



Hardware	AS 24T4XHA 24 Port Managed Access Switch	AS 48T2XHEA 48 Port Managed Access Switch	AS 20X6XSEA 20 Port Managed Aggregation Switch
Interfaces	<ul style="list-style-type: none"> 24 x 10/100/1000BASE-T Ethernet ports (1-4 HPoE, 5-24 PoE/PoE+) 4 x 1Gbps/10Gbps SFP+ uplink ports (non-combo) Console port (RJ45) Fixed power supply and fans LEDs 	<ul style="list-style-type: none"> 48 x 10/100/1000BASE-T Ethernet ports (PoE/PoE+) 2 x 100/1000BASE-X SFP uplink ports (combo with 47-48) 2 x 1Gbps/10Gbps SFP+ uplink ports (non-combo) Console port (RJ45) 1 USB 2.0 Type-A port 2 x modular power supply slots (no built-in power supply) LEDs 	<ul style="list-style-type: none"> 20 x 1Gbps/10GbpsBASE-X SFP+ ports 4 x 10Gbps/25GbpsBASE-X SFP28 ports 2 x 40GbpsBASE-X QSFP+ ports 2 x modular power supply slots (no built-in power supply) Management port (RJ45) Console port (RJ45) 1 USB 2.0 Type-A port LEDs
PoE	IEEE 802.3af, IEEE 802.3at IEEE 802.3bt <ul style="list-style-type: none"> Total 370W PoE/PoE+/HPoE budget output power All 24 BASE-T ports support PoE (up to 24 ports) and PoE+ (up to 12 ports) Ports 1-4 support HPoE output power of up to 60W per ports) 	IEEE 802.3af and IEEE 802.3at <ul style="list-style-type: none"> All 48 BASE-T ports support PoE+ 	N/A
Power Supply	Built-in AC input: <ul style="list-style-type: none"> Nominal voltage range: 100V~240V Maximum voltage range: 90V~264V AC Frequency: 50Hz~60Hz 	AC Power Supply Module: <ul style="list-style-type: none"> Rated voltage range: 100V~240V AC Frequency: 50~60Hz Rated current: 10A HDVC Input: <ul style="list-style-type: none"> Voltage range: 192V~290V DC Rated current range: 10A 	AC Power Supply Module: <ul style="list-style-type: none"> Rated voltage range: 100~240VAC; 50~60Hz Maximum voltage range: 90~264VAC; 47~63Hz Rated input current: 3A HVDC input: <ul style="list-style-type: none"> Rated voltage range: 240VDC Maximum voltage range: 192~288 VDC Rated current per input: 3A
Power Consumption	Minimum <40W Maximum 460W	Minimum <57W Maximum 1,700W (with 48-port PoE+)	<85W
Smart Temperature Control	Fan management, temperature monitoring and alerts		
Mounting	19-inch rack format (1U), short depth	19-inch rack format (1U)	19-inch rack format (1U), short depth
Dimensions	440mm x 260mm x 44mm	440mm x 360mm x 44mm (excluding power supply)	440mm x 330mm x 43.6mm (excluding power supply)
Weight	5.5Kg (gross weight)	6.8Kg (gross weight)	<1.5 Kg
Operating Temperature	0°C~50°C		
Storage Temperature	-40°C~70°C		
Operating Humidity	10%~90% RH (non-condensing)		
Storage Humidity	5%~95% RH (non-condensing)	5%~90% RH (non-condensing)	

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20 Port Managed Aggregation Switch

Operating Altitude	-500m~5,000		0~5,000
Lightning Protection	Power port: Common Mode 4KV/Differential Mode 2K Communication Port: Common Mode 6KV		Management port: 4KV Power Supply Module: Common Mode 6KV/Differential Mode 6KV6KV/Differential Mode 6KV
MTBF	388,055 hours	>200,000 hours	30 years
Performance			
Switching Capacity	256Gbps	264Gbps	2.56Tbps/23.04Tbps
Packet Forwarding Rate	96Mbps	132Mbps	570Mbps/1,260Mbps
Port Buffer	1.5MB		4MB
ARP Table	1000		16K
MAC Address	16K		32K
Routing Table Size	500 (IPv4/IPv6)		4K (IPv4/IPv6)
ACL Entries	In: 1,500, Out: 500		In: 2,500, Out: 1,000
VLAN	4K 802.1q VLANs, Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, Private VLAN, Voice VLAN, IP subnet-based VLAN, GVRP	4K 802.1q VLANs, Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, Private VLAN, Voice VLAN, QinQ, IP subnet-based VLAN, GVRP, Guest VLAN	4K 802.1Q VLAN Port-based VLAN Private VLAN GVRP, Super VLAN
QinQ	Basic QinQ, Flexible QinQ		Basic QinQ
Link Aggregation	AP, LACP (maximum 8 ports), Cross devices AP, Flow balance		LACP (802.3ad)
Port Mirroring	Aggregation port as source and destination port of mirroring; Flow-based mirroring; VLAN-based mirroring; Many-to-one mirroring; One-to-many mirroring; Cross-device traffic mirroring; RSPAN;	Many-to-one mirroring, One-to-many mirroring, Flow-based mirroring, Over devices mirroring, VLAN-based mirroring, VLAN-filtering mirroring, AP-port mirroring, RSPAN, ERSPAN, Flow-based mirroring	Flow-based mirroring, Many-to-one mirroring, One-to-many mirroring RSPAN, Link aggregation mirroring
Spanning Tree Protocols	IEEE802.1d STP, IEEE802.1w RSTP, standard 802.1s MSTP, Port fast, BPDU filter, BPDU guard, TC guard, TC protection, ROOT guard	IEEE802.1d STP, IEEE802.1w RSTP, Standard 802.1s MSTP, Port fast, BPDU filter, BPDU guard, TC guard, TC protection, ROOT guard, Spanning Tree Root Guard (STRG)	STP, RSTP, MSTP
DHCP	DHCP server, DHCP client, DHCP snooping, DHCP relay, IPv6 DHCP snooping, IPv6 DHCP client, IPv6 DHCP relay	DHCP server, DHCP client, DHCP snooping, DHCP relay, IPv6 DHCP snooping, IPv6 DHCP client, IPv6 DHCP relay, DHCP Snooping Option 82	DHCP Server, DHCP Client, DHCP Snooping, DHCP Relay, IPv6 DHCP Snooping, IPv6 DHCP Client IPv6 DHCP Relay
MSTP Instances	64		
Maximum Aggregation Port (AP)	128		
Virtual Switching Unit (VSU)	Up to 4 stack members 4 BASE-X ports can be configured as VSL	Up to 4 stack members Local and distant stacking, Cross-chassis link aggregation in the stack, Stacking via 10Gbps Ethernet ports	Up to 2 stack members
Zero Configuration	CWMP(TR069)		

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L2 Features	MAC, VLAN, Basic QinQ, Felix QinQ, Mirroring, STP, RSTP, MSTP, Broadcast storm control, IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, Jumbo frame, RLDP, LLDP, REUP, G.8032	MAC, EEE, ARP, VLAN, Basic QinQ, Felix QinQ, Link aggregation, Mirroring, STP, RSTP, MSTP, Broadcast/ Multicast/ Unknown unicast storm control, IGMP v1/ v2/v3 snooping, IPv6 MLD Snooping v1/ v2, IGMP SGVL/ IVGL, IGMP querier, IGMP filter, IGMP fast leave, DHCP, Jumbo frame, RLDP, LLDP, REUP, G.8032 ERPS, Layer 2 protocol tunnel	IGMP v1/v2/v3, IGMP proxy, IGMP v1/ v2/v3 snooping, IGMP filtering, IGMP fast leave, PIM-DM, PIM-SM, PIM-SSM, MLD Snooping, MLD, MSDP
Layer 2 Protocols	IEEE802.1d, IEEE802.1w, IEEE802.1s, IGMP Snooping v1/v2/v3	IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3x, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s	
IPv4 Features	Ping, Traceroute		
IPv6 Features	0-64 any length mask, ICMPv6, Neighbor Discovery, Manually configure local address, Automatically create local address, IPv6 Ping, IPv6 Tracert, IPv6 extender option head	ICMPv6, IPv6 Ping, IPv6 Tracert, Manually configure local address, Automatically create local address	
Basic IPv6 Protocols	IPv6 addressing, Neighbor Discovery (ND), IPv6 ACL, ICMPv6, IPv6 Ping, IPv6 Tracert	IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 Ping and IPv6 Tracert	IPv6 addressing, ICMPv6, Path MTU Discovery
IPv4 Routing Protocols	Static Routing, RIP, OSPFv1/v2		Static routing, RIP, RIPng, OSPFv2, OSPFv3, IS-ISv4, IS-ISv6 BGP4, BGP4+, ECMP
IPv6 Routing Protocols	Static Routing, RIPng, OSPFv3		
ACL	Standard IP ACL, Extended IP ACL, Extended MAC ACL, Expert ACL, ACL80, IPv6 ACL, ACL Logging, ACL Counter, ACL Remark, Global ACL, ACL Redirect	Standard/Extended/Expert ACL, Extended MAC ACL, ACL 80, IPv6 ACL, ACL logging, ACL counter, ACL remark, Global ACL, ACL redirect, Time-based ACL, Router ACL, VLAN ACL, Port-Based ACL	Standard IP ACL, Extended IP ACL, Extended MAC ACL, Time-based ACL, Expert ACL, ACL80, IPv6 ACL
QoS	802.1p/DSCP traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WRR, SP+DRR; Input / output port-based speed limit; Each port supports 8 queue priorities, Dynamic QoS	802.1p/DSCP/TOS traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WFQ, SP+WRR, SP+DRR; Input / output port-based speed limit; Port-based traffic recognition; Each port supports 8 queue priorities; flow-based rate limiting with the minimum granularity of 8Kbps, Dynamic QoS	Port-based traffic recognition Port-based speed limit 802.1p/DSCP/TOS traffic classification 8 priority queues per port Queue scheduling algorithms: SP, WRR, DRR, SP+WRR, SP+DRR, RED/WRED
Resilience	VSU, RIP GR	VSU, RIP GR; ERPS (G.8032); REUP dual-link fast switching technology; RLDP (Rapid Link Detection Protocol); 1+1 power redundancy; Hot- swappable power module	VSU, RIP GR/OSPF/BGP; BFD; G.8032 (ERPS), REUP; RLDP; 1+1 power redundancy; Hot- swappable power module
EEE Format	Support IEEE 802.3az standard		N/A

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Security

Binding of the IPv6 and MAC address; Port-based and MAC-based 802.1x; MAB; Portal and Portal 2.0 authentication; ARP-check; DAI; Gateway anti-ARP spoofing; Hierarchical management by administrators and password protection; RADIUS and TACACS+; SSH V1.5 and SSH V2.0; IP source guard; CPP, NFPP; Port protection

Binding of the IP address, MAC address, and port address; Binding of the IPv6, MAC address, and port address; Filter illegal MAC addresses; Port-based and MAC-based 802.1x; MAB; Portal and Portal 2.0 authentication; ARP-check; DAI; Restriction on the rate of ARP packets; Gateway anti-ARP spoofing; Broadcast suppression; Hierarchical management by administrators and password protection; RADIUS and TACACS+; Change of Authorization; AAA security authentication (IPv4/IPv6) in device login management; SSH and SSH V2.0; BPDU guard; IP source guard; CPP, NFPP; Port protection, CoA (RADIUS change of authorization), SCP (Secure Copy), Dynamic ARP Inspection(DAI)

Filter unauthorized MAC addresses, Broadcast storm suppression, Hierarchical management by administrators and password protection RADIUS and TACACS+, SSH, BPDU Guard, CPP,

Management

Network and User Access Management

SNMPv1/v2c/v3, CLI (Telnet / Console), RMON(1, 2, 3, 9), SSH, Syslog / Debug, NTP / SNTP, FTP, TFTP

SNMPv1/v2c/v3, CLI (Telnet / Console), RMON (1, 2, 3, 9), SSH, Syslog / Debug, NTP / SNTP, FTP, TFTP, SFLOW

SNMP, CLI (Telnet/Console), RMON (1,2,4,9), Syslog, NTP, SNMP over IPv6, IPv6 MIB support for SNMP, Telnet v6, FTP/TFTP v6, DNS v6, NTP for v6, Traceroute v6 Support sFlow

Certifications

Safety Standard

- GB4943-2011

- IEC 60950-1
- EN 60950-1

- GB4943-2011
- EN 62368-1:2014+A11:2017

Emissions Standard

- GB9254 Class A

- EN 300 386
- EN 61000-4-3
- EN 55022/55032
- EN 61000-4-4
- EN 61000-3-2
- EN 61000-4-5
- EN 61000-3-3
- EN 61000-4-6
- EN 55024.
- EN 61000-4-8
- EN 61000-4-2.
- EN 61000-4-11

- GB9254 Class A
- EN 55032:2015+AC:2016
- EN 61000-3-2:2014
- EN 61000-3-3:2013+A1:2019
- EN 55035:2017