IES3110 Series Switches

INDUSTRIAL MANAGED SWITCHES FOR ENERGY AND TRANSPORTATION INDUSTRIES

Models: IES3110-8TF; IES3110-8TF-P; IES3110-24TF

Overview

IES3110S switches are industrial switches with environmentally hardened design, and can operate stably under the temperature range from -40 to 75 degrees C. They are ideal for harsh environments, such as traffic control cabinets, factory floors, and the outdoor places where temperature is extremely low or high.

The IES3110S switches integrate L2+ functions, such as 802.1Q VLAN, private VLAN, QoS, IGMP Snooping, LACP link aggregation, Static Routing, etc., providing more cost-effective options for industrial network.

Benefits

- Layer 2+ Switch

- Robust Industrial Design

- Support Precision Time Protocol (PTP)

- Complete Security Polices

- Support Redundant Ring Technology: ERPS, MSTP

- WEB GUI/CLI/SSH/Telnet/SNMP Management

- Comply with IEEE 802.3af/at power supply standard

Key Features

Robust Industrial Design

With IP30 aluminum industrial case protection, IES3110S 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. It also possesses an integrated power supply source with a wide range of voltages for worldwide high availability applications requiring dual or backup power inputs. Being able to operate under the temperature range from -40 to 75 degrees C, IES3110S can be placed in almost any difficult environment.

Enterprise-Level Features

IES3110S supports a complete lineup of L2+ features, including dynamic port link aggregation, 802.1Q VLAN, Q-in-Q VLAN, STP/RSTP/MSTP, QoS, bandwidth control and IGMP snooping. Advanced IGMP snooping ensures that the switch intelligently forwards multicast streams only to appropriate subscribers, thereby cutting off unnecessary traffic. Static routing is a simple way to segment the network and route traffic internally through switches to increase efficiency.

Redundant Ring

IES3110S supports redundant ring technology and features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T G.8032 ERPS (Ethernet Ring Protection Switching) technology, Spanning Tree Protocol (802.1s MSTP), and redundant power input system into customer's industrial automation network to enhance system reliability and uptime in harsh factory environments. In certain simple Ring network, the recovery time of data link can be as fast as 10ms.

Precision Time Protocol (PTP)

IES3110S is ideal for telecom and Carrier Ethernet applications, supporting MEF service delivery and timing over packet solutions for IEEE 1588 and synchronous Ethernet.

Enhanced QoS

Voice and video traffic can be prioritized based on IP address, MAC address, TCP port number, UDP port number, Etc. With QoS (Quality of Service), voice and video services stay lag-free even when bandwidth is insufficient.

Network Security

IES3110S offers comprehensive IPv4/IPv6 Layer 2 to Layer 4 Access Control List (ACL) for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises 802.1X port-based user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the Protected Port function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, Port Security function allows limiting the number of network devices on a given port.

It also provides DHCP Snooping, IP Source Guard and Dynamic ARP Inspection functions to prevent IP snooping from attack and discard ARP packets with invalid MAC address. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

Key Features

Easy Management and Maintenance

Support many management modes such as the WEB GUI, CLI, SNMP.

WEB GUI management mode is easy and efficient for installing and debugging the device. The SNMP can be managed via any management software based on the standard of SNMP Protocol. For reducing product learning time, it offers Cisco-like command via Telnet or console port and customer does not need to learn new console command. Moreover, it also offers secure remote management by supporting SSH, SSL and SNMP v3 connections which encrypt the packet content at each session.

Technical Specification

IES3110 series switches come with advanced hardware architecture design L2+ features. Here's a look at the details.

CHARACTERISTICS

	IES3110-8TF	IES3110-8TF-P	IES3110-24TF
Ports			
Ports	8x10/100/1000BASE-T RJ45 2x 100/1000/2500BASE-X SFP	8x10/100/1000BASE-T RJ45 2x 100/1000/2500BASE-X SFP	24x 10/100/1000BASE-T RJ45 4x 1G RJ45/SFP Combo
Performance			
Layer Type	Layer 2+	Layer 2+	Layer 2+
Switching Capacity	26 Gbps	26 Gbps	48 Gbps
Forwarding Rate	14.8 Mpps	14.8 Mpps	35.71 Mpps
Flash Memory	16 MB	16 MB	16 MB
Swap Mode	Store-and-Forward	Store-and-Forward	Store-and-Forward
Jumbo Frame	9 KB	9 KB	9 KB
MAC address	8 K	8 K	8 K
Packet Buffer	4 MB	4 MB	4 MB
Management	WEB GUI/CLI/SSH/Telnet/SNMP	WEB GUI/CLI/SSH/Telnet/SNMP	WEB GUI/CLI/SSH/Telnet /SNMP
Time Management	PTP	PTP	PTP
Power			
Input Voltage	Dual 12-48VDC, 24VAC	Dual 48-56VDC	Dual 36-60VDC, 100-240VAC
PoE Standard	-	IEEE 802.3af/at	-
PoE Power Budget	-	240 W	-
Max. Power Consumption	10W	255W (Full PoE Loading)	20W
Physical and Environmental			
Dimensions (HxWxD)	5.31''x2.20''x3.45'' (135x56x87.8mm)	5.98''x2.83''x4.21'' (152x72x107mm)	1.75''x17.32''x7.87'' (44.5x440x200mm)
Installation	DIN-rail Mount or Wall Mount	DIN-rail Mount or Wall Mount	Rack Mount

CHARACTERISTICS

	IES3110-8TF	IES3110-8TF-P	IES3110-24TF
Rack Space	-	-	1U
Fan Number	Fanless	Fanless	Fanless
Enclosure	IP30 Rated Metal Enclosure	IP30 Rated Metal Enclosure	IP30 Rated Metal Enclosure
Operating Temperature	-40°F to 167°F (-40°C to 75°C)	-40°F to 167°F (-40°C to 75°C)	-40°F to 167°F (-40°C to 75°C) for DC, 14°F to 140°F (-10°C to 60°C) for AC
Storage Temperature	-40°F to 167°F (-40°C to 75°C)	-40°F to 185°F (-40°C to 85°C)	-40°F to 176°F (-40°C to 80°C)
Operating Humidity	5-95% (non-condensing)	5-95% (non-condensing)	5-95% (non-condensing)

Warranty

	IES3110-8TF	IES3110-8TF-P	IES3110-24TF
Warranty	5 Years	5 Years	5 Years

FEATURES

| Functionality	Description
Layer 2+ Features	**VLANs** • 802.1Q tagged VLAN ,up to 255 VLAN groups • Q-in-Q tunneling • Private VLAN Edge (PVE) • MAC-based VLAN • Protocol-based VLAN • Voice VLAN • Multicast VLAN Registration (MVR) **IGMP** • IGMP (v1/v2/V3) Snooping, up to 255 multicast groups • IGMP Querier mode support **MLD Snooping** • MLD (v1/v2) Snooping, up to 255 multicast groups • MLD Querier mode support **Link Aggregation** • IEEE 802.3ad LACP/static trunk **Access Control List** • IP-based ACL / MAC-based ACL **Port Mirroring** • TX/RX/Both • One-to-one • Many-to-one **Spanning Tree Protocol** • IEEE 802.1D Spanning Tree Protocol (STP) • IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) • IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), spanning tree by VLAN • BPDU Guard

FEATURES

Functionality	Description
QoS Features	Ingress Shaper and Egress Rate Limit per port bandwidth control 8 priority queues on all switch ports Traffic classification • IEEE 802.1p CoS • IP TOS/DSCP/IP precedence • IP TCP/UDP port number • Typical network application Strict priority and Weighted Round Robin (WRR) CoS policies Supports QoS and In/Out bandwidth control on each port Traffic-policing on the switch port DSCP remarking
Security	Authentication • IEEE 802.1x Port-based/MAC-based network access authentication • Built-in RADIUS client to cooperate with the RADIUS servers • RADIUS/TACACS+ users access authentication Access Control List • IP-based Access Control List (ACL) • MAC-based Access Control List (ACL) DHCP snooping to filter distrusted DHCP messages Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding IP Source Guard prevents IP spoofing attacks IP address access management to prevent unauthorized intruder

FEATURES

| Functionality	Description
Multicast	IGMP snooping v1, v2 and v3
	MLD snooping v1 and v2
	Querier mode support
	IGMP snooping port filtering
	MLD snooping port filtering
	MVR (Multicast VLAN Registration)
ERPS	Support Ethernet Ring Protection Switching (ERPS)
Network Discovery	IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
Industrial Protocol	Modbus TCP for real-time monitoring in SCADA system
	IEEE 1588v2 PTP (Precision Time Protocol) transparent clock
Management	Switch Management Interfaces
	• Web switch management
	• SNMP v1 and v2c switch management
	• SSH/TLS and SNMP v3 secure access
	• Console/Telnet Command Line Interface
	Four RMON groups (history, statistics, alarms, and events)
	IPv6 IP address/NTP/DNS management
	Built-in Trivial File Transfer Protocol (TFTP) client
	BOOTP and DHCP for IP address assignment
	Firmware upload/download via HTTP/TFTP
	Reset button for system reboot or reset to factory default
	DHCP Relay and DHCP Option 82
	DHCP Server
	User Privilege levels control

IES3110-8TF Accessories
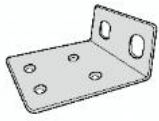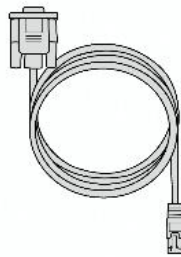

Mounting Bracket x2

M3 Screw x4

IES3110-8TF-P Accessories
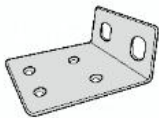
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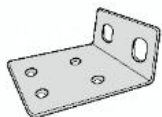

Console Cable x1

M3 Screw x4

IES3110-24TF Accessories

Mounting Bracket x2
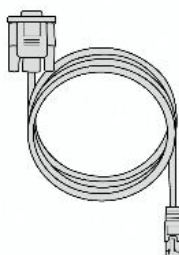
Console Cable x1

M3 Screw x8

Power Cord x1