

Network SWITCH



LAYER 3 Gigabit with 10SFP+ Network Switch

AS5 Series

AS5-O8OOS12 | AS5-O8OOS12-DAC

OVERVIEW

Angustos AS5 Series is Layer 3 with Full 10G+ TOR network switch series for high-performance computing, data center and campuses. supports up to 2.56Tbps switching capacity with 12 x 10GE SFP + 8 x GE ports

Support high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6, MPLS, VPN, network security, flow analysis, virtualization, with high reliable techniques including continuous forwarding, graceful restarting and loop network protection



PRODUCT FEATURES

Carrier-level High Reliability

- Redundant Power module (DAC Model)
- Dual master-slave uplink. LACP link aggregation
- Seamless switching. MTTR 50ms.
- STP / RSTP/MSTP, ISSU, BFD, OAM
- VRRP - Ring protection

Telecom-Level Ethernet Switch

- Layer 2 / 3 Multicast Routing
- Layer 3 Routing Protocol, large routing table.
- Layer 2 MPLS VPN

Advance IPv6

- IPv6 Protocol, IPv6 neighbor discovery
- ICMPv6, Path MTU discovery, DHCPv6
- Ping, Traceroute, Telnet, SSH, ACL based on IPv6
- MLD, MLD Snooping, IPv6 Static routing, RIPng, OSPFv3
- BGP4+, IPv6 tunnel: Manual / Auto / 6to4 tunnel
- ISATAP tunnel

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

- PIM-SM, PIM-DM.
- IGMP v1/v2/v3, IGMP Snooping.
- IGMP Fast Leave, MVR, IGMP filter

IP

- Static route
- RIP v1/v2, ECMP
- 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 / 802.3ae
- IEEE 802.1d/ 802.1p/ 802.1q/ 802.1w
- IEEE 802.1ab / 802.1ad/ 802.1ax

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

Stability

- Static/LACP link aggregation.
- Interface backup
- EAPS and ERPS
- ISSU
- BVSS, VRRP, UDLD

Certification

- CE / FCC/ RoHS

Management

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

DHCP

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

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SPECIFICATION

AS5-0800S12

Interface		12 x 10GE / GE SFP + 8 x GE TX
Backplane		176 Gbps
Forwarding Rate (Mpps)		132 Mpps
Power consumption	No load	30 W
	Full load	50 W
Power supply	100-220V (50-60Hz)	1 module
AS5-080012-DAC Support Dual AC Power		
Total Output BTU	(1000BTU/H=293W)	170
Fan		2
MTBF(H)		120,000 H
Dimension	WxDxH (mm)	440x315x44
Weight	Empty (kg)	3.6
Console		1 x RJ-45
Forwarding Mode		Store-Forwarding
Flash (MB)		16
DRAM (MB)		512
MAC		32K
Jumbo Frame Buffer Size		9K 3 MB
Routing Table	IPv4	32K
	IPv6	8K
ARP Table	IPv4	10K
	IPv6	5K
Total SVI		1K
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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SPECIFICATION (cont)

VLAN	4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice-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 (DAC Model)
Standard	<ul style="list-style-type: none"> . IEEE 802.3 . IEEE 802.3ab IEEE 802.3ah IEEE 802.3ag . IEEE 802.3z . IEEE 802.3u . IEEE 802.3x . IEEE 802.3ad . IEEE 802.3ae IEEE 802.3az . IEEE 802.1d . IEEE 802.1p . IEEE 802.1q IEEE 802.1s . IEEE 802.1w IEEE 802.1x . IEEE 802.1ab . IEEE 802.1ad . IEEE 802.1ax

Optional Power Module

AS5-0800S12-DAC

DUAL AC Modules built-in

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Optical Module	<i>*Other module available upon request</i>
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)