



## IES-3110SFP

8 x 10/100/1000Base-T RJ-45 +  
2 x 10/100/1000Base-T RJ-45 /  
100/1000Base-X SFP (Combo)  
Managed Industrial Switch

### Description

Connection Technology Systems (CTS) IES-3110 Industrial Switch are the Fast & Gigabit Ethernet 10/100/1000Base-T to 100/1000Base-X Industrial Switch. It switches the traditionally twisted-pair RJ-45 cable into various fiber optics media. IES-3110 offer easy management of uplink port (10/100/1000Mbps RJ-45 + 100/1000 SFP slot). The fiber optical port of IES-3110 can support various connection distances via multi-mode fiber, single-mode fiber or Bi-directional single-mode fiber for the deployment to the control room, warehouse or factory.

The IES-3110 Industrial Switch are designed for deployment at industrial sites. With DIN-rail mounting, you can easily mount the Industrial Switch at your sites such as factory or warehouse. The two Terminal Blocks can provide power redundancy to prevent any possible power outage and digital output to serve as an alarm.

The IES-3110 Industrial Switch provide an extended operating temperature (-40°C ~ 75°C) to withstand against harsh environment for better performance. IES-3110 are fully compliant with IEEE standards such as IEEE 802.3/802.3u/802.3ab/802.3az to ensure interoperability between network devices.

The IES-3110 Industrial Switch provide easy management ways via telnet CLI and SNMP. To fulfill the requirement of mass deployment, the device also supports DHCP auto-provision mechanism to allow the network administrator to manage the device configuration automatically and dynamically.

# Key Features

## ■ 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.

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

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

## ■ 12 ~ 54VDC Dual Power Input

Two sets of power inputs ranging from DC 12V~54V bring you the seamless transition of power supply in case of a sudden outage on either set of power inputs.

## ■ SFP/RJ-45 Combo Port Design

The dual-purpose combo ports offer the flexibility of copper or fiber connectivity, allowing seamless adaptation to diverse deployment environments without hardware change.

## ■ IEEE 802.3ad Link Aggregation

A cost-efficient method to enhance bandwidth and link redundancy by logically bundling multiple physical ports into one virtual connection.

## ■ 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

### 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

## ■ 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

## ■ Forward/Filter Rate

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

## ■ 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

## ■ 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: 12~54 VDC
- Power Consumption
- Device: full-load < 15W (51.1 BTU/h)

## ■ Environmental Condition

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

## ■ Dimension & Weight

- Size: 73 x 110 x 135mm (W x D x H)
- Weight: 0.92 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

### UKCA

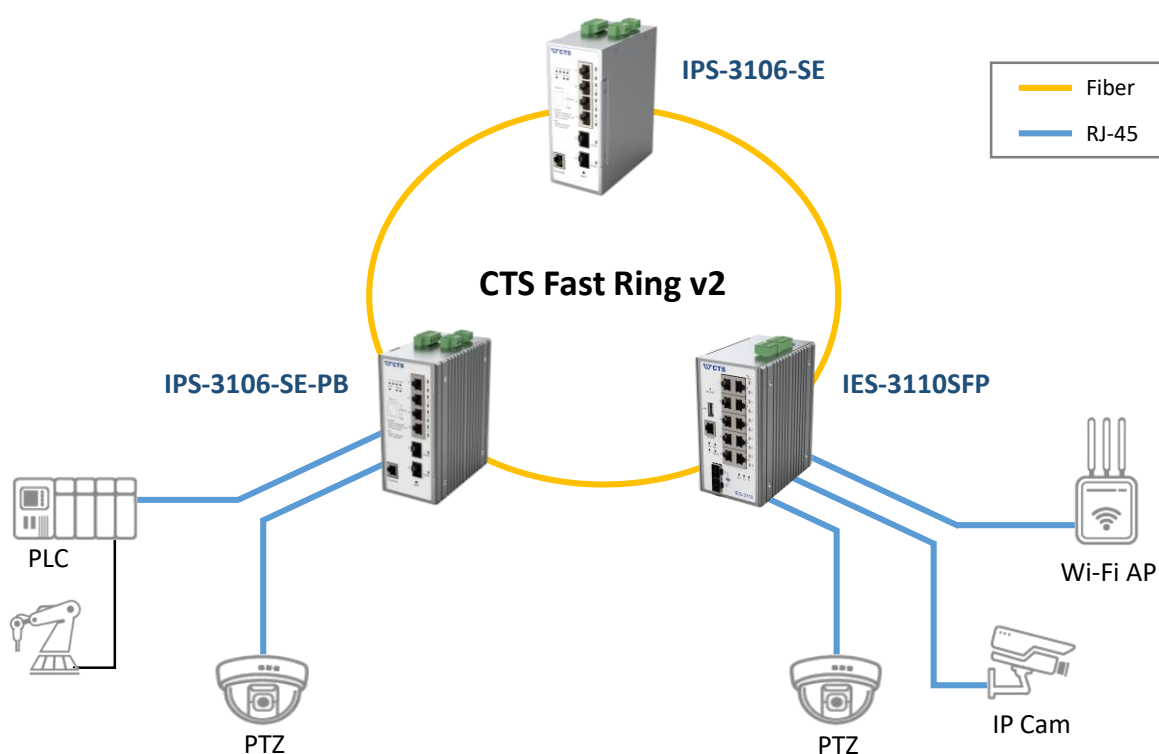
### ITU-T K.21

### 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	
IES-3110SFP	10/100/1000Mbps	8	100/1000Mbps	SFP	2	2 x 12~54V 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
MDR-20-12	10.8~13.2V	20W	-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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