

Industrial Network SWITCH

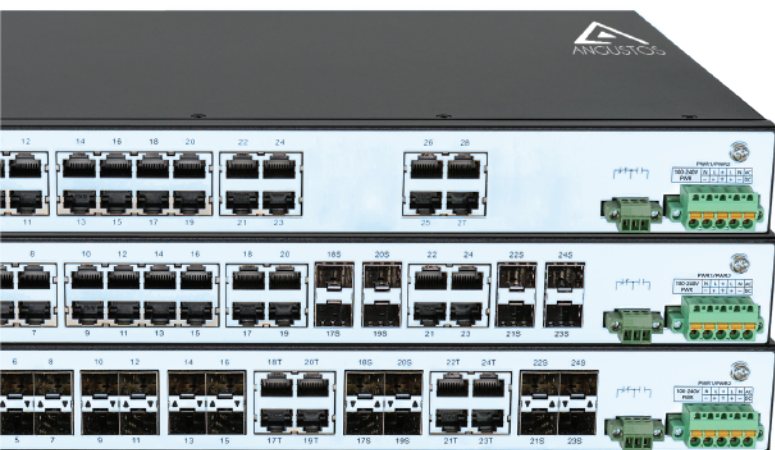


Manged Industrial Switch AIS Series AIS-24O4 / AIS-16O8S4 / AIS-O816S4

OVERVIEW

Angustos AIS Series is the industrial switch series with standard 19inch Rackmount, redundant wide-voltage industrial power supplies . AIS series offer highly reliable industrial Ethernet ring network technology. The hardware-based algorithm can manage the self-healing time of each node in less than 5 milliseconds, total ring network recovery is less than 50 milliseconds (typical value).

The reliable industrial design of AIS series such as electromagnetic compatibility, anti-vibration / anti-shock capability, IP40 protection is suitable and can be widely used in energy, transportation, industrial production, environmental protection, military industries.



PRODUCT FEATURES

- Lightning protection level: 6KV
- IP40 protection, industrial fanless thermal conduction.
- Die-casting aluminum shell, 19 inch IT Rack mount design
- Redundant wide-voltage industrial power supplies
- Supports dual 220V industrial power input (DC optional)
- Supports STP/EAPS/ERPS. Layer 3 management.
- Supports layer-3 static routing, dynamic routing (RIP,OSPF).
- Virtual Router Redundancy Protocol (VRRP).
- Supports virtual stacking
- Supports Self-healing time less than 5 milliseconds
- Support ring network self-healing time less than 50 milliseconds.
- Supports forming a self-healing ring network between two ports.
- Supports multiple independent self-healing rings.
- Packet loss protection mechanism for quick recovering
- Provides hierarchical bandwidth services through rate limiting
- Traffic shaping in Layer-2 QoS function.
- Supports simple network management protocol (SNMP) and cloud-based operating platform (COP).
- The MTBF is over 800,000 hours.

VLAN

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

IPV6

- ICMPv6, DHCPv6, ACLv6,
- IPv6 Neighbor Discovery
- Path MTU Discovery
- MLD v1/v2, MLD Snooping
- IPv6 Static Routing, RIPng, OSPFv3
- Manual tunnel, ISATAP tunnel, 6 to 4 tunnel

Multicast

- IGMP v1/2/3
- IGMP Snooping
- IGMP Fast Leave
- MVR
- IGMP filter

Spanning Tree

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

DHCP

- DHCP server/relay/client
- DHCP snooping/option82

Virtualization

- Static configuration & dynamic learning
- Check and clear MAC address
- Configuring of MAC address aging time
- Limit on MAC address learning number
- MAC address filtering function
- IEEE 802.1AE MacSec

Security

- Port isolation, Port security,
- "IP+MAC+port" binding, MAC sticky
- DAI & IP source guard, PPPoE+,
- IEEE 802.1x, AAA, Radius and BDTacacs+
- L2/L3/L4 ACL flow identification
- TCP's SYN Flood, UDP Flood, etc.
- Broadcast/multicast/unknown unicast storm-control.
- MD5, SHA-256, RSA-1024, AES256, etc.

QoS

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

Reliability

- Static/LACP link aggregation, Interface backup
- EAPS and ERPS
- ISSU uninterrupted system upgrade
- BVSS, ups to 16-units per stack. Virtual Stacking
- VRRP
- UDLD

Environment

- Operating temperature/humidity:
- 40°C-85°C, 0%-90% non-condensing
- Storage temperature/humidity :
- 40°C-85°C, 5%-95% non-condensing

Management

- Console, Telnet, SSH v1/2, HTTP, HTTPS
- SNMP v1/v2/v3
- TFTP upload / download
- WEB GUI Management
- ZTP(Zero Touch Provisioning)
- Remote Network Monitoring (RMON)
- NTP, SPAN, RSPAN
- Dying gasp*

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SPECIFICATION

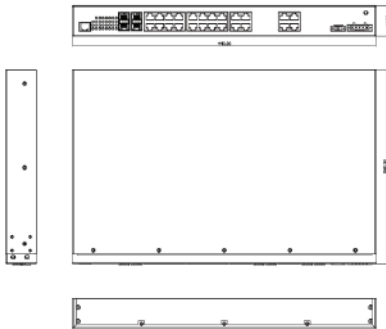
	AIS-24O4	AIS-16O8S4	AIS-O816S4
Interface	24 x Gigabit TX	16 x Gigabit TX	8 x Gigabit TX/SFP Combo
	4 x Gigabit SFP	8 x Gigabit TX/SFP Combo	16 x Gigabit SFP
		4 x Gigabit/10G SFP+	4 x Gigabit/10G SFP+
Power consumption no load / full	13.5 / 30.05 W	15.5 / 33.25 W	20 / 38.6 W
Switching Capacity / Backplane	128 Gbps	128 Gbps	128 Gbps
Forwarding Rate	42 Mpps	96 Mpps	96 Mpps
Jumbo Frame / Buffer size		9K / 12MB	
Power Input	Dual AC 100~240V (DC Optional)		
Operational	Temperature	-40~85°C	
	Humidity	10%-90% non-condensing	
Forwarding Mode	Store - Forward		
MAC Address Table	16K		
Flash / DRAM	16MB (Flash) / 256MB (DRAM)		
Standard	IEEE 802.3 / IEEE 802.3u / IEEE 802.3ab / IEEE 802.3z / IEEE 802.3cb IEEE 802.3ad / IEEE 802.3ah / IEEE 802.3x / IEEE 802.3az IEEE 802.1D / IEEE 802.1W / IEEE 802.1S / IEEE 802.1Q / IEEE 802.1X / IEEE 802.1ad / IEEE 802.1P IEEE 802.1ab / IEEE 802.1ae / ITU-T G.8032/Y.1344		
Lighting Protection	6KV		
Console Port	RJ-45		
Network Cable	UTP/STP Cat. 5e cable or above		
Protocols	CSMA/CD		
Overload Protection	Supported		
Certification	CE, FCC, UL60950-1		
Total SVI	64		
IPv6 QoS	Supported		
MTBF (Hours)	>800,000		
Total Output BTU (1000BTU/H=293W)	102	113	131
Weight (kg)	3.4	3.5	3.8

Manged Industrial Switch

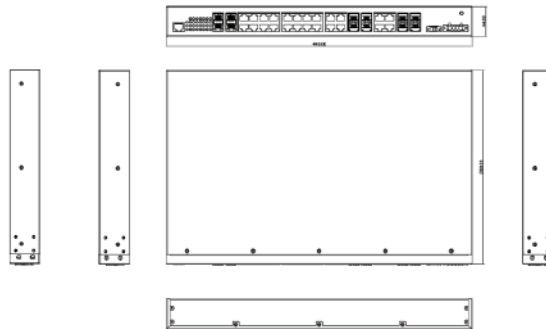
AIS Series

AIS-24O4 / AIS-16O8S4 / AIS-O816S4

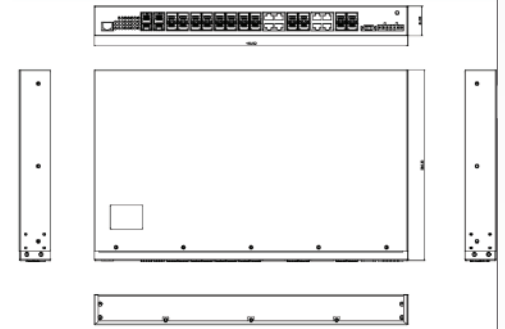
AIS-24O4



AIS-16O8S4



AIS-O816S4



Optical Module - Industrial

AS-SFPI-SM-1310-20-Bi	Industrial Gigabit SFP, two-way, single-mode (20Km, TX1310nm/RX1550nm, LC, DDM)
AS-SFPI-SM-1550-20-Bi	Industrial Gigabit SFP, two-way, single-mode (20Km, TX1550nm/RX1310nm, LC, DDM)
AS-SFPI-SM-20-D	Industrial 1000M SFP single-mode (20Km, 1310nm, LC, DDM)

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,850nm,LC,DDM)
AS-SFP-LX-20-D	GE SFP SM (20Km,850nm,LC,DDM)
AS-SFP-LX-40-D	GE SFP SM (40Km,850nm,LC,DDM)
AS-SFP-LX-SM-90-80-BD	GE SFP SM (80Km,TX1490/RX1550,LC,DDM)
AS-SFP-LX-SM-50-80-BD	GE SFP SM (80Km,TX1550/RX1490,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)