

LAYER 3 Gigabit with SFP+ Network Switch AS3-O444S8

OVERVIEW

Angustos AS3 Series is Layer 3 with Full-gigabit and 10G+ network switch series for medium to large size Data network distribution. Designed for Carrier, Data Center and Enterprise centralized networks that required stability and durability. Supports functions such as powerful ACL, flexible QinQ, 1:1 or N:1 VLAN switching, Ethernet OAM, carrier-level QoS and industry-level IOGE Ether-ring, ensuring this switch series meets application requirements in all kinds of complicated sites. It also supports layer-3 routing protocol with multicast.

PRODUCT FEATURES

Carrier-level High Reliability

- Redundant Power module
- Dual backup, hot-swap
- Seamless switching, BDD mechanism
- STP / RSTP/MSTP
- VRRP - Ring protection

Telecom-Level Ethernet Switch

- Telecom-level Ethernet-ring protection protocol
- STP/RSTP/MSTP
- Active and standby uplinks and LACP link aggregation
- Layer 2 + Layer 3 MPLS VPN

Flexibile Networking

- Easy Maintenance with CLI/ Telnet/ SSH/ SSL and SNMP.
- Web GUI module built-in for easy management procedures.
- Support FTP, TFTP, SFTP, ISSU, Zero Touch Provisioning.
- Automatic equipment discovery, network topology, equipment configuration, performance data statistic and analysis.

VLAN

- 4K Active VLAN.
- QinQ & Selective QinQ.
- GVRP, Private VLAN.
- Voice VLAN

Spanning Tree

- 802.1D (STP).
- 802.1W(RSTP) and 802.1S(MSTP)
- BPDU guard, root guard and loopback guard

Multicast

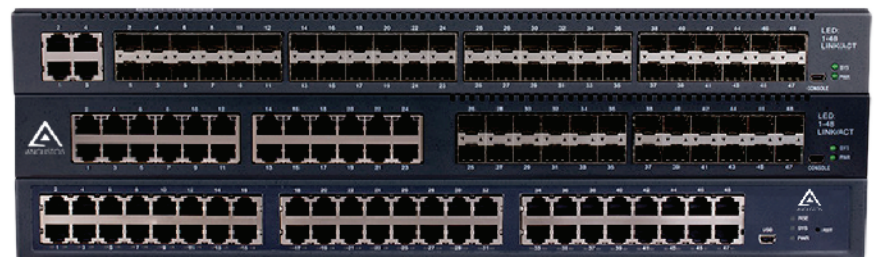
- IGMP v1/2/3, PIM-SM, PIM-DM
- IGMP Snooping / IGMP Fast Leave
- IGMP Filter / MVR

IPv4

- Static route
- RIP V1/2, OSPF, BGP, PBR
- ECMP, BFD for OSPF, BGP

Basic Standards

- IEEE 802.3 - 10Mbit/s
- IEEE 802.3ab - G.bit/s Base-T
- IEEE 802.3z - G.bit/s Base-X
- IEEE 802.3u - 10/100 Mbit/s auto
- IEEE 802.3x/ 802.3ad
- IEEE 802.1d/ 802.1p/ 802.1q/ 802.1w
- IEEE 802.1ad/ 802.1az



Certification

- CE / FCC/ RoHS

MPLS

- LDP protocol, Multi-VRF,
- MPLS L2 VPN

Advance IPv6

- ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet
- IPv6 neighbor discovery, Path MTU discovery
- MLD V1/2, MLD snooping
- Manual tunnel, ISAPTAP Tunnel, 6 to 4 tunnel
- IPv6 Static Routing, RIPng, OSPFv3, BGP4+
- ADAPT - Angustos Device Auto Protocol

Stability

- Static/LACP link aggregation, Interface backup
- AVSS virtual-stacking
- EAPS and ERPS
- URPF, LLDP
- ISSU
- VRRP
- 1+1 power backup

Management

- Console, Telnet, SSH v1/2, HTTP, HTTPS SNMP v1/v2/v3, RMON
- TFTP, FTP, SFTP
- NTP, sFlow
- ZTP (Zero Touch Provisioning)
- SPAN, RSPAN

DHCP

- DHCP server / relay / client
- DHCP snooping / option 82
- DHCP pool

QoS

- CAR, HQoS, MAC/IP/TCP/UDP/ VLAN/COS/DSCP/TOS based
- QoS, 802.1P/DSCP priority relabeling, SP, WRR, and "SP+WRR",
- Tail-Drop, WRED, flow monitoring and traffic shaping

Security

- Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky DHCP Snooping and option 82, DAI & IP source guard, PPPoE+.
- IEEE 802.1x, Radius and BDTacacs+
- L2/L3/L4 ACL flow identification and filtration Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc.
- Broadcast/multicast/unknown unicast storm-control
- Md5, SHA-256, RSA-1024, AES256, etc.

Environment

- Operating temperature/humidity: 0°C-50°C, 10%-90% non-condensing
- Storage temperature/humidity : -20°C-70°C, 5%-95% non-condensing

Network SWITCH

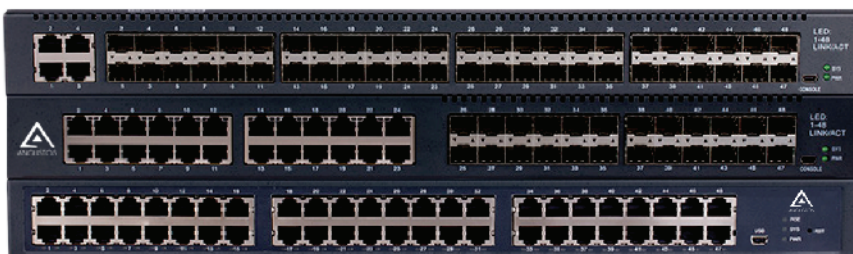


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SPECIFICATION

AS3-0444S8

Interface		44 x GE SFP
		8 x 10GE / GE SFP
		4 GE TX/SFP combo ports
Backplane		176 Gbps
Forwarding Rate (Mpps)		132 Mpps
Power consumption	No load	<38 W
	Full load	69 W
Power supply	100-220V (50-60Hz)	150 W
Noise@25°C (dBA)		45
Total Output BTU	(1000BTU/H=293W)	511.94
Fan		3
MTBF(H)		>100,000
Dimension	WxDxH (mm)	440x350x44



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SPECIFICATION (cont)

Forwarding Mode	Store-Forward	
Flash (MB)	32	
MAC	512	
Jumbo Frame	9K	
Routing Table	IPv4	32K
	IPv6	8K
ARP Table	IPv4	10K
	IPv6	5K
Total SVI	1K	
VLAN	4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN	
Spanning Tree	802.1D (STP)/ 802.1W (RSTP) / 802.1S (MSTP), BPDU guard, root guard loopback guard	
Multicast	PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, IGMP Fast Leave, MVR, IGMP filter	
IPv4	Static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP, BFD for OSPF, BGP	
IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet, IPv6 neighbor discovery, Path MTU discovery	
	MLD V1/V2, MLD snooping, IPv6 Static Routing, RIPng, OSPFv3, BGP4+	
	Manual tunnel, ISATAP tunnel, 6 to 4 tunnel	
MPLS	LDP protocol, Multi-VRF, MPLS L2 VPN	
QoS	CAR, HQoS, MAC/IP/TCP/UDP/VLAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority	
	SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring and traffic shaping	
Security	Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky, DHCP Snooping and option 82	
	DAI & IP source guard, PPPoE+, IEEE 802.1x, Radius and BDTacacs+	
	L2/L3/L4 ACL flow identification & filtration, Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, Broadcast/multicast/unknown unicast storm-control MD5, SHA-256, RSA-1024, AES256, etc.	
Reliability	Static/LACP link aggregation, Interface backup	
	BYSS virtual-stacking. EAPS and ERPS, URPF, LLDPISU, VRRP	
	1+1 power backup	
Certification	CE, FCC, RoHS	
Temperature	Operational : -10°C-60°C Storage : -20°C-70°C	
Humidity	Operational : 0 - 90% Storage : 0 - 90% Non-Condensing	

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Optical Module

**Other module available upon request*

AS-SFP-CO	GE SFP single to RJ45 module
AS-SFP-SX-D	GE SFP MM (500m,850nm,LC,DDM)
AS-SFP-LX-10-D	GE SFP SM (10Km,1310nm,LC,DDM)
AS-SFP-LX-20-D	GE SFP SM (20Km,1310nm,LC,DDM)
AS-SFP-LX-40-D	GE SFP SM (40Km,1310nm,LC,DDM)
AS-SFP-ZX-80-D	GE SFP SM (80Km, 1550nm, LC, DDM)
AS-SFP-LX-310-10-BIDI	GE SFP SM, single-chip BIDI (10Km, TX1310/RX1550, LC, DDM)
AS-SFP-LX-310-20-BIDI	GE SFP SM, single-chip BIDI (20Km, TX1310/RX1550, LC, DDM)
AS-SFP-LX-550-10-BIDI	GE SFP SM, single-chip BIDI (10Km, TX1550/RX1310, LC, DDM)
AS-SFP-LX-550-20-BIDI	GE SFP SM, single-chip BIDI (20Km, TX1550/RX1310, LC, DDM)
AS-SFP+-SX	TE 10G SFP+ multi-mode (300m, 850nm, LC)
AS-SFP+-LX-10	TE 10G SFP+ single-mode (10Km, 1310nm, LC, DDM)
AS-SFP+-LX-20	TE 10G SFP+ single-mode (20Km, 1310nm, LC, DDM)
AS-SFP+-LX-40	TE 10G SFP+ single-mode (40Km, 1310nm, LC, DDM)
AS-SFP+-LX-SM-270-10	10GE SFP+SM, single-chip and BIDI (10Km, TX1270/RX1330, LC, DDM)
AS-SFP+-LX-SM-330-10	10GE SFP+SM, single-chip and BIDI (10Km, TX1330/RX1270, LC, DDM)
AS-SFP+-LX-SM-270-20	10GE SFP+SM, single-chip and BIDI (20Km, TX1270/RX1330, LC, DDM)
AS-SFP+-LX-SM-330-20	10GE SFP+SM, single-chip and BIDI (20Km, TX1330/RX1270, LC, DDM)
AS-SFP+-LX-SM-270-40	10GE SFP+SM, single-chip and BIDI (40Km, TX1270/RX1330, LC, DDM)
AS-SFP+-LX-SM-330-40	10GE SFP+SM, single-chip and BIDI (40Km, TX1330/RX1270, LC, DDM)

Optional Power Module

AS-P75-DC	Hot-swap DC Power (Max Power 75W, DC-36V~72V input, isolated cooling fan)
AS-P75-AC	Hot-swap AC Power (Max Power 75W, AC 100-240V input, isolated cooling fan)
AS-P150-DC	Hot-swap DC Power (Max Power 150W, DC-36V~72V input, isolated cooling fan)
AS-P150-AC	Hot-swap AC Power (Max Power 150W, AC 100-240V input, isolated cooling fan)