

IGS-2408SM-24PH

24x GbE RJ45 + 8x 100/1000Base SFP with 24x PoE 400W 48VDC

4KV Surge protection



- Supports IEEE 1588 PTP V2
- 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 PoE, RJ45 and SFP ports



IGS-2408SM-24PH is a rackmount, managed, Industrial Grade, L2 Gigabit PoE (Power over Ethernet) Switch that provides 24x 10/100/1000BaseTX PoE ports, plus 8 dual speed (100/1000Base-X) SFP ports, thus providing up to 32 ports total Ethernet connectivity. The PoE features enable power and data to be transferred via a single cable, thereby considerably reducing cabling and electrical wiring expenses. IGS-2408SM-24PH is an ideal solution for applications in Smart City, surveillance, Intelligent traffic control systems (ITS) and production automation applications. The IGS-2408SM-24PH is designed for harsh outdoor cabinet applications, with 4kV surge protection, to ensure the uninterrupted reliability of PoE systems. Isolated power inputs also help to increase system reliability and the availability of your network backbone.

Features

- Maximum up to 24x IEEE 802.3af / 802.3at PoE+ output, 30W per port, 400W PoE power budget in total
- Redundant dual input power 48VDC (44~57VDC)
- 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
- 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 802.3af	PoE (Power over Ethernet)
	IEEE 802.3at	PoE+ (Power over Ethernet enhancement)
	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	IEEE802.1Q VLAN VID
Switch Architecture	Back-plane (Switching Fabric): 64Gbps (Full wire-speed)	
Data Processing	Store and Forward	

Network Connector	SFP: 8x 100/1000Base-X SFP socket Support DDMI
	RJ45: 24x 10/100/1000Base-T RJ-45 Support Auto negotiation speed, Auto MDI/MDI-X function
	PoE: 24x IEEE 802.3af /IEEE 802.3at PoE+ End-Span, Alternative A mode. Maximum 30W per port, 400W PoE power budget in total
	RJ45 Pin Assignment: PoE Positive (V+) : RJ-45 pin 1, 2. PoE Negative (V-) : RJ-45 pin 3, 6. Data (1,2,3,6,4,5,7,8)
Console	RS-232 (RJ-45)
Network Cable	UTP/STP Cat.5e cable or above EIA/TIA-568 100-ohm (100m)
Protocols	CSMA/CD
Reverse Polarity Protection	For input power
Overload Current Protection	Supported
CPU Watch Dog	Supported
Power Supply	Redundant dual input power 48VDC (44~57VDC) (Removable terminal block) (50~57VDC input is recommended for IEEE802.3at PoE+ in 30W applications)
Power Consumption	< 30W @50VDC without PoE load <445W @50VDC with 400W PoE load

LED	Per unit: Power 1 (Green), Power 2 (Green), Act /Alarm (Green/Amber), Ring Master (Green) P1~P24 Per RJ-45 port: 10/100 Link/Active (Green) 1000 Link/Active (Amber) P25~P32 Per SFP Fiber port: Link/Active (Amber) PoE port (P1~P24): PoE ON (Green)
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
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)
Weight	4.26kg
Installation Mounting	19" rack mount
MTBF	97,078 Hours (MIL-HDBK-217)

Warranty	5 years
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
Surge protection	4KV for PoE, RJ45 and SFP ports
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

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), up to 16 trunk group Dynamic (IEEE 802.3ad LACP), up to 16 trunk group 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 <50ms
QoS Features	
Class of Service	Single Ring, Sub-Ring, Multiple ring topology
Traffic Classification QoS	IEEE 802.1p 8 active priorities queues per port 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) Remarketing	
Storm Control	for Unicast, Broadcast, Multicast

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
IP Source Guard	Supported
Mirroring	Local and Remote
Event Syslog	Syslog server (RFC3164)
Warning Message	System syslog, e-mail, alarm relay
DNS	Client, Proxy

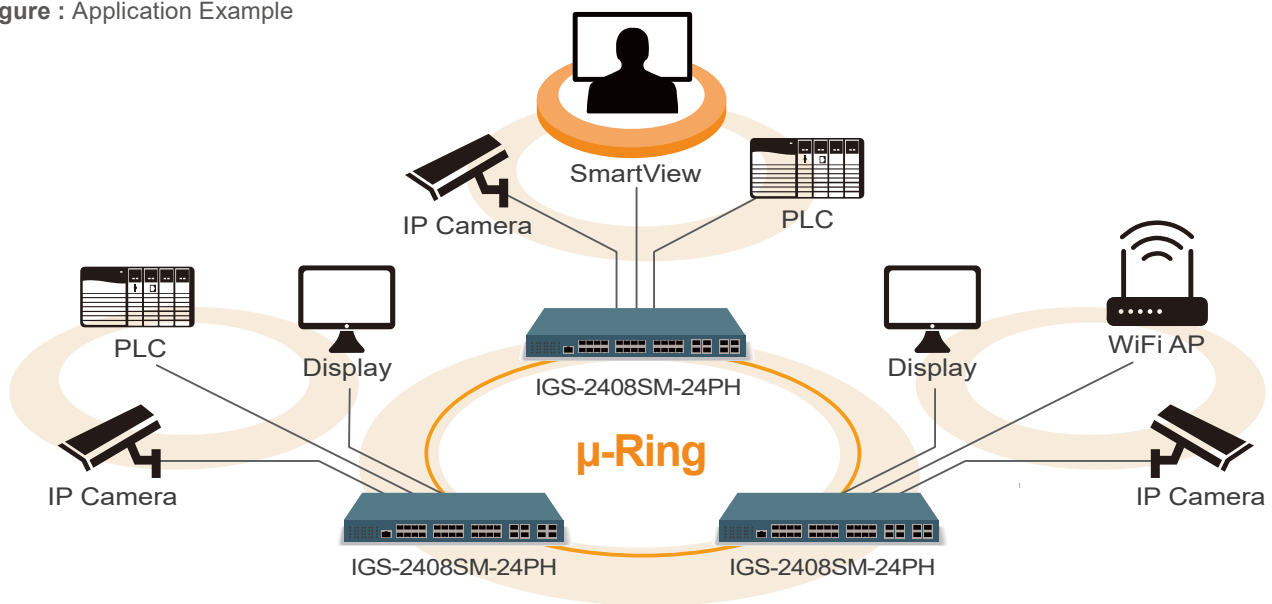
IEEE1588 PTP V2	Supports 5 operating mode in each port : Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave
NTP V4.0, SNTP Client	Client
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED
IPv6 Features	
IPv6 Management	Telnet Server/ICMP v6
SNMP over 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

Advanced PoE Management	PoE PD failure auto checking, and auto reset when PD fail PoE port on/off weekly scheduling PoE Configuration PoE Enable/Disable Power limit by classification Power limit by management Total PoE Power budget limitation management: Maximum 400W power budget Power feeding priority
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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
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Application

Figure : Application Example



Dimensions

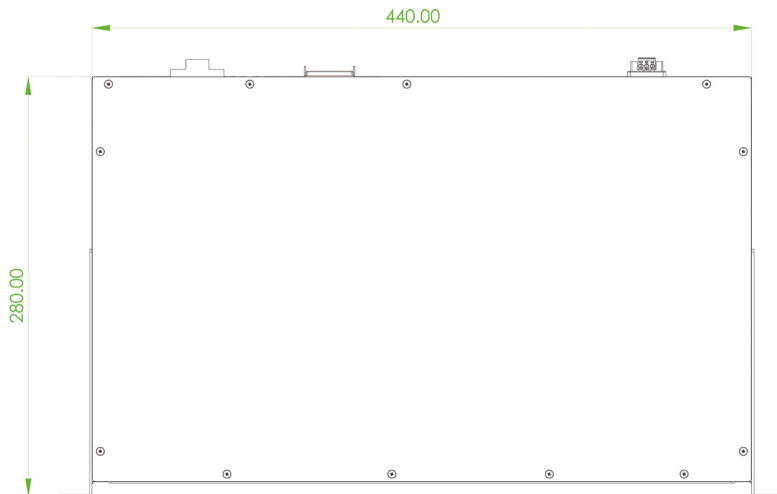
Rear View



Front View



Top View



Side View



Ordering Information

ModelName	Managed	Total Port	RJ45 Port	SFP Port	PoE port		Input power	Certification				Operating Temperature
			10/100/1000 Base-T(X)	100/1000 Base-X	IEEE 802.3at	Power Budget		48VDC	Safety EN62368-1	EN50121-4	EN61000-6-2 EN61000-6-4	
IGS-2408SM-24PHE	V	32	24	8	24	400W	2	V	V	V	V	-40~75°C

■ Package List

- IGS-2408SM-24PH device
- Console cable (RJ-45 to DB-9)
- 19" rack-mount kit (brackets and screws)
- 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, DDML, -10~70°C (-40~85°C)
ISFP-S7020-31-D(E)	Industrial SFP 1000Base-LX, S/M, 20km, wave length 1310nm, 15dB, LC, DDML, -10~70°C (-40~85°C)
ISFP-T7T00-00-(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, DDML, -10~70°C (-40~85°C)
ISFP-S5030-31-D(E)	Industrial SFP 155M 100Base-FX, SM, 30km, 1310nm, 19dB, LC, DDML, -10~70°C (-40~85°C)

■ Industrial Power Supply

NDR-480-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 480W, -20 ~ +70°C
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