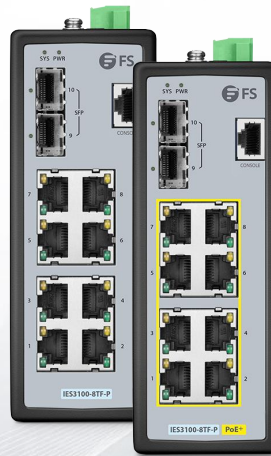


# IES3100 Series Switches

INDUSTRIAL MANAGED SWITCHES FOR ENERGY AND TRANSPORTATION INDUSTRIES

Models: IES3100-8TF; IES3100-8TF-P



## Overview

The IES3100 series 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 IES3100 series switches integrate L2+ functions such as port - based VLAN, 802.1Q 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
- Complete Security Polices
- Support STP/RSTP/MSTP
- WEB GUI/CLI/SSH/Telnet/SNMP Management
- Comply with IEEE 802.3af/at power supply standard

## Key Features

### Robust Industrial Design

With IP30/IP40 aluminum industrial case protection, IES3100 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. 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, IES3100 series can be placed in almost any difficult environment.

### Enterprise-Level Features

IES3100 series supports a complete lineup of L2+ features, including port - based VLAN, 802.1Q VLAN, GVRP, STP/RSTP/MSTP, QoS, 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

IES3100 series 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 50ms.

### 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

IES3100 series 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.

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## 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 and SNMPv3 connections which encrypt the packet content at each session.

## Technical Specification

IES3100 series switches come with advanced hardware architecture design L2+ features. Here's a look at the details.

### CHARACTERISTICS

	IES3100-8TF	IES3100-8TF-P
<b>Ports</b>		
Ports	8x 10/100/1000BASE-T RJ45 2x 100/1000/2500BASE-X SFP	8x 10/100/1000BASE-T RJ45 2x 100/1000/2500BASE-X SFP
<b>Performance</b>		
Layer Type	Layer 2+	Layer 2+
Switching Capacity	28Gbps	28Gbps
Forwarding Rate	12 Mpps	12 Mpps
Flash Memory	256 MB	256 MB
Jumbo Frame	9 KB	9 KB
MAC address	8 K	8 K
Packet Buffer	4 MB	4 MB
Management	WEB GUI/CLI/SSH/Telnet/SNMP	WEB GUI/CLI/SSH/Telnet /SNMP
Time Management	NTP	NTP
<b>Power</b>		
Input Voltage	Dual 18-60VDC	Dual 48 - 57VDC
PoE Standard	-	IEEE 802.3af/at
PoE Power Budget	-	240 W
Max. Power Consumption	10W	10W

## CHARACTERISTICS

	IES3100-8TF	IES3100-8TF-P
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### Physical and Environmental

Dimensions (HxWxD)	5.51"x2.04"x4.33" (140x52x110mm)	5.51"x2.04"x4.33" (140x52x110mm)
Installation	DIN-rail Mount	DIN-rail Mount
Enclosure	IP40 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)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	-40°F to 185°F (-40°C to 85°C)
Operating Humidity	5-95% (non - condensing )	5-95% (non - condensing )
Fan Number	Fanless	Fanless

### Warranty

Warranty	5 Years	5 Years
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## FEATURES

Functionality	Description
Layer 2+ Features	<p><b>VLANs</b></p> <ul style="list-style-type: none"> <li>• 4K 802.1Q VLANs</li> <li>• Port-based VLAN</li> <li>• Private VLAN</li> <li>• 802.1Q tagged VLAN</li> <li>• GARP VLAN Registration Protocol (GVRP)</li> </ul> <p><b>IGMP</b></p> <ul style="list-style-type: none"> <li>• IGMP (v1/v2/V3) Snooping</li> </ul> <p><b>MLD Snooping</b></p> <ul style="list-style-type: none"> <li>• MLD (v1/v2) Snooping, up to 255 multicast groups</li> <li>• MLD Querier mode support</li> </ul> <p><b>Link Aggregation</b></p> <ul style="list-style-type: none"> <li>• IEEE 802.3ad LACP/static trunk</li> </ul> <p><b>Access Control List</b></p> <ul style="list-style-type: none"> <li>• IP-based ACL / MAC-based ACL</li> </ul> <p><b>Port Mirroring</b></p> <ul style="list-style-type: none"> <li>• TX/RX/Both</li> <li>• One-to-one</li> <li>• Many-to-one</li> </ul> <p><b>Spanning Tree Protocol</b></p> <ul style="list-style-type: none"> <li>• IEEE 802.1D Spanning Tree Protocol (STP)</li> <li>• IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)</li> <li>• IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), spanning tree by VLAN</li> <li>• BPDU Guard</li> </ul>

## FEATURES

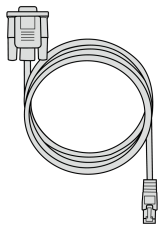
Functionality	Description
QoS	<p>Traffic classification of each field of L2/L3/L4 protocol headers</p> <p>CAR traffic control</p> <p>802.1P/DSCP priority remark</p> <p>Multiple queuing algorithms such as SP, WRR or SP+WRR</p> <p>Tail-Drop, WRED</p>
Security	<p>Identification and filtering of L2/L3/L4-based ACL</p> <p>Defend against DOS or TCP attacks</p> <p>Suppression of broadcast, multicast and unknown unicast packet</p> <p>Port isolation</p> <p>Port security, IP+MAC+port binding</p> <p>DHCP snooping, DHCP option82</p> <p>IEEE 802.1x authentication</p> <p>Radius and BDTacacs+ authentication</p> <p>Command line authority control based on user levels</p> <p>Secure Shell (SSH)</p>
Multicast	<p>IGMP v1/v2/v3</p> <p>IGMP Snooping v1/v2</p> <p>IGMP Fast Leave</p> <p>Multicast group policy and multicast number limit</p>

## FEATURES

Functionality	Description
ERPS	Support Ethernet Ring Protection Switching (ERPS)
Management	<p>Switch Management Interfaces</p> <ul style="list-style-type: none"><li>• Console/Telnet Command Line Interface</li><li>• Web switch management</li><li>• SNMP v1, v2c, v3</li><li>• SSH secure access</li></ul> <p>Firmware upload/download via TFTP</p> <p>DHCP snooping, DHCP option82</p> <p>Network Time Protocol (NTP)</p>



## IES3100-8TF/IES3100-8TF-P Accessory



Console Cable x1



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