

# Industrial 10G SFP+ + 1-Port 10GBASE-T 802.3bt PoE++ Managed Media Converter



## Ultra-fast Connections, Secure Management and Powerful IEEE 802.3bt Compatibility

PLANET Industrial **IXT-900 PoE series** media converter is a robust network device, suitable for extreme conditions with a temperature range of **-40 to 75°C**. It not only offers **10G high-speed connectivity** and media conversion but also features advanced 95-watt **IEEE 802.3bt Type 4 power delivery** on its copper port, facilitating installations without extra power sources for devices such as IP cameras.

This converter excels in **remote management** as it is equipped with secure, standalone management features for remote enterprise and telecom operations. It supports a **web interface**, **command line interface (CLI)**, and **SNMP** for comprehensive, remote monitoring and management.

Featuring a **10GBASE-T copper port** and **10G SFP+ ports**, it combines the advantages of 10G connectivity with the versatility of fiber and copper ports. Compact yet powerful, the **IXT-900 PoE series** is an ideal choice for businesses seeking to enhance their network speed and flexibility. This makes it a go-to option for modern network upgrades.

## 10GBASE-T with 95W PoE++ Capability and 10GBASE-X SFP+

The **IXT-900 PoE series** delivers a speed of up to 10Gbps over both copper and fiber-optic cabling, enhancing data transmission efficiency. Its **10GBASE-T copper** interfaces with 5-speed auto-negotiation (10G/5G/2.5G/1G/100M) allow for high-speed data transfer over the existing Cat6/Cat6A cabling, avoiding costly upgrades. Furthermore, its IEEE 802.3bt compatibility enables direct powering of **Wi-Fi 7 APs**, adding to its versatile network capabilities.

## Physical Port

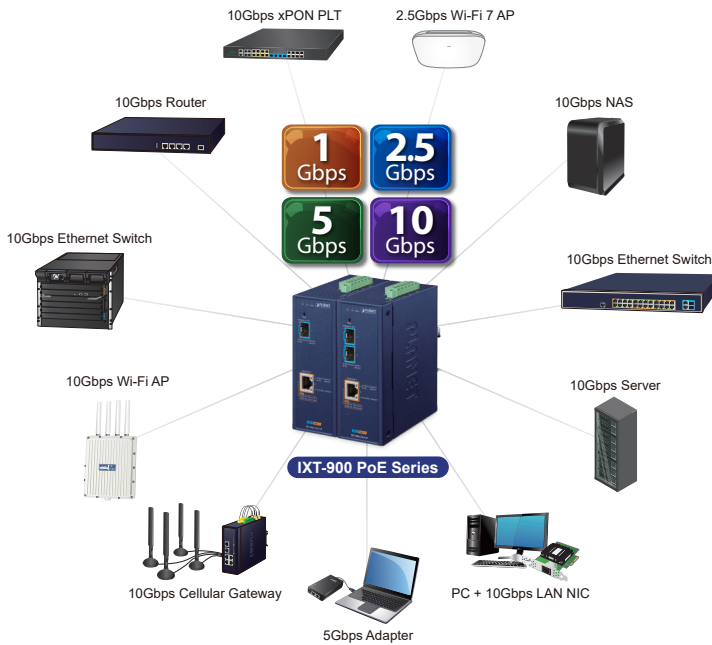
- One 10G/5G/2.5G/1G/100BASE-T RJ45 interface with auto MDI/MDI-X function
- One (Two) 10G/2.5G/1G/100BASE-X SFP+ interface
- Support IEEE 802.3bt PoE++ standard

## IEEE 802.3bt Power over Ethernet

- Compliant with IEEE 802.3bt Type-4 PoE++ standard
- Backward compatible with IEEE 802.3af/at PD device
- The RJ45 port on the IXT-900 PoE series delivers a maximum power output of 95 watts, which is also the maximum PoE budget the device can provide.
- Detects powered devices (PD) automatically.
- Power feeding up to 100m
- PoE management features
  - PoE admin-mode control
  - PoE port power limit
  - PD classification detection
- Intelligent PoE features
  - Temperature threshold setting
  - PoE usage threshold setting
  - PD alive check
  - PoE schedule

## Layer 2 Features

- Storm Control support
  - Broadcast / Multicast / Unknown Unicast
- Supports VLAN
  - IEEE 802.1Q tagged VLAN.
  - Supports provider bridging (VLAN Q-in-Q, IEEE 802.1ad)
  - Up to 256 VLAN groups, out of 4096 VLAN IDs
- Supports ITU-T G.8032 ERPS ring with recovery time less than 500ms (software-based)
- Link Layer Discovery Protocol (LLDP)
- 16K MAC address table with auto-aging
- Jumbo Frame support up to 9K in size.



The fiber-optic **10GBASE-X SFP+** interfaces support 4 speeds, 10GBASE-SR/LR, 2500BASE-X, 1000BASE-SX/LX and 100BASE-FX, meaning the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently.

### 802.3bt PoE++ and Advanced PoE Power Output Mode Management

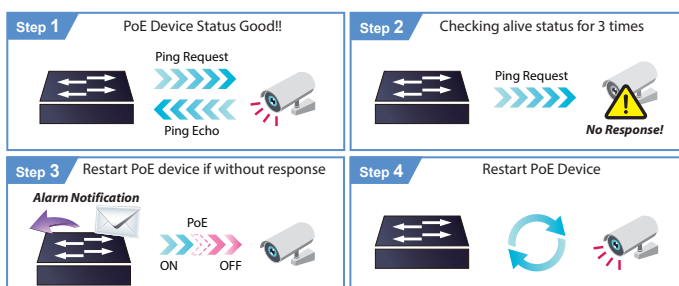
To meet the demand for supplying stable PoE power to powered device, the IXT-900 PoE series offers five different PoE power output modes for selection.

- 95W 802.3bt PoE++ Power Output Mode
- 95W Force Power Output Mode
- 95W Legacy Power Output Mode
- 36W End-span PoE Power Output Mode
- 36W Mid-span PoE Power Output Mode

### Intelligent Alive Check for Powered Devices

The IXT-900 PoE series can be configured to monitor the status of connected powered devices (PDs) in real time through ping action. If a PD stops working and responding, the IXT-900 PoE series will recycle the PoE port power and bring the PD back to working condition. This greatly enhances reliability, as the assigned PoE port automatically reboots the PD, reducing the administrator's management burden.

### PD Alive Check



### Quality of Service

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 8 priority queues on all converter ports
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Traffic classification
  - IEEE 802.1p CoS
  - IP TOS / DSCP / IP Precedence
  - IP TCP/UDP port number
  - Typical network application

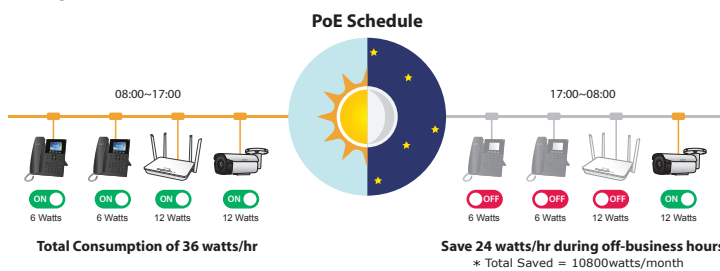
### Management

- IPv4 and IPv6 dual stack management
- Supports Link Fault Pass-through
- Supports Link Fault PoE Pass-through
- Management Interfaces
  - Web HTTP/HTTPS management
  - Telnet Command Line Interface
  - SNMPv1, v2c, v3 monitoring
  - SSHv2, TLSv1.2
- System Maintenance
  - Firmware upload/download via HTTP
  - Reset button for system reboot or reset to factory default.
  - Dual images
- Simple Network Time Protocol (SNTP)
- User privilege levels control
- SNMP Management
  - SNMP trap for interface link up and link down notification.
  - Four RMON groups (history, statistics, alarms, and events)
- Network Diagnostic
  - SFP-DDM (Digital Diagnostic Monitor)
- Syslog remote alarm
- Local system Log
- ICMPv6 / ICMPv4 remote ping
- PLANET Smart Discovery Utility for convenient deployment
- PLANET Remote Management
  - PLANET NMS Controller and CloudViewerPro app for central management

**PoE Scheduling to Save Energy**

By implementing the "PoE schedule" function, businesses can reduce their energy consumption during non-business hours or periods of low network usage. This not only helps to reduce energy costs but also minimizes the overall carbon footprint of the organization.

Furthermore, the IXT-900 PoE series' PoE scheduling feature provides a convenient and easy-to-use interface for managing power usage. The user can easily set the time intervals for each PoE port, allowing for more efficient power management.



**Security**

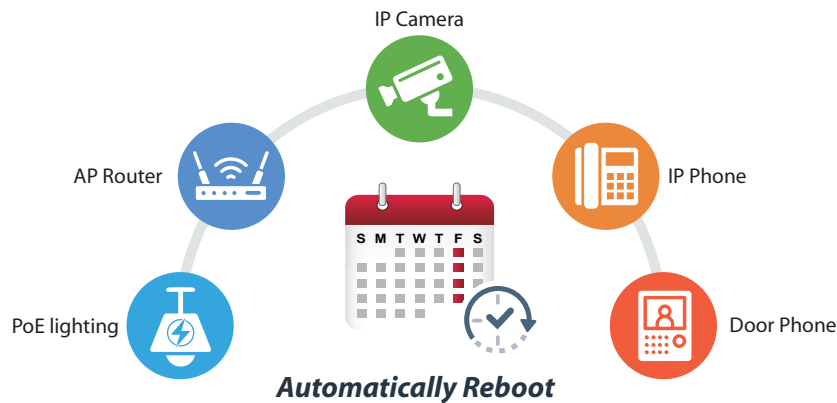
- IP address access management to prevent unauthorized intruder.
- Static MAC setting and MAC Filtering
- Protected ports

**Case and Installation**

- Dual 12~54VDC external power supply
- -40 to 75°C operating temperature
- Supports 4KVDC Contact / 8KVDC Air Ethernet ESD protection.
- Wall-mount and DIN-rail installation

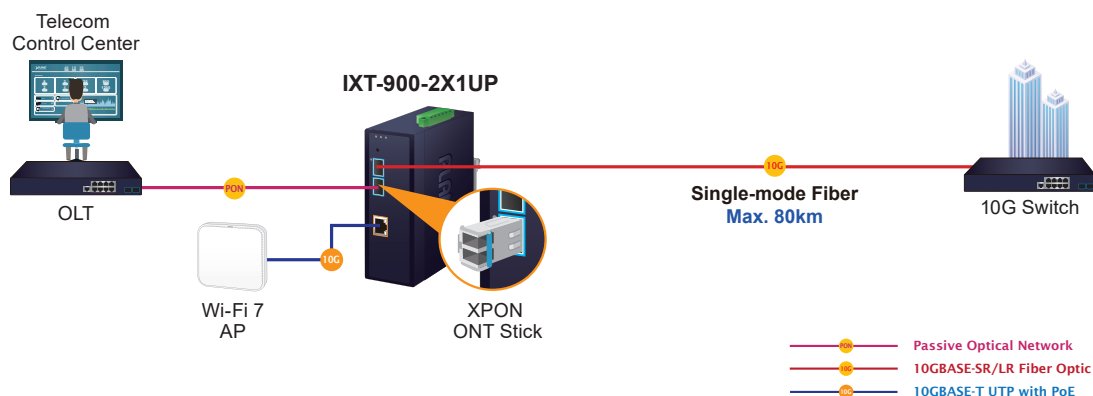
**Scheduled Power Recycling**

The IXT-900 PoE series enables connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. This will reduce the chance of IP camera or AP crashes resulting from buffer overflow.



**Two Fiber Optic Ports Double the Distance of Deployment**

Conventional media converters typically support only a single pair of different media conversions, such as converting one fiber to one copper connection. They can extend a 100m copper connection to a maximum of 80km fiber optic connection. In contrast, the IXT-900 PoE series has two fiber optic ports and one copper port, enabling the two fiber optic cables to connect to devices up to 160km apart to significantly extend the deployment distance.

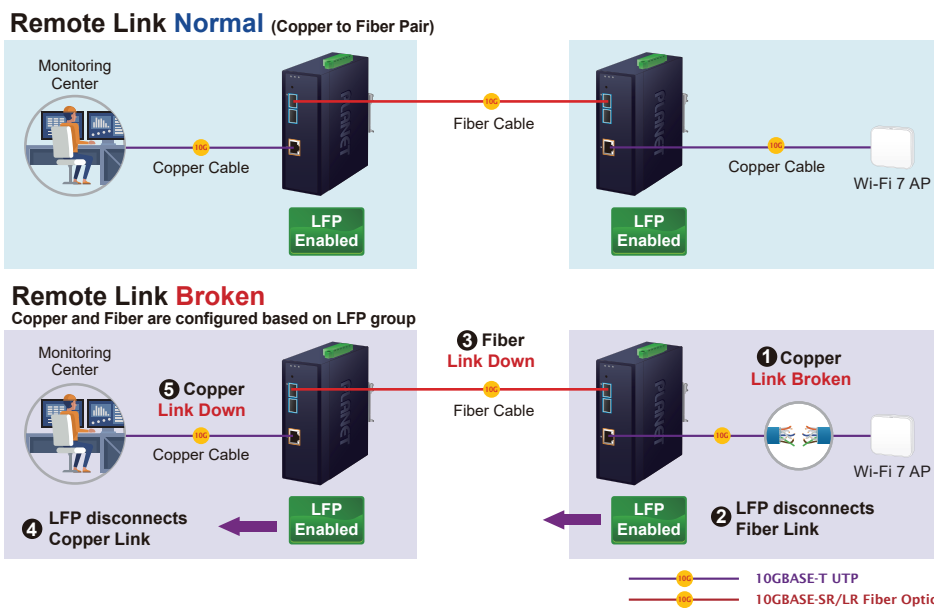


### Link Fault Pass-through

Link Fault Pass-through is a networking feature. It facilitates the detection and propagation of link faults or errors from one network device to another. It helps maintain network reliability and minimizes downtime by allowing devices to dynamically respond to link faults. Link Fault Pass-through improves fault detection and enables faster troubleshooting and resolution processes.

How it works:

- When a link fault occurs, the device experiencing the fault generates a notification.
- This notification is then forwarded to other connected devices using Link Fault Pass-through.
- Upon receiving the link fault information, the connected devices become aware of the fault.
- This awareness enables them to take appropriate actions, such as rerouting traffic or disabling the affected port.



### Environmentally Hardened Design

With the IP40 industrial case, the IXT-900 PoE series 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 conditioner. Being able to operate under the temperature range from -40 to 75 degrees C, the IXT-900 PoE series can be placed in almost any difficult environment.

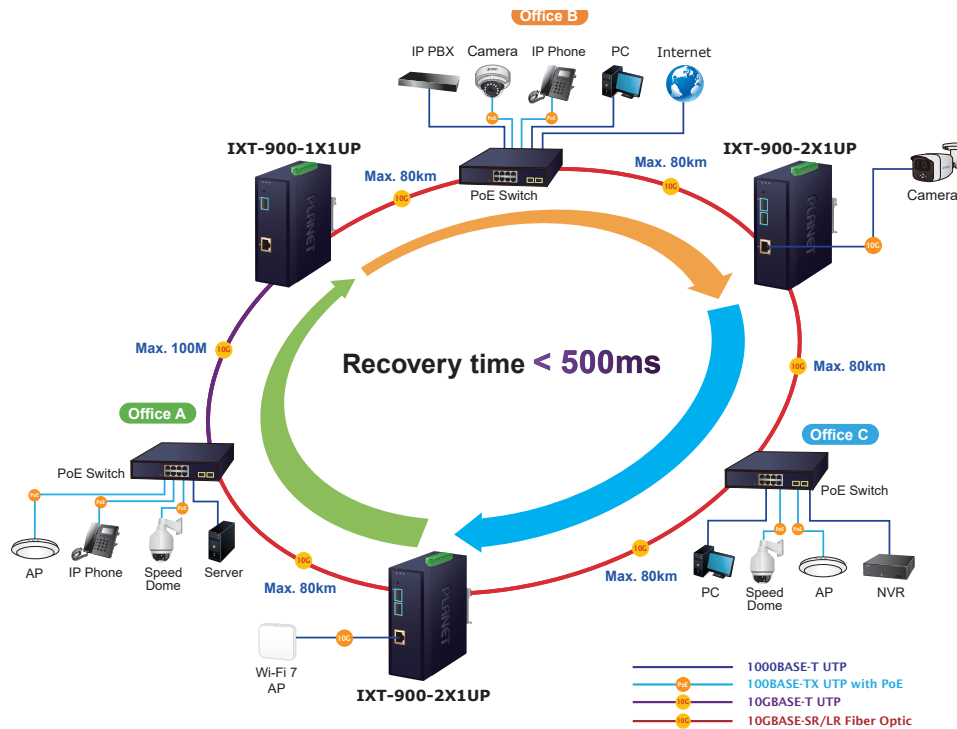
### Network with Cybersecurity Helps Minimize Risks

The IXT-900 PoE series is equipped with enhanced cybersecurity features to fend off cyber threats and attacks. It supports SSHv2, TLSv1.2, and SNMPv3 protocols to provide strong protection against advanced threats. Thus, transmitting data to a customer's critical equipment in a business network is very secure. The IXT-900 PoE series protects network management and enhances the security of mission-critical networks without incurring any additional deployment cost or effort.



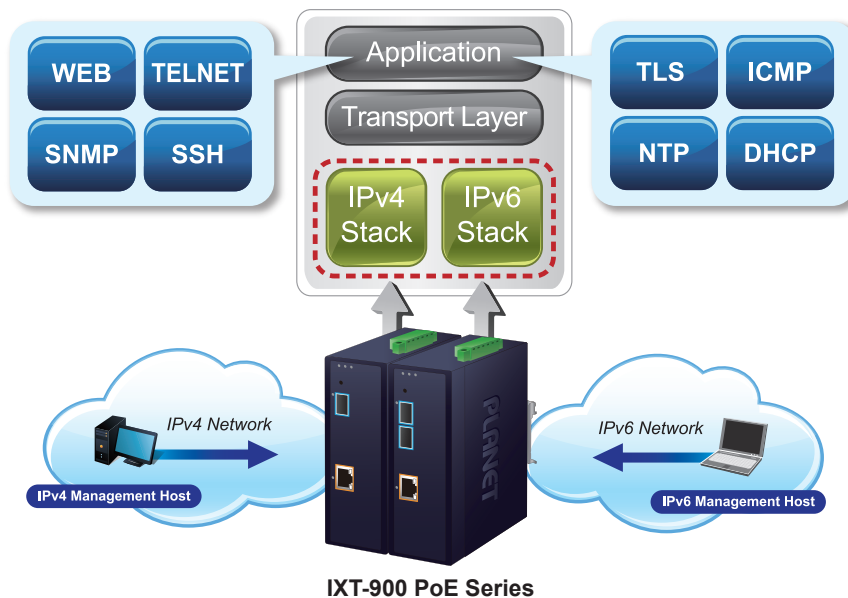
**Redundant Ring, Fast Recovery for Critical Network Applications**

The IXT-900 PoE series supports software-based redundant ring technology and features strong, rapid self-recovery capability to prevent interruption and external intrusions. It incorporates advanced ITU-T G.8032 ERPS (Ethernet Ring Protection Switching) technology, ensuring rapid self-recovery in ring networks. With this advanced feature, the data link recovery time can be as fast as 500ms.



**IPv6/IPv4 Dual Stack Management**

Supporting both IPv6 and IPv4 protocols, the IXT-900 PoE series helps the enterprises and telecoms step in the IPv6 era with the lowest investment as their network facilities need not be replaced or overhauled if the IPv6 FTtx edge network is set up.



**SNMP for Comprehensive Network Monitoring and Centralized Control**

SNMP (Simple Network Management Protocol) provides network monitoring and management capabilities by gathering real-time information about network devices. By proactively identifying and addressing network issues, reliability and performance are improved. SNMP also facilitates centralized control of network devices, allowing for monitoring and configuration of multiple devices from a single location, reducing manual effort and enhancing operational efficiency.

**Layer 2 Features**

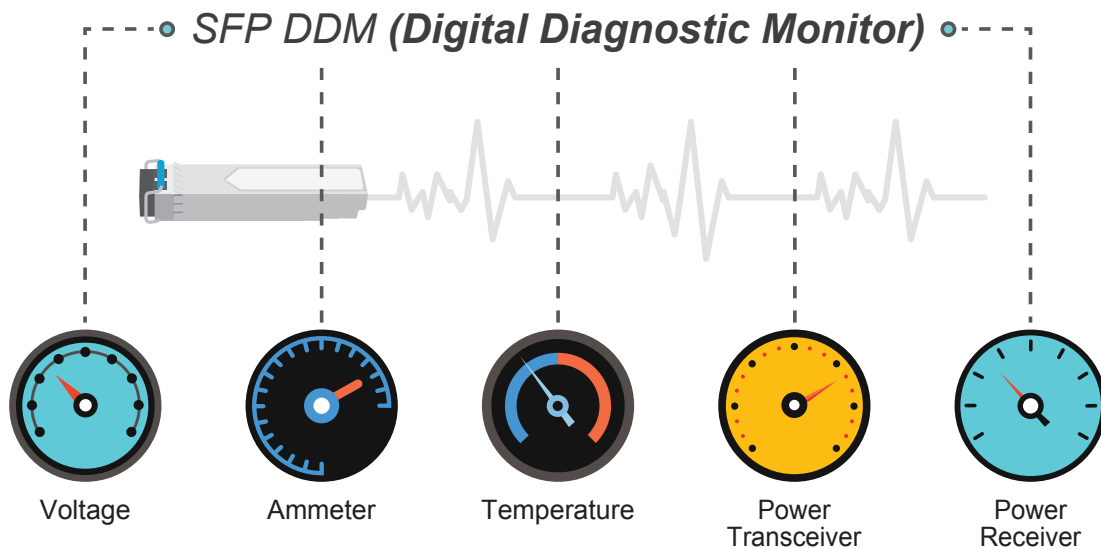
The device has a 16K-entry MAC address table that automatically removes inactive addresses. Its backbone supports speeds of up to 60Gbps (40Gbps for IXT-900-1X1UP), and it can handle Jumbo Frames up to 9K in size. The device is equipped with Storm Control to manage Broadcast/Multicast/Unknown Unicast traffic to prevent excessive network flooding.

**Efficient Traffic Control**

The IXT-900 PoE series media converter boasts advanced QoS features and robust traffic management capabilities, optimizing the delivery of business-class data, voice, and video solutions. Its feature set includes broadcast/multicast/unicast storm control, per-port bandwidth control, and 802.1p CoS/DSCP/IP Precedence QoS priority and remarking. These capabilities guarantee optimal performance for VoIP and video stream transmission, maximizing the utilization of limited network resources for enterprises.

**Intelligent SFP Diagnosis Mechanism**

The IXT-900 PoE series supports the SFP-DDM (digital diagnostic monitor) function, which greatly helps network administrators easily monitor real-time parameters of the SFP transceivers. These parameters include optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.



**Remote Management Solution**

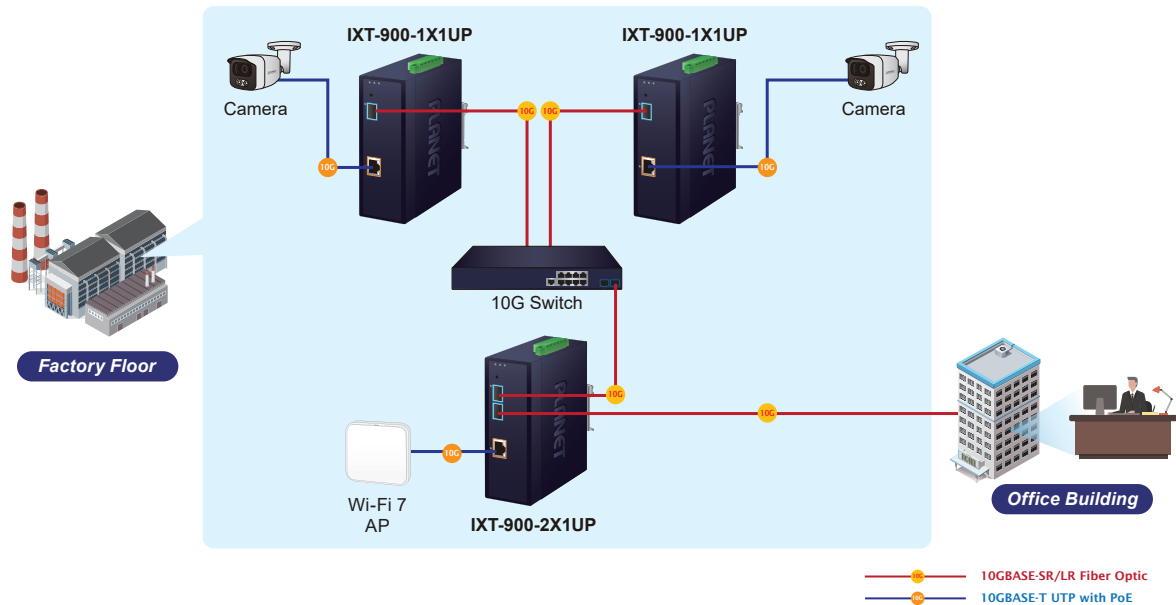
PLANET's Universal Network Management System (UNI-NMS) and CloudViewerPro app provide robust support for IT staff in effectively managing and monitoring all network devices, including the IXT-900 series, from remote locations. Tailored for deployment in both enterprises and industries where the IXT-900 PoE series is utilized remotely, these systems enable the identification of bugs or faulty conditions without the need for on-site visits. Whether using UNI-NMS or the CloudViewerPro app, businesses of all types can now be swiftly and efficiently managed through a unified platform, streamlining operational oversight.



## Applications

### Gearing Up for Wi-Fi 7 with the IXT-900 PoE Series

The IXT-900 PoE series is more than just a reliable media converter and 10G high-speed connector for office and factory environments. It is also equipped with IEEE 802.3bt PoE++ support, perfectly aligning with the upcoming Wi-Fi 7 technology. This ensures a faster, more robust Wi-Fi deployment, especially in open areas like factories.



## Specifications

Model	IXT-900-1X1UP	IXT-900-2X1UP
<b>Hardware Specifications</b>		
Copper Interface	1x 10G/5G/2.5G/1G/100BASE-T RJ45 interface with auto MDI/MDI-X function support IEEE 802.3bt PoE++ standard	
Fiber Interface	1x 10G/2.5G/1G/100BASE-X SFP+ interface	2x 10G/2.5G/1G/100BASE-X SFP+ interface
Reset Button	< 5 sec.: System reboot > 5 sec.: Factory default	
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for Alarm, Pin 5/6 for Power 2	
Alarm	One relay output for power failure. Alarm relay current carry ability: 1A @ 24VDC	
Enclosure	IP40 metal case	
ESD Protection	4KVDC Contact / 8KVDC Air	
Installation	Wall-mount and DIN-rail kit installation	
Dimensions (W x D x H)	50 x 87 x 135mm	
Weight	659g	720g
Power Requirement	12~54V DC	
Power Consumption (IXT-900 PoE series)	<b>12VDC:</b> 5.86W/20 BTU (No Loading) 70.8W/241.6 BTU (Full Loading) <b>54VDC:</b> 6.3W/21.4 BTU (No Loading) 102.7W/350.43 BTU (Full Loading)	<b>12VDC:</b> 5.5W/18.8 BTU (No Loading) 71W/242.3 BTU (Full Loading) <b>54VDC:</b> 6.2W/21.2 BTU (No Loading) 105W/358.3 BTU (Full Loading)
LED Indicator	<b>System:</b> PWR 1/2, (Green) Alarm (Red) <b>PoE:</b> 802.3bt PoE-in-Use (Green) 802.3at PoE-in-Use (Amber) <b>Per 10GBASE-T RJ45 Port:</b> 100/1G LINK/ACT (Green) 2.5G/5G LINK/ACT (Green) 10G LINK/ACT (Amber) <b>Per 10GBASE-X SFP+ Port:</b> 100/1G LINK/ACT (Green) 2.5G LINK/ACT (Green) 10G LINK/ACT (Amber)	

Transmission Specifications	
Processing Scheme	Store and Forward
Fabric	40Gbps <span style="float: right;">60Gbps</span>
Throughput (packet per second)	29.76Mpps@64bytes
Address Table	16K entries, automatic source address learning and aging
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex
Jumbo Frame	9K
Shared Buffer	12Mbits
Power Over Ethernet	
PoE Standard	IEEE 802.3bt PoE++ Type-4 PSE Backward compatible with 802.3at PoE+ PSE
PoE Power Supply Type	802.3bt End-span Mid-span Legacy Force
Power Pin Assignment	802.3bt: 1/2(-), 3/6(+), 4/5(+), 7/8(-) End-span: 1/2(-), 3/6(+) Mid-span: 4/5(+), 7/8(-)
PoE Power Budget	95W
Layer 2 Function	
Port Configuration	Port disable/enable Auto-negotiation 100Mbps, 1/2.5/5/10Gbps full and half duplex mode selection Flow control disable/enable
Port Status	Display each port's link status, speed, Auto-negotiation status, duplex mode, flow control status
VLAN	IEEE 802.1Q tag-based VLAN IEEE 802.1ad Q-in-Q tunneling Up to 256 VLAN groups, out of 4096 VLAN IDs
Bandwidth Control	Per port bandwidth control Ingress: 16~10,000,000Kbps Egress: 16~10,000,000Kbps
QoS	Traffic classification based, strict priority and WRR 8-level priority for switching Traffic classification: - CoS/802.1p - DSCP - IP Precedence
Ring	Supports ERPS, and complies with ITU-T G.8032 Recovery time < 450ms
Security Function	
Access Security	Remote management protocols support: SSH, Telnet, HTTP and HTTPs Protected ports
System Management	
Basic Management Interfaces	Telnet, Web browser, SNMP v1, v2c
Secure Management Interfaces	SSHv2, TLSv1.2, SNMPv3
System Management	Firmware upgrade by HTTP protocol through Ethernet network Configuration upload/download through HTTP LLDP protocol SNTP PLANET Smart Discovery Utility PLANET NMS Controller PLANET CloudViewerPro mobile app
Event Management	Remote syslog Local system log SNMP trap



SNMP MIBs	RFC 1213 MIB-II RFC 2863 IF-MIB RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2737 Entity MIB RFC 2819 RMON MIB (Groups 1, 2, 3 and 9) RFC 3411 SNMP-Frameworks-MIB LLDP MAU-MIB
<b>Standards Conformance</b>	
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 802.3u, 100BASE-TX/FX IEEE 802.3ab, 1000BASE-T IEEE 802.3bz, 2.5G/5GBASE-T IEEE 802.3an, 10GBASE-T IEEE 802.3z, 1000BASE-SX/LX IEEE 802.3ae 10GBASE-SR/LR IEEE 802.3x full-duplex flow control IEEE 802.1p Class of Service IEEE 802.1Q VLAN tagging IEEE 802.1ad Q-in-Q VLAN stacking IEEE 802.1ab LLDP RFC 768 UDP RFC 2474 DSCP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP ITU-T G.8032 ERPS Ring
<b>Environment</b>	
Operating	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

## Ordering Information

IXT-900-2X1UP	Industrial 2-Port 10G SFP+ + 1-Port 10GBASE-T 802.3bt PoE++ Managed Media Converter
IXT-900-1X1UP	Industrial 1-Port 10G SFP+ + 1-Port 10GBASE-T 802.3bt PoE++ Managed Media Converter

## Related Products

IXT-900-2X1T	Industrial 2-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T Managed Media Converter
IXT-900-1X1T	Industrial 1-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T Managed Media Converter
IXT-900-2X1PD	Industrial 2-Port 10GBASE-X SFP+ + 1-Port 10GBASE-T PoE PD Managed Media Converter
IXT-900-2X	Industrial 2-Port 10GBASE-X SFP+ Managed Media Converter
IXT-705AT	Industrial 10G/5G/2.5G/1G/100M Copper to 10GBASE-X SFP+ Media Converter
MTB-Series Module	10GBASE-LR/SR/BX/T Modules
MGB-Series Transceiver	1000BASE-SX/LX SFP Transceiver
MFB-Series Transceiver	100BASE-FX SFP Transceiver
MGB-2G Transceiver	2500BASE-X SFP Transceiver

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### IXT-900 PoE Series