

# IGS-402CSW

4x GbE RJ45 + 2x 100/1000 SFP , Compact size



- 4KV surge protection for UTP and SFP ports
- Compact size for easy installation



The IGS-402CSW is a managed industrial grade L2 switch with 4 ports 10/100/1000Base-T and 2 ports 100M/GbE SFP. Housed in rugged DIN rail or wall mountable enclosures, the switch is designed for harsh environments, such as industrial networking. It is an ideal solution for Smart City, surveillance, Intelligent traffic control systems, production automation applications. Standard operating temperature range models (-10 to 60°C) and wide operating temperature range models (-40 to 75°C) fulfill the special needs of industrial automation applications.

## Features

- Redundant power input
  - Cable diagnostics
  - 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)
	IEEE 802.1Q	Virtual LANs (VLAN)
	IEEE 802.1X	Port based and MAC based Network Access Control, Authentication
	IEEE802.3ac	Max frame size extended to 1522Bytes. Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)
	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)
<b>Switch Architecture</b>	Back-plane (Switching Fabric): 12Gbps Full wire-speed	
<b>Data Processing</b>	Store and Forward	
<b>Flow Control</b>	IEEE 802.3x for full duplex mode Back pressure for half duplex mode	
<b>Network Connector</b>	4x 10/100/1000Base-T RJ-45 + 2x FE/GbE SFP slot RJ-45 UTP port support Auto negotiation speed, Auto MDI/MDI-X function, SFP ports support FE/GbE with DDM1	
<b>Console</b>	RS-232 (RJ-45)	
<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>	Supported for power input	
<b>Overload Current Protection</b>	Supported	
<b>CPU Watch Dog</b>	Supported	
<b>Power Supply</b>	Redundant Dual 12/24/48VDC (9.6~60VDC) Input power (Removable Terminal Block)	
<b>Power Consumption</b>	<b>Input Voltage</b>	<b>Total Power Consumption</b>
	12VDC	5.8W
	24VDC	6.5W
	48VDC	8.2W

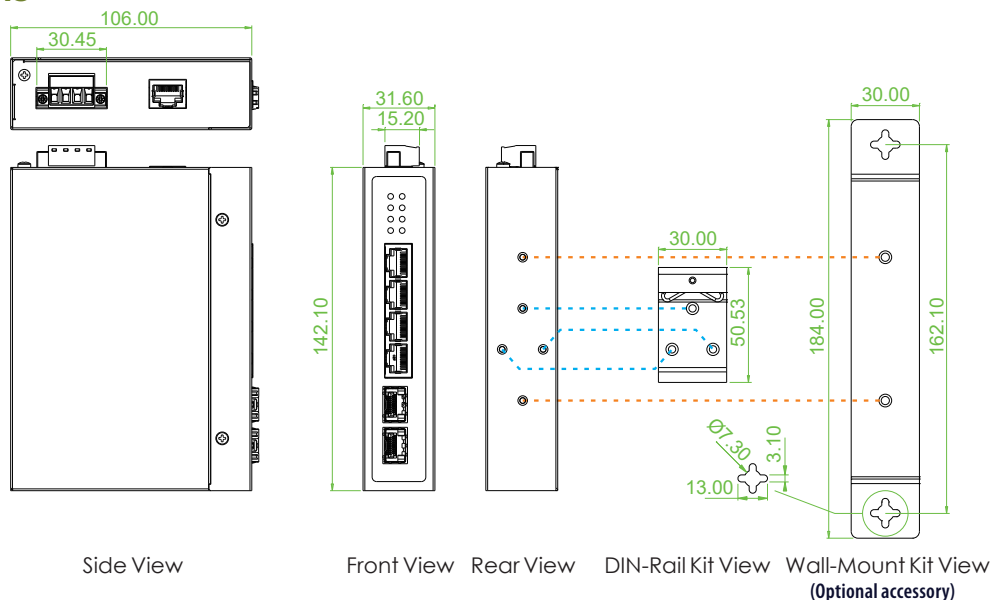
<b>LED</b>	Per unit: Power 1 (Green), Power 2 (Green) Per RJ-45 port: 10/100 Link/Active (Green) 1000 Link/Active (Amber) SFP Fiber port: 100 Link/Active (Green) 1000 Link/Active (Amber)
<b>Jumbo Frame</b>	10K
<b>IEEE802.3ac</b>	Max frame size extended to 1522Bytes (allow Q-tag in packet)
<b>MAC Address Table</b>	4K
<b>Memory Buffer</b>	1.75M bits for packet buffer
<b>Device Memory</b>	128M Bytes Flash ROM, 256M Bytes RAM
<b>Warning Message</b>	System Syslog, SMTP/ e-mail event message
<b>Removable Terminal Block</b>	Provide 2 redundant power 4 Pin
<b>Operating Temperature</b>	-10 ~ 60°C (IGS-402CSW) -40 ~ 75°C (IGS-402CSW-E)
<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>	106x 31.6x 142mm (Dx Wx H)
<b>Weight</b>	535g
<b>Installation Mounting</b>	DIN Rail mounting, or wall mounting (Optional)
<b>MTBF</b>	960,226Hours (MIL-HDBK-217)
<b>Warranty</b>	5 years
<b>Certification</b>	
<b>EMC</b>	CE (EN55032, EN55035)
<b>EMI (Electromagnetic Interference)</b>	FCC Part 15 Subpart B Class A,CE
<b>EMS (Electromagnetic Susceptibility)</b>	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
<b>Surge protection</b>	4KV for UTP and Fiber ports
<b>Shock</b>	IEC 60068-2-27
<b>Freefall</b>	IEC 60068-2-31
<b>Vibration</b>	IEC 60068-2-6

## Software Specifications

<b>Topology</b>	
<b>VLAN</b>	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
<b>Link Aggregation (Port Trunk)</b>	Static (Hash with SA, DA, IP, TCP/UDP port), up to 5 trunk group Dynamic (IEEE 802.3ad LACP), up to 5 trunk group
<b>Spanning Tree</b>	IEEE 802.1d STP IEEE 802.1w RSTP IEEE 802.1s MSTP
<b>Loop Protection</b>	Supported
<b>QoS Features</b>	
<b>Class of Service</b>	IEEE 802.1p 8 active priorities queues for per port
<b>Traffic Classification QoS</b>	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 QCE(QoS Control Entry): Protocol, Source IP, IP Fragment, DSCP, TCP/UDP port number
<b>Bandwidth Control for Ingress</b>	100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps"
<b>Bandwidth Control for Egress</b>	100~1,000,000 when the "Unit" is "kbps" and 1~1,000 when the "Unit" is "Mbps" Per queue / Per port shaper
<b>DiffServ (RF 2474) Remarkings</b>	
<b>Storm Control</b>	for Unicast, Broadcast, Multicast
<b>IP Multicasting Features</b>	
<b>IGMP / MLD Snooping</b>	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
<b>Security Features</b>	
<b>IEEE 802.1X</b>	Port-Based MAC-Based
<b>ACL</b>	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
<b>RADIUS authentication &amp; accounting</b>	
<b>TACACS+ authentication &amp; accounting, TACACS+ 3.0</b>	
<b>HTTPS, HTTP</b>	Supported
<b>SSL / SSH v2</b>	Supported

<b>User Name Authentication</b>	Local Authentication
<b>Password Authentication</b>	Remote Authentication (via RADIUS / TACACS+)
<b>Management Interface Access Filtering</b>	Web, Telnet / SSH, CLI RS-232 console
<b>Management Features</b>	
<b>CLI</b>	Cisco® like CLI
<b>Web Based Management</b>	
<b>Telnet</b>	Support for management and monitoring
<b>SNMP</b>	V1, V2c, V3
<b>sFlow</b>	Supported
<b>ModBus/TCP</b>	Supports management and monitoring
<b>SW &amp; Configuration Upgrade</b>	TFTP, HTTP Redundant firmware in case of upgrade failure
<b>FTP client</b>	Supports for upload/download configuration
<b>RMON</b>	RMON I (1, 2, 3, 9 group), RMON II
<b>MIB</b>	RFC1213 MIB II, Private MIB
<b>UPnP</b>	Supported
<b>BOOTP</b>	Supported
<b>DHCP</b>	Server, Client, Relay, Relay option 82 , Snooping
<b>RARP</b>	Supported
<b>IP Source Guard</b>	Supported
<b>Port Mirroring</b>	Supported
<b>Event Syslog</b>	Syslog server (RFC3164)
<b>Warning Message</b>	System syslog, e-mail
<b>DNS</b>	Client, Proxy
<b>NTP</b>	Client
<b>LLDP (IEEE 802.1ab)</b>	Link Layer Discovery Protocol LLDP-MED
<b>IPv6 Features</b>	
<b>IPv6 Management</b>	Telnet Server/ICMP v6
<b>SNMP over IPv6</b>	Supported
<b>HTTP over IPv6</b>	Supported
<b>SSH over IPv6</b>	Supported
<b>IPv6 Telnet</b>	Supported
<b>IPv6 NTP</b>	Client
<b>IPv6 TFTP</b>	Supported
<b>IPv6 QoS</b>	Supported
<b>IPv6 ACL</b>	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
<b>Others Features</b>	
<b>Green Ethernet</b>	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
<b>Cable Diagnostic</b>	Measuring UTP cable normal or broken point distance

## Dimensions



## Ordering Information

Model Name	Total Port	RJ45	Fiber	Input Power	Certification		Operating Temperature
		10/100/1000 Base-T	100/1000 Base-X	Redundant	CE	FCC	
IGS-402CSW	6	4	2 SFP	12/24/48VDC	V	V	-10~60°C
IGS-402CSW-E	6	4	2 SFP	12/24/48VDC	V	V	-40~75°C

### ■ Package List

- IGS-402CSW device
- Console cable (RJ-45 to DB9)
- Din Rail with screws
- Terminal block
- Protective caps for SFP ports

## Optional Accessories

### ■ Wall Mount Kit

**IND-WMK01** Wall Mount kit for Industrial product (184x30mm) (Narrow)

### ■ 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

**MDR-20-24** Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 24VDC, 24W, -20 ~ +70°C

**MDR-40-48** Industrial Power, Input 85 ~ 264VAC/120 ~ 370VDC, Output 48VDC, 40W, -20 ~ +70°C