

IGS-4804SM

Industrial GbE Switch

48x GbE RJ45 + 4x 1000Base-X SFP

- » Supports u-Ring , ERPS, EPS, MSTP, RSTP, STP for Redundant Cabling
- » EN62368-1, EN50121-4, EN61000-6-2, EN61000-6-4, CE and 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



As an industrial Layer 3 Ethernet switch for process and transportation automation applications, IGS-4804SM supports static and dynamic routing protocols, features 48 Gigabit UTP ports and 4 1000Mbps SFP slots, fanless design and redundancy Isolated power supplies, certified to many industry-grade standards, are ideal for deployment in harsh environments to provide mission-critical network services.

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 14 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 EMS Management

Specifications

Standard		
IEEE 802.3	10Base-T 10Mbit/s Ethernet	
IEEE 802.3u	100Base-TX, 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)	
ITU-T G.8031 / Y.1342	EPS (Ethernet 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 ID
Switch Architecture	Back-plane (Switching Fabric): 104Gbps (Full wire-speed)
Data Processing	Store and Forward
Network Connector	SFP: 4x 1000Base-X SFP socket, Support DDMI RJ45: 48x 10/100/1000Base-T RJ-45, 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
Power Supply	Redundant 2x AC input power (-AA model) Redundant 1x AC and 1x DC input power (-AD model) Redundant 2x DC input power (-DD model) 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
Power Consumption	<51.3W
LED	System: Power 1 (Green), Power 2 (Green), Act /Alarm (Green/Amber), Ring Master (Green) P1~P48 UTP: 10/100 Link/Active (Green), 1000 Link/Active (Amber) P49~P52 SFP Slot: 100 /1000Base-X, Link/Active (Amber)
Jumbo Frame	10K Byte
MAC Address Table	32K
Memory Buffer	4M Bytes for packet buffer
Device Memory	128M Bytes Flash ROM, 2G 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 ~ 70°C (IGS-4804SM-E) -10 ~ 60°C (IGS-4804SM)
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection and Fanless
Dimensions	280 x 440 x 44mm (D x W x H)
Weight	3.23kg (IGS-4804SM-AA) 3.115kg (IGS-4804SM-AD) 3.0kg (IGS-4804SM-DD)
Installation Mounting	19" rack mount
MTBF	91,378 Hours (IGS-4804SM-AA) 100,011 Hours (IGS-4804SM-AD) 110,457 Hours (IGS-4804SM-DD) (MIL-HDBK-217)
Certification	
EMC	CE (EN55032, EN55035)
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

Software Specifications

Topology

VLAN	IEEE 802.1q VLAN, up to 4094 802.1Q VLAN ID 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 : 26group Dynamic (IEEE 802.3ad LACP), Maximum trunk group : 26group 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 14 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 nodes 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 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 and 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
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Security Features

IEEE 802.1X	Port-Based MAC-Based
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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, Authorization and Accounting
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 UI	Supported
Telnet	Server
SNMP	V1, V2c, V3
sFlow	Supported
Modbus/TCP	Supports management and monitoring
SW & Configuration Upgrade	SFTP, 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) (Support 4 server)
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

Dimensions

Front View



Rear View

-AA Power



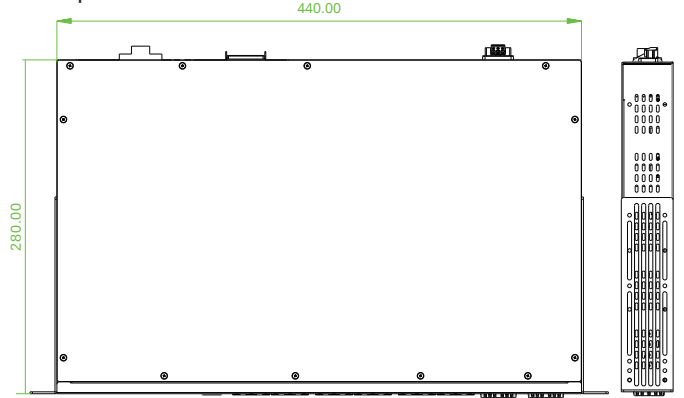
-DD Power



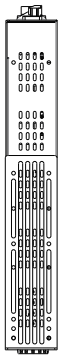
-AD Power



Top View



Side View



Ordering Information

Model Name	Managed	Total Port	RJ45	SFP	Input Power		Certification			Operating Temperature
			10/100/1000 Base-T(X)	1000 Base-X	24/48/-48 VDC	110/220 VAC	Safety EN62368-1	CE FCC	EN50121-4 EN61000-6-2 EN61000-6-4	
IGS-4804SM-E-AA	V	52	48	4		2	V	V	V	-40~70°C
IGS-4804SM-E-AD	V	52	48	4	1	1	V	V	V	-40~70°C
IGS-4804SM-E-DD	V	52	48	4	2		V	V	V	-40~70°C
IGS-4804SM-AA	V	52	48	4		2	V	V	V	-10~60°C
IGS-4804SM-AD	V	52	48	4	1	1	V	V	V	-10~60°C
IGS-4804SM-DD	V	52	48	4	2		V	V	V	-10~60°C

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, 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)

Industrial Power Supply

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