

IGS-4804SM & IGS-2408SM

- ◀ 48x GbE RJ45 + 4x 100/1000Base SFP
- ▶ 24x GbE RJ45 + 8x 100/1000Base SFP



- Supports u-Ring , ERPS, MSTP, RSTP,STP for redundant cabling
- EN62368-1, CE, FCC, EN50121-4, EN61000-6-2, EN61000-6-4 certified
- 4KV surge protection for RJ45 and SFP ports
- 2.25K VDC Hi-pot isolation protection for Ethernet ports and power
- Supports negative voltage power input



Ver.2022 Jan

IGS-4804SM & IGS-2408SM are industrial grade, hardened design, managed L2+ switches, equipped with 24/48 (10/100/1000BaseTX) RJ-45 ports plus 8/4 dual speed (100/1000Base-X) SFP fiber optical slots, thus providing up to 32 ports of Ethernet connectivity. IGS series models are available with redundant power supplies (2 AV, 2 DC, AC + DC) and can be rack mounted in 19-inch EIA standard rack. IGS Series are certified with many industrial-grade standards and are ideal for deployments in harsh environments to deliver mission-critical network services. The managed Ethernet switch is an ideal solution of Industrial automation, smart city & surveillance, Intelligent traffic control systems and production automation applications.

Features

- Redundant isolated 24/48/-48VDC (18~60VDC), or/and isolated 110/220VAC power inputs
 - STP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) for network redundancy
 - Provides 5 instances each can support μ-Ring, μ-Chain or Sub-Ring for flexible networking applications
 - μ-Ring redundancy, recovery time <20ms in 250 devices
 - Supports IEEE 1588 PTP V2 for precise time synchronization to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port (IGS-2408SM)
 - Provides SmartConfig for quick and easy mass Configuration*
 - Supports SmartView™ for Centralized Management*
- *Please see Chapter 1- **Software Management** for more details

Specifications

Standard	IEEE 802.3	10Base-T 10Mbit/s Ethernet	
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet	
	IEEE 802.3ab	1000Base-T Gbit/s Ethernet over twisted pair	
	IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic	
	IEEE 802.1d	STP (Spanning Tree Protocol)	
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)	
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)	
	ITU-T G.8032 / Y.1344	ERPS (Ethernet Ring Protection Switching)	
	IEEE 802.1Q	Virtual LANs (VLAN)	
	IEEE 802.1X	Port based and MAC based Network Access Control, Authentication	
	IEEE 802.3ac	Max frame size extended to 1522Bytes	
	IEEE 802.3ad	Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)	
	IEEE 802.3X	Flow control for full duplex	
	IEEE 802.1ad	Stacked VLANs, Q-in-Q	
	IEEE 802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization	
	IEEE 802.1ab	Link Layer Discovery Protocol (LLDP)	
	IEEE 802.3az	EEE (Energy Efficient Ethernet)	
VLAN ID	4094	IEEE 802.1Q VLAN VID	
Switch Architecture	Back-plane (Switching Fabric): 64Gbps (IGS-2408SM) 104Gbps (IGS-4804SM) (Full wire-speed)		
Data Processing	Store and Forward		
Network Connector	SFP: 8x 100/1000Base-X SFP socket (IGS-2408SM) 4x 100/1000Base-X SFP socket (IGS-4804SM) Support DDMI		
	RJ45: 24x 10/100/1000Base-T RJ-45 (IGS-2408SM) 48x 10/100/1000Base-T RJ-45 (IGS-4804SM) Support Auto negotiation speed, Auto MDI/MDI-X function		
Console	RS-232 (RJ-45)		
Network Cable	UTP/STP Cat.5e cable or above EIA/TIA-568 100-ohm (100meter)		
Protocols	CSMA/CD		
Reverse Polarity Protection	For input power		
Overload Current Protection	Supported		
CPU Watch Dog	Supported		
Power Supply	Redundant 2x AC input power (-AA model) 1x AC input power (-A model) Redundant 1x AC and 1x DC input power (-AD model) Redundant 2x DC input power (-DD model) 1x DC input power (-D model)		
Power Consumption	< 30W @24/48VDC, 110/220VAC (IGS-2408SM) TBD (IGS-4804SM)		
LED	Per unit: Power 1 (Green), Power 2 (Green), Act/Alarm (Green/Amber), Ring Master (Green) P1~P24 (IGS-2408SM) P1~P48 (IGS-4804SM) Per RJ-45 port: 10/100 Link/Active (Green) 1000 Link/Active (Amber) P25~P32 (IGS-2408SM) P49~P52 (IGS-4804SM) Per SFP Fiber port: 100 /1000Base-X Link/Active (Amber)		
Jumbo Frame	10K Byte		
MAC Address Table	32K		
Memory Buffer	4M Bytes for packet buffer		
Device Memory	16M Bytes Flash ROM, 1G Bytes RAM		

Warning Message	System Syslog, SMTP/ e-mail event message, alarm relay
Alarm Relay Contact	Relay outputs with current carrying capacity of 1A @24VDC, 2-Pin removable terminal block
Operating Temperature	-40 ~ 75°C (IGS-2408SM-E, IGS-4804SM-E)
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection, Fanless
Dimensions	280x 440 x 44mm (D x W x H) (IGS-2408SM) TBD (IGS-4804SM)
Weight	4,755kg (IGS-2408SM-(E)AA) 4.51kg (IGS-2408SM-(E)AD) 4.26kg (IGS-2408SM-(E)DD) TBD (IGS-4804SM)
Installation Mounting	19" rack mount
MTBF	103,057 Hours (IGS-2408SM-AA) 103,451 Hours (IGS-2408SM-AD) 103,447 Hours (IGS-2408SM-DD) TBD (IGS-4804SM) (MIL-HDBK-217)
Warranty	5 years

Software Specifications

Topology	
VLAN	IEEE 802.1q VLAN, up to 4094 802.1Q VLAN VID IEEE 802.1q VLAN, up to 4094 Groups IEEE 802.1ad Q-in-Q MAC-based VLAN, up to 256 entries IP Subnet-based VLAN, up to 128 entries Protocol-based VLAN (Ethernet, SNAP, LLC), up to 128 entries VLAN Translation, up to 256 entries Private VLAN for port isolation GVRP (GARP VLAN Registration Protocol) MVR (Multicast VLAN Registration)
Link Aggregation (Port Trunk)	Static (Hash with SA, DA, IP, TCP/UDP port), Maximum trunk group : 16group (IGS-2408SM) 26group (IGS-4804SM) Dynamic (IEEE 802.3ad LACP), Maximum trunk group : 16group (IGS-2408SM) 26group (IGS-4804SM) Per group up-to 8 port
Spanning Tree	IEEE 802.1d STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP
Multiple μ-Ring	Up to 5 instances each support μ-Ring, μ-Chain or Sub-Ring for flexible networking applications. Recovery time <20ms The maximum number of device is allowed 250 in a Ring.
Loop Protection	Supported
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)	Recovery time <20ms Single Ring, Sub-Ring, Multiple ring topology
QoS Features	
Class of Service	IEEE 802.1p 8 active priorities queues per port
Traffic Classification QoS	IEEE 802.1p based CoS IP Precedence based CoS IP DSCP based CoS
Traffic Classification QoS	QCL(QoS Control List): Frame Type, Source/Destination MAC, VLAN ID, PCP, DEI Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number
Bandwidth Control for Ingress	Per port based
Bandwidth Control for Egress	Per port based Per queue / Per port shaper
DiffServ (RF 2474) Remarking	
Storm Control	for Unicast, Broadcast, Multicast

Certification	
EMC	CE (EN55024, EN55032)
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE
Railway Traffic	EN50121-4
Immunity for Heavy Industrial Environment	EN61000-6-2
Emission for Heavy Industrial Environment	EN61000-6-4
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-2 (ESD) Level 3, Criteria B EN61000-4-3 (RS) Level 3, Criteria A EN61000-4-4 (Burst) Level 3, Criteria A EN61000-4-5 (Surge) Level 3, Criteria B EN61000-4-6 (CS) Level 3, Criteria A EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
Safety	EN62368-1
Hi pot protection	DC 2.25KV for power to chassis ground, Ethernet port to chassis ground
4KV surge protection	Supported for RJ45 and SFP ports
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

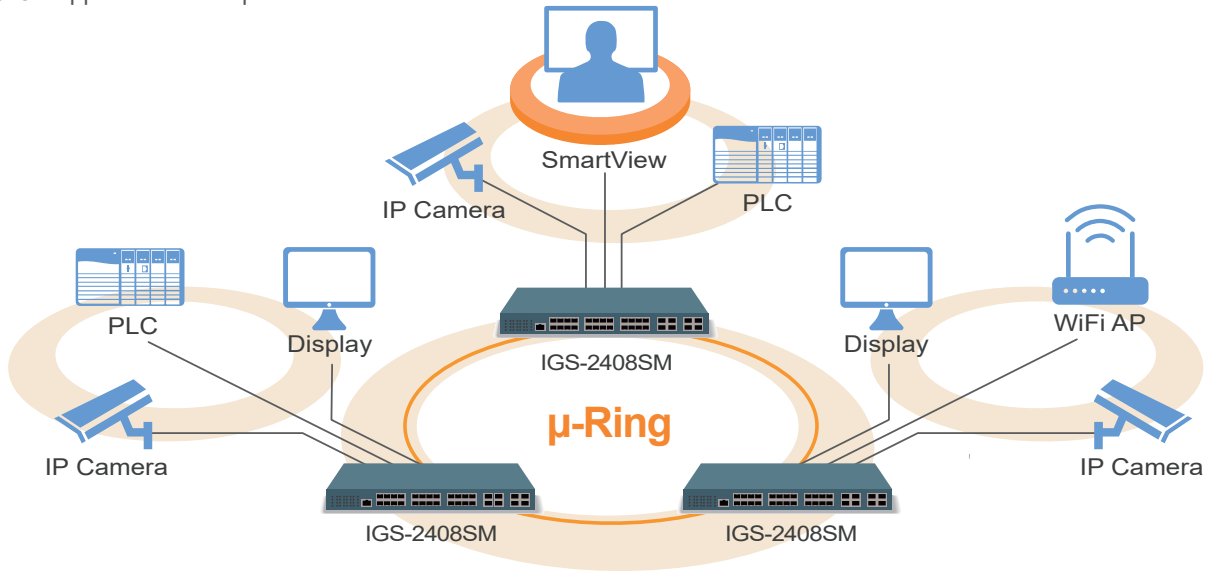
IP Multicasting Features	
IGMP / MLD Snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile Throttling, Fast Leave Maximum Multicast Group : up to 1022 entries Query / Static Router Port
Security Features	
IEEE 802.1X	Port-Based MAC-Based
ACL	Number of rules : up to 256 entries for L2 / L3 / L4 L2 : Mac address SA/DA/VLAN L3 : IP address SA/DA, Subnet L4 : TCP/UDP
RADIUS authentication & accounting	
TACACS+ authentication & accounting, TACACS+ 3.0	
HTTPS, HTTP	Supported
SSL / SSH v2	Supported
User Name Password Authentication	Local Authentication Remote Authentication (via RADIUS / TACACS+)
Management Interface Access Filtering	Web, Telnet / SSH , CLI RS-232 console
Management Features	
CLI	Cisco® like CLI
Web Based Management	
Telnet	Server
SNMP	V1, V2c, V3
Modbus/TCP	Support for management and monitoring
SW & Configuration Upgrade	TFTP, HTTP Redundant firmware in case of upgrade failure
RMON	RMON I (1, 2, 3, 9 group), RMON II
MIB	RFC1213 MIB II, Private MIB
UPnP	Supported
DHCP	Server/Client/Relay/Relay option 82/Snooping
Warning Message	System syslog, e-mail, alarm relay
DNS	Client, Proxy
IP Source Guard	Supported
Mirroring	Local and Remote
Event Syslog	Syslog server (RFC3164)
IEEE 1588 PTP V2 (IGS-2408SM)	Supports 5 operating mode in each port : Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave

NTP V4.0, SNTP	Client
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED
IPv6 Features	
IPv6 Management	Telnet Server/ICMP v6
SNMP over IPv6	Supported
HTTP over IPv6	Supported
SSH over IPv6	Supported
IPv6 Telnet	Supported
IPv6 NTP, SNTP	Client
IPv6 TFTP	Supported
IPv6 QoS	Supported

IPv6 ACL	Number of rules: up to 256 entries for L2 / L3 / L4 L2 : Mac address SA/DA/VLAN L3 : IP address SIP, Subnet (32bit) L4 : TCP/UDP
Other Features	Green Ethernet Supports IEEE 802.3az EEE (Energy Efficient Ethernet) Management to optimize the power consumption Determine the cable length and lowering the power for ports with short cables Lower the power for a port when there is no link LED Power Management : Adjustment LEDs intensity Cable Diagnostic Measuring UTP cable normal or broken point distance

Application

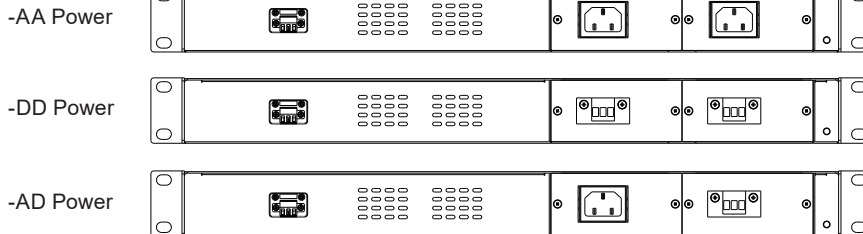
Figure : Application Example



Dimensions

► IGS-2408SM

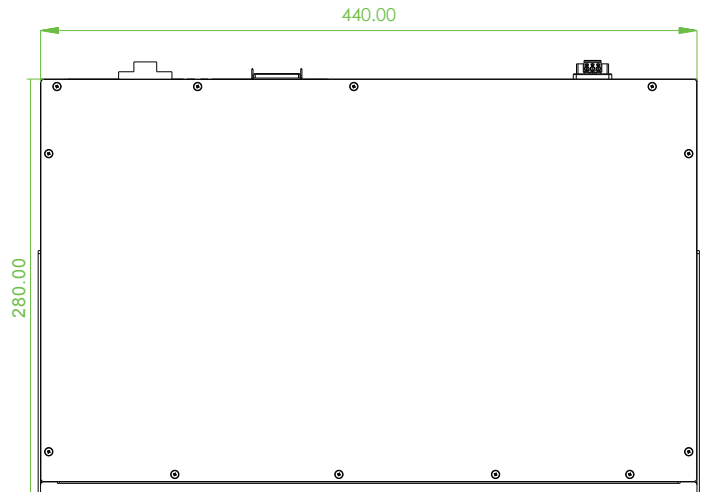
Rear View



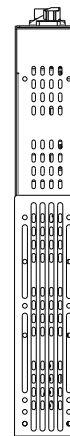
Front View



Top View



Side View



Ordering Information

Model Name	Managed	Total Port	UTP	Fiber	Input Power		Certification				Operating Temperature	
			10/100/1000 Base-T	100/1000 Base-X	24/48/-48VDC	110/220V AC	Safety EN62368-1	EN50121-4	EN61000-6-2 EN61000-6-4	CE, FCC		
IGS-2408SM-E-AA	V	32	24	8		2		V	V	V	V	-40~75°C
IGS-2408SM-E-AD	V	32	24	8	1	1		V	V	V	V	-40~75°C
IGS-2408SM-E-DD	V	32	24	8	2			V	V	V	V	-40~75°C
IGS-4804SM-E-AA	V	52	48	4		2		V	V	V	V	-40~75°C
IGS-4804SM-E-AD	V	52	48	4	1	1		V	V	V	V	-40~75°C
IGS-4804SM-E-DD	V	52	48	4	2			V	V	V	V	-40~75°C

■ Package List

- IGS-4804SM or IGS-2408SM device
- 19" rack-mount kit (brackets and screws)
- AC Power cord (for AC power -A model)
- Console cable (RJ-45 to DB-9)
- Protective caps for SFP ports

Optional Accessories

■ Industrial SFP Transceiver

The ISFP series of industrial grade SFP modules have been fully tested with the series product for guaranteed compatibility and performance. The best performance can be guaranteed even in mission-critical applications.

ISFP-M7000-85-D(E)	Industrial SFP GbE 1000Base-SX, M/M, 500 meter, wave length 850nm, 7.5dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-T7100-00-(E)	Industrial SFP 10/100/1000Base-T UTP 100meter, -10~70°C (-40~85°C)
ISFP-M5002-31-D(E)	Industrial SFP 155M 100Base-FX, MM, 2km, wave length 1310nm, 12dB, LC, DDMI, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDMI, -10~70°C (-40~85°C)

■ Industrial Power Supply

NDR-120-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 120W, -20 ~ +70°C (For DC type)
------------	---

■ Industrial Optical Fiber Bypass Switch

IBP-202	Optical Fiber Bypass Switch
---------	-----------------------------