Industrial 4-/8-Port 10/100TX + 2-Port 1000X SFP Ring Ethernet Switch

Brand-new Solution for More Practicability and Efficiency

In response to the growing demand for IIoT (Industrial Internet of Things) infrastructures, PLANET has launched a series of Industrial Ring Ethernet Switches designed for industrial networking applications. The series is able to operate in temperatures ranging from **-40** to **75 degrees C**. The IFGS-620TF, IFGS-624PTF and IFGS-1222TF Industrial Ring Ethernet Switches are designed for easy deployment of industrial networks with their Plug and Play capability. Furthermore, the series ensures stable and reliable data and power transmission at a high speed. It also supports PROFINET traffic pass-through with QoS, making it an ideal choice for integrating with industrial automation systems and enhancing communication between devices in a factory setting. The tables below show the models and descriptions with the number of ports:

Model Name	Model Description
IFGS-620TF	Industrial 4-Port 10/100TX + 2-Port 1000X SFP Ring Ethernet Switch
IFGS-624PTF	Industrial 4-Port 10/100TX 802.3at PoE + 2-Port 1000X SFP Ring Ethernet Switch
IFGS-1222TF	Industrial 8-Port 10/100TX + 2-Port 10/100/1000T + 2-Port 1000X SFP Ring Ethernet Switch

Model Name	10/100TX Copper Ports	802.3at PoE Ports	10/100/100T Copper Ports	1000X SFP Ports
IFGS-620TF	4	-	-	2
IFGS-624PTF	4	4	-	2
IFGS-1222TF	8	-	2	2

Fast Recovery for Industrial Ethernet Transmission Applications

The Industrial Ring Ethernet Switch series supports the super-fast, fault-tolerant ring redundancy technology and features strong rapid self-recovery capability to prevent interruptions and external intrusions. Its **dual SFP ports** incorporate the advanced **ring data recovery through DIP switch** technology and **redundant power** input system into customer's industrial automation network to enhance system reliability and uptime in harsh environments. In a simple Ring network with **8 units**, the recovery time of data link can be **as fast as 1ms**.

IFGS-620TF Physical Port

- Four 10/100BASE-TX RJ45 ports with auto MDI/MDI-X function
- Two SFP interfaces, supporting 1000BASE-X transceiver type auto detection

IFGS-624PTF Physical Port

- Four 10/100BASE-TX Fast Ethernet **IEEE 802.3at PoE+** RJ45 copper ports with auto MDI/MDI-X function
- Two SFP interfaces, supporting 1000BASE-X transceiver type auto detection

IFGS-1222TF Physical Port

- Eight 10/100BASE-TX RJ45 ports with auto MDI/MDI-X function (Port 1 to port 8).
- Two 10/100/1000BASE-T RJ45 ports with auto MDI/MDI-X function (Port 9 to port 10).
- Two SFP interfaces, supporting 1000BASE-X transceiver type auto detection (Port 11 to port 12).

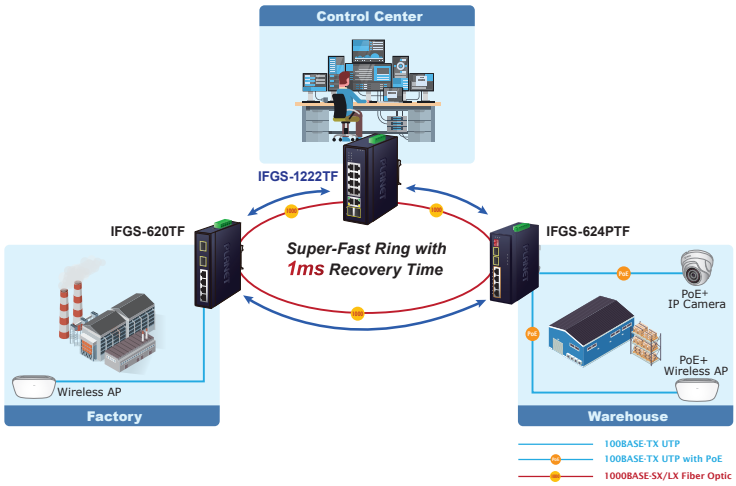
One Key Ring Feature

- In a simple Ring network with **8 units**, the recovery time of data link can be as fast as 1ms.

Layer 2 Features

- Complies with IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3ab 1000BASE-T and IEEE 802.3z 1000BASE-X Ethernet standard
- Supports auto-negotiation and 10/100Mbps half/full duplex mode and 10/100/1000Mbps half/full duplex mode
- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High-performance Store and Forward architecture, broadcast storm control and runt/CRC filtering eliminate erroneous packets to optimize the network bandwidth
- PROFINET traffic pass-through with QoS
- IFGS-620TF/IFGS-624PTF Backplane (switching fabric): 4.8Gbps
- IFGS-1222TF Backplane (switching fabric): 9.6Gbps
- Integrated address look-up engine, supporting 4K absolute MAC addresses
- 16K jumbo packet size
- Automatic address learning and address aging
- IEEE 802.1p Class of Service (Works under Ring function disable)
- IEEE 802.1Q VLAN transparency
- CSMA/CD Protocol

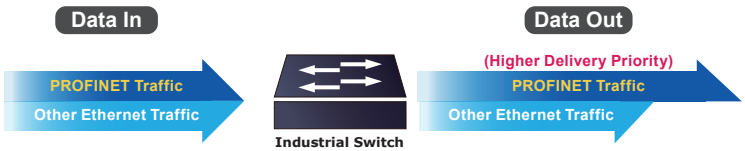
Due to differences in algorithm between the Industrial Ring Ethernet Switch series one Key Ring and the ERPS Ring functions available on PLANET Industrial Managed Switch devices, the two functions are not compatible with each other. The Industrial Ring Ethernet Switch series One Key Ring function offers easier and faster deployment with DIP switch adjustments.



PROFINET Traffic with Higher Delivery Priority

The Industrial Ring Ethernet Switch series features a brand-new function that enhances support for recognizing the PROFINET traffic for higher delivery priority. Once the IFGS-624PTF receives the PROFINET traffic, it will forward the PROFINET traffic first, and then handle other Ethernet traffic. With this enhanced function, the Industrial Ring Ethernet Switch series will become the ideal Industrial Unmanaged Switch for the faster PROFINET traffic.

PLANET PROFINET Protocol Pass-through Industrial Switch



Industrial Case and Installation

- IP30 metal case (IFGS-620TF/IFGS-1222TF)
- IP40 metal case (IFGS-624PTF)
- DIN-rail, wall-mount or side wall-mount design for redundant power design
  - 9 to 48V DC, redundant power with reverse polarity protection (IFGS-620TF/IFGS-1222TF)
  - AC 24V power adapter acceptable (IFGS-620TF/IFGS-1222TF)
  - 12 to 54V DC, redundant power with reverse polarity protection (IFGS-624PTF)
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- 4 real-time PoE power usage indicators
- Free fall, shock-proof and vibration-proof for industries

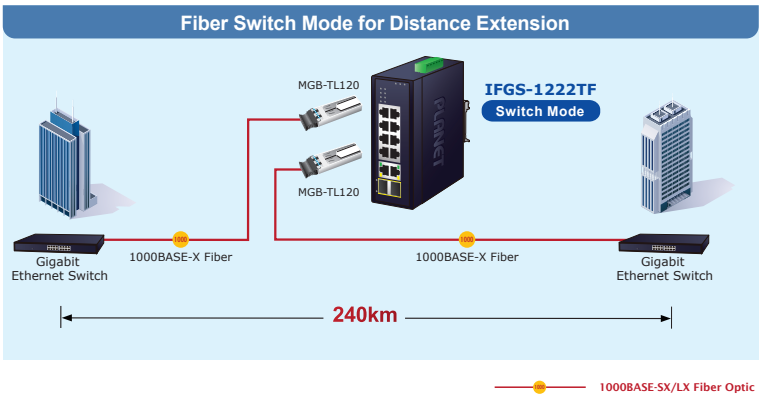
Power over Ethernet (IFGS-624PTF)

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 4 ports of IEEE 802.3af/at devices powered
- Up to 120-watt PoE budget
- Supports PoE power up to 36 watts for each PoE port
- Each port supports 54V DC power to PoE powered device
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m in standard mode with 250m in extend mode

Fiber Optic Link Capability Enables Extension of Network Deployment

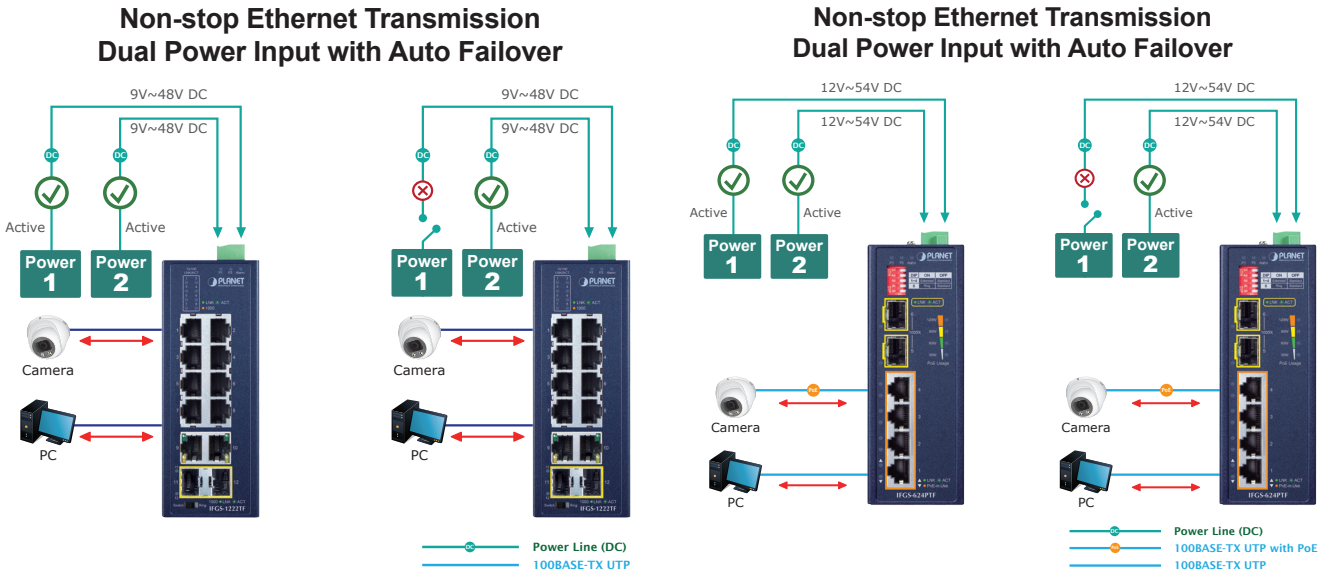
The Industrial Ring Ethernet Switch series two SFP ports are compatible with **1000BASE-X** SFP (small form factor pluggable) fiber-optic transceivers. The fiber optic uplink capability guarantees the throughput to all nodes hooked into the network and the Gigabit Ethernet distance can be extended from 550 meters (Multi-mode fiber cable) to 120 kilometers (Single-mode fiber cable). They are well suited for applications within the factory data centers and distributions.

Thus, building a network solution of FTTH (Fiber to the Home), FTTC (Fiber to the Curb) for ISPs or FTTB (Fiber to the Building) for enterprises becomes so easy to users when long-distance deployment is employed. The Industrial Ring Ethernet Switch series can handle extremely large amounts of data in a secure topology linking to a metro switch, backbone or high-capacity server.



Dual Power Input for High Availability Network System

The Industrial Ring Ethernet Switch series features a strong dual power input system with wide-ranging voltages (9V~48V DC or 24V AC for IFGS-620TF/IFGS-1222TF) or (12V~54V DC for IFGS-624PTF) incorporated into customer's automation network to enhance system reliability and uptime. In the example below, when power supply 1 fails to work, the hardware failover function will be activated automatically to keep powering the Industrial Ring Ethernet Switch series via power supply 2 alternatively without any loss of operation.



Robust Protection

The Industrial Ring Ethernet Switch series provides a 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.

Flexible and Easy Installation with Limited Space

The Industrial Ring Ethernet Switch series is specially designed to be installed in a narrow environment, such as wall enclosure. It can be installed by fixed wall mounting or DIN rail, thereby making its usability more flexible and easier in any space-limited location.

Optional installation method

* The above pictures are for illustration only.

Low Power Consumption for Green Networking to implement ESG (IFGS-620TF/IFGS-1222TF)

The IFGS-620TF and IFGS-1222TF, adopting the advanced green networking technology, provides cable length power saving, and link-up and link-down power saving. These features make the IFGS-620TF and IFGS-1222TF consume very low power in full load operation mode, which helps conserve energy effectively but maintains high performance efficiently.

With the IEEE 802.3az Energy Efficient Ethernet (EEE) Protocol, the IFGS-620TF and IFGS-1222TF can automatically detect cable link status and network traffic, and thus is able to adjust power consumption accordingly. It enables the switch to consume less power when it is less active.