Industrial 16-Port 10/100TX + 2-Port Gigabit TP/SFP Combo Ethernet Switch

Robust Features for Industrial Ethernet Networks with Plug and Play Configuration

Designed for heavy industrial demanding environments, PLANET's IFGS-1822TF comes with high-density **16 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-1822TF 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.

Physical Port

- 16-port 10/100BASE-TX RJ45 with auto MDI/MDI-X function
- 2-port 10/100/1000BASE-T and 1000BASE-X combo interface

Layer 2 Features

- 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
- 12 to 48V DC, redundant power with reverse polarity protection
- 24V AC power input
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- Free fall, shock-proof and vibration-proof for industries

Flexibility and Long-distance Extension Solution

Through the two shared **Gigabit-speed fiber SFP slots**, 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 120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the industrial data centers and distributions.

Environmentally Hardened Design

The IFGS-1822TF possesses an integrated power supply source with a wide range of voltages (**12 to 48V DC or 24V AC**) for worldwide high availability applications requiring dual or backup power inputs. It also provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in the curbside traffic control cabinets.

Robust Protection

The IFGS-1822TF 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.

Energy Savings

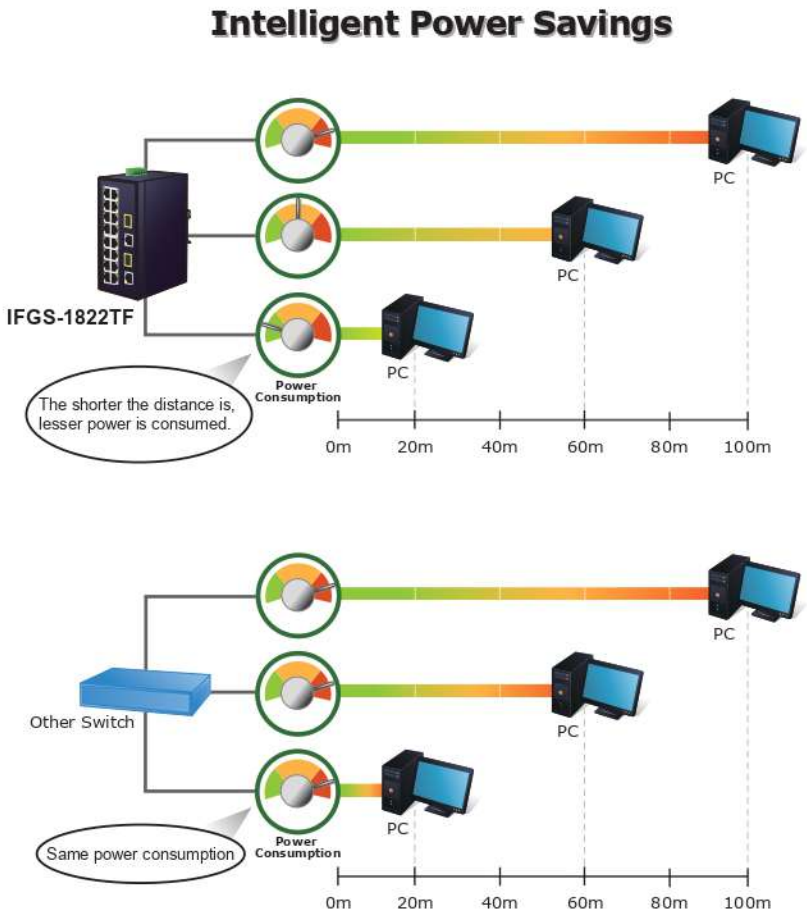
The IFGS-1822TF, integrated with advanced green networking technologies and **IEEE 802.3az Energy Efficient Ethernet (EEE)** protocol based power saving, is able to provide power savings of up to 50% but maintain high performance efficiently.

- **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-1822TF 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**

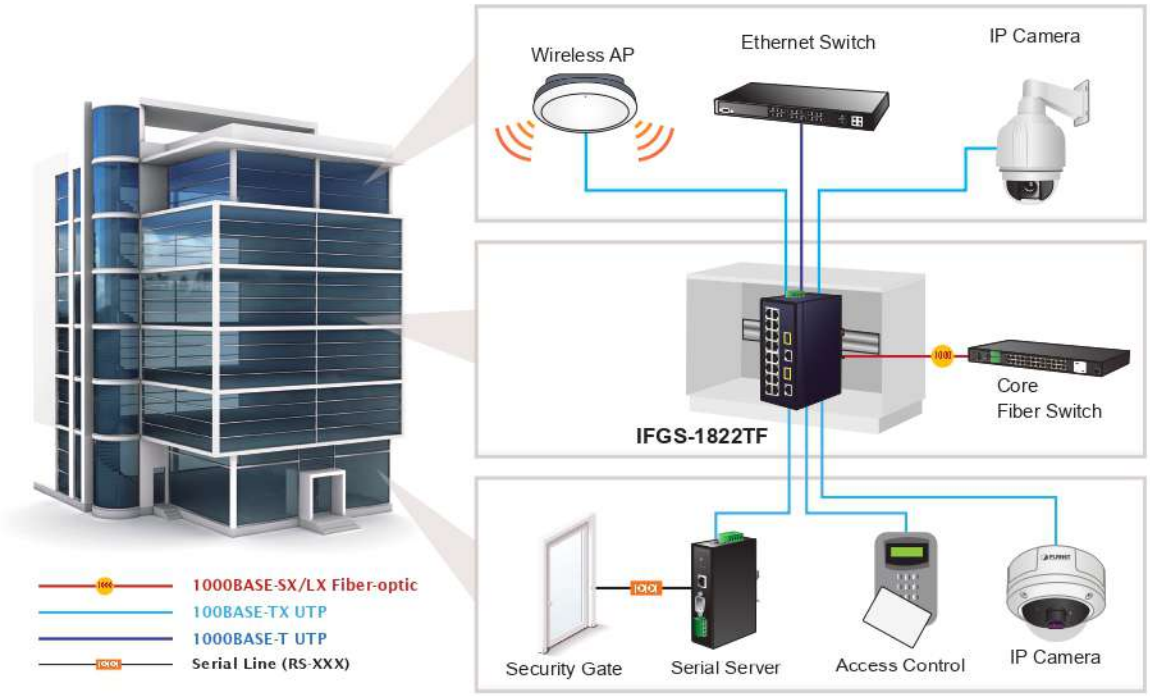
  Intelligent power scale is an intelligent algorithm that actively determines the appropriate power level based on cable length. When the IFGS-1822TF is connected with Ethernet cable shorter than 20m, a device can obtain maximum power savings because the IFGS-1822TF would automatically detect the Ethernet cable length and diminish power usage. The connected device can substantially reduce the overall power consumption, which makes a significant contribution to energy savings.



Applications

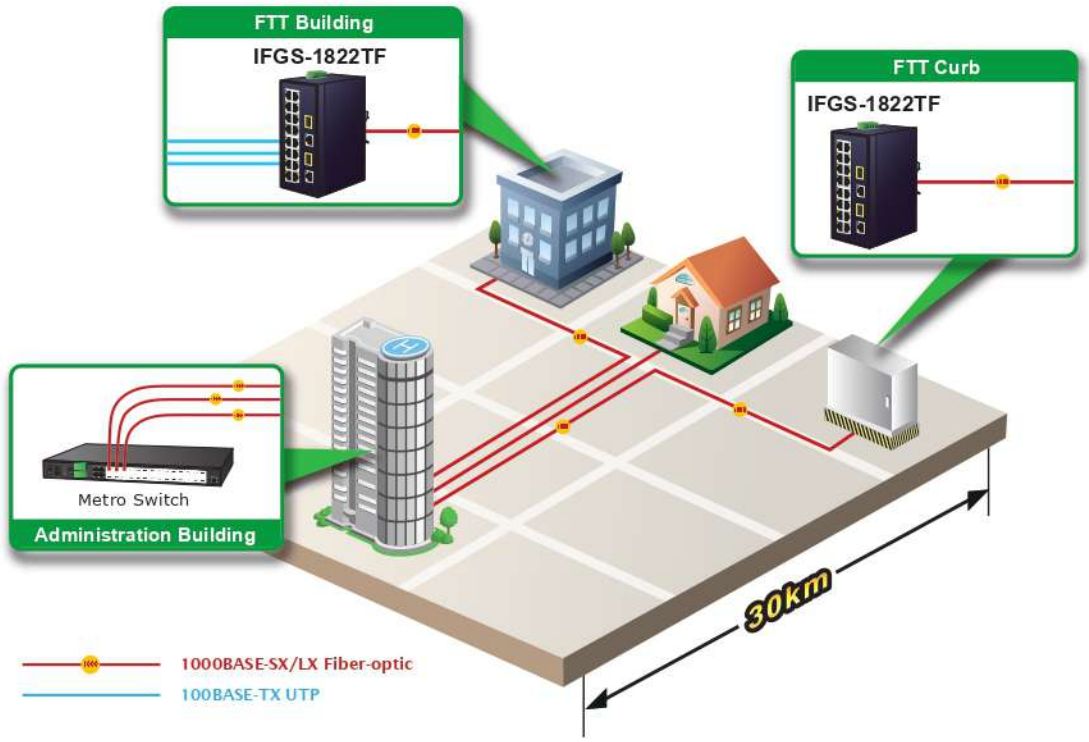
Industrial-grade Switch for Building Automation and Security

The IGS-1822TF's IP30-rated metal case is particularly designed for heavy industries, such as factories, harbors, warehouses, and more. Suitable for buildings where security is strictly enforced, the IFGS-1822TF, with sixteen Fast Ethernet interfaces, can easily build an IP phone system, IP surveillance system, security control system and wireless AP group in the harsh Industrial environment.



FTTX Solutions for MAN Application

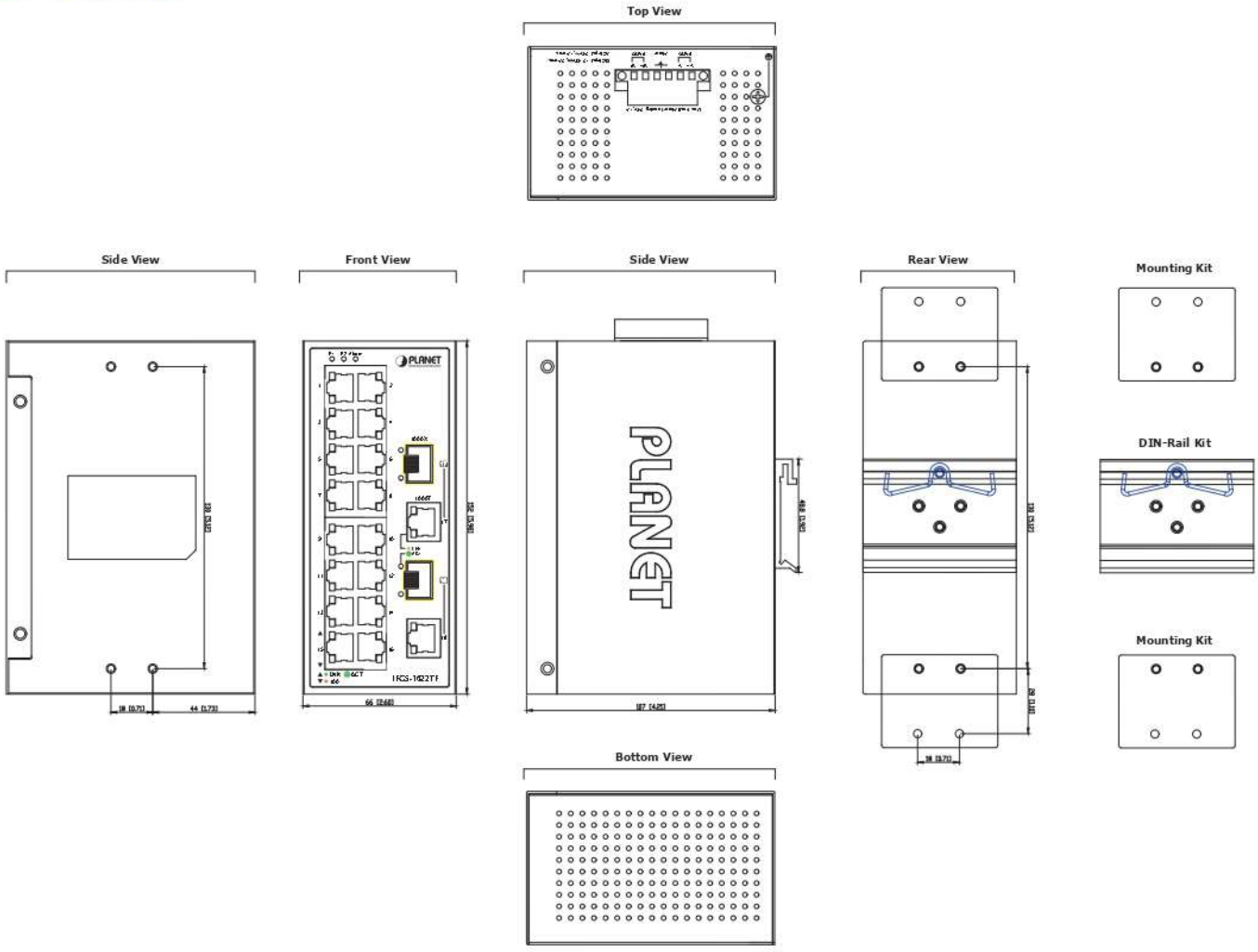
To build a network solution of **FTTH** (Fiber to the Home) or **FTTC** (Fiber to the Curb) for ISPs, and **FTTB** (Fiber to the Building) for enterprises, the various distances of SFP and Bidi (WDM) transceivers are optional for customers. With two Gigabit-speed SFP slots built in, the deployment distance of the IFGS-1822TF can be extended up to 120 kilometers (single-mode fiber), which provides a high-performance edge service for FTTx solutions. The IFGS-1822TF is the ideal solution for service providers such as ISPs and telecoms to build Metropolitan Area Network (MAN) based on the fiber technology.



Specifications

Product	IFGS-1822TF
Hardware Specifications	
Fast Ethernet Copper Ports	16 10/100BASE-TX RJ45 auto-MDI/MDI-X ports
Gigabit Ethernet Copper Ports	Two 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports (shared with Port-17 and Port-18)
SFP Slots	Two 1000BASE-SX/LX/BX SFP interfaces (shared with Port-17 and Port-18)
ESD Protection	6KV DC
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)	66 x 107 x 152 mm
Weight	870g
Power Requirements	Dual 12~48V DC or one 24V AC
Power Consumption	Max. 6.3 watts/21.4BTU (Ethernet full loading)
Switching Specifications	
Switch Architecture	Store-and-Forward
Switch Fabric	7.2Gbps (non-blocking)
Throughput (packet per second)	5.36Mpps@ 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
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)

Dimensions



Unit: mm

Ordering Information

IFGS-1822TF	Industrial 16-Port 10/100TX + 2-Port Gigabit TP/SFP Combo Ethernet Switch (-40~75 degrees C)

Related Product

ISW-1600T	Industrial 16-Port 10/100TX Fast Ethernet Switch (-40~75 degrees C)
IGS-20040MT	Industrial L2+ 16-Port 10/100/1000T + 4-Port 100/1000X SFP Managed Switch (-40~75 degrees C)

Available 1000Mbps Modules

Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	--	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-TGT	--	1000	Copper	--	100m	--	-40 ~ 75 degrees C
MGB-TSX	YES	1000	LC	Multi-mode	550m	850nm	-40 ~ 75 degrees C
MGB-TSX2	YES	1000	LC	Multi-mode	2km	1310nm	-40 ~ 75 degrees C
MGB-TLX	YES	1000	LC	Single Mode	20km	1310nm	-40 ~ 75 degrees C
MGB-TL40	YES	1000	LC	Single Mode	40km	1310nm	-40 ~ 75 degrees C
MGB-TL80	YES	1000	LC	Single Mode	80km	1550nm	-40 ~ 75 degrees C

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

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10(V2)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-TSA	YES	1000	WDM(LC)	Multi-mode	2km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TSB		1000	WDM(LC)	Multi-mode	2km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA10	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB10		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA20	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB20		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA40	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	-40 ~ 75 degrees C
MGB-TLB40		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	-40 ~ 75 degrees C
MGB-TLA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	-40 ~ 75 degrees C
MGB-TLB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	-40 ~ 75 degrees C
MGB-TLA120	YES	1000	WDM(LC)	Single Mode	120km	1490nm	1550nm	-40 ~ 75 degrees C
MGB-TLB120		1000	WDM(LC)	Single Mode	120km	1550nm	1490nm	-40 ~ 75 degrees C

PLANET Technology Corporation

11F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Tel: 886-2-2219-9518 Fax: 886-2-2219-9528

Email: sales@planet.com.tw www.planet.com.tw