IPS-G2404SM-8C

IEC 61850-3 Managed GbE Switch

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

≫ *Supports, ERPS, MSTP, RSTP,STP for Redundant Cabling*
≫ *IEC61850-3, IEEE1613, EN62368-1, CE and FCC Certified*
≫ *Wide Operating Temperature -40~85°C*
≫ *Supports IEEE1588 PtP v2*

CE FC IEEE 1588v2 EN62368-1 IEC 61850-3

The Industrial-grade rack-mounted IEC61850 Gigabit Ethernet switch, IPS-G2404SM-8C with 4 independent 100/1000 SFP slots and 24 Gigabit UTP ports, 8 of which have both UTP and SFP slots, fully compliant with IEC 61850-3 and IEEE 1613 requirements, this standard specifies general requirements for the construction, design and environmental conditions of utility communications and smart electronics equipment in power plant and substation environments. IPS-G2404SM-8C is an ideal solution for Ethernet communication deployment in substations.

Features

- Redundant isolated High voltage 110/220VAC/DC (90~264VAC or 88~370/VDC) power inputs
- STP, RSTP, MSTP, ITU-T G.8032 Ethernet Ring Protection Switching (ERPS) for network redundancy
- Supports EMS Management

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 802.3ad	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)
VLAN ID	4094 IEEE 802.1Q VLAN ID	
Switch Architecture	Back-plane (Switching Fabric): 56Gbps (Full wire-speed)	
Data Processing	Store and Forward	
Network Connector	**SFP:** 12x 100/1000Base-X SFP socket. Supports DDMI **RJ45:** 24x 10/100/1000Base-T RJ-45 Supports Auto negotiation speed, Auto MDI/MDI-X function	

Console	RS-232 (RJ-45)
USB	1x USB 2.0 For storage to update firmware, Configuration back, Configuration restore, boot up and syslog
Push button	For reset and multiple function
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 High voltage AC/DC : Isolated 110/220V AC/DC (90VAC~264VAC) or (88~370VDC)
Power Consumption	<50.6W @ 110/220V AC/DC
LED	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)
Jumbo Frame	9K Byte
MAC Address Table	16K
Memory Buffer	1.5M Bytes for packet buffer
Warning Message	System Syslog, SMTP/ e-mail event message, alarm relay
Alarm Relay Contact	Relay outputs with current carrying capacity of 1A @24VDC, removable terminal block
Digital Input	1x isolated input : 13~30VDC for state 1, -30~ 3VDC for state 0
Operating Temperature	-40 ~ 85°C
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection and Fanless
Dimensions	331 x 440 x 44mm (D x W x H)
Weight	4.8 kg
Installation Mounting	19" rack mount
MTBF	70,621 Hours (MIL-HDBK-217)

Certification

EMC	CE
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE
EMS (Electromagnetic Susceptibility) Protection Level	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
Power Substation	IEC 61850-3, IEEE 1613
Safety	EN62368-1
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 ID
	IEEE 802.1q VLAN, up to 4094 Groups
	IEEE 802.1ad Q-in-Q
Link Aggregation (Port Trunk)	Supports IEEE802.1AB LLDP port trunking
Spanning Tree	IEEE 802.1d STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP
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 DSCP based CoS
Bandwidth Control for Ingress	Per port based
Bandwidth Control for Egress	Per port based
	Per queue / 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

Security Features

IEEE 802.1X	Port-Based
	MAC-Based
ACL	Number of rules : up to 512 entries
RADIUS	Authentication & Accounting
TACACS+	Authentication
SSL / SSH v2	Supported
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
Modbus/TCP	Supports 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

Front View

Rear View

Top View

440

331

Side View
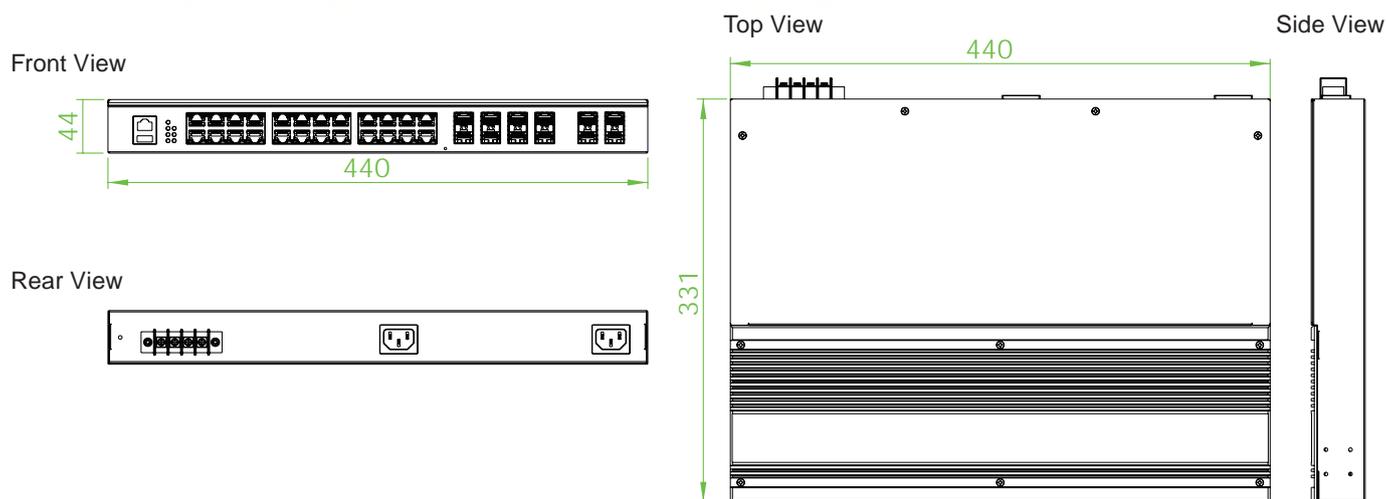
Ordering Information

Model Name	Managed	Total Port	RJ45 10/100/1000 Base-T(X)	Combo UTP/SFP	SFP 100/1000 Base-X	Input Power 110/220V AC/DC	Certification				Operating Temperature
							IEC61850-3	IEEE1613	CE, FCC	EN62368-1	
IPS-G2404SM-8C-HH	V	28	16	8 (RJ45/SFP)	4	2	V	V	V	V	-40 ~ 85°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, 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)