Industrial 4-Port 10/100/1000T 802.3bt PoE + 2-Port 10/100/1000T + 2-Port 100/1000X SFP Gigabit Ethernet Switch

Outstanding 802.3bt PoE++ Solution for Hardened Environment

Featuring Plug and Play designed to be installed in heavy industrial demanding environments, the IGS-824UPT is a PLANET Industrial-grade, DIN-rail type Unmanaged Gigabit Ethernet Switch with **four 10/100/1000BASE-T** ports featuring IEEE **802.3bt Power over Ethernet Plus Plus (PoE++)** injector function to deliver up to **95 watts** of power output and high data transmission speed to PDs (powered devices) installed in a remote area where sufficient and reliable power input is required. Its **two 100/1000BASE-X** SFP fiber optic uplink ports provide long distance, high speed and stable data transmission to a remote core network.

The IGS-824UPT is designed with redundant power system and is able to operate reliably, stably and quietly in any hardened environment without affecting its performance. It comes with a total power budget of up to **240 watts** for different kinds of PoE applications and operating temperature ranging from -40 to 75 degrees C in a rugged IP30 metal housing.

802.3bt PoE++ – 90~95-watt Power over 4-pair UTP Solution

As the IGS-824UPT adopts the **IEEE 802.bt PoE++** standard and **PoH** technology, it is capable to source up to 95 watts of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote

Interface

- 6 10/100/1000BASE-T Gigabit Ethernet RJ45 copper ports
- Two SFP slots, supporting 1000BASE-X and 100BASE-FX transceiver in dual modes

Power over Ethernet

- Complies with IEEE 802.3bt Power over Ethernet Plus Plus type 4 PSE
- Backward compatible with IEEE 802.3at Power over Ethernet Plus
- Up to 4 ports of IEEE 802.3bt/at devices powered
- Up to 240-watt PoE budget
- Supports PoE power up to 95 watts for each PoE port
- Each port supports 48~54V DC power to PoE powered device
- Auto detects powered device (PD)
- Auto detects IEEE 802.3bt equipment and protects devices from being damaged by incorrect installation
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m

Industrial hardened design

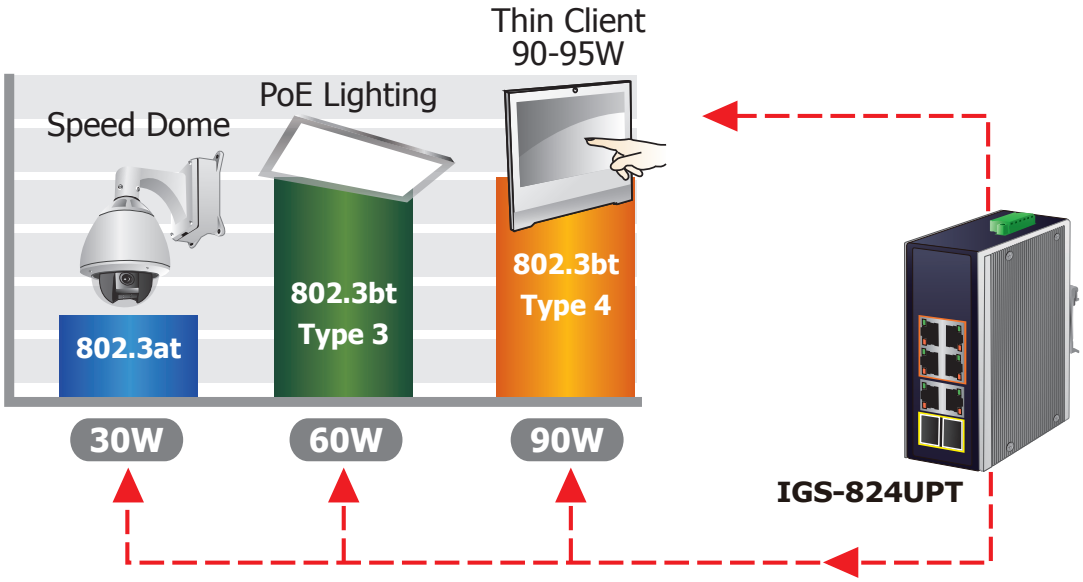
- IP30 aluminum case
- DIN-rail and wall-mount designs
- 48~54V DC redundant power with reverse polarity protection
- Fault alarm for power input failed
- Supports 6KV DC Ethernet ESD protection
- -40 to 75 degrees C operating temperature
- 4 real-time PoE power usage indicators

Layer 2 Switching

- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 4K MAC address table size
- 9K jumbo frame
- IEEE 802.1Q VLAN transparency
- Automatic address learning and address aging
- Supports CSMA/CD protocol

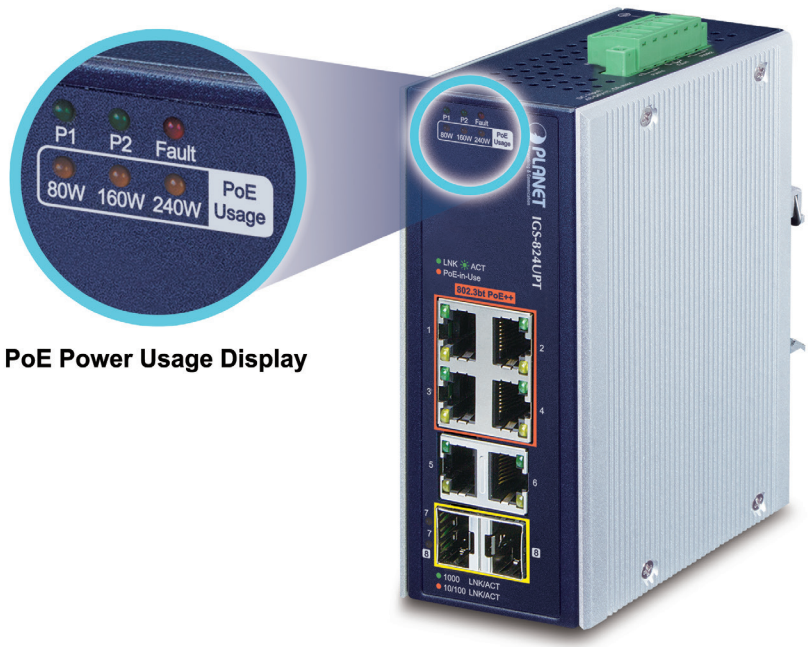
PoE compliant powered device (PD). It possesses triple amount of power capability than the conventional 802.3at PoE+ and is an ideal solution to satisfy the growing demand for higher power consuming network PDs, such as:

- PoE PTZ speed dome cameras
- Thin clients
- AIO (all-in-one) touch PCs, point of sale (POS) and information kiosks
- Remote digital signage displays
- PoE lightings



Intelligent LED Indicator for Real-time PoE Usage

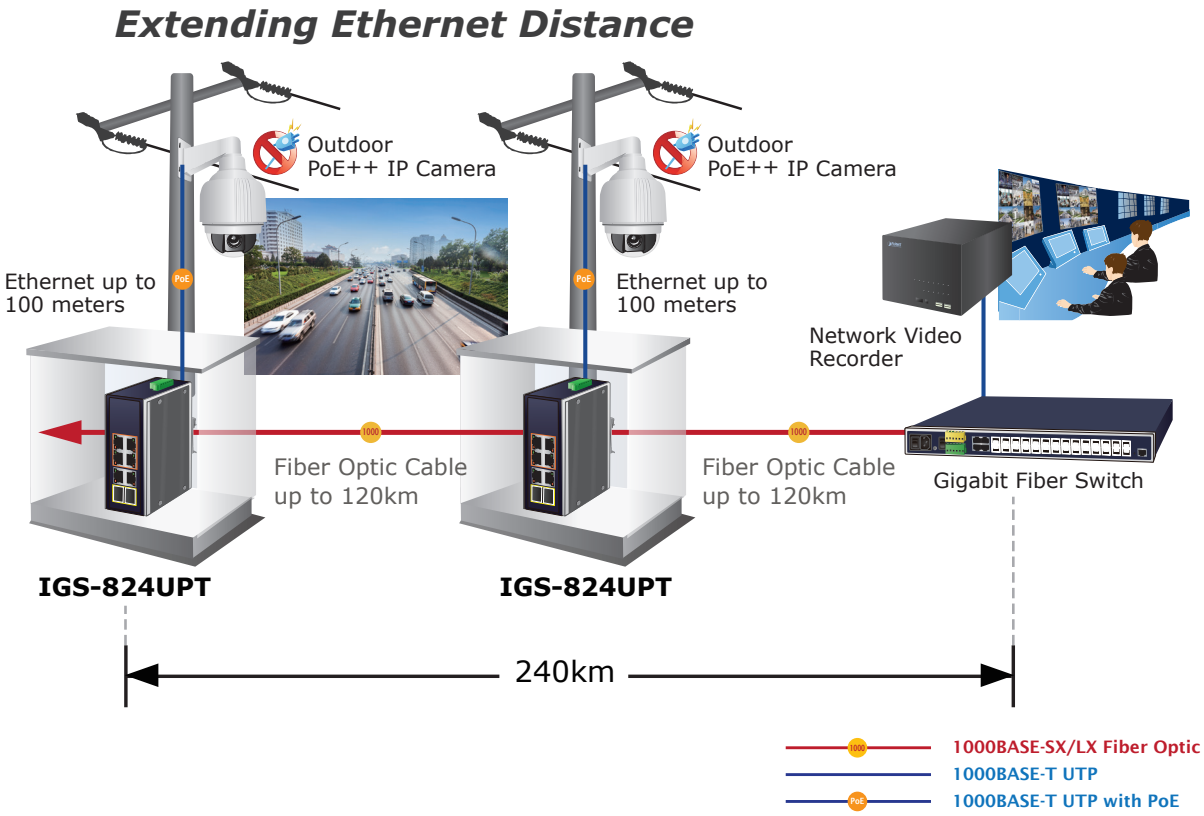
The IGS-824UPT helps users to monitor the current status of PoE power usage easily and efficiently via its advanced LED indicator. On the front panel of the Industrial Gigabit PoE++ Switch, there are three different power usage LED indicators indicating 80W, 160W and 240W.



PoE Power Usage Display

Fiber Optic Link Capability for Flexible Distance Extension

The additional two mini-GBIC slots built in the IGS-824UPT support SFP auto-detection and dual speed as it features **100BASE-FX** and **1000BASE-SX/LX SFP** (small form-factor pluggable) fiber-optic modules, meaning the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications to uplink to backbone switch and monitoring center in long distance.



Dual Power Input for High Availability Network System

The IGS-824UPT features a strong dual power input system with 48~54V DC 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 IGS-824UPT via power supply 2 alternatively without any loss of operation.

Environmentally Hardened Design

With the IP30 metal industrial case, the IGS-824UPT 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. It features a ventilated construction in which a cooling fan is not necessary, thereby making its operation noiseless. Being able to operate under the temperature range from **-40 to 75 degrees C**, the IGS-824UPT can be placed in almost any difficult environment.

Robust Protection

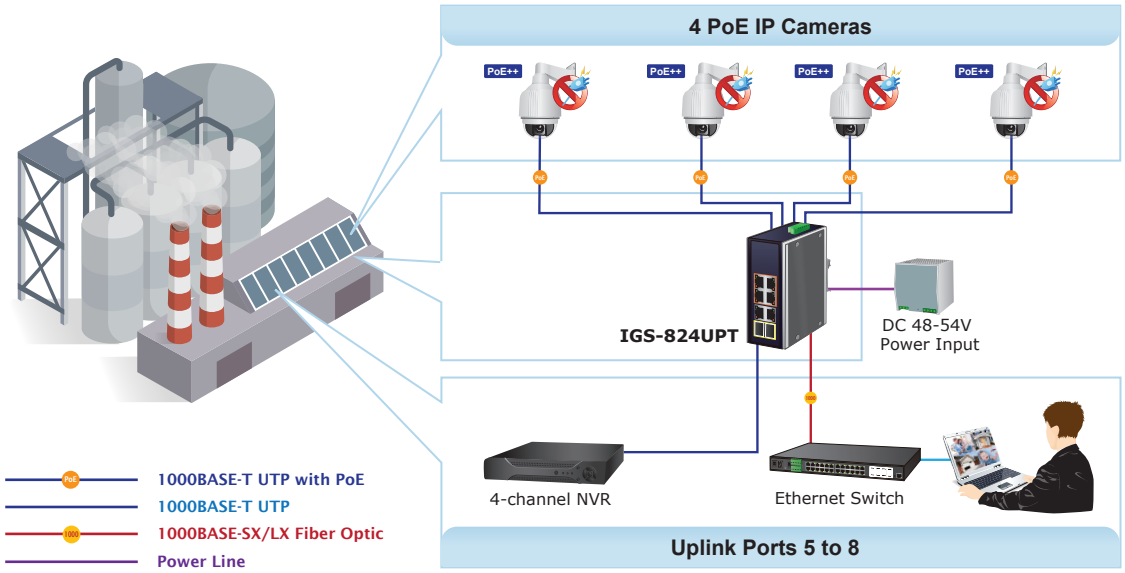
The IGS-824UPT provides contact discharge of ±6KV DC and air discharge of ±8KV DC for Ethernet ESD protection. It also supports ±6KV surge immunity to improve product stability and protects users' networks from devastating ESD attacks, making sure the flow of operation does not fluctuate.

Applications

Perfect Integration Solution for IP PoE Camera and NVR System

The IGS-824UPT provides **four 10/100/1000BASE-T 802.3bt PoE++ ports** which can offer sufficient PoE power to 4 high-power required PoE IP cameras at the same time. In addition, with the Gigabit copper and 100/1000BASE-X fiber uplink interfaces, the IGS-824UPT can connect to a core switch and send video streams to an NVR and monitoring center.

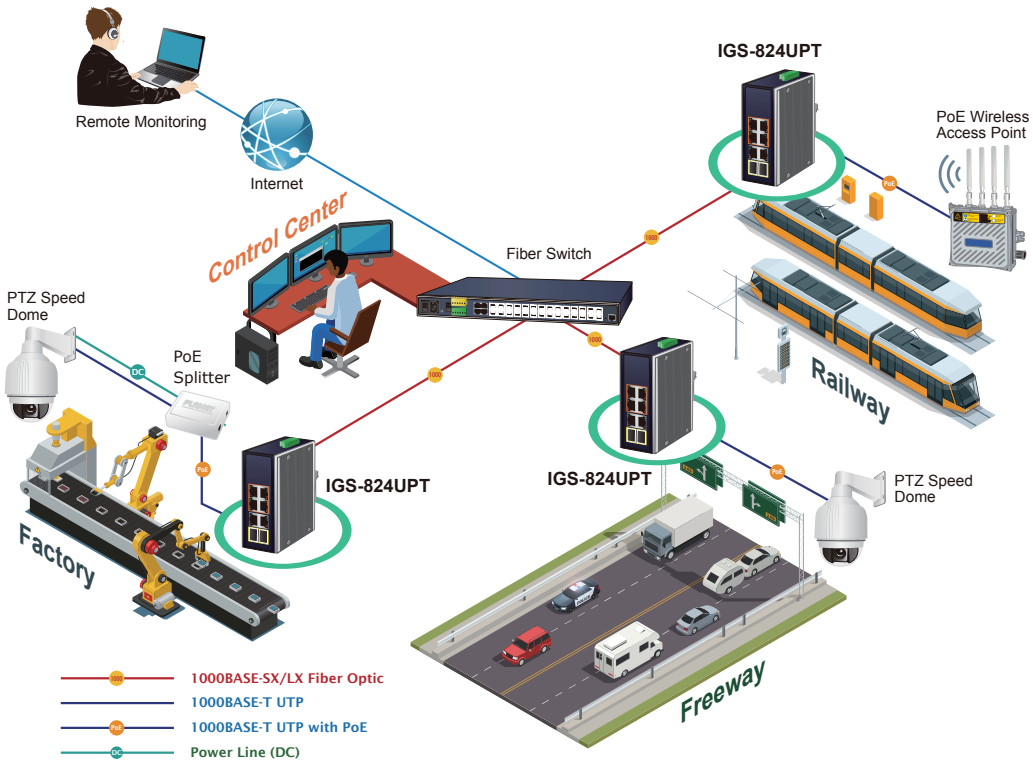
Through the high-performance switch architecture, the IGS-824UPT facilitates the recorded video files from the 4 PoE++ IP cameras to be saved in the NVR systems. Furthermore, the NVR systems can be controlled and monitored in both the local LAN and the remote site via Internet. The IGS-824UPT undoubtedly brings an ideal secure surveillance system at a lower total cost.



Industrial-grade PoE++ Switch for Building Automation and Security

Suitable for buildings where security is strictly enforced, the IGS-824UPT, with four Gigabit Ethernet 802.3bt PoE++, in-line power interfaces, can easily build a power that can centrally control an IP phone system, IP surveillance system, and wireless AP group in the harsh Industrial environment.

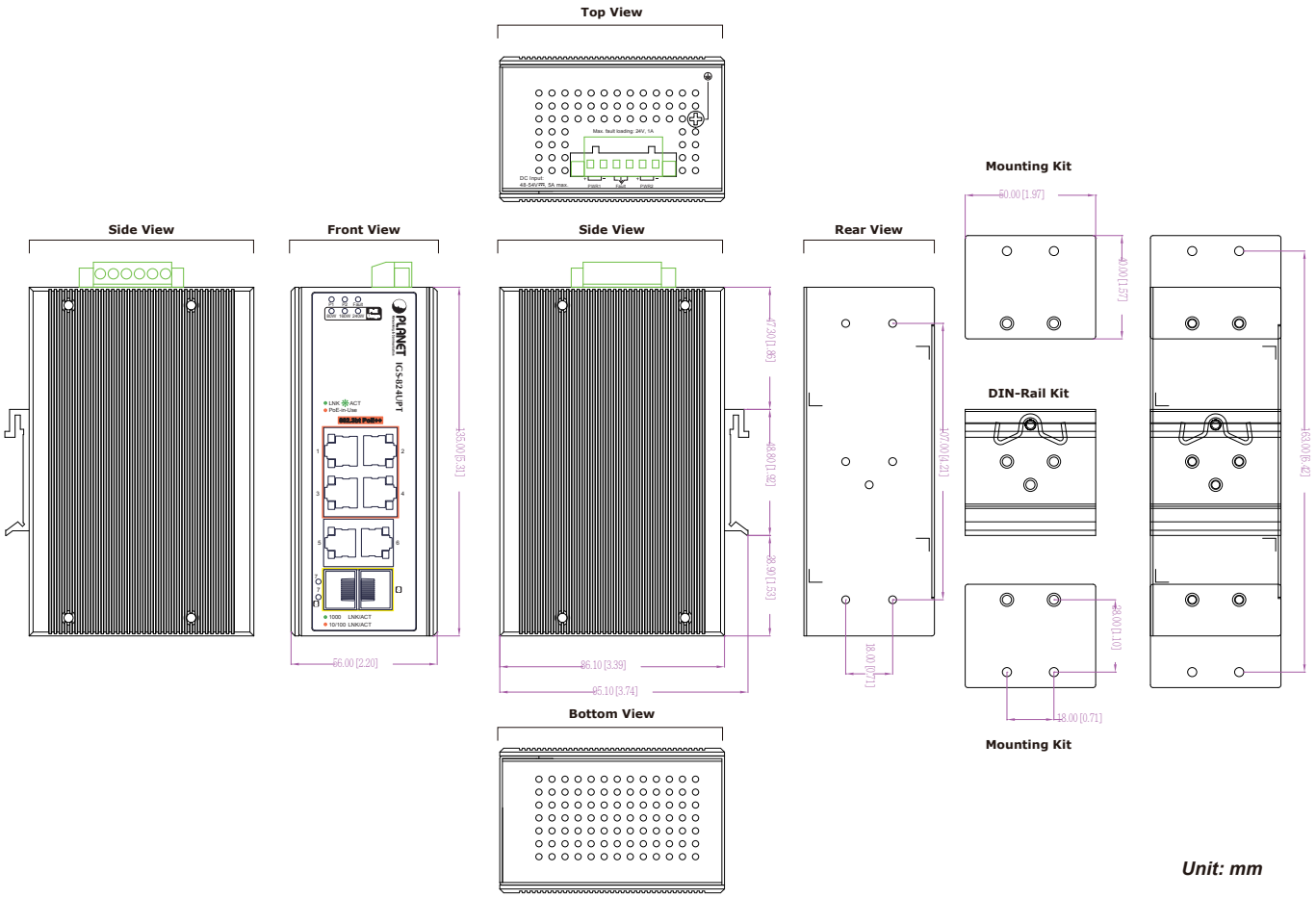
For instance, 4 PoE IP cameras or PoE wireless APs can be easily installed for surveillance demands or a wireless roaming environment in the industrial area can be built. Without the power-socket limitation, the IGS-824UPT makes the installation of IP cameras or wireless APs easier and more efficient.



Specifications

Model	IGS-824UPT
Hardware Specifications	
Copper Ports	6 10/100/1000BASET RJ45 auto-MDI/MDI-X ports
PoE Injector Ports	Four ports with 802.3bt PoE++ injector function (Port-1 to Port-4)
SFP Slots	2 1000BASE-SX/LX/BX SFP interfaces Compatible with 100BASE-FX SFP
Connector	Removable 6-pin terminal block Pin 1/2 for Power 1 Pin 3/4 for fault alarm Pin 5/6 for Power 2
Power Requirements	48~54V DC, 5A max. Redundant power with reverse polarity protection function
Power Consumption	Max. 2.24 watts/7.64BTU (System on) Max. 5.2 watts/17.74BTU (Ethernet Full Loading) Max. 252 watts/860BTU (Ethernet + PoE Full Loading)
Dimensions (W x D x H)	56 x 86.1 x 135 mm
Weight	777g
Enclosure	IP30 aluminum case
Installation	DIN-rail kit and wall-mount kit
ESD Protection	6KV
Switch Specifications	
Switch Architecture	Store-and-Forward
Switch Fabric	16Gbps
Throughput (packet per second)	11.9Mpps@64bytes
Address Table	4K entries
Buffer Memory	1M bits on-chip buffer memory
Jumbo Frame	9Kbytes
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Power over Ethernet	
PoE Standard	IEEE 802.3bt Power over Ethernet Plus Plus type 4 PSE Backward compliant with 802.3at Power over Ethernet Plus PSE
PoE Power Supply Type	802.3bt/PoH End-span/Mid-span
PoE Power Output	Max. 90 watts to 802.3bt PoE++ PD Max. 95 watts to PoH PD Max. 36 watts to 802.3at PoE+ PD
Power Pin Assignment	Pair 1 End-span: 1/2(-), 3/6(+) Pair 2 Mid-span: 4/5(+), 7/8(-) 802.3bt/PoH: 1/2(-), 3/6(+), 4/5(+), 7/8(-)
PoE Power Budget (max.)	240 watts maximum@52-54V DC input 160 watts maximum@48-51V DC input
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3az Gigabit SX/LX IEEE 802.3x Full-Duplex Flow Control IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3bt Power over Ethernet Plus Plus PSE IEEE 802.3at Power over Ethernet Plus PSE IEEE 802.3af Power over Ethernet Plus IEEE 802.1p Class of Service
Environment	
Temperature	Operating: -40~75 degrees C Storage: -40~75 degrees C
Humidity	Operating: 5~90% (non-condensing) Storage: 5~90% (non-condensing)

Dimensions



Ordering Information

IGS-824UPT	Industrial 4-Port 10/100/1000T 802.3bt PoE + 2-Port 10/100/1000T + 2-Port 100/1000XSFP Gigabit Ethernet Switch

Related Product

IGS-5225-4UP1T2S	Industrial L2+ 4-Port 10/100/1000T 802.3bt PoE + 1-Port 10/100/1000T + 2-Port 100/1000X SFP Managed Switch
IGUP-2205AT	Industrial 2-Port 100/1000X SFP to 2-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-1205AT	Industrial 2-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IGUP-805AT	Industrial 1-Port 100/1000X SFP to 1-Port 10/100/1000T 802.3bt PoE++ Media Converter
IPOE-270	Industrial 2-Port Multi-gigabit 802.3bt PoE++ Injector Hub
IPOE-E302	Industrial 1-Port 802.3bt PoE++ to 2-Port 802.3at Gigabit PoE Extender
MGB-Series Transceiver	1000BASE-SX/LX SFP Transceiver
MFB Series Transceiver	100BASE-FX SFP Transceiver
PWR-240-48	48V, 240W Din-rail Power Supply (NDR-240-48, adjustable 48-56V DC Output)
PWR-480-48	48V, 480W Din-rail Power Supply (NDR-480-48, adjustable 48-56V DC Output)

Available 1000Mbps Modules

MGB-GT	SFP-Port 1000BASE-T Module
MGB-SX	SFP-Port 1000BASE-SX mini-GBIC module - 550m
MGB-SX2	SFP-Port 1000BASE-SX mini-GBIC module - 2km
MGB-LX	SFP-Port 1000BASE-LX mini-GBIC module - 20km
MGB-L40	SFP-Port 1000BASE-LX mini-GBIC module - 30km
MGB-L80	SFP-Port 1000BASE-LX mini-GBIC module - 70km
MGB-L120	SFP-Port 1000BASE-LX mini-GBIC module - 120km
MGB-LA10	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 10km
MGB-LB10	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 10km
MGB-LA20	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 20km
MGB-LB20	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 20km
MGB-LA40	SFP-Port 1000BASE-LX (WDM,TX:1310nm) mini-GBIC module - 40km
MGB-LB40	SFP-Port 1000BASE-LX (WDM,TX:1550nm) mini-GBIC module - 40km
MGB-TSX	SFP-Port 1000BASE-SX mini-GBIC module - 550m (-40 ~ 75 degrees C)
MGB-TSX2	SFP-Port 1000BASE-SX mini-GBIC module - 2km (-40 ~ 75 degrees C)
MGB-TLX	SFP-Port 1000BASE-LX mini-GBIC module - 20km (-40 ~ 75 degrees C)
MGB-TL40	SFP-Port 1000BASE-LX mini-GBIC module - 30km (-40 ~ 75 degrees C)
MGB-TL80	SFP-Port 1000BASE-LX mini-GBIC module - 70km (-40 ~ 75 degrees C)

Available 100Mbps Modules

MFB-FX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km
MFB-F20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km
MFB-F40	SFP-Port 100BASE-FX Transceiver (1310nm) - 40km
MFB-F60	SFP-Port 100BASE-FX Transceiver (1310nm) - 60km
MFB-FA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km
MFB-FB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km
MFB-TFX	SFP-Port 100BASE-FX Transceiver (1310nm) - 2km (-40 ~ 75 degrees C)
MFB-TF20	SFP-Port 100BASE-FX Transceiver (1310nm) - 20km (-40 ~ 75 degrees C)
MFB-TFA20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1310nm) - 20km (-40 ~ 75 degrees C)
MFB-TFB20	SFP-Port 100BASE-BX Transceiver (WDM,TX:1550nm) - 20km (-40 ~ 75 degrees C)
MFB-TSA	SFP-Port 100BASE-BX Transceiver (Multi-mode/WDM,TX:1310nm RX:1550nm / DDM) - 2km (-40 ~ 75 degrees C)
MFB-TSB	SFP-Port 100BASE-BX Transceiver (Multi-mode/WDM,TX:1550nm RX:1310nm / DDM) - 2km (-40 ~ 75 degrees C)

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