ZPE Z-Switch 200 Series (ZSW-200)

Secure, reliable, automated

The Zero Pain Ecosystem Switch 200 series is a family of 24 port cloud edge switches with central management and automation from ZPE Cloud. The family consists of the 28x 1GigE port ZSW-228P PoE powered switch with 200W of dedicated POE+ power and the ZSW-228PP Full POE power at 370W.

Overview

The ZSW-200 Series is ZPE's new L2, L3 managed switch with cost-effective price point. These managed switches provide the needed L2 software features with L3 static routing making it ideal for edge connectivity applications for Management networks, retail, branch and edge applications. This PoE powered switch can provide power to access points, security camera, and full bank of 24 VoIP Phone systems.

Noteworty features are ability to support IPv4, IPv6, L3 static routing. The ZSW-200 Series includes the best green-saving technologies (IEEE 802.3az and Green-Ethernet). Using the Energy Efficient Ethernet standard, the switch automatically decreases power usage when network traffic is low.

Product Highlights

• Fanless design (ZSW-228P)
• Up to 370 W PoE (ZSW-228PP)
• Dual firmware/configuration
• IPv4/IPv6
• IEEE 802.3az
• L3 static routing
• Console port
• PoE timer
• ZPE Cloud Management with centralized automation and upgrades

Hardware Features / Benefits

IEEE 802.3af/802.3at Standard PoE	The ZSW-200 Series PoE switches all support IEEE 802.3af and 802.3at for your VoIP, surveillance, and Wi-Fi APs up to 30Watts. • ZSW-228P @ 200W PoE shared to all 24 ports • ZSW-228PP @ 370W PoE shared to all 24 ports
Integrated 2 or 4 Gigabit SFP	The ZSW-200 switches support 4 integrated Gigabit SFP ports. Besides providing more uplink bandwidth, the SFP ports can be used for redundant links.
Console Port	The ZSW-200 Series includes a console port. All switches support multiple management access through CLI/SNMP/Web/Telnet as well as ZPE Cloud.

Software Features

Dual Firmware/Configuration	The ZSW-200 Series can save dual firmware/configuration files to provide redundancy and more security for users.
Static Routing	The ZSW-200 Series supports L3 static routing to group different network segments and increase user flexibility.
Dynamic VLAN Assignment	Dynamic VLAN Assignment automatically assigns the same port to different VLANs to increase user convenience.

Software Features (Continued)

PoE Timer	The PoE Timer can define a PoE power schedule for different customer applications. This saves money and reduces unnecessary waste.
IGMP and MLD Snooping	IGMP/MLD snooping manages multicast streams to ensure high-quality, smooth video.
802.3az and Green-Ethernet	The ZSW-200 Series supports the new IEEE 802.3az and Green Ethernet. Using the Energy Efficient Ethernet standard, the switch automatically decreases power usage when network traffic is low.
Multi Network Management	The ZSW-200 Series supports CLI, Web, SNMP v1/v2c/v3, and Telnet management to provide multiple network management access. The switch supports a private MIB for detailed information.
Enhanced Security	The ZSW-200 Series supports multiple security features, such as ACLs, storm control, 802.1X, port security, MAC filters, IP source guard, and AAA.
Comprehensive QoS	The ZSW-200 Series supports 8 hardware queues, port-based QoS (IPv4/IPv6 DSCP), and DiffServ features to provide optimal real-time services.
DDOS Protection	The ZSW-200 Series provides DDOS protection to avoid hacker attacks on your network.
Cable Diagnostics	Cable diagnostics check real-time cable status to find network problems immediately.
Auto Voice	The ZSW-200 Series supports automatic voice and surveillance VLANs, providing VoIP and IP cameras the optimum network traffic usage.
Dashboard	The ZSW-200 Series provides a fantastic feature called "Dashboard". It provides the several useful current switch status, like CPU, Memory utilization and Event and traffic status and so on. Users can quickly review and maintain the switch status.

Key Features

Performance and Scalability
The ZSW-200 Series is a range of web-smart switches designed for the SMB market. The switches can be deployed in different target network topologies, from small to large. Besides powerful so ware features and a 500 MHz processor, the switches provides a complete solution, including both non-PoE and PoE options. The ZSW-200 Series offers complete PoE solutions from 65 W to 370 W.

Continuous Availability
IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence, which ensures a faster recovery from failed links, enhancing overall network stability and reliability.

IEEE 802.1Q VLAN-segmented broadcast domains reduce broadcast traffic and increase LAN security and performance.

IEEE 802.3ad Link Aggregation Control Protocol (LACP) increases bandwidth by automatically aggregating several physical links together as a logical trunk and provides load balancing and fault tolerance for uplink connections.

Multi Management
The ZSW-200 Series supports CLI, Web, SNMP v1/v2c/v3, and Telnet management to provide multiple network management access. The switch supports a private MIB for detailed information.

This switch also supports management functions through both IPv4 and IPv6.

Key Features (Continued)

Comprehensive QoS
Eight egress queues per port enables differentiated management of up to eight traffic types.

Traffic is prioritized according to 802.1p or DSCP, giving optimal performance to real-time applications such as voice and video.

Asymmetric bidirectional rate-limiting, per port or per traffic class, preserves network bandwidth and allows maximum control of network resources.

Enhanced Security
Port Security allows access to a switch port based on MAC address. This limits the total number of devices from using a switch port and protects from MAC flooding attacks. IEEE 802.1X port-based access control ensures all users are authorized before being granted access to the network. User authentication is carried out using a standards-based RADIUS server.

Access Control Lists (ACLs) restrict access to sensitive network resources by denying packets based on source and destination MAC addresses, IP addresses, and TCP/UDP ports. ACLs are hardware supported, so switching performance is not compromised.

Secure Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encrypts Telnet and web access to the switch, providing secure network management.

IP Source Guard can be enabled with DHCP snooping on trunk ports with a large number of VLANs to filter and control IP traffic access to the network.

DHCP snooping provides security by filtering un-trusted DHCP messages and by building and maintaining a DHCP snooping binding table.

Dynamic VLAN assignment for user authentication and location-independent access to the network.

Smart Network Deployment
Automatic Voice VLAN for quick deployment of VoIP, and automatic Video VLAN to help deploy your IP-based surveillance system. Static routing helps you set simple routes for control of your network resources.

IGMP and MLD snooping provide better multicast services.

PoE Support
The ZSW-200 provide up to 30 Watts of power to attached devices, such as VoIP phones, wireless access points, and surveillance cameras, all over existing Ethernet cables.

Specification Chart

	ZSW-228P	ZSW-228PP
RJ-45 10/100/1000 Ports	24	24
SFP or SFP+ Uplink Ports	4 (1G)	4 (1G)
PoE Ports	24	24
Console Port	1	1
Switching Capacity	56 Gbps	56 Gbps
Forwarding Rate	41.7 Mpps	41.7 Mpps
Flash Memory	32 MB	32 MB
DRAM	256 MB	256 MB
Packet Buffer	4.1 Mbits	4.1 Mbits
MAC Address Table	8 K	8 K
Jumbo Frames	10 K	10 K
MTBF	681,017 hrs	370,636 hrs
Heat Dissipation	887.141 (Btu/H)	1678.743 (Btu/H)
Acoustic Noise	46.1 dB (A)	49.7 dB (A)
100-240 VAC, 50-60 Hz	0	0
Max System Power Consumption (Watts)	260 W	490 W
IEEE 802.3af/802.3at	0	0
PoE Power Budget	200 W	370 W
PoE Timer	0	0
Rack Space	19″	19″
Form Factor	Rackmount	Rackmount
Dimension (W x D x H)	44 x 22 x 4.4 cm	44 x 22 x 4.4 cm
Weight	(17.3 x 8.6 x 1.7 in)	(17.3 x 8.6 x 1.7 in)
Operating Temperature	2.8 kg (6.18 lb)	3.1 kg (6.85 lb)
Storage Temperature	0 ~ 50°C	0 ~ 45°C
Altitude	-40 ~ 70°C	-40 ~ 70°C
Operating Humidity (non-condensing)	3000 m	3000 m
Storage Temperature (non-condensing)	10% to 90% 10% to 90%	10% to 90% 10% to 90%
WEEE	0	0
RoHS	0	0
Management	Console Web ZPE Cloud	Console Web ZPE Cloud

Technical Specifications

L2 Features
- RJ-45 port support:
  - 10BASE-T (IEEE 802.3)
  - 100BASE-TX (IEEE 802.3u)
  - 1000BASE-T (IEEE 802.3ab)
- SFP port support:
  - IEEE 802.3u (100BASE-FX) transceivers
  - IEEE 802.3z (1000BASE-SX/LX/LHX/ZX) transceivers
- Digital Diagnostic Monitoring (DDM) on 1G SFP port
- Flow Control :
  - IEEE 802.3x for full-duplex mode
  - Back-pressure for half-duplex mode
- Spanning Tree Protocol:
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Rapid Spanning Tree Protocol
  - (MSTP, 64 instances)
- Loopback Detection
- BDPU Filter/Guard
- BDPU Forward
- Root Guard
- VLANs:
  - Supports 4K IEEE 802.1Q VLANs
  - Port-Based/MAC-Based/IEEE802.1v (Protocol-Based VLAN)
  - Guest VLAN
  - Auto Voice VLAN
- Link Aggregation:
  - Static Trunk
  - IEEE 802.3ad(802.1ax) Link Aggregation Control Protocol (LACP)
- IGMP Snooping:
  - IGMP v1/v2/v3 snooping
  - IGMP Filtering/Throttling
  - IGMP Queries
  - IGMP Immediate leave
- MLD Snooping
  - LLDP/LLDP-MED
  - Green-Saving: IEEE 802.3az/Cable Length/No Link Power-Saving
  - Jumbo Frame: 10 K
  - Cable Diagnostic
  - Q-in-Q
  - mDNS
  - IP Clustering (Software Stacking)

L3 Features
- Static Routing
- RIP

QoS Features
- Rate Limiting (Ingress/Egress Port-Based):
  - 64 Kbps ~ 1000 Mbps
  - Resolution 16 Kbps
- Priority Queues Schedule (WRR/Strict Priority/Hybrid QoS)
- Port-Based QoS
- IPv4/IPv6 DSCP
- DiffServ
- Auto VoIP
- 8 HW Queues per port
- Dynamic QoS

IPv6
- IPv4/IPv6 Dual Protocol Stack
- IPv6 Management
  - IPv6 Ping/Trace
  - IPv6 Telnet
  - IPv6 Syslog
  - IPv6 TFTP
- HTTP over IPv6
- SNMP over IPv6

PoE
- Support IEEE 802.3af (15.4 W)/IEEE802.3at (30 W) on each port
  - (Total PoE Power Budget as follows):
  - ZSW-228P (200 W)
  - ZSW-228PP (370 W)
- Dynamic Power Allocation
- Auto disable after exceeding power budget
- PoE Timer

Security
- DDOS Protection
- CPU Guard (CPU Protection)
- Port Isolation
- Port Mirror (One to One, One to Many)
- Remote Mirror
- Storm Control
- Broadcast/Multicast/Unknown Storm Control
- IEEE 802.1X
- ACL
  - Ingress Only
  - L2/L3/L4
  - ACL entry: 512
  - IPv4/IPv6
  - TCP/UDP-Based, MAC-Based ACL
- Port Security
- MAC Filter
- MAC Authentication
- Port max count per port
- Dynamic VLAN Assignment
- Dynamic ARP Inspection
- AAA (RADIUS/TACACS+)
- IP Source Guard
- SSH v1.5/v2.0
  - SSL v1/v2/v3
  - SSL IPv4/IPv6
- SFlow
  - Trace on port -Ingress only
- Web Authentication

Management
- System password protection
- NTP/SNTP
- Dual Image/Configuration
- Configuration upload/download (HTTP/TFTP/FTP/SFTP)
- Firmware upload/download (HTTP/TFTP/FTP/SFTP)
- Auto Firmware Upgrade
- RMON (groups 1,2,3 and 9)
- SNMP
  - SNMP Trap
  - SNMP v1/v2c/v3
  - SNMP Standard/Private MIB
- Management Access (Console/SNMP/Web /Telnet)
- Memory Flash Log
- Event/Error Log/Syslog
- DHCP v4/v6 Client//DHCP Snooping
- DHCP Snooping Option82
- Dynamic Provision (via Option 66,67)
- DHCP Relay v4 (v6)
- Port Mirroring (One to One) TX/RX (both)
- DNS Client without DNS proxy

Safety
- CSA (CSA 22.2 NO 60950-1 & UL 60950-1)
- CB (IEC/EN60950-1)

Electromagnetic Compatibility
- CE Mark
- FCC Class A
- EN 55022 (CISRP 22) Class A
- EN 61000-3-2/3
- VCCI

Ordering Information

SKU	Description
ZSW-228P	24 x 10/100/1000 GigE PoE access ports with 4 x 1GbE uplinks with 200W of dedicated PoE power at 30W per port
ZSW-228PP	24 x 10/100/1000 GigE PoE access ports with 4 x 1GbE uplinks with 370W of dedicated PoE power at 30W per port

NOTE: If you need other combinations please contact ZPE Sales: sales@zpesystems.com