AX2500S Series

AlaxalA

Compact gigabit layer2 switches pursuing more high functionality and high reliability

The AX2500S series, with its SML (Split Multi Link) function, makes it possible to configure a fault-tolerant network combined with the AX6600S/AX6700S series. The AX2530S-24T is a completely fanless*, high-functionality gigabit layer 2 switch. Further, the AX2530S-24S4X provides 24 ports for gigabit optic Ethernet and 4 ports for 10 gigabit optic Ethernet, thus making it easier to design large-scale networks in combination with the SML function.

* AX2530S-48T is a semi-fanless switch whose fan activates only when the temperature inside the switch has risen exceeding the permissible level.

AX2530S-24T

AX2530S-24T4X

AX2530S-24S4X

AX2530S-48T

AX2530S-48T2X

High Reliability and High Availability

■ SML (Split Multi Link)
◎ Enables link aggregation between two different switches.
◎ By using fault-tolerant switches (AX6000S family) together, it becomes possible to configure a simple redundant network using only link aggregation.

【SML function that helps circumvent a line failure】
SML is a function that enables link aggregation between the two different switches, thus making it possible to continue communications even when a failure has occurred by taking an alternative route via the counterpart switch.

FT Switch

Link Aggregation

Failure

Alternative Route

SML

AX2530S   AX2530S

Link Aggregation

...
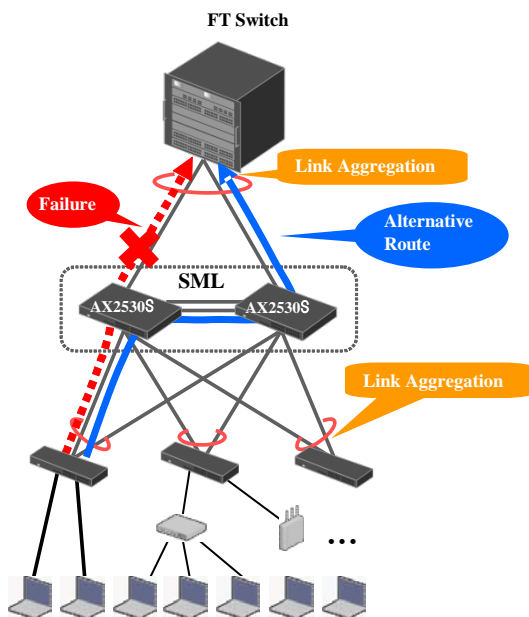
■ L2 Ring Protocol
◎ Enables L2 ring configurations using a simple network topology.

■ Prevention of a loop failure
◎ Enables loop detection, by which a loop failure that may be caused accidentally by misconnection can be automatically prevented.

Fanless Switch (AX2530S-24T, AX2530S-48T)

■ Fanless
◎ AX2530S-24T is a gigabit switch that is completely fanless.
◎ AX2530S-48T is a semi-fanless switch whose fan activates only when the temperature inside the switch has risen exceeding the permissible level.

■ Noise suppression
◎ Suitable for use in places that should be noise-free (e.g., conference rooms).

■ Reduced chance of malfunction
◎ Free of failure that may be caused due to dust absorption by the fan.
◎ No physically operable units, thus reducing factors that may cause a failure.

Optic Multiport Switch (AX2530S-24S4X)

■ Optic multiport switch capable of large-scale network construction
◎ As a distribution switch for enterprise networks, provides 24 ports for gigabit optic Ethernet (this interface is always in high demand).
◎ Provides 4 ports for 10 gigabit interfaces, thus making it possible to allocate an enough bandwidth for uplink connection when using redundancy functions such as SML or ring protocols.

■ Use of noise-resistant optic fibers suited to long distance transmission
◎ Unlike UTP, optic fibers enable a long distance transmission of 100m or more (specified that transmission up to 100Km is possible with SFP-LHB).
◎ Supports the SFP+ interface for 10G lines, thus making it easier to configure a low-cost, large line capacity network than with the XFP interface.

Authentication and Security Functions

■ Triple authentication
◎ Mixed use of IEEE802.1X, Web-based authentication and MAC authentication is possible.

■ Multi-step authentication
◎ By using two or more authentication methods together, possible to block access from unauthorized terminals and execute user authentication at the same time.

■ Gigabit L2 box switch featuring a largest class of authentication capacity
◎ Capable of accommodating up to 1024 authenticated terminals.

■ Stress-free Web authentication
◎ Smooth authentication even with advanced cryptosystems (e.g., SSL2048bit)

Green IT and Energy Saving Functions

■ Dynamic power saving functions that cut unnecessary power consumption
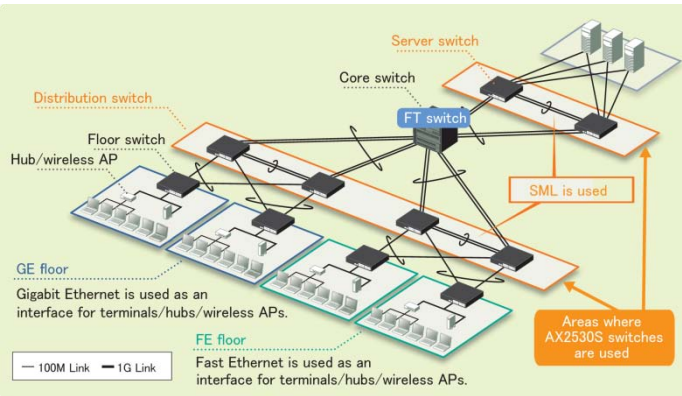◎ *Schedule Sleep* for automatically powering off the switch during nights and holidays
◎ *Sleep Cancellation* for remotely powering on the switch that has been in the sleep mode

■ Energy saving
◎ Energy-saving capability more powerful than that of the AX2400S series

AX2500S Application Example

① A large-scale network with full link aggregation

【Point 1】 **Link aggregation between switches**
Enables use of a pair of box-type switches equipped with the SML function, as a distribution switch for which cost efficiency is important.

【Point 2】 **Dual-active operation to handle traffic efficiently**
Enables effective use of lines through load balancing using link aggregation.

【Point 3】 **Simple and stable switching operation**
Enables a simple and stable network in which, when a failure has occurred, transmission is continued with the degenerate operation of link aggregation, thus rendering complicated operations (e.g., route recalculation) unnecessary.

② A floor switch using various authentication/power-saving functions
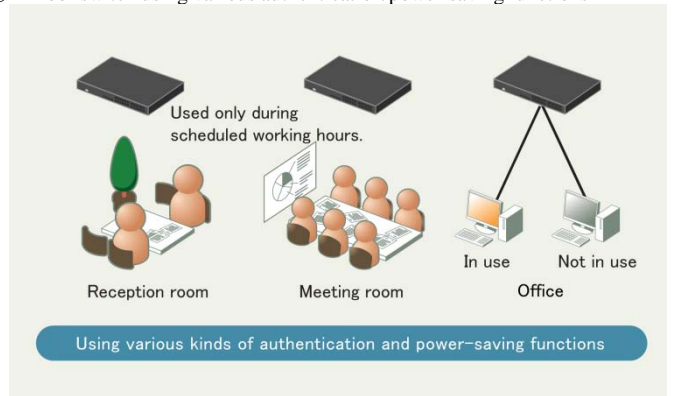
【Point 1】 **A wide variety of authentication functions**
Enables a secure network configuration even for places where a large number of people gather irregularly (e.g., conference room).

【Point 2】 **Dynamic power-saving functions**
Enables powering-off of the switch and link-down of unused ports, according to usage conditions of offices/conference rooms.

【Point 3】 **Completely fanless and noise suppressive**
AX2530S-24T is a completely fanless switch, therefore noise is suppressed to a level that does not make people feel uncomfortable even when the switch is placed nearby.

AX2500S Product Specifications

Model		AX2530S-24T	AX2530S-24T4X	AX2530S-24S4X	AX2530S-48T	AX2530S-48T2X
Performance	Max. switching capacity (Gbit/s)	56	128	128	104	140
	Max. packet forwarding performance (Mpacket/s)	41.6	95.2	95.2	77.3	104.1
Port count	10GBASE-CU/SR/LR/ER (SFP+)	-	4*2	4*2	-	2*2
	1000BASE-T/SX/SX2*1/LX/BX/LH/LHB (SFP)	4	4*3*4	28*3*5	4	4*3*6
	100BASE-FX (SFP)	-	-	24	-	-
	10/100/1000BASE-T (UTP)	24	24	-	48	48
Layer 2 functions	Max. MAC entry count	32,768				
	VLAN	Port VLAN, Tag-VLAN (IEEE802.1Q), Protocol VLAN, MAC VLAN, Tag Translation				
	Spanning tree protocol (STP)	STP (IEEE802.1D), RSTP (IEEE802.1w), MSTP (IEEE802.1s), PVST+, BPDU Filter, PortFast, Root Guard, Loop Guard				
	Layer 3 cooperation	IGMPv1/v2/v3 Snooping, MLDv1/v2 Snooping				
	Ring protocol	Autonomous Extensible Ring Protocol				
Network functions	Authentication functions	Triple authentication (IEEE802.1X, Web authentication, MAC authentication), multi-step authentication, one-time password for Web authentication (RSA SecurID)*7				
	Security functions	Filtering, DHCP Snooping, Inter-port relay blocking, EAPOL forwarding				
	QoS	IEEE802.1p, ToS/CoS mapping, Shaping				
	L2-VPN	VLAN tunneling				
	High reliability/high operability	Link aggregation (IEEE802.3ad), Split Multi Link (SML)*7, Uplink Redundancy, Storm Control, Jumbo Frame,				
Operation management	Network management	SNMPv1/v2c/v3, MIBⅡ, RMON, Port Mirroring, LLDP				
	Operation/maintenance	OAN, command-free maintenance, RADIUS, SSHv1/v2*11, syslog, telnet, ftp, NTP, ping, traceroute				
Power saving functions		Dynamic power saving (unused-port power saving*8, switch sleep function), Secure Wake On LAN*7				
Fanless support		Fanless	-	-	Semi-fanless*9	-
Equipment conditions	Input voltage	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V	AC100 to 120V /200 to 240V
	Max. input current (A)	0.7 @AC100V 0.4 @AC200V	0.7 @AC100V 0.4 @AC200V	1.0 @AC100V 0.5 @AC200V	1.0 @AC100V 0.5 @AC200V	1.0 @AC100V 0.5 @AC200V
	Max. power consumption (W)	40	57	75	80	85
	Max. heat output (kJ/h)	144	205	270	288	306
	Outer dimensions: W x D x H (mm) (height[U])	445 x 230 x 43 (1U)	445 x 300 x 43 (1U)	445 x 300 x 43 (1U)	445 x 300 x 43 (1U)	445 x 300 x 43 (1U)
	Weight (kg) (with max. installation)	3.0	3.9	3.9	4.2	4.2
Energy Saving Act items *10	Energy consumption efficiency (W/Gbit/s)	Category A 1.2	Category A 0.8	Category A 0.9	Category A 1.4	Category A 1.1
	Maximum effective transmission speed (Gbit/s)	28.0	64.0	64.0	52.0	70.0
	Port speed/count at the time of measurement — 10Gbit/s	-	4	4	-	2
	Port speed/count at the time of measurement — 1Gbit/s	28	24	24	52	50
Environment conditions	Permissible operation temperature range	0°C to 45°C	0°C to 50°C	0°C to 50°C	0°C to 50°C	0°C to 50°C
	Temperature when not operating	-10°C to 60°C				
	Temperature at storage/transport	-25°C to 65°C				
	Permissible operation humidity range	10% to 90% (no condensation)				
	Humidity when not operating	8% to 90% (no condensation)				
	Humidity at storage/transport	5% to 90% (no condensation)				
	Floating dust	Floating dust of about 10 microns or smaller : 0.15mg/m3 or smaller				

*1: 1000BASE-SX2 is not supported on the SFP/SFP+ ports (ports shared by SFP and SFP+).
*2: When SFP/SFP+ ports are used for 1000BASE-X (SFP), these values must be reduced by the number of such ports.
*3: When SFP/SFP+ ports are used for 10GBASE-CU/SR/LR/ER (SFP+), these values must be reduced by the number of such ports. *4: 1000BASE-SX2 is not supported.
*5: 24 ports are available for 1000BASE-SX2. *6: 2 ports are available for 1000BASE- SX2.
*7: Provided through optional software. *8: Not supported on the SFP ports and SFP/SFP+ ports.
*9: The fan activates only when the temperature inside the switch has risen exceeding the permissible level (the fan is usually deactivated).
*10: Values based on Energy Saving Act (Japan) *11: SSH functionality is subject to export control regulations, and might be unavailable for use with exported products.

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