



## IPS-3110-PB

8 x 10/100/1000Base-T RJ-45 with  
802.3af/at PoE injector +  
2 x 10/100/1000Base-T RJ-45 /  
100/1000Base-X SFP (Combo)  
Managed Industrial PoE Switch

### Description

Connection Technology Systems (CTS) IPS-3110-PB Industrial PoE Switch is a Fast and Gigabit Ethernet 10/100/1000Base-T to 100/1000Base-X industrial-grade PoE switch.

The IPS-3110-PB converts traditional twisted-pair RJ-45 connections into various fiber optic media. It offers flexible uplink management with a 10/100/1000Mbps RJ-45 port and a 100/1000Mbps SFP slot. The fiber optic port supports different transmission distances via multi-mode fiber, single-mode fiber, or bi-directional single-mode fiber, making it ideal for deployment in control rooms, warehouses, or factories.

Designed for industrial environments, the IPS-3110-PB supports DIN-rail mounting for easy installation at industrial sites such as factories and warehouses. Terminal blocks provide power redundancy to minimize the risk of power outages, and digital input/output ports are available for alarm integration.

The IPS-3110-PB is an ideal solution for delivering Power over Ethernet to devices such as IP cameras, Wi-Fi access points, and IP phones. It supports a wide operating temperature range of -40°C to 75°C, ensuring reliable performance in harsh environments. The switch complies with IEEE 802.3/802.3u/802.3ab/802.3z standards to ensure seamless interoperability with other network devices.

For network management, the IPS-3110-PB supports telnet CLI and SNMP. With comprehensive L2+ features and reliable management functions, it helps network administrators reduce operational expenses (OPEX) effectively.

# Key Features

## ■ Compatible with IEEE 802.3af/at PoE+

The support of IEEE 802.3af/at PoE+ standard enables safe transfer of electrical power and the transmission of digital data over Ethernet cable.

## ■ Aluminum Housing

The aluminum housing material provides a remarkable strength-to-weight ratio, capable of undergoing an arduous operating environment yet still staying portably light-weight.

## ■ PoE Budget 30W Max. per Port, 240W Max. Total

The PSE (Power Sourcing Equipment) comes with intelligent PoE providing a maximum of 30W of power per port, allowing for meeting the needs of nowadays power-hungry PD (Powered Device).

## ■ Extended Operation Temperature -40°C ~ 75°C

The extensive range ensures the reliable performance of mission-critical applications under extreme and rapidly changing temperatures.

## ■ 24 ~ 54VDC Dual Power Input

The IPS-3110-PB supports dual DC power inputs from 24V to 54V, ensuring seamless power failover if one input fails. Thanks to the built-in power booster, it can accept input as low as 24V and boost it internally to the required operating voltage. This design provides greater flexibility in power source selection while maintaining stable and reliable operation.

## ■ Targeted Applications

- Point-to-Point Fiber Connectivity in Harsh Environment
- Long Distance IP Surveillance Network Deployment
- Factory, Parking Lot, ITS, Smart City Network Deployment

# Specification

## ■ Interface

### RJ-45 Port

- 8 x 10/100/1000Base-T RJ-45 with IEEE 802.3af/at PoE injector, Max 30W output

### Combo Port

- 2 x 100/1000Base-X SFP, or
- 2 x 10/100/1000Base-T RJ-45

### Console Port

- 1 x RS-232 to RJ-45 Serial Port

### USB Port

- 1 x USB 2.0 (Host Type-A)

### Terminal Block

- 1 x Digital Output (Alarm Relay)
- Relay output with current carrying capacity of 1 A @ 30 VDC

### Standards

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX/FX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.3x Flow Control
- IEEE 802.3ad Link Aggregation
- IEEE 802.1D STP
- IEEE 802.1w RSTP
- IEEE 802.1x Port based Network Access Control
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at Power over Ethernet +

## ■ H/W Specification

- MAC Address Table: 16K
- Non-Blocking Switching Fabric: 20Gbps
- Throughput @ 64Bytes: 14.88Mpps
- Packet Buffer: 2Mbit
- Jumbo Frame: 9K Bytes
- Store and Forward Switching Mechanism
- Auto-Cross Over for MDI/MDIX in TP Ports
- Auto-Negotiation in TP Ports
- Full/Half Duplex Mode Operation

## ■ LED

- Link/Act/Speed, P1, P2, ALM, RM, R, Status, PoE

## ■ Forward/Filter Rate

- 10M: 14,880/14,880pps
- 100M: 148,800/148,800pps
- 1000M: 1,488,000/1,488,000pps

## ■ Power over Ethernet

- Total PoE budget
- 240W @ 50-54 VDC input
- 120W @ 24-50 VDC input
- Max. Per Port output: 30W

## ■ Layer 2 Switch Features

### Port Management

- State, Description, Media Type, Port Type, Speed, Duplex and Flow Control

### Network Redundancy

- IEEE 802.1d STP
- IEEE 802.1w RSTP
- Fast Ring v2/Chain Redundancy Protocols
- Static Port Trunking / Dynamic LACP Trunk
- Up to 5 Aggregation Groups, 2-6 Ports per Group

### VLAN

- IEEE 802.1q VLAN
- VLAN ID: 4094 IDs
- VLAN Concurrent Groups: 128 VLAN Groups
- Port-Based VLAN

### QoS

- QoS based on 802.1p CoS and DSCP
- Scheduling Algorithm
- Weighted Round Robin (WRR)
- Strict Priority Queuing (SPQ)
- QoS Priority Queues: 8 Queues
- 802.1p P-bit & DSCP Remarking
- Port-Based Rate Limit (Ingress/Egress)

### Multicast

- IGMP Snooping v1/v2
- IGMP Fast Leave
- IGMP Snooping Group: 512 Groups

## ■ Security

- 802.1x RADUIS Authentication
- 802.1x Port based Access Control
- 802.1x MAC Authentication Bypass (MAB)
- RADIUS Authentication for login username / password
- DHCP Snooping and DHCP Server Trust Port
- Broadcast Storm Control
- Loop Detection

## ■ Management

- SNMP v1, v2c & v3 (Support Traps)
- Web (HTTP/HTTPS)
- CLI (Console/Telnet/SSHv2)
- SNTP with Daylight Saving Time
- LLDP

### Upgrade/Restore

- Firmware Upgrade/Downgrade
- HTTP/HTTPS/FTP/TFTP
- DHCP Auto-provision via DHCP Option 60/43
- Configuration Upload/Backup
- HTTP/HTTPS/FTP/TFTP
- DHCP Auto-provision via DHCP Option 60/43
- Auto configure backup
- FTP/TFTP

## ■ PoE Management

- Per Port PoE Operation Mode
- Auto af/at, Injector-30Watt, Shutdown
- Per Port PoE off/on by schedule

## ■ Maintenance

### Diagnostic

- Port Mirror
- Event log
- Syslog
- SFP SFF-8472 DDMI Monitor
- Temp/Voltage/TX Bias/TX Power/RX Power
- CPU Temperature

## ■ Power Requirement

- Dual Power Input: 24~54 VDC
- Power Consumption
- Device: full-load < 255W (870 BTU/h)

## ■ Environmental Condition

- Operation: -40°C ~ 75°C
- Storage: -40°C ~ 85°C
- Humidity: 5% ~ 90%, Non-condensing

## ■ Dimension & Weight

- Size: 88 x 110 x 135mm (W x D x H)
- Weight: 1.12 Kg
- Housing: Aluminium, IP30

## ■ Standards and Certifications

### CE/FCC Class A

- Safety: EN/IEC 62368-1
- EMC: EN 55032 / EN 55035
- ESD
- Air Discharge: +/- 8 kV
- Contact Discharge: +/- 4 kV
- EFT
- DC input: +/- 0.5 kV
- Signal (RJ-45): +/- 0.5 kV
- Surge Protection
- DC input: +/- 0.5 kV
- Signal (RJ-45): +/- 1 kV, PoE: +/- 0.5 kV

### UKCA

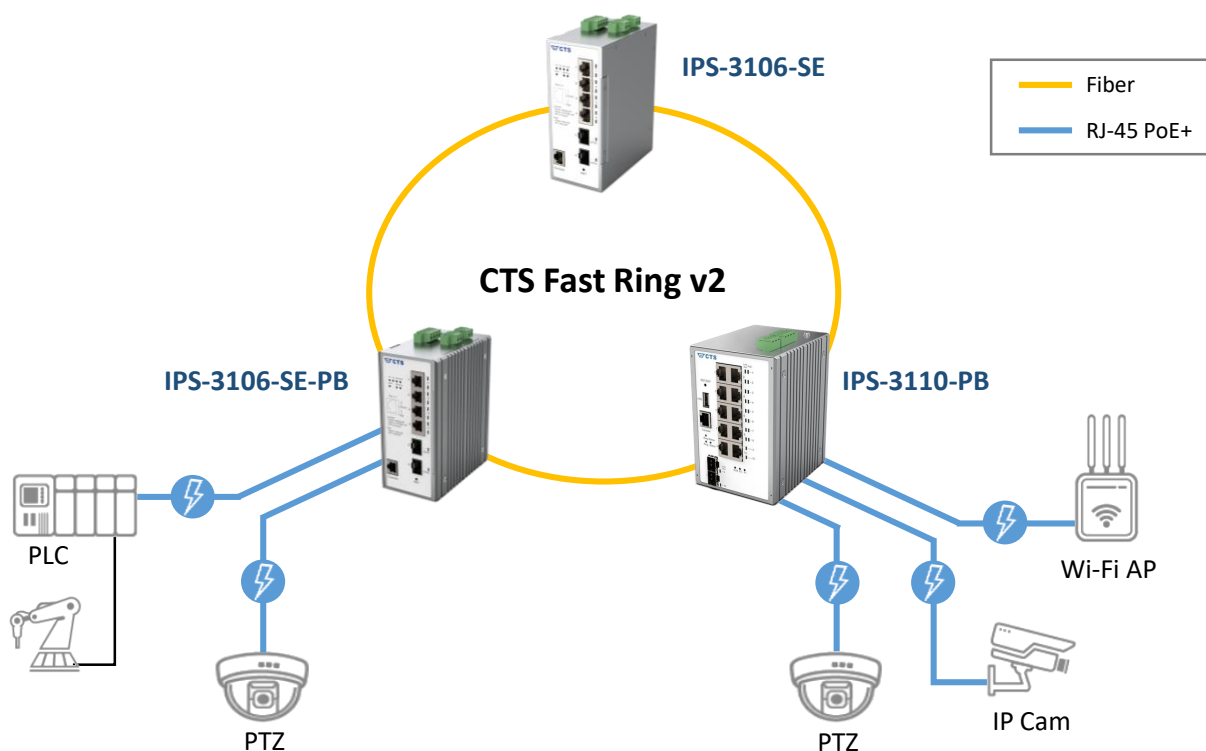
### ITU-T K.21

### Freefall/Shock/Vibration

- IEC 60068-2-32
- IEC 60068-2-27
- IEC 60068-2-6

### RoHS 2.0

## Application Diagram



## Order Information

Model	TP Port		SFP/TP Combo Port*			Support Power Source
	Speed	Ports	Speed	Type	Ports	
IPS-3110-PB	10/100/1000Mbps	8 with 802.3af/at Injector	100/1000Mbps	SFP	2	2 x 24~54V DC with removable terminal block
			10/100/1000Mbps	TP	2	

\*The combo port supports either TP (RJ-45) or SFP connectivity, but cannot operate both simultaneously.

# Accessory

## SFP-31-D

Model	Specification					
	Speed	Type	Connector	Distance	Wavelength	Operating Temperature
SFP-31FC-D	1000Mbps	MM	LC	550M	850nm	-40°C ~ 85°C
SFP-31FC-(MM-02)-D	1000Mbps	MM	LC	2KM	1310nm	-40°C ~ 85°C
SFP-31FC(SM-10/20)-D	1000Mbps	SM	LC	10/20KM	1310/1310nm	-40°C ~ 85°C
SFP-31W2A(SM-10/20)-D	1000Mbps	WDM	LC	10/20KM	TX: 1310/1310nm	-40°C ~ 85°C
					RX: 1550/1550nm	
SFP-31W2B(SM-10/20)-D	1000Mbps	WDM	LC	10/20KM	TX: 1550/1550nm	-40°C ~ 85°C
					RX: 1310/1310nm	

## Power Supply

Model	Output Voltage Range	Maximum Output Watt	Operating Temperature
SDR-480-48	48~55V	480W	-25°C ~ 70°C
SDR-240-48	48~55V	240W	-25°C ~ 70°C
SDR-120-48	48~55V	120W	-25°C ~ 70°C
SDR-75-48	48~55V	75W	-25°C ~ 70°C
NDR-480-48	48~55V	480W	-20°C ~ 70°C
NDR-240-48	48~55V	240W	-20°C ~ 70°C
NDR-120-48	48~55V	120W	-20°C ~ 70°C
NDR-75-48	48~55V	75W	-20°C ~ 70°C
MDR-60-48	48~56V	60W	-20°C ~ 70°C

NOTE: Please refer to the power supply datasheet for details regarding the operating temperature and derating curve. Subsequently, choose the suitable power supply based on your specific requirements and operating environment.

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