

## LAYER 3 Gigabit with SFP+ Network Switch AS3 Series

AS3-S2400S6 / AS3-4800S6 / AS3-O824S6 / AS3-2424S6

### 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

- . Multi-VRF

#### 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: -10°C-60°C, 0%-90% non-condensing
- . Storage temperature/humidity : -20°C-70°C, 0%-90% non-condensing

#### 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

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### AS3 Series

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#### SPECIFICATION

		AS3-2400S6	AS3-4800S6
Interface		24 x GE TX	48 x GE TX
		6 x 10GE / GE SFP +	6 x 10GE / GE SFP +
Backplane		216 Gbps	216Gbps
Forwarding Rate (Mpps)		126 Mpps	162 Mpps
Power consumption	No load	32 W	33 W
	Full load	55 W	64 W
Power supply	100-220V (50-60Hz)	75 W	75 W
Total Output BTU	(1000BTU/H=293W)	255.9	255.9
Fan		2	2
MTBF(H)		200,000 H	200,000 H
Dimension	WxDxH (mm)	440x350x44	440x350x44
		AS3-0824S6	AS3-2424S6
Interface		8 x GE TX	24 x GE TX
		24 x GE SFP	24 x GE SFP
		6 x 10 GE/GE SFP+	6 x 10GE / GE SFP +
Backplane		216 Gbps	216 Gbps
Forwarding Rate (Mpps)		138 Mpps	162 Mpps
Power consumption	No load	32 W	38 W
	Full load	64 W	69 W
Power supply	100-220V (50-60Hz)	75 W	75 W
Total Output BTU	(1000BTU/H=293W)	255.9	255.9
Fan		2	2
MTBF(H)		200,000 H	200,000 H
Dimension	WxDxH (mm)	440x350x44	440x350x44

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### SPECIFICATION (cont)

Console	1 x RJ-45
Forwarding Mode	Store-Forward
Flash (MB)	16
DRAM (MB)	512
MAC	32K
Buffer size (MB)	2
Jumbo Frame	9K
Routing Table	IPv4 12K IPv6 6K
ARP Table	IPv4 12K IPv6 2K
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 BVSS 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)