

IGS-2408SM & IGS-4804SM

◀ 24x GbE RJ45 + 8x 100/1000Base-X SFP

▶ 48x GbE RJ45 + 4x 1000Base-X SFP



- Supports u-Ring , ERPS, EPS, MSTP, RSTP,STP for redundant cabling
- EN62368-1, CE, FCC 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



IGS-2408SM & IGS-4804SM 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 and 52 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)
 - Supports SmartView™ for Centralized Management*
- *Please see Chapter 1- **Software Management** for more details

Specifications

| | | | | | |
|--|---|--|--|---|-----------------------------|
| Standard | IEEE 802.3 | 10Base-T 10Mbit/s Ethernet | Console RS-232 (RJ-45) | | |
| | IEEE 802.3u | 100Base-TX, 100Base-FX, Fast Ethernet | | | |
| | IEEE 802.3ab | 1000Base-T Gbit/s Ethernet over twisted pair | | Network Cable UTP/STP Cat.5e cable or above EIA/TIA-568 100-ohm (100meter) | |
| | IEEE 802.3z | 1000Base-X Gbit/s Ethernet over Fiber-Optic | | | |
| | IEEE 802.1d | STP (Spanning Tree Protocol) | | Protocols CSMA/CD | |
| | IEEE 802.1w | RSTP (Rapid Spanning Tree Protocol) | | Reverse Polarity Protection For input power | |
| | IEEE 802.1s | MSTP (Multiple Spanning Tree Protocol) | | | |
| | ITU-T G.8032 / Y.1344 | ERPS (Ethernet Ring Protection Switching) | | Overload Current Protection Supported | |
| | ITU-T G.8031 / Y.1342 | EPS (Ethernet Protection Switching) | | | |
| | IEEE 802.1Q | Virtual LANs (VLAN) | | CPU Watch Dog Supported | |
| | IEEE 802.1X | Port based and MAC based Network Access Control, Authentication | | 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) | |
| | IEEE 802.3ac | Max frame size extended to 1522Bytes | | | |
| | IEEE 802.3ad | Link aggregation for parallel links with LACP(Link Aggregation Control Protocol) | | AC input power (A) : Isolated 110/220VAC (85VAC~264VAC) DC input power (D) : Isolated 24/48/-48VDC (18~60VDC), Removable Terminal Block Supports negative voltage power input | |
| | IEEE 802.3X | Flow control for full duplex | | | |
| | IEEE 802.1ad | Stacked VLANs, Q-in-Q | | Power Consumption < 30W @24/48VDC, 110/220VAC (IGS-2408SM) TBD (IGS-4804SM) | |
| | IEEE 802.1p | LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization | | 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) | |
| | IEEE 802.1ab | Link Layer Discovery Protocol (LLDP) | | | |
| | IEEE 802.3az | EEE (Energy Efficient Ethernet) | | P25~P32 (IGS-2408SM) P49~P52 (IGS-4804SM) Per SFP Fiber port: 100 /1000Base-X Link/Active (Amber) | |
| | VLAN ID | 4094 | | IEEE 802.1Q VLAN VID | Jumbo Frame 10K Byte |
| | Switch Architecture | Back-plane (Switching Fabric): 64Gbps (IGS-2408SM) 104Gbps (IGS-4804SM) (Full wire-speed) | | MAC Address Table 32K | |
| Data Processing Store and Forward | | Memory Buffer 4M Bytes for packet buffer | | | |
| Network Connector | SFP: 8x 100/1000Base-X SFP socket (IGS-2408SM) 4x 1000Base-X SFP socket (IGS-4804SM) Support DDMI | | Device Memory 16M Bytes Flash ROM, 1G Bytes RAM | | |
| | 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 | | | | |

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| 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 |

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| Certification | |
| EMC | CE (EN55032, EN55035) |
| EMI (Electromagnetic Interference) | FCC Part 15 Subpart B Class A, CE |
| 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 |

Software Specifications

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|--|---|
| 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) Voice VLAN |
| 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 |
| ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching) | Supported |
| 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 |

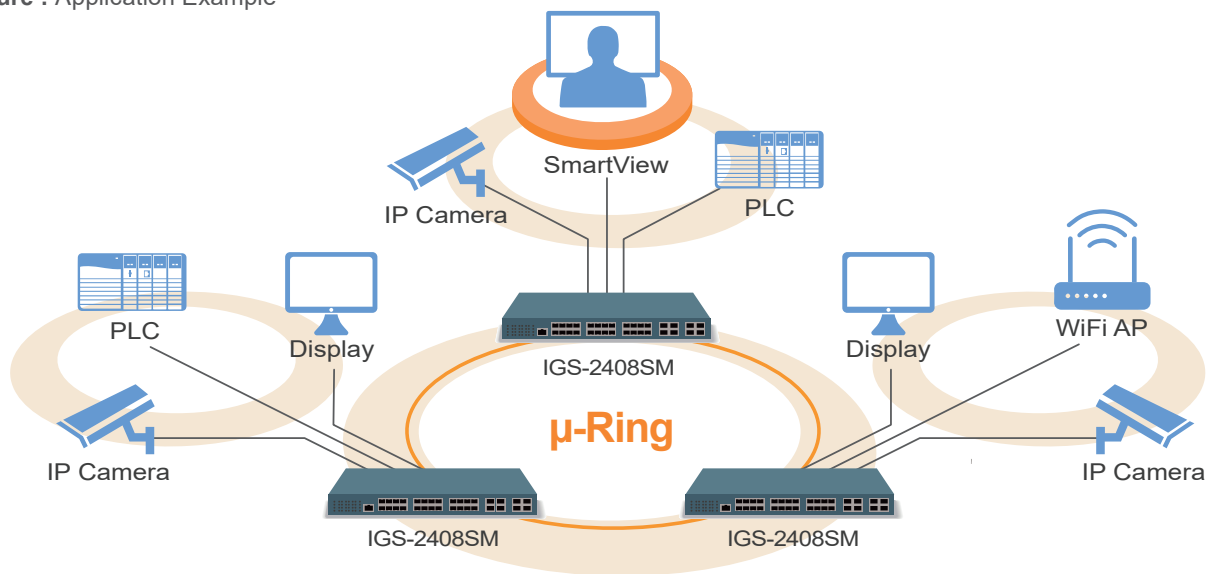
| | |
|---|--|
| DiffServ (RF 2474) Remarking | |
| Storm Control | for Unicast, Broadcast, Multicast |
| IP Multicasting Features | |
| IGMP / MLD Snooping | IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile Throttling, Fast Leave Maximum Multicast Group : up to 1022 entries Query / 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 |
| sFlow | Supported |
| 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 |

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|----------------|--|
| 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 |

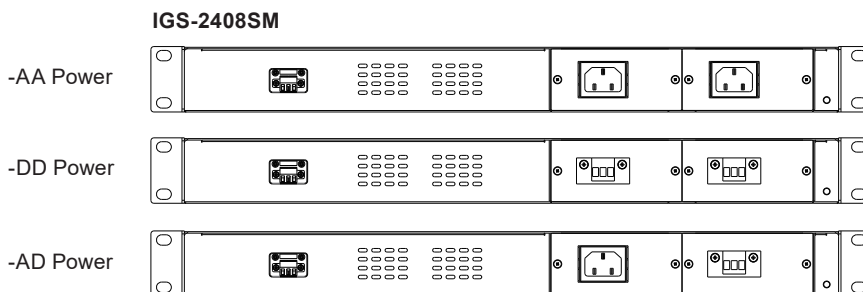
Application

Figure : Application Example

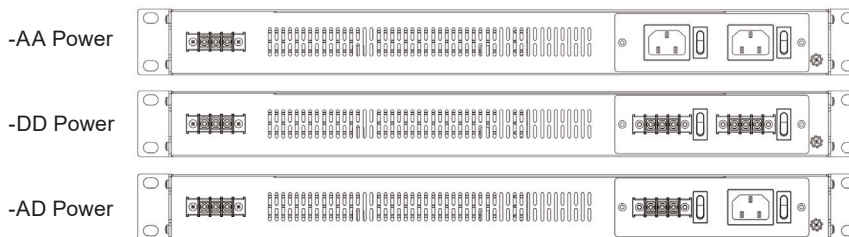


Dimensions

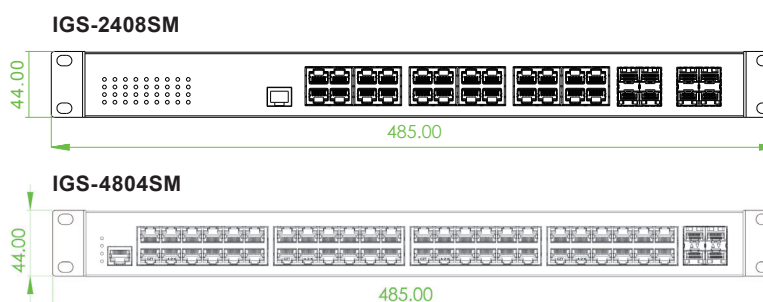
Rear View



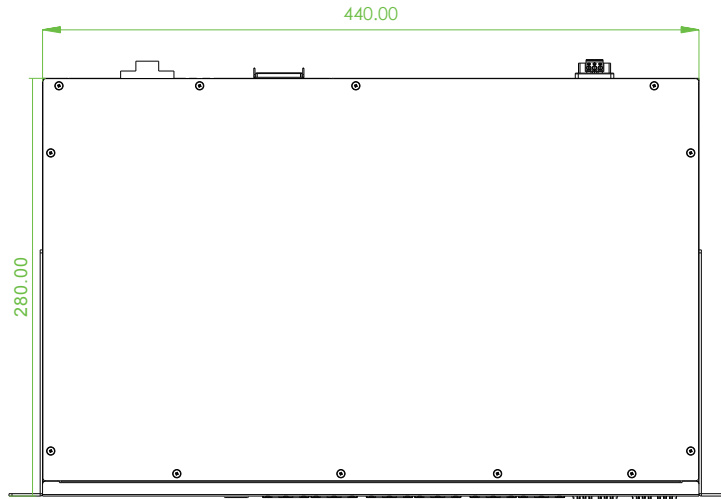
IGS-4804SM



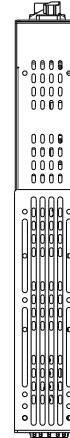
Front View



Top View



Side View



Ordering Information

| Model Name | Managed | Total Port | UTP | Fiber | Input Power | | Certification | | Operating Temperature | |
|-----------------|---------|------------|--------------------|------------|-------------|-------------|------------------|---------|-----------------------|----------|
| | | | 10/100/1000 Base-T | 1000Base-X | 24/48/48VDC | 110/220V AC | Safety EN62368-1 | CE, FCC | | |
| IGS-2408SM-E-AA | V | 32 | 24 | 8 | | 2 | | V | V | -40~75°C |
| IGS-2408SM-E-AD | V | 32 | 24 | 8 | 1 | 1 | | V | V | -40~75°C |
| IGS-2408SM-E-DD | V | 32 | 24 | 8 | 2 | | | V | V | -40~75°C |
| IGS-4804SM-E-AA | V | 52 | 48 | 4 | | 2 | | V | V | -40~75°C |
| IGS-4804SM-E-AD | V | 52 | 48 | 4 | 1 | 1 | | V | V | -40~75°C |
| IGS-4804SM-E-DD | V | 52 | 48 | 4 | 2 | | | 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 all CTC Union industrial grade Ethernet switches for guaranteed compatibility and performance. Best performance can be guaranteed, even in mission-critical applications. (Please see CTC Union's Industrial SFP datasheets for more items and detailed information.)

| | |
|--------------------|---|
| 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-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, 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) |
|------------|---|