9 IFS-402CGSW-4PH

4x FE RJ45 + 2x 100/1000Base-X SFP with 4x PoE 120W, Compact size

CTC union

≫ *4KV Surge Protection for PoE, UTP and SFP Ports*
≫ *Compact Size for Easy Installation*
≫ *Auto Checking and Auto Reset When PoE PD Fail*
≫ *EN62368-1, EN50121-4, EN61000-6-2, EN61000-6-4,*
   CE and FCC Certified

CE FC EN50121-4 EN61000-6-2 EN61000-6-4 EN62368-1

This Gigabit Ethernet switch model is managed industrial grade L2 switche with 4 10/100Base-TX ports and 2 100/1000Base-X SFP ports which also supports PoE+/PSE and provide stable and reliable transmission. Housed in rugged DIN rail or wall mountable enclosure, the switche is designed for harsh environments, such as industrial networking. It's an ideal solution for Smart City, surveillance, Intelligent traffic control systems, production automation applications and supports up to 4 PoE/PoE+ (IEEE 802.3af/ IEEE 802.3at) ports which can provide 15.4/30watts power output per port for connecting with heavy-duty industrial PoE devices, such as PTZ IP surveillance cameras, high-performance wireless access points, digital signage and IP phones. 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
- Provides 4 port IEEE 802.3af / 802.3at PoE output
- Cable diagnostics
- Supports EMS Management

Specifications

Standard	IEEE 802.3	10Base-T 10Mbit/s Ethernet
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic
	IEEE 802.3af	PoE (Power over Ethernet)
	IEEE 802.3at	PoE+ (Power over Ethernet enhancements)
	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
	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)
Switch Architecture	Back-Plane (Switching Fabric): 4.8Gbps (Full Wire-Speed)	
Data Processing	Store and Forward	
Flow Control	IEEE 802.3x for full duplex mode Back pressure for half duplex mode	

Industrial Compact Managed PoE Switch

Network Connector	4x 10/100Base-TX RJ-45 + 2x FE/GbE SFP
	RJ-45 UTP port supports Auto negotiation speed, Auto MDI/MDI-X function
	SFP port supports FE/GbE with DDMI
PoE Standard & RJ-45 Pin Assignment	4x IEEE 802.3af /IEEE 802.3at PoE+ End-Span, Alternative A mode. Positive (V+) : RJ-45 pin 1, 2. Negative (V-) : RJ-45 pin 3, 6. Data (1, 2, 3, 6)
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	Supported for power input
Overload Current Protection	Supported
CPU Watch Dog	Supported
Power Supply	Redundant Dual DC48V (44~57VDC) Input power (Removable Terminal Block) (50~57V input is recommended for IEEE 802.3at PoE+ application)

Power Consumption	Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget
	50VDC	127.5W	5.3W	120W

PoE Power Budget	Maximum PoE Output power budget 120W, (30W/port)
LED	System: Power 1 (Green), Power 2 (Green)
	UTP: 100 Link/Active (Green), 10 Link/Active (Amber)
	SFP Slot: 100 Link/Active (Green), 1000 Link/Active (Amber)
	PoE: ON (Green)
Jumbo Frame	10K
IEEE802.3ac	Max frame size extended to 1522Bytes (allow Q-tag in packet)
MAC Address Table	4K
Memory Buffer	1.75M bits for packet buffer
Device Memory	128M Bytes Flash ROM, 256M Bytes RAM
Warning Message	System Syslog, SMTP/ e-mail event message
Removable Terminal Block	Provides 2 redundant power, 4 Pin
Operating Temperature	-10 ~ 60°C (IFS-402CGSW-4PH) -40 ~ 75°C (IFS-402CGSW-4PHE)
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection, Fanless
Dimensions	106 x 38.6 x 142mm (D x W x H)
Weight	820g
Installation Mounting	DIN Rail mounting or wall mounting (Optional)
MTBF	897,992Hours (MIL-HDBK-217)
Warranty	5 years

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

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Surge Protection	4KV for PoE, UTP and Fiber ports
Safety	EN62368-1
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
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 (Ethernt, 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), up to 5 trunk group
	Dynamic (IEEE 802.3ad LACP), up to 5 trunk group
Spanning Tree	IEEE 802.1d STP
	IEEE 802.1w RSTP
	IEEE 802.1s MSTP
Loop Protection	Supported

QoS Features

Class of Service	IEEE 802.1p 8 active priorities queues for 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	100~1,000,000 when the "Unit" is "kbps", and 1~1,000 when the "Unit" is "Mbps"
Bandwidth Control for Egress	100~1,000,000 when the "Unit" is "kbps", and 1~1,000 when the "Unit" is "Mbps"
	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
	Throttling, Fast Leave
	Maximum Multicast Group : up to 1022 entries
	Query / Static Router Port

Security Features
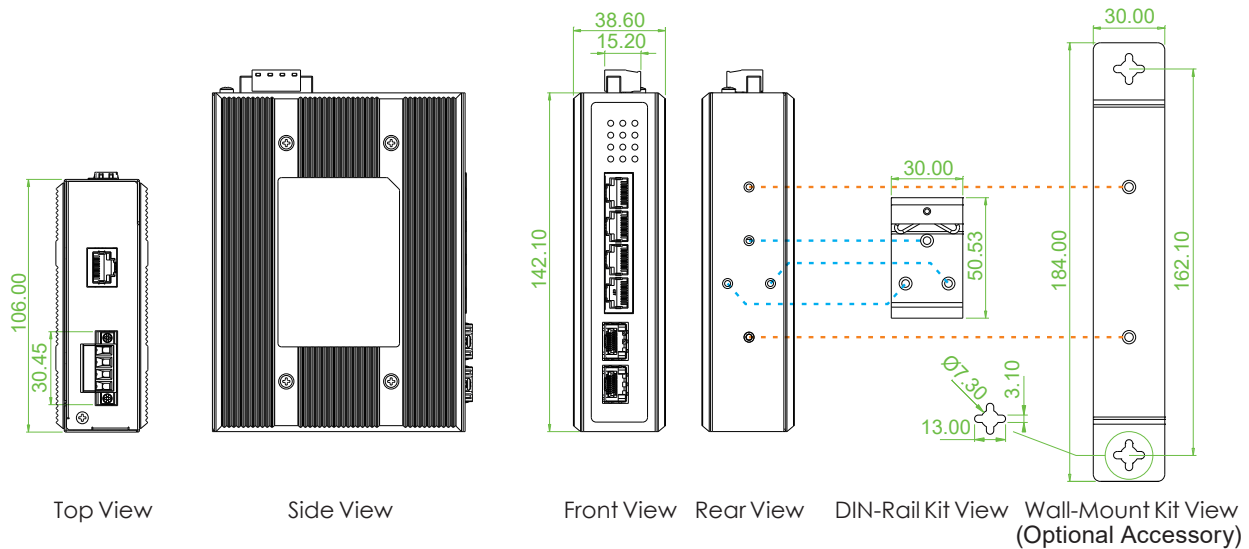
IEEE 802.1X	Port-Based
	MAC-Based
ACL	Number of rules : up to 256 entries
	for L2 / L3 / L4 L2 : Mac address SA/DA/VLAN L3: IP address SA/DA, Subnet L4: TCP/UDP
RADIUS	Authentication & Accounting
TACACS+	Authentication, Authorization and Accounting
HTTPS, HTTP	Supported

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	Supports for management and monitoring
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
FTP client	Supports for upload/download configuration
RMON	RMON I (1, 2, 3, 9 group), RMON II
MIB	RFC1213 MIB II, Private MIB
UPnP	Supported
BOOTP	Supported
DHCP	Server, Client, Relay, Relay option 82, Snooping
RARP	Supported
IP Source Guard	Supported
Port Mirroring	Supported
Event Syslog	Syslog server (RFC3164)
Warning Message	System syslog, e-mail
DNS	Client, Proxy
NTP	Client
LLDP (IEEE802.1ab)	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	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

Others 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
Cable Diagnostic	Measuring UTP cable normal or broken point distance

Advanced PoE

Management	PoE PD failure auto checking ,and auto reset when PD fail PoE port on/off weekly scheduling PoE Configuration PoE Enable/Disable Power limit by classification Power limit by management Power feeding priority Total PoE power budget limitation: maximum 120W

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Dimensions

Top View   Side View   Front View   Rear View   DIN-Rail Kit View   Wall-Mount Kit View
(Optional Accessory)

Ordering Information

Model Name	Total Port	RJ45	SFP	PoE		Input Power	Certification				Operating 10/100 Base-TX
		10/100 Base-TX	100/1000 Base-X	IEEE802.3 at/af	Power Budget	Redundant	EN62368-1	EN50121-4	EN61000-6-2 EN61000-6-4	CE FCC	
IFS-402CGSW-4PH	6	4	2	4	120W	48VDC	V	V	V	V	-10~60°C
IFS-402CGSW-4PHE	6	4	2	4	120W	48VDC	V	V	V	V	-40~75°C

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

NDR-120-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 120W, -20 ~ 70°C (For IFS-402CGSW-4PH)
NDR-240-48	Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 240W, -20 ~ 70°C (For more ref.)