Product Specifications

Industrial 8-Port 10/100TX + 2-Port Gigabit TP/SFP Combo Ethernet Switch (-40~75 degrees C)

IFGS-1022TF

Version 1.0

Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2021/3/2	Angeline	Initial Release

Author:	Angeline	**Editor:**	Angeline
Reviewed By:		**Approved By:**	Kent Kang

1. PRODUCT DESCRIPTION

Robust Features for Industrial Ethernet Networks with Plug and Play Configuration

Designed for heavy industrial demanding environments, PLANET's new IFGS-1022TF comes with high-density **8 10/100BASE-TX ports**, **2 additional Gigabit copper/SFP combo interfaces** and **redundant power system**. Though it includes robust features designed for industrial Ethernet networks, its Plug and Play makes configuration easy. With the IP30-rated rugged but compact-sized case, it can operate stably under the temperature range from **-40 to 75 degrees C** and can be installed in any difficult environment without space limitation.

Two Gigabit Uplink Ports

The IFGS-1022TF provides two extra Gigabit TP/SFP combo interfaces that enable the network administrators to increase their network bandwidth to relieve traffic congestion when the two 10/100/1000BASE-T uplink ports are used to connect devices, such as NVR, video streaming server, NAS and more. With the combo design, the administrators can easily connect network devices no matter how large the network expansion is.

Flexibility and Long-distance Extension Solution

Through the two shared **Gigabit-speed fiber SFP ports**, it can also connect with the **1000BASE-SX/LX SFP** (small form-factor pluggable) fiber transceiver to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters (multi-mode fiber) to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the industrial data centers and distributions.

Environmentally Hardened Design

With the IP30 aluminum industrial case, the IFGS-1022TF 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 without air conditioning. Being able to operate under the temperature range from -40 to 75 degrees C, the IFGS-1022TF can be placed in almost any difficult environment.

Robust Protection

The IFGS-1022TF provides contact discharge of ±6KV DC and air discharge of ±6KV DC for Ethernet ESD protection. It also supports ±6KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Energy Savings

The IFGS-1022TF, integrated with advanced green networking technologies and **IEEE 802.3az Energy Efficient Ethernet (EEE)** protocol based power savings, is able to provide power savings of up to 50% but maintain high performance efficiently.

■ Link Down power savings

The Link Down power savings goes beyond IEEE specifications to automatically lower power consumption for a given port when it is not linked. With the Link Down power saving technology, the IFGS-1022TF will automatically adjust power usage of the ports that are shut down or not connected to network device.

■ Intelligent power scale based on cable length

Intelligent power scale is an intelligent algorithm that actively determines the appropriate power level based on cable length. When the IFGS-1022TF is connected with Ethernet cable shorter than 20m, a device can obtain maximum power savings because the IFGS-1022TF would automatically detect the Ethernet cable length and diminish power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy savings.

2. PRODUCT FEATURES

► Physical Port

- 8 x 10/100BASE-TX Fast Ethernet RJ45 ports (Port-1 to Port-8)
- 2 x 10/100/1000BASE-T Gigabit Ethernet RJ45 ports (Port-9 and Port-10)
- 2 x 1000BASE-SX/LX/BX SFP interfaces (Port-9 and Port-10)

► Switching

- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX Ethernet standard
- Supports auto-negotiation and 10/100Mbps half/full duplex mode
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- Complies with IEEE 802.3az Energy Efficient Ethernet (EEE)
- IEEE 802.1p CoS
- Supports 16K MAC address
- Automatic address learning and address aging

► Industrial Case and Installation

- IP30 metal case
- DIN-rail and wall-mount designs
- 9 to 48V DC, redundant power with reverse polarity protection
- 24V AC power input
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

Switch MAC: IC Plus IP1810I

Gigabit Port PHY QCA AR8033-AL1B

3.2 FUNCTION SPECIFICATIONS

Product	**IFGS-1022TF**
Hardware Specifications	
Fast Ethernet Copper Ports	8 x 10/100BASE-TX RJ45 auto-MDI/MDI-X ports
Gigabit Ethernet Copper Ports	2 x 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (shared with Port-9 and Port-10)
SFP Ports	2 x 1000BASE-SX/LX/BX SFP interfaces (shared with Port-9 and Port-10)
Enclosure	IP30 metal case
Installation	DIN-rail kit and wall-mount kit
Connector	Removable 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
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24V DC
Dimensions (W x D x H)	50 x 87.8 x 135 mm
Weight	536g
Power Requirements	Dual 9~48V DC 24V AC
Power Consumption	Max. 7.2 watts/24.6BTU
ESD Protection	6KV DC
Switching Specifications	
Switch Architecture	Store-and-Forward
Switch Fabric	5.6Gbps (non-blocking)
Throughput (packet per second)	4.16Mpps@ 64 bytes
Address Table	16K entries, automatic source address learning and aging
Shared Data Buffer	4Mbits
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex
Jumbo Frame	16K bytes
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 IEEE 802.3ab Gigabit 1000T IEEE 802.3z Gigabit SX/LX IEEE 802.3x flow control and back pressure IEEE 802.1p Class of Service IEEE 802.3az Energy Efficient Ethernet (EEE)
Environment	
Operating Temperature	-40 ~ 75 degrees C
Storage Temperature	-40 ~ 85 degrees C
Humidity	5 ~ 95% (non-condensing)

3.3 PHYSICAL SPECIFICATIONS:

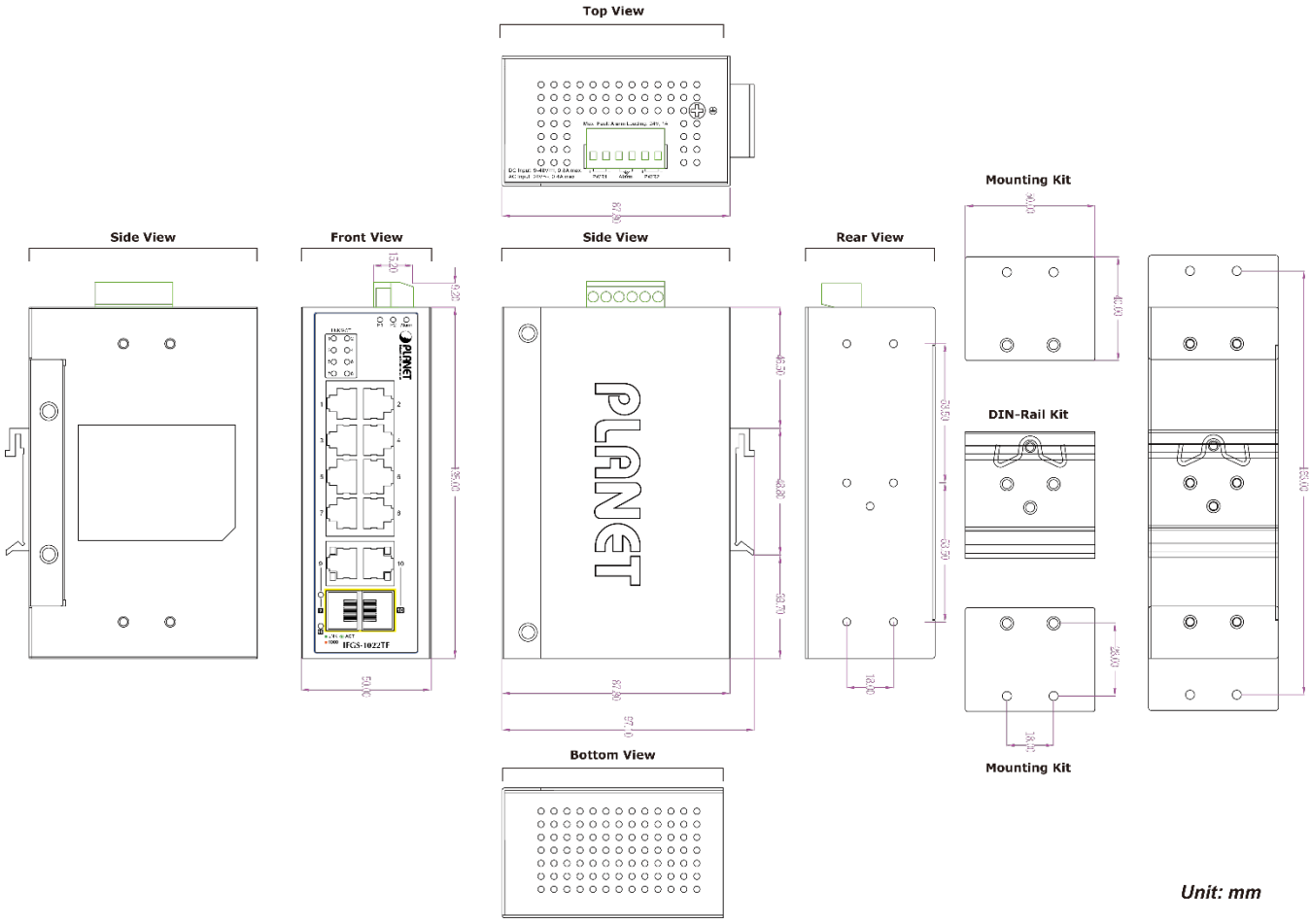
- **Dimensions (W x D x H)**

  50 x 87.8 x 135 mm

- **Weight:**

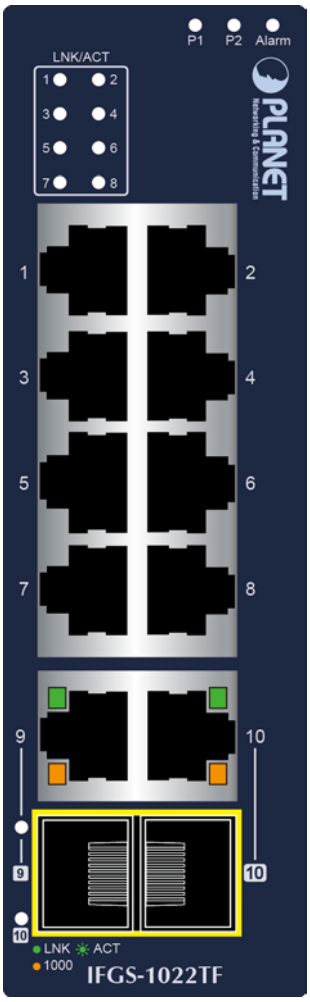
  536g

- **Diagram**


Top View
Side View
Front View
Side View
Rear View
Mounting Kit
DIN-Rail Kit
Mounting Kit
Bottom View
PLANET
IFGS-1022TF

Unit: mm

Front Panel:



LED Definition

System

LED	Color	Function
P1	**Green**	Lights to indicate power input 1 has power.
P2	**Green**	Lights to indicate power input 2 has power.
Alarm	**Red**	Lights: indicates either power 1 or power 2 has no power.

Per 10/100BASE-TX Port

LED	Color	Function
LNK/ACT	**Green**	Lights to indicate that the port is operating at **10/100Mbps**.
		Blinking to indicate that the switch is actively sending or receiving data over that port.
		Off to indicate that the port is linked down.

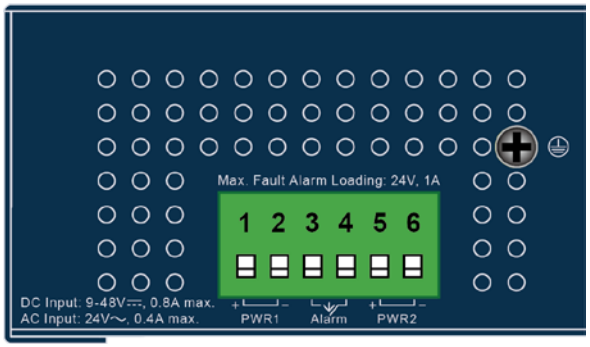
- **Per Gigabit RJ45 Combo Interface (Port-9~Port-10)**

LED	Color	Function
LNK/ACT	**Green**	Lights to indicate the link through that port is successfully established.
		Blinking to indicate that the switch is actively sending or receiving data over that port.
		Off to indicate that the port is linked down.
1000 Speed	**Amber**	Lights to indicate that the port is operating at **1000Mbps**.
		Off to indicate that the port is operating at **10/100Mbps**.

- **Per SFP Combo Interface (Port-9~Port-10)**

LED	Color	Function
1000 LNK/ACT	**Green**	Lights to indicate that the port is operating at **1000Mbps**.
		Blinking to indicate that the switch is actively sending or receiving data over that port.
		Off to indicate that the port is linked down.

■ **Top View**



3.4 ENVIRONMENTAL SPECIFICATIONS

Operating:

Temperature: -40°C ~ 75 degrees C

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

Storage:

Temperature: -40°C ~ 85 degrees C

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

3.5 ELECTRICAL SPECIFICATION

Voltage	No Loading	Full Loading (max.)	Current (A) (max.)
DC 9V	1.44W	4.68W	0.8A
DC 12V	1.56W	4.92W	0.6A
DC 24V	1.92W	5.28W	0.3A
DC 48V	3.36W	6.72W	0.15A
AC 24V	4.1W	7.2W	0.4A

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

Stability Testing:

- IEC60068-2-32 (Free Fall)
- IEC60068-2-27 (Shock)
- IEC60068-2-6 (Vibration)

3.7 RELIABILITY

MTBF > 100,000Hrs @ 25 degrees C

3.8 BASIC PACKAGING

☑ The IFGS-1022TF	x 1
☑ User's Manual	x 1
☑ DIN-rail Kit	x 1
☑ Wall Mounting Kit	x 1
☑ SFP/SFP+ Dust Cap	x 2
☑ RJ45 Dust Cap	x 10

3.9 PACKING INFORMATION

Box Dimensions (W x D x H)	202 x 140 x 94 mm
Box Weight	TBD
Carton Dimensions (W x D x H)	585 x 224 x 312 mm
Total Weight	TBD
Carton Unit:	12pcs in one carton