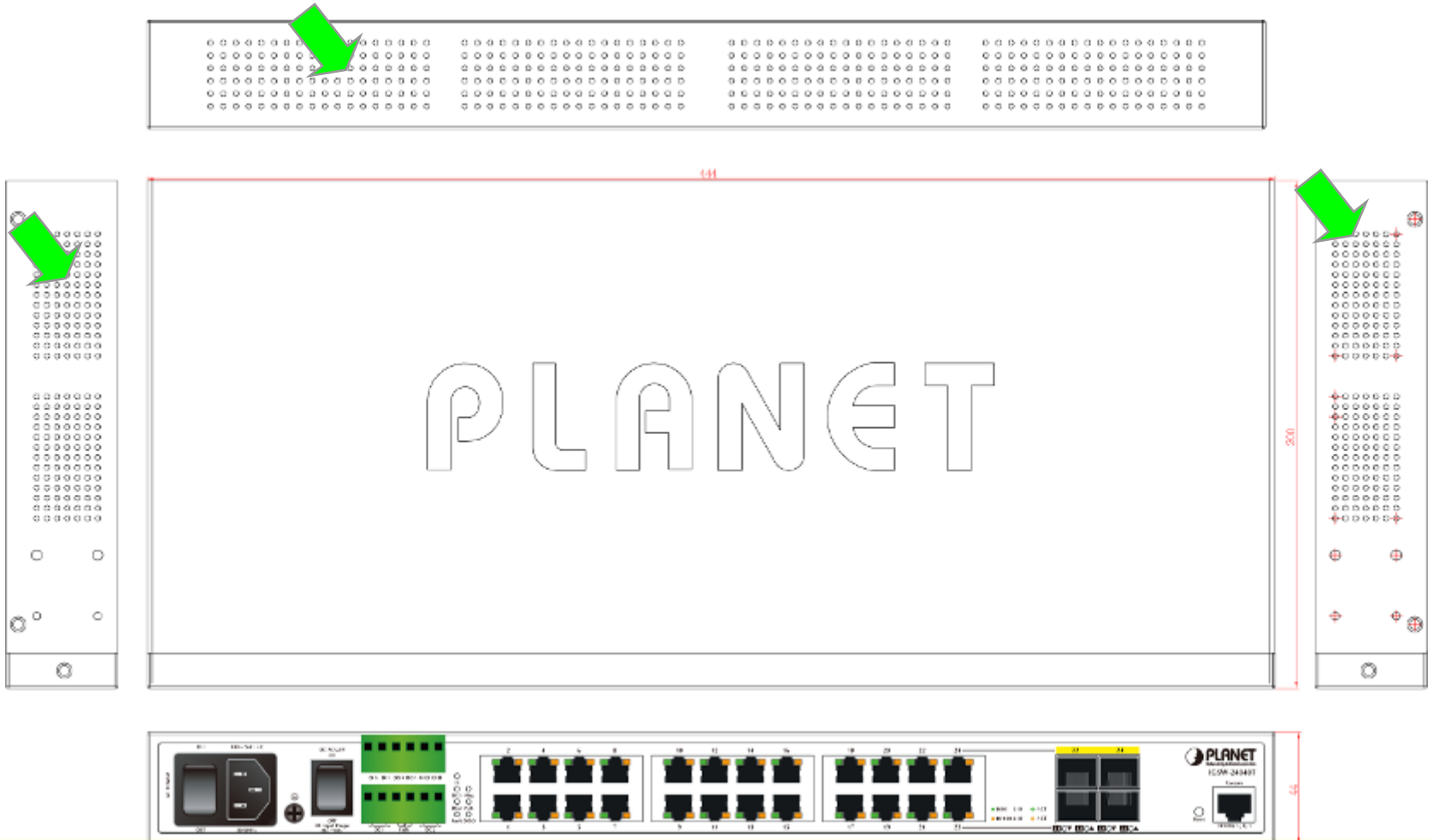
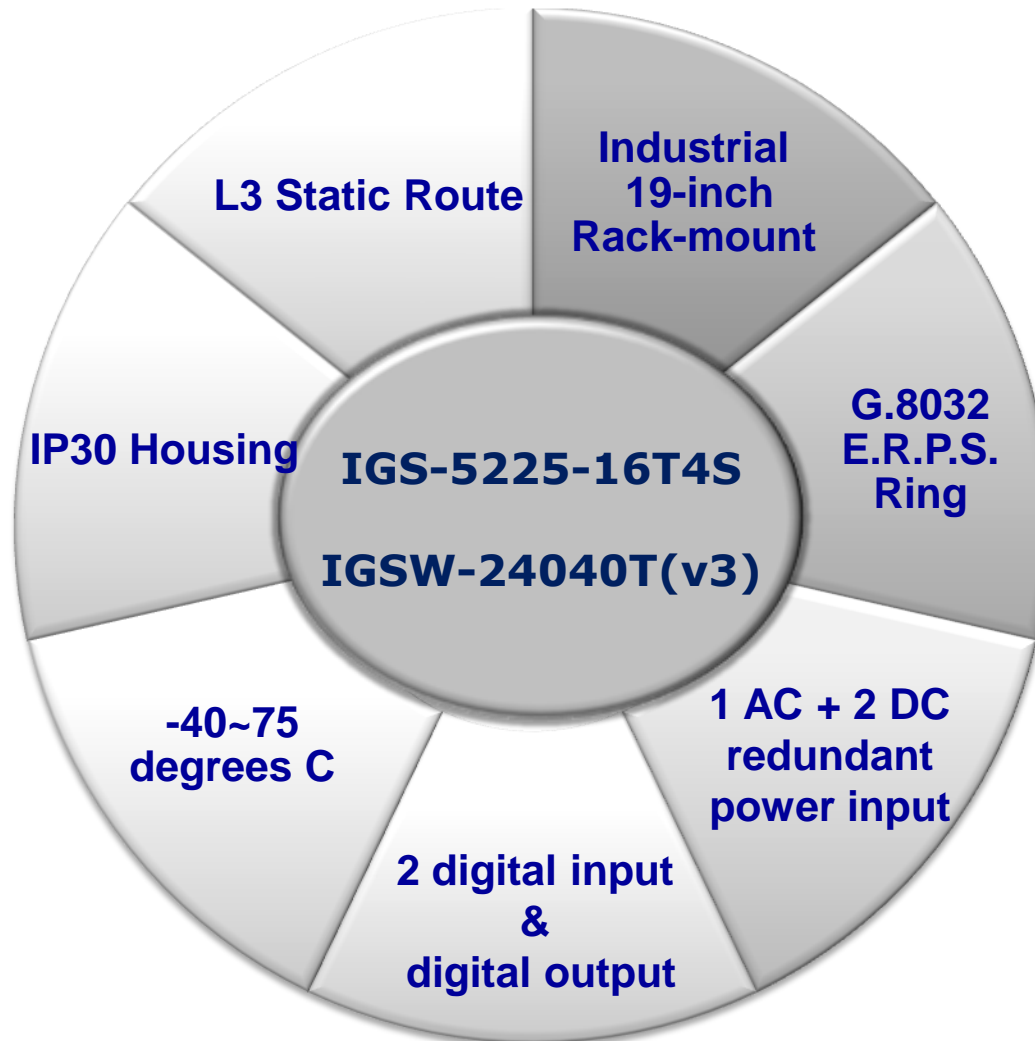


Diagram – IGSW-24040T(v3)

- ✓ Fanless design
- ✓ IP30 metal case protection



Key Feature



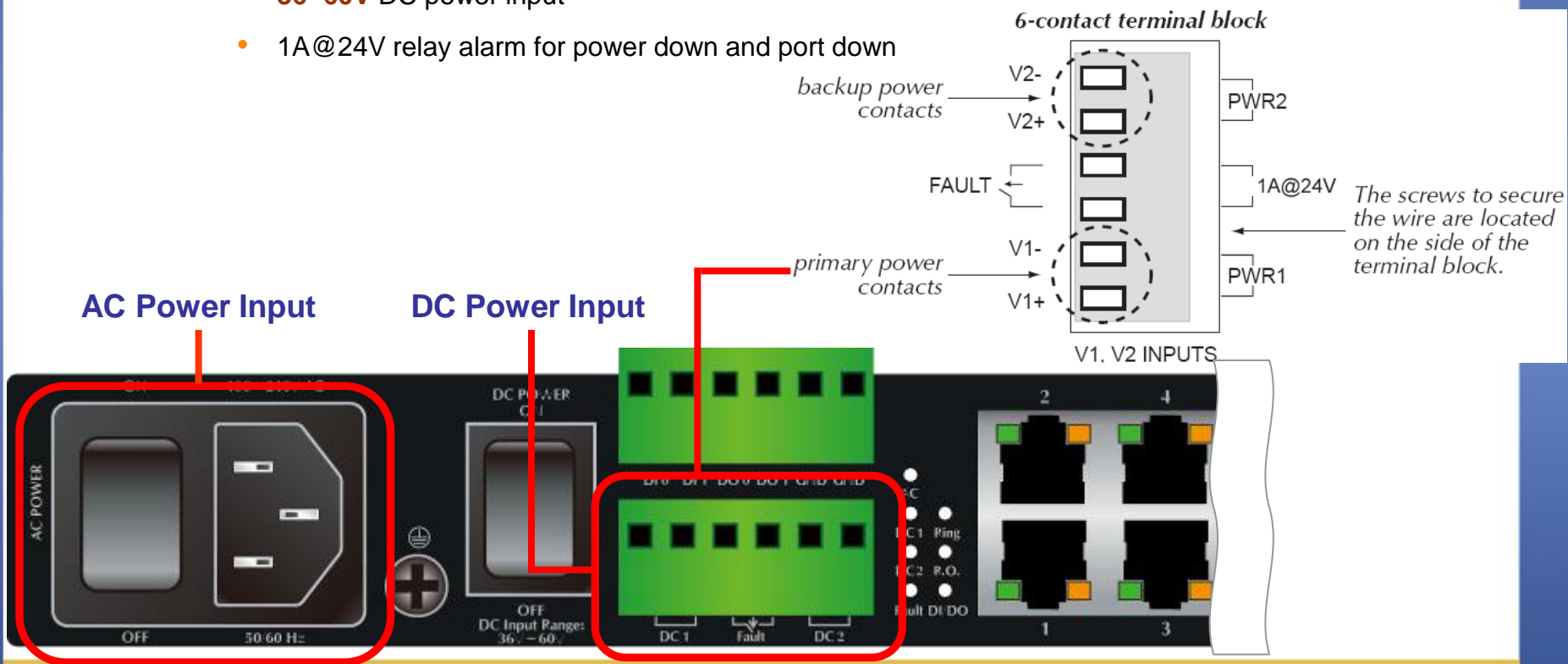
Product Benefits



Power Input

◆ Wide-ranging Redundant Power Designs

- ✓ AC power input and power switch
 - 100~240V AC; 50/60Hz
- ✓ DC power input and power switch
 - **36~60V** DC power input
 - 1A@24V relay alarm for power down and port down

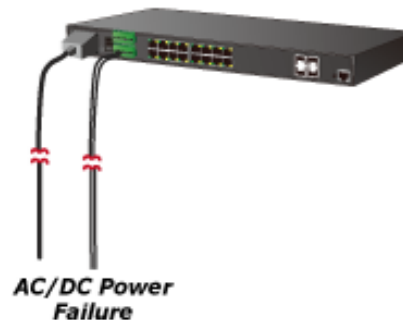


Fault Alarm

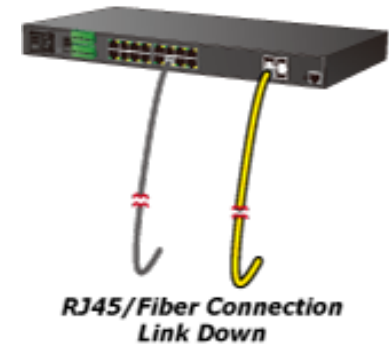
- The IGS-5225-16T4S supports a **Fault Alarm** feature which can alert the users when there is something wrong with the switches. With this ideal feature, the users would not have to waste time to find where the problem is. It will help to save time and human resource.



Fault Alarm Output	
Enable	<input checked="" type="checkbox"/> Enable
Record	<input checked="" type="checkbox"/> System Log <input checked="" type="checkbox"/> SNMP Trap
Action	<input checked="" type="checkbox"/> Port Fail <input type="checkbox"/> Power Fail
Power Alarm	<input type="checkbox"/> DC 1 <input type="checkbox"/> DC 2 <input type="checkbox"/> AC Power
Port Alarm	1 2 3 4 5 6 7 8
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
	9 10 11 12 13 14 15 16
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
	17 18 19 20
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>



OR



Digital Input & Digital Output

Digital Input Configuration

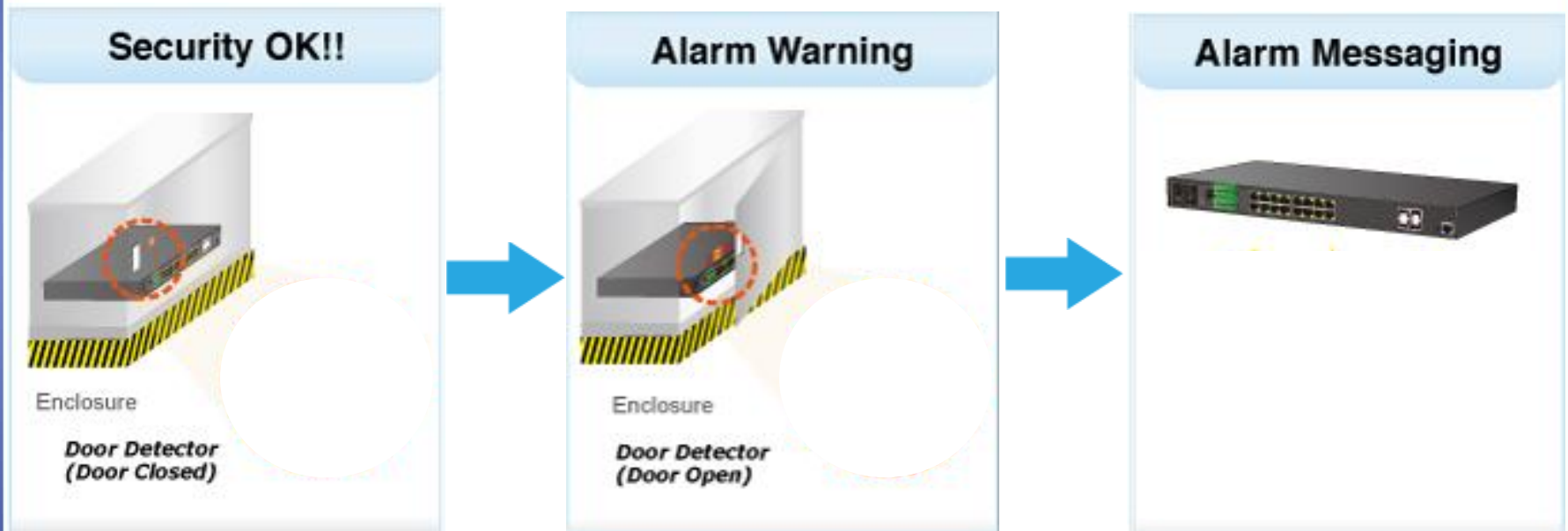
Digital Input 0		Digital Input 1	
Enable	<input checked="" type="checkbox"/> Enable	Enable	<input checked="" type="checkbox"/> Enable
Condition	High to Low ▾	Condition	High to Low ▾
Event Description	Customize DIO Message.	Event Description	Customize DI1 Message.
Event	<input checked="" type="checkbox"/> System Log <input checked="" type="checkbox"/> SNMP Trap	Event	<input checked="" type="checkbox"/> System Log <input checked="" type="checkbox"/> SNMP Trap

Digital Output 0		Digital Output 1	
Enable	<input checked="" type="checkbox"/> Enable	Enable	<input checked="" type="checkbox"/> Enable
Event	<input checked="" type="checkbox"/> Power Fail <input checked="" type="checkbox"/> Port Fail <input checked="" type="checkbox"/> DI 0 <input checked="" type="checkbox"/> DI 1	Event	<input checked="" type="checkbox"/> Power Fail <input checked="" type="checkbox"/> Port Fail <input checked="" type="checkbox"/> DI 0 <input checked="" type="checkbox"/> DI 1
Condition	High to Low ▾	Condition	High to Low ▾
Power Alarm	<input type="checkbox"/> DC 1 <input type="checkbox"/> DC 2 <input type="checkbox"/> AC Power	Power Alarm	<input type="checkbox"/> DC 1 <input type="checkbox"/> DC 2 <input type="checkbox"/> AC Power
Port Fail Alarm	1 2 3 4 5 6 7 8	Port Fail Alarm	1 2 3 4 5 6 7 8
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	9 10 11 12 13 14 15 16		9 10 11 12 13 14 15 16
	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	17 18 19 20		17 18 19 20
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

Digital Output Configuration

Digital Input

- ◆ Digital Input offers detection of device status via sensing login signal from high to low or from low to high, and then system is going to log message to local, **remote log server**, or alarm message via **SNMP** trap or **SMTP** with customized error message.



Digital Output

- ◆ Digital Output offers detection of IGS-5225-16T4S **power failure** or **port failure**, and then output logic signal to trigger the performance of the external device.

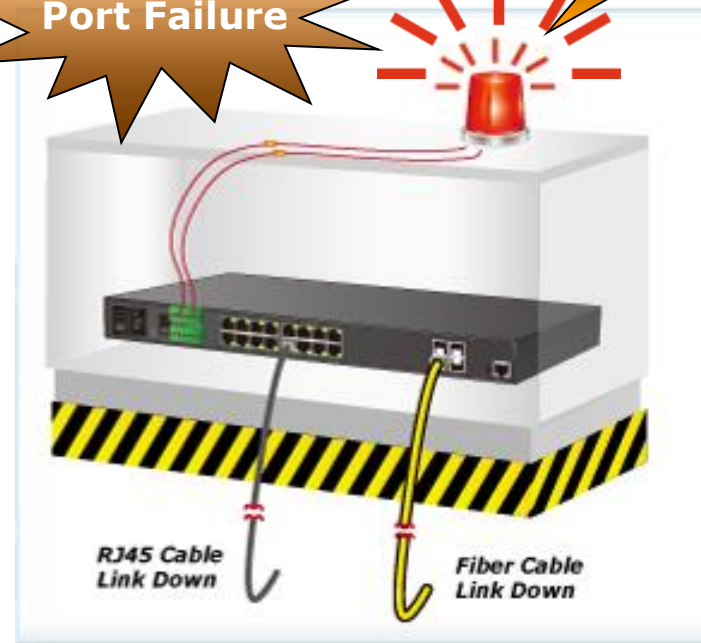
Power Failure

Trigger Alarm



Port Failure

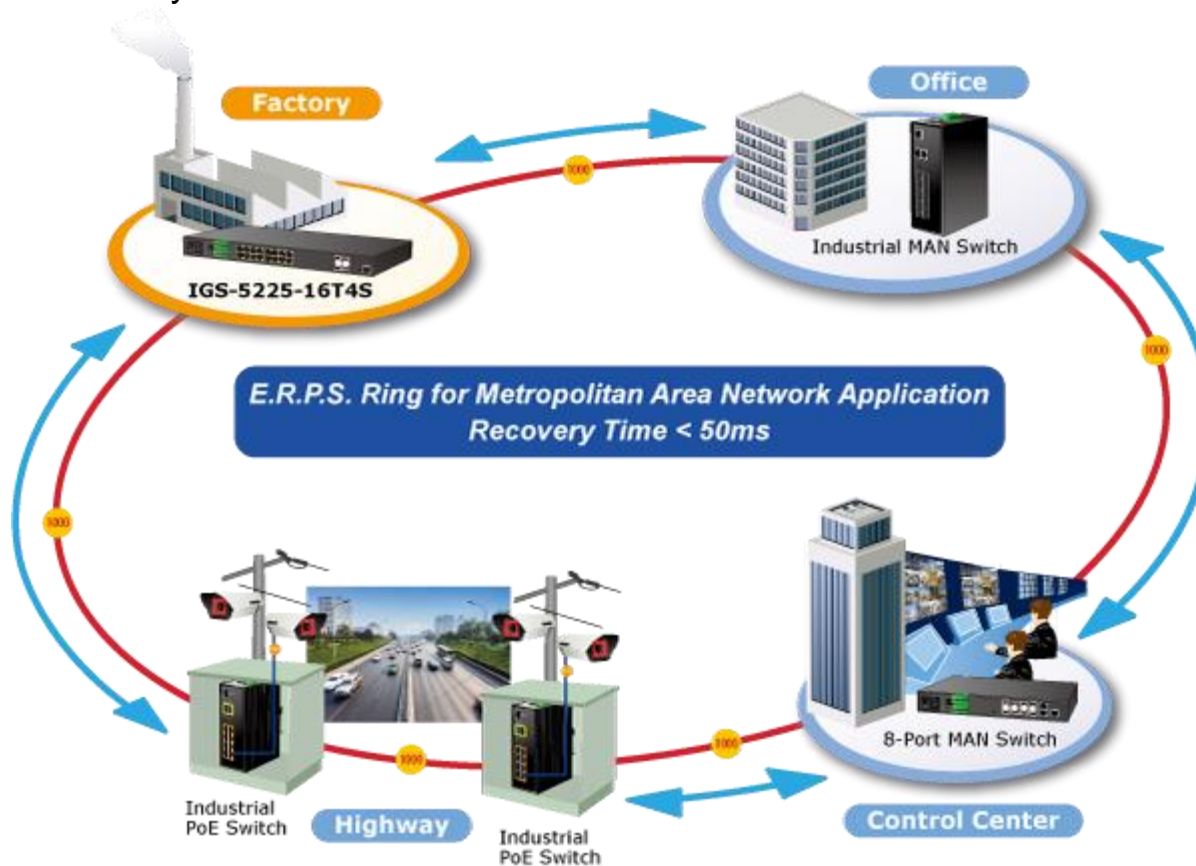
Trigger Alarm



ITU-T G.8032 E.R.P.S.

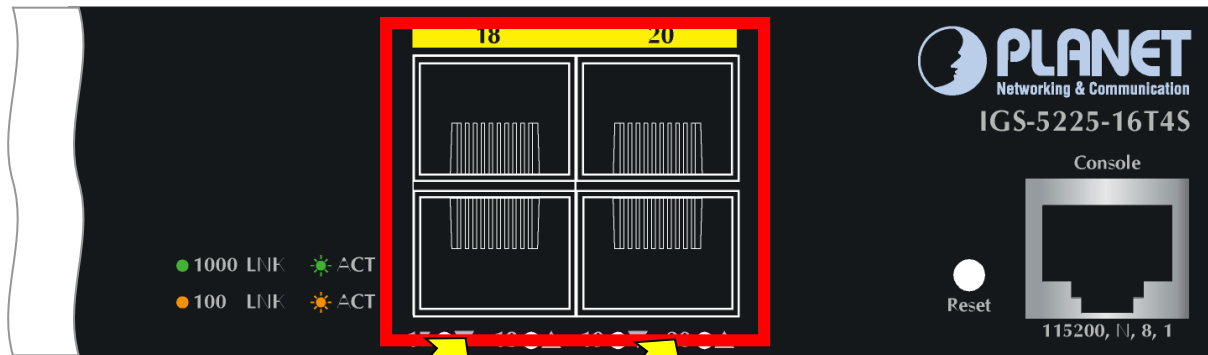
◆ Redundant Ring, Fast Recovery for Critical Network Applications

- ✓ Complies with ITU-T G.8032 standard
- ✓ 50ms recovery time



Dual Speed Fiber

◆ Dual Speed for Each SFP Slot



MFB-Series



100BASE-FX/BX
SFP Transceiver

MGB-Series



1000BASE-SX/LX/BX
SFP Transceiver

Dual Speed SFP Slot

DDM

◆ Real-time SFP Status

- ✓ Optical output power
- ✓ Optical input power
- ✓ Temperature
- ✓ Voltage
- ✓ Current

Digital Diagnostic Monitor (DDM)



CLI Benefits

- ◆ **Console command is Cisco-like, which allows users to make it work more easily.**

```
IGS-5225-16T4S# show ip interface brief
Vlan Address          Method  Status
-----
 1 192.168.0.100/24   Manual  DOWN
IGS-5225-16T4S#
```



```
IGS-5225-16T4S# configure terminal
IGS-5225-16T4S(config)# interface vlan 1
IGS-5225-16T4S(config-if-vlan)# ip address 192.168.1.100 255.255.255.0
IGS-5225-16T4S(config-if-vlan)# █
```

```
IGS-5225-16T4S# copy running-config startup-config
Building configuration...
% Saving 2589 bytes to flash:startup-config
IGS-5225-16T4S# █
```


Product Feature – IEEE 1588

◆ 1588 Time Protocol for Industrial Computing Networks

The IGS-5225-16T4S is intended for Telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for **IEEE 1588** and synchronous Ethernet.

PTP Transparent Configuration

Now you can choose any port from Master Grand and any port to Slave.
Then the TC node will forward all PTP frames received on one port to the other and update the correction field in the PTP frames.

PTP Clock Configuration

		Port List																					
Delete	Clock Instance	Device Type	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
<input type="checkbox"/>	0	E2eTransp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Enable	VID	PCP
<input type="checkbox"/>	1	0



Add New PTP Clock Apply Reset



- Device type = ezeItransp
- 2 Step Flag = False (for single step mode)
- One way = False (for both sync and delay messages so frequency and phase can be calculated)
- Protocol = Ethernet (for PTP over layer 2)

Product Features



Product Features

◆ Hardware

- ✓ **16 x 10/100/1000BASE-T** RJ45 ports
- ✓ **4 x 100/1000X** SFP ports
- ✓ **40Gbps/non-blocking** switch fabric
- ✓ **100~240V AC** and **36V~60V DC** redundant power
- ✓ 2 digital input & digital output
- ✓ **IP30** metal case protection
- ✓ **-40 to 75 degrees C** operating temperature
- ✓ **9K** bytes jumbo frame
- ✓ **8K** MAC address entries
- ✓ 19 inch, 1U height

Management Features

◆ Full Management

- ✓ **IPv4/IPv6** dual stack
- ✓ **IPv6** IP address/NTP/DNS management
- ✓ Standard-based management
 - Web-based
 - Telnet
 - SNMP v1 and v2c
 - Console Command Line
- ✓ **Security Authentication** for Secure Management
 - **SSH**
 - **SSL**
 - **SNMPv3**
- ✓ SNMP RMON 1 and 2 for in/out network traffic and event monitoring
- ✓ SNMP trap for device Link Up/Link Down status monitoring
- ✓ **User Privilege** levels control

Layer 2 Features

◆ VLAN

- ✓ IEEE 802.1Q tagged VLAN
- ✓ Up to 255 VLAN groups, out of 4095 VLAN IDs
- ✓ Provider Bridging (VLAN **Q-in-Q**) support (IEEE 802.1ad)
- ✓ **Private VLAN** Edge (PVE)
- ✓ **MAC-based/Protocol-based VLAN/Voice VLAN**

◆ Spanning Tree Protocol

- ✓ STP, IEEE 802.1D (Spanning Tree Protocol)
- ✓ **RSTP**, IEEE 802.1w (Rapid Spanning Tree Protocol)
- ✓ **MSTP**, IEEE 802.1s (Multiple Spanning Tree Protocol)
- ✓ **BPDU Guard** and **BPDU Filtering** enhance switch network reliability, manageability and security

◆ E.R.P.S (Ethernet Ring Protection Switching)

- ✓ Complies with **ITU-T G.8032** standard
- ✓ Recovery time < **50ms**

Layer 2 Features

◆ Quality of Service

- ✓ 8 priority queues on all switch ports
- ✓ Traffic Classification by:
 - 802.1p CoS
 - IP TOS/**DSCP**/Precedence of IPv4/IPv6 packets
 - **IP TCP/UDP** port number
 - Typical network applications
- ✓ **Ingress Shaper** and **Egress Rate Limit** per port bandwidth control
- ✓ **Strict Priority** and **Weighted Round Robin (WRR)** CoS policies
- ✓ Traffic-policing policies on the switch port
- ✓ **DSCP Remarking**

Layer 2 Features

◆ Multicast

- ✓ Supports IGMP Snooping v1, v2 and **v3**
- ✓ Supports MLD Snooping v1 and **v2**
- ✓ Querier mode support
- ✓ IGMP Snooping filtering
- ✓ MLD Snooping filtering
- ✓ MVR (Multicast VLAN Registration)

◆ Supports Link Aggregation

- ✓ IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- ✓ Cisco ether-channel (static trunk)
- ✓ 10 trunk groups, up to 8 ports per trunk group
- ✓ Up to 16Gbps bandwidth (full duplex mode)

Security Features



◆ Security

- ✓ **Network Access Authentication Mechanism**
 - IEEE 802.1x Port-based authentication for user identity control
 - **MAC-based** authentication for easy deployment
 - RADIUS/**TACACS+**/Local profile
- ✓ **Access Control List (ACL)**
 - IP-based filtering to permit or deny traffic
 - MAC-based filtering to permit or deny traffic
- ✓ Management **Source MAC/IP address binding** to prevent unauthorized intruder
- ✓ **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

Management Tool Features

◆ Management Tools

- ✓ Four RMON groups (history, statistics, alarms and events)
- ✓ IPv6 IP Address/NTP/DNS management
- ✓ Built-in Trivial File Transfer Protocol (TFTP) client
- ✓ Firmware upload/download via HTTP/TFTP
- ✓ DHCP Relay
- ✓ DHCP Option82
- ✓ User Privilege levels control
- ✓ NTP (Network Time Protocol)
- ✓ Link Layer Discovery Protocol (LLDP)
- ✓ **SFP-DDM** (Digital Diagnostic Monitor)
- ✓ **Cable Diagnostic** technology provides the mechanism to detect and report potential cabling issues
- ✓ PLANET **Smart Discovery** Utility for deployment management

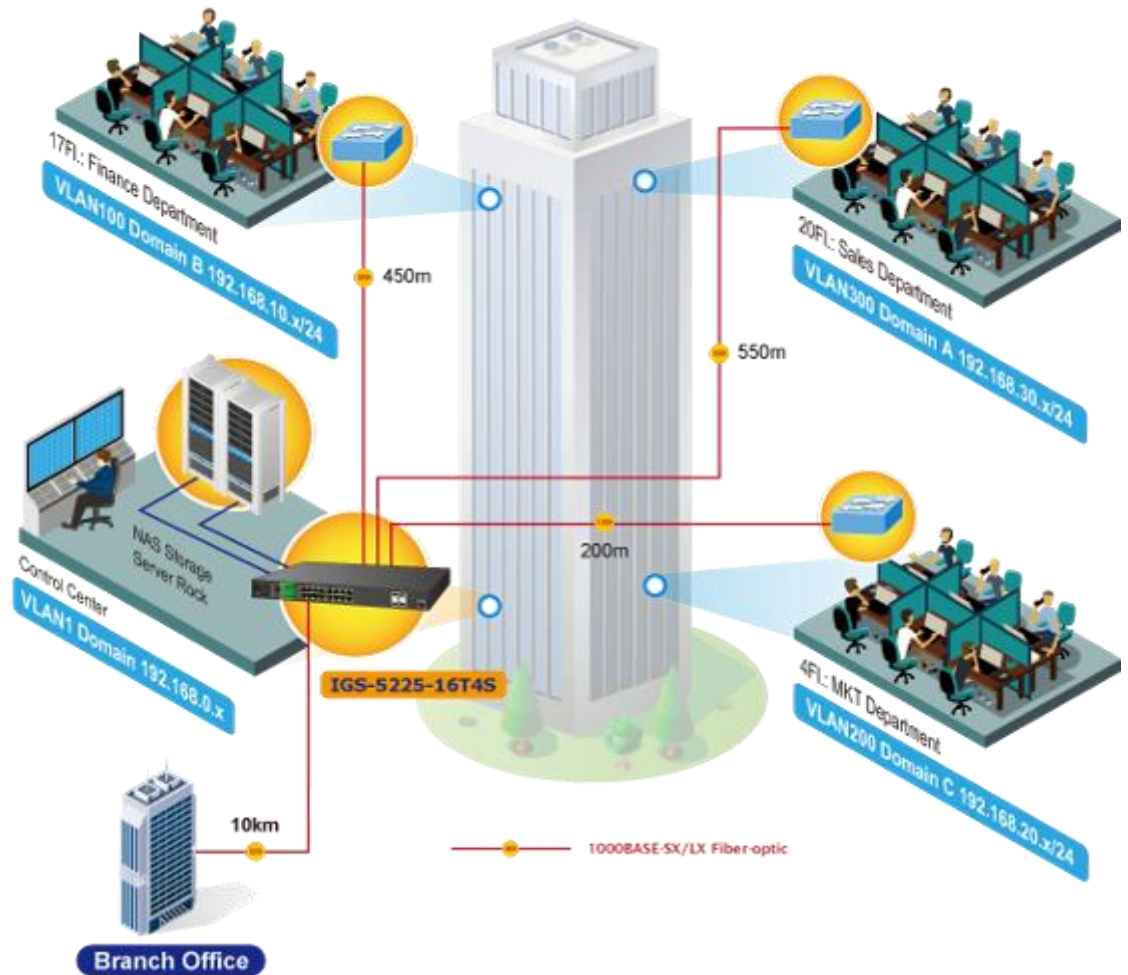
Applications



Applications

✓ Layer 3 VLAN Routing Application

VLAN Routing Applications






Comparison






Comparison Table






Brand	PLANET	PLANET	PLANET
Model Name	IGS-5225-16T4S	IGSW-24040T(V3)	IGS-5225-20T4C2X
Product Outlook			
Hardware Specifications			
10G SFP+ Ports	NA	NA	2
10/100/1000BASE-T Ports	24	24	24
1000SX/LX SFP Slots	4	4 combo	4 combo
100FX SFP Slots	Compatible	Compatible	Compatible
Enclosure	IP30 metal	IP30 metal	IP30 metal
Dimensions (W x D x H)	440 x 200 x 44.5 mm	440 x 200 x 44.5 mm	440 x 200 x 44.5 mm
Weight	2788g	2788g	2788g
Power Requirements	dual 36~60V DC 100~240V AC Redundant power input	dual 36~60V DC 100~240V AC Redundant power input	dual 36~72V DC 100~240V AC Redundant power input
Installation	Rack-mount kit	Rack-mount kit	Rack-mount kit
ESD/EFT Protection	6KV DC/6KV DC	6KV DC/6KV DC	6KV DC/6KV DC
Operating Temperature	-40~75 degrees C	-40~75 degrees C	-40~75 degrees C

Comparison Table






Brand	PLANET	PLANET	PLANET
Model Name	IGS-5225-16T4S	IGSW-24040T(V3)	IGS-5225-20T4C2X
Product Outlook			
Switch Specifications			
Switch Fabric	40Gbps	48Gbps	88Gbps
Throughput (Packet per second)	29.76Mpps@64Bytes	35.71Mpps@64Bytes	65.48Mpps@64Bytes
Jumbo Frame	9Kbytes	9Kbytes	10Kbytes
IEEE 1588(Port1~12)	■	■	-
MAC Table Size	8K	8K	16K
Layer 3 Features			
IP Interfaces	Max. 128 VLAN interfaces	Max. 128 VLAN interfaces	Max. 128 VLAN interfaces
Routing Table	Max. 32 routing entries	Max. 32 routing entries	Max. 32 routing entries
Routing Protocols	IPv4 software static routing IPv6 software static routing	IPv4 software static routing IPv6 software static routing	IPv4 hardware static routing IPv6 hardware static routing

Comparison Table

Brand		PLANET	PLANET	PLANET
Model Name		IGS-5225-16T4S	IGSW-24040T(V3)	IGS-5225-20T4C2X
Product Outlook				
Layer 2 Features				
Storm Control		Multicast/Unknown-Unicast/Broadcast	Multicast/Unknown-Unicast/Broadcast	Multicast/Unknown-Unicast/Broadcast
VLAN	802.1Q	■/255	■/255	■/255
	Q-in-Q	■	■	■
	Private VLAN	■	■	■
	Portocol-based	■	■	■
	MAC-based	■	■	■
	Voice VLAN	■	■	■
Ring		Standard Ring: ERPS Recovery time < 50ms	Standard Ring: ERPS Recovery time < 50ms	Standard Ring: ERPS Recovery time < 50ms
Spanning Tree		802.1D/1w/1s	802.1D/1w/1s	802.1D/1w/1s
STP BPDU Guard		■	■	■
BPDU Filtering		■	■	■
Loop Detection		■	■	■
Link Aggregation	Static	10 Trunks/8 Ports	12 Trunks/8 Ports	14 Trunks/8 Port
	LACP	10 Trunks/8 Ports	12 Trunks/8 Ports	14 Trunks/8 Ports


Comparison Table



Brand		PLANET	PLANET	PLANET
Model Name		IGS-5225-16T4S	IGSW-24040T(V3)	IGS-5225-20T4C2X
Product Outlook				
Quality of Service				
QoS	802.1p	■/8 queues	■/8 queues	■/8 queues
	TOS/DSCP	■/■	■/■	■/■
	Strict/WRR	■/■	■/■	■/■
Policy-base DiffServ		■	■	■
Security				
Authenticat ion	802.1X Port based	■	■	■
	MAC based	■	■	■
ACL		L2/L3/L4	L2/L3/L4	L2/L3/L4
Port Security		■	■	■
IP/MAC Security		■	■	■
SSH/SSL		■/■	■/■	■/■
RADIUS		■	■	■
TACACS+		■	■	■
DHCP Snooping		■	■	■
IP Source Guard		■	■	■
ARP Inspection		■	■	■
DoS Protection		■	■	■

Comparison Table



Brand		PLANET	PLANET	PLANET
Model Name		IGS-5225-16T4S	IGSW-24040T(V3)	IGS-5225-20T4C2X
Product Outlook				
Multicast				
IGMP Snooping		V1, V2, V3	V1, V2, V3	V1, V2, V3
IGMP Query mode		■	■	■
IGMP Filtering		■	■	■
MLD Snooping		■	■	■
MLD Filtering		■	■	■
Max. Multicast Groups		256	256	256
MVR		■	■	■
Management				
SNMP	V1, V2c	■	■	■
	V3	■	■	■
	Trap	■	■	■
	RMON	4 Groups	4 Groups	4 Groups
Log		System log/Remote Syslog	System log/Remote Syslog	System log/Remote Syslog
Management & Configuration		Web, Telnet, SNMP	Web, Telnet, SNMP	Web, Telnet, SNMP
IPv6 Management		■	■	■
DHCP Relay/DHCP Option		■/■	■/■	■/■
Cable Diagnostic		■	■	■

Appendix



Sales Target

◆ Target Markets

- ✓ IE Distributor
- ✓ Factory
- ✓ System Integrator
- ✓ Tender Market (Public Construction)
- ✓ Transportation, Hospital, Bank, etc.

◆ Recommended Solutions

- ✓ The following are Industrial Switches, but 10G SFP+ interface is not featured:
 - **IGS-12040MT, IGS-20040MT, IGS-6330-24T4S, IGSW-24040T(V1)**
- ✓ The following are Industrial Switches, but rack-mountable is not featured:
 - **IGS-12040MT, IGS-20040MT**

Appendix

◆ Available **Fast Ethernet** Fiber Optic SFP Modules:

✓ Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 degrees C
MFB-F120	100	LC	Single Mode	120km	1310nm	0 ~ 60 degrees C
MFB-TFX	100	LC	Multi Mode	2km	1310nm	-40 ~ 75 degrees C
MFB-TF20	100	LC	Single Mode	20km	13100nm	-40 ~ 75 degrees C

✓ Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MFB-TFA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MFB-TFA40	100	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MFB-TFB40	100	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 degrees C

Appendix

◆ Available **Gigabit Ethernet** Fiber Optic SFP Modules:

✓ Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX	1000	LC	Single Mode	10km	1310nm	0 ~ 60 degrees C
MGB-L30	1000	LC	Single Mode	30km	1310nm	0 ~ 60 degrees C
MGB-L50	1000	LC	Single Mode	50km	1550nm	0 ~ 60 degrees C
MGB-L70	1000	LC	Single Mode	70km	1550nm	0 ~ 60 degrees C
MGB-L120	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C
MGB-TSX	1000	LC	Multi Mode	550m	850nm	-40 ~ 75 degrees C
MGB-TLX	1000	LC	Single Mode	10km	1310nm	-40 ~ 75 degrees C
MGB-TL30	1000	LC	Single Mode	30km	1310nm	-40 ~ 75 degrees C
MGB-TL70	1000	LC	Single Mode	70km	1550nm	-40 ~ 75 degrees C

Appendix

◆ Available Gigabit Ethernet Fiber Optic SFP Modules:

✓ Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10 MGB-LB10	1000	WDM (LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
					1550nm	1310nm	
MGB-LA20 MGB-LB20	1000	WDM (LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
					1550nm	1310nm	
MGB-LA40 MGB-LB40	1000	WDM (LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
					1550nm	1310nm	
MGB-LA60 MGB-LB60	1000	WDM (LC)	Single Mode	60km	1310nm	1550nm	0 ~ 60 degrees C
					1550nm	1310nm	
MGB-TLA10 MGB-TLB10	1000	WDM (LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
					1550nm	1310nm	
MGB-TLA20 MGB-TLB20	1000	WDM (LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
					1550nm	1310nm	
MGB-TLA40 MGB-TLB40	1000	WDM (LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
					1550nm	1310nm	
MGB-TLA60 MGB-TLB60	1000	WDM (LC)	Single Mode	60km	1310nm	1550nm	-40 ~ 75 degrees C
					1550nm	1310nm	

Appendix

◆ Available DIN-rail Power Supplies:

- ✓ **PWR-120-48** 120W 48V DC Industrial DIN-rail Power Supply
- ✓ **PWR-240-48** 240W 48V DC Industrial DIN-rail Power Supply
- ✓ **PWR-480-48** 480W 48V DC Industrial DIN-rail Power Supply





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