

# IPS-G2404SM-8C

24x GbE RJ45 with 8x Combo (RJ45/SFP) + 4x 100/1000Base-X SFP

**NEW**



- Supports, ERPS, MSTP, RSTP,STP for redundant cabling
- IEC61850-3, IEEE1613, EN62368-1, CE, FCC certified
- Wide Operating Temperature -40~85°C
- Supports IEEE1588 PTP v2



IEC 61850-3 defines general requirements for the construction, design and environmental conditions of utility communications and intelligent electronic equipment in the power plant and substation environment. IPS-G2404SM-8C is an IEC61850 and IEEE1613 certified 28-port full Gigabit Ethernet switch and comes with 8 combo-ports that provide flexible port usage of up to 24 RJ45 copper interfaces or up to 16 SFP slots for fiber optic module connections. It is an ideal solution for substation Ethernet communication deployments.

## Features

- Redundant isolated High voltage 110/220VAC/DC (90~264VAC or 88~370VDC ) power inputs
  - STP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) for network redundancy
  - Supports SmartView™ for Centralized Management\*
- \*Please see Chapter 1- **Software Management** for more details

## Specifications

<b>Standard</b>	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 802.3ad	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)
<b>VLAN ID</b>	4094	IEEE 802.1Q VLAN VID
<b>Switch Architecture</b>	Back-plane (Switching Fabric): 56Gbps (Full wire-speed)	
<b>Data Processing</b>	Store and Forward	
<b>Network Connector</b>	<b>SFP:</b> 12x 100/1000Base-X SFP socket Support DDMI  <b>RJ45:</b> 24x 10/100/1000Base-T RJ-45 Support Auto negotiation speed, Auto MDI/MDI-X function	
<b>Console</b>	RS-232 (RJ-45)	
<b>USB</b>	1x USB 2.0 For storage to update firmware, Configuration back, Configuration restore, boot up and syslog	
<b>Push button</b>	For reset and multiple function	
<b>Network Cable</b>	UTP/STP Cat.5e cable or above EIA/TIA-568 100-ohm (100meter)	
<b>Protocols</b>	CSMA/CD	
<b>Reverse Polarity Protection</b>	For input power	
<b>Overload Current Protection</b>	Supported	
<b>Power Supply</b>	Redundant High voltage AC/DC : isolated 110/220V AC/DC (90VAC~264VAC) or (88~370VDC)	
<b>Power Consumption</b>	<50.6W @ 110/220V AC/DC	

<b>LED</b>	Per unit: Power 1 (Green), Power 2 (Green), Fault (Green/Amber), Ring Master (Green), Ring State (Green) P1~P28 Link/Active (Green) P1~P28 Speed 1000M (Amber) 10/100M (Off)
<b>Jumbo Frame</b>	9K Byte
<b>MAC Address Table</b>	16K
<b>Memory Buffer</b>	1.5M Bytes for packet buffer
<b>Warning Message</b>	System Syslog, SMTP/ e-mail event message, alarm relay
<b>Alarm Relay Contact</b>	Relay outputs with current carrying capacity of 1A @24VDC, removable terminal block
<b>Digital Input</b>	1x isolated input 13~30VDC for state 1 -30~ 3VDC for state 0
<b>Operating Temperature</b>	-40 ~ 85°C
<b>Operating Humidity</b>	5% to 95% (Non-condensing)
<b>Storage Temperature</b>	-40 ~ 85°C
<b>Housing</b>	Rugged Metal, IP30 Protection, Fanless
<b>Dimensions</b>	331 x 440 x 44mm (D x W x H)
<b>Weight</b>	4.8 kg
<b>Installation Mounting</b>	19" rack mount
<b>MTBF</b>	70,621 Hours (MIL-HDBK-217)
<b>Warranty</b>	5 years
<b>Certification</b>	
<b>EMC</b>	CE
<b>EMI (Electromagnetic Interference)</b>	FCC Part 15 Subpart B Class A, CE
<b>EMS (Electromagnetic Susceptibility) Protection Level</b>	EN61000-4-2 (ESD) Level 4, Criteria B EN61000-4-3 (RS) Level 4, Criteria A EN61000-4-4 (Burst) Level 4, Criteria A EN61000-4-5 (Surge) Level 4, Criteria B EN61000-4-6 (CS) Level 4, Criteria A
<b>Power Substation</b>	IEC 61850-3, IEEE 1613
<b>Safety</b>	EN62368-1
<b>Shock</b>	IEC 60068-2-27
<b>Freefall</b>	IEC 60068-2-32
<b>Vibration</b>	IEC 60068-2-6

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IEC 61850-3 Managed GbE Switch IPS-G2404SM-8C

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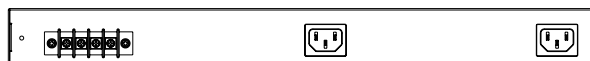
## Software Specifications

<b>Topology</b>	
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
Link Aggregation (Port Trunk)	Support IEEE802.1AB LLDP port trunking
Spanning Tree	IEEE 802.1d STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP Recovery time <20ms
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)	Single Ring, Sub-Ring, Multiple ring topology
<b>QoS Features</b>	
Class of Service	IEEE 802.1p 8 active priorities queues per port
Traffic Classification QoS	IEEE 802.1p based CoS IP DSCP based CoS
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
<b>IP Multicasting Features</b>	
IGMP / MLD Snooping	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile
<b>Security Features</b>	
IEEE 802.1X	Port-Based MAC-Based

ACL	Number of rules : up to 512 entries
<b>RADIUS authentication &amp; accounting</b>	
<b>TACACS+ authentication &amp; accounting, TACACS+ 3.0</b>	
SSL / SSH v2	Supported
Management Interface Access Filtering	Web, Telnet / SSH , CLI RS-232 console
<b>Management Features</b>	
CLI	Cisco® like CLI
<b>Web Based Management</b>	
Telnet	Server
SNMP	V1, V2c, V3
Modbus/TCP	Support for management and monitoring
SW & Configuration Upgrade	TFTP, USB
RMON	RMON I (1, 2, 3, 9 group), RMON II
MIB	RFC1213 MIB II, Private MIB
DHCP	Server/Client/Relay/Relay option 82/Snooping
Warning Message	System syslog, e-mail, alarm relay
Mirroring	Supported
Event Syslog	Syslog server (RFC3164)
IEEE 1588 PTP V2	Supports OC (Ordinary Clock)
NTP	Client
LLDP (IEEE 802.1ab)	Link Layer Discovery Protocol LLDP-MED

## Dimensions

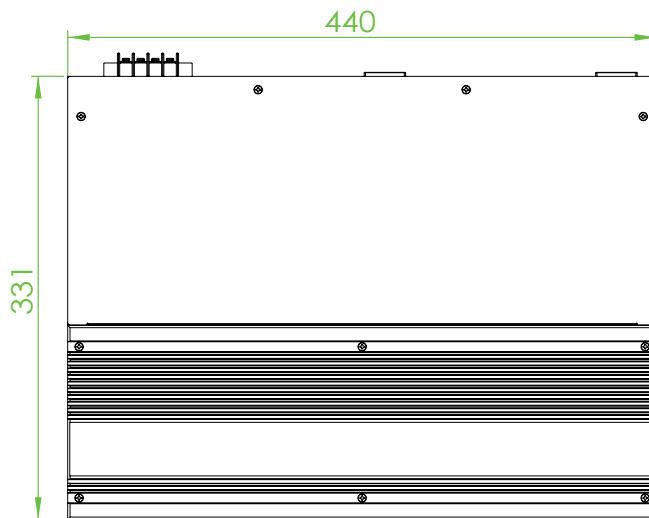
Rear View



Front View



Top View



Side View



## Ordering Information

Model Name	Managed	Total Port	Ports			Input Power	Certification				Operating Temperature
			UTP 10/100/1000 Base-T	Combo UTP/ SFP	Fiber 100/1000 Base-X		IEC61850-3	IEEEE1613	CE, FCC	EN62368-1	
IPS-G2404SM-8C-HH	V	28	16	8 (RJ45/SFP)	4 SFP	110/220V AC/DC	V	V	V	V	-40 ~ 85°C

### Package List

- IPS-G2404SM-8C device
- Protective caps for SFP, RJ45, USB, Console
- Console cable (RJ-45 to DB-9)
- 19" rack-mount kit (brackets and screws)
- AC Power cord

### 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)