Layer 2 Gigabit Switches with Advanced Security and PoE, Suitable for Use as Floor Switches

The AX2200S series switches support gigabit Ethernet interface with 24 ports capable of feeding power using PoE/PoE+ as a floor switch, even in a network environment requiring high-speed wireless LAN.

Further, the AX2200S series supports 60W-capable PoE for connection to high-speed, large-capacity wireless LAN access points, thin-client terminals, digital signage displays and so on.

In addition, it supports triple authentication and multi-step authentication, both of which have always been well received and regarded as essential to build a secure network environment that can deal with the growing number of mobile terminals.

AX2230S-24T

AX2230S-24P

Authentication and Security

■ Triple authentication
◎ Combination of IEEE802.1X, Web authentication and MAC authentication provides robust security. You can select authentication types according to each user's network environment and security policy.

■ Multi-step authentication
◎ Possible to eliminate unauthorized terminals and authenticate users at the same time by using several authentication methods together.

■ Fulfilling security functions
◎ Ensures security among users by logical division of a LAN (MAC VLAN, port VLAN, protocol VLAN) and by fine-tuning access control (L2/L3/L4 filtering).

PoE/PoE+

■ PoE for reducing use of cables (AX2230S-24P)
◎ Supports power feeding via PoE ports of gigabit Ethernet.
◎ Capable of housing PoE devices (i.e. IP telephone, wireless LAN AP), which requires fewer cables and reduces stress associated with wiring complexity, resulting in cost reduction and shorter construction periods.
◎ AX2230S supports Class 3 (15.4W) power feeding at all ports (Max. 24 ports), as well as Class 4 (30.0W) power feeding using PoE+ (IEEE802.3at) (Max. 12 ports).

60W PoE

■ 60W power feeding (AX2230S-24P)
◎ Capable of 60W power feeding (Max. 4 ports)

Operation Management / Maintenance

■ Command-free maintenance
◎ Uses an SD card for saving logs. Enables firmware update (simplifies maintenance operation).

High Reliability and High Availability

■ High-reliability functions
◎ Supports link aggregation, RSTP, **GSRP aware** (Gigabit Switch Redundancy Protocol, that is, ALAXALA-proprietary switch hot-standby function), UDLD and L2 loop detection, each of which helps build a high-reliability network using redundant parts (lines, paths, devices, etc.) and enables fast failure detection.
◎ **Uplink Redundant** (redundant topology replacing Spanning Tree)
◎ **Ring Protocol** (transit only) for simple and fast networking with high flexibility and scalability

■ QoS
◎ Enables granular QoS control by **packet prioritization** (mission-critical packets and voice packets are transmitted preferentially), **bandwidth control** (allocation of a fixed bandwidth) and so on.

■ **Gigabit Uplink**
◎ Enables mixed use of several types of 1000BASE-X interfaces (SX/SX2/LX/BX/LH) (Max. 4 ports are available), which helps deal with various network environments.

Compact and Eco-Friendly Design

■ 1U-sized compact design (applied to all models)

■ Fanless
◎ Completely **fan-free design** (AX2230S-24T)
◎ Suitable for use in places that must be noise-free (i.e., offices).
◎ Free from dust accumulation and physically moving parts (reduces potential failures)

■ Power saving
◎ Supports **dynamic power saving** for reducing power consumption according to a preset operation schedule.

IPv6

■ IPv6 multicast cooperation
◎ Supports MLD Snooping for controlling transmission of IPv6 multicast packets

AX2230S Application Example

Large/Medium-Scale Campus Network
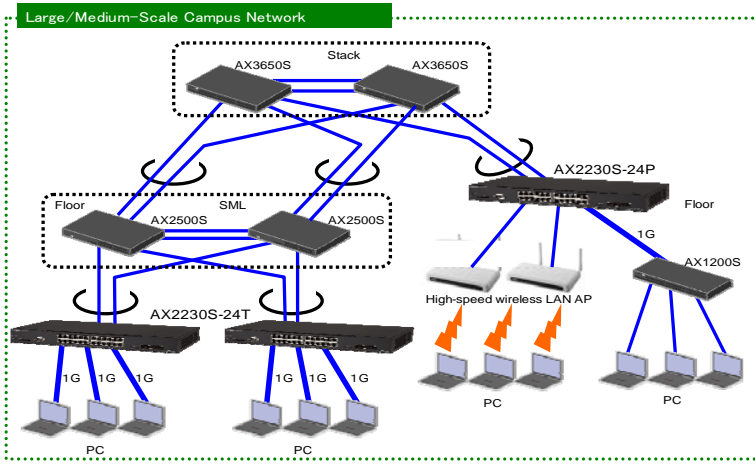
Application Examples	Points
1. Large-Scale Campus Network - Workgroup switch to be connected to terminals	- Fulfilling security/authentication functions - High reliability (GSRP-aware, link aggregation, RSTP, etc.) - Reduction of TCO (improves operation management)
2. Medium/Small-Scale Campus Network - Floor switch - Workgroup switch	- IPv6 (MLD Snooping) - PoE (reduced use of power cords) - PoE capable of 60W power feeding

AX2230S Product Specifications

	Model	AX2230S-24T	AX2230S-24P
Performance	Max. switching capacity	56Gbit/s	
	Max. packet forwarding performance	41.6Mpacket/s	
Port count	1000BASE-SX/SX2/LX/LH/BX (SFP)	4	4
	10/100/1000BASE-T [without PoE]	24	—
	10/100/1000BASE-T [PoE/PoE+/60WPoE]	—	24 #1
Layer 2 functions	Max. MAC entry count	16k	
	VLAN	Port VLAN, Tag-VLAN (IEEE 802.1Q), Protocol VLAN, MAC VLAN	
	Spanning tree protocol	STP (IEEE 802.1D), RSTP (IEEE 802.1w), PVST+, MSTP (IEEE 802.1s), BPDU filter, Loop Guard, Root Guard, PortFast	
	Multicast cooperation	IGMPv1/v2 Snooping, MLDv1/v2 Snooping	
	Ring protocol	Autonomous Extensible Ring Protocol #2	
Network functions	Security	Filtering (L2/IPv4/L4), IEEE 802.1X (per-port authentication/per-VLAN authentication), EAPOL forwarding, Web authentication (fixed VLAN mode/dynamic VLAN mode), Web authentication features (URL redirection, screen editing, interim certificate), one-time password for Web authentication (RSA SecurID), single sign-on client for Web authentication, MAC authentication (fixed VLAN mode/dynamic VLAN mode), multi-step authentication, fixed VLAN mode/dynamic VLAN mode mixed on the same port, forced authentication, interception of relay between ports, DHCP Snooping	
	QoS	Flow detection (L2/IPv4/L4), Marking (DSCP/user prioritization) Priority control (flow-based prioritization, user priority mapping, CoS mapping), Discard control (tail drop) Shaping (PQ, PQ+WRR, WRR, WFQ), IEEE 802.1p	
	L2-VPN	—	
	High reliability/high operability	Link Aggregation (IEEE 802.3ad), Storm Control, Jumbo Frame, IEEE802.3ah/UDLD, GSRP aware, L2 loop detection Uplink Redundancy, EtherOAM	
Operation management	Network management	SNMPv1/v2c, MIB II, RMON, Port Mirroring, LLDP, IPv4 DHCP server	
	Operation/maintenance	command-free maintenance, syslog, ping, traceroute, telnet, SSH, ftp, NTP, RADIUS, temperature log	
Power saving	Static power saving	port power supply off, LED brightness control	
	Dynamic power saving	port power supply off (scheduling), unused-port power saving, LED brightness control (scheduling)	
Equipment conditions	Input voltage	AC100 to 120V / 200 to 240V	
	Max. input current (A)	0.5@AC100V, 0.3@AC200V	6.7@AC100V, 3.4@AC200V
	Max. power consumption (W)	30	470
	Max. heat output (kJ/h)	108	1692
	Outer dimensions W x D x H (mm)	445 x 230 x 43 (1U)	445 x 350 x 43 (1U)
	Weight (kg) (main unit only)	3	5
Items related to Energy Saving Act #3	Energy consumption efficiency (W/(Gbit/s))	Category A 0.9	Category A 1.5
	Max. effective transmission speed (Gbit/s)	28	28
	Port speed/count at the time of measurement — 1Gbit/s	28	28
	PoE Max. power supplied (W)	—	370.0/device, 60.0/port #1
Environment conditions	Permissible operation temperature range	0℃ to 45℃	0℃ to 50℃
	Temperature when not operating (when not applying current)	-10℃ to 50℃	
	Temperature at storage and transport	-25℃ to 65℃	
	Permissible operation humidity range	10% to 90% (no condensation)	
	Humidity when not operating (when not applying current)	8% to 90% (no condensation)	
	Humidity at storage and transport	5% to 90% (no condensation)	
	Floating dust	Floating dust of about 10 microns or smaller : 0.15mg/m3	

#1: The maximum number of ports for power feeding is 24 with Class 3 (15.4W), 12 with Class 4 (30.0W) and 4 (dedicated ports only) with 60.0W.
#2: Transit only.
#3: Values given here were measured by the method specified by Energy Saving Act.

⚠ Caution | For your safety, please be sure to read the *Hardware Instruction Manual* and the *Safety Guide* beforehand.

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