

IFS-402GSW-4PB

4x FE RJ45 + 2x 100/1000Base-X SFP with 4x IEEE802.3bt PoE++ 240W, 48VDC

NEW



- Supports MSTP, RSTP, STP for redundant cabling
- Auto checking and auto reset when PoE PD fail
- 4KV surge protection for PoE, RJ45 and SFP ports

CE FC

IFS-402GSW-4PB is a managed, industrial grade, L2 Gigabit PoE (Power over Ethernet) switch that provides 4x10/100Base-TX ports plus 2x 100/1000Base-X SFP ports with IEEE802.3bt PoE++ Ports. The PoE features enable power and data to be transferred via a single cable, thereby considerably reducing cabling and electrical wiring expenses. Housed in rugged DIN rail or wall mountable IP-30 enclosures, these switches are perfect choices for harsh environments, such as industrial networks, intelligent transportation systems (ITS) and are also suitable for many military and utility market applications where environmental conditions exceed commercial product specifications. The switch can also operate either at standard operating temperature range (-10 to 60°C) or at wide operating temperature range (-40 to 75°C) to fulfill the special needs of industrial automation applications.

Features

- 48VDC (44~57VDC) redundant dual input power
- Provides 4-port IEEE802.3bt PoE++ output, 90W per port, total 240W
- Cable diagnostics, identifies opens/shorts distance
- Supports SmartView™ for Centralized Management*

*Please see Chapter 1- **Software Management** for more details

Specifications

Standard	IEEE 802.3	10Base-T 10Mbit/s Ethernet	PoE standard & RJ-45 Pin Assignment	4x IEEE 802.3af/at/bt PoE++ 4 pairs PoE, 90W/port End-Span, Alternative A and B mode. Positive (V+): RJ-45 pin 1, 2, 4, 5 Negative (V-): RJ-45 pin 3, 6, 7, 8
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet	Network Cable	UTP/STP Cat. 5e cable or above EIA/TIA-568 100-ohm (100meter)
	IEEE 802.3ab	1000Base-T Gbit/s Ethernet over twisted pair	Protocols	CSMA/CD
	IEEE 802.3z	1000Base-X Gbit/s Ethernet over Fiber-Optic	Reverse Polarity Protection	Supported for power input
	IEEE 802.3af	PoE (Power over Ethernet)	Overload Current Protection	Supported
	IEEE 802.3at	PoE+ (Power over Ethernet enhancements)	CPU Watch Dog	Supported
	IEEE802.3bt	PoE++	Power Supply	Redundant Dual DC 48V (44~57VDC) input power, (Removable terminal block) Below recommended is for different PoE application 54~57VDC VDC for 90W (4 Pairs) PoE application 52~57VDC for 60W (4 Pairs) PoE application 52~57VDC for 30W (2 Pairs) PoE application 44~57VDC for 15.4W (2 Pairs) PoE application
	IEEE 802.1d	STP (Spanning Tree Protocol)	Power Consumption	TBD
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)	PoE Power Budget	Maximum PoE Output power budget 90W / Per Port Total 240W
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)	LED	Per unit: Power 1 (Green), Power 2 (Green), CPU Act (Green) Per RJ-45 port: 10/100 Link/Active (Green) SFP Fiber Per port: Link/Active (Green) PoE Port LED 1 LED /per Port : PoE (Green) per port ON : PoE on Off : PoE off
	IEEE 802.1Q	Virtual LANs (VLAN)	Jumbo Frame	10K
	IEEE 802.1X	Port based and MAC based Network Access Control, Authentication	IEEE802.3ac	Max frame size extended to 1522Bytes (allow Q-tag in packet)
	IEEE802.3ac	Max frame size extended to 1522Bytes	MAC Address Table	4K
	IEEE 802.3ad	Link aggregation for parallel links with LACP(Link Aggregation Control Protocol)	Memory Buffer	220K Bytes for packet buffer
	IEEE 802.3x	Flow control for Full Duplex	Device Memory	128M Bytes Flash ROM, 256M Bytes RAM
	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			
Network Connector	4x10/100Base-TX RJ-45 + 2x 100/1000Base-X SFP connector RJ-45 UTP port supports Auto negotiation speed, Auto MDI/MDI-X function, SFP port supports 100/1000 dual speed with DDMI			
Console	USB Type C			
Auxiliary port	USB type A For Firmware upgrade, Configuration file Upload/Download			

Warning Message	System Syslog, SMTP/ e-mail event message
Removable Terminal Block	Provide 2 redundant power, 4 Pin
Operating Temperature	-10 ~ 60°C (IFS-402GSW-4PB) -40 ~ 75°C (IFS-402GSW-4PBE)
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection, Fanless
Dimensions	106 x 38.6 x 152mm (D x W x H)
Weight	TBD
Installation Mounting	DIN Rail mounting, or wall mounting (Optional)
MTBF	TBD (MIL-HDBK-217)
Warranty	5 years
Certification	
EMC	CE (EN55032, EN55035)
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A, CE

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
EMS (Electromagnetic Susceptibility) Protection Level Surge protection	EN61000-4-8 (PFME, Magnetic Field) Field Strength: 300A/m, Criteria A 4KV for PoE, UTP and Fiber 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 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), 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 QCE(QoS Control Entry): 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 / Per port shaper
DiffServ (RF 2474) Remarking	
Storm Control	for Unicast, Broadcast, 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 & accounting, TACACS+ 3.0	
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, Console

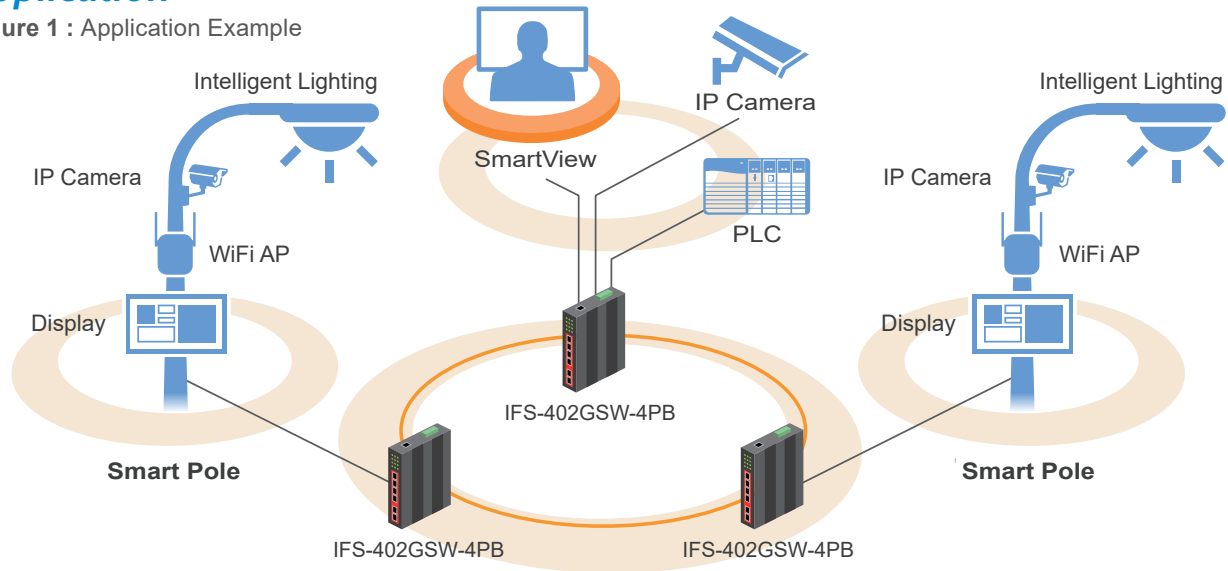
Management Features	
CLI	Cisco® like CLI
Web Based Management	
Telnet	Server
SNMP	V1, V2c, V3
sFlow	Supported
Modbus/TCP	Supports for management and monitoring
SW & Configuration Upgrade	TFTP, HTTP Redundant firmware in case of upgrade failure
FTP client	Supports for upload/download configuration
RMON	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, 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
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 LED Power Management :Adjustment LEDs intensity Measuring UTP cable normal or broken point distance
Cable Diagnostic	
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 feeding priority Total PoE Power budget limitation: maximum 240W	

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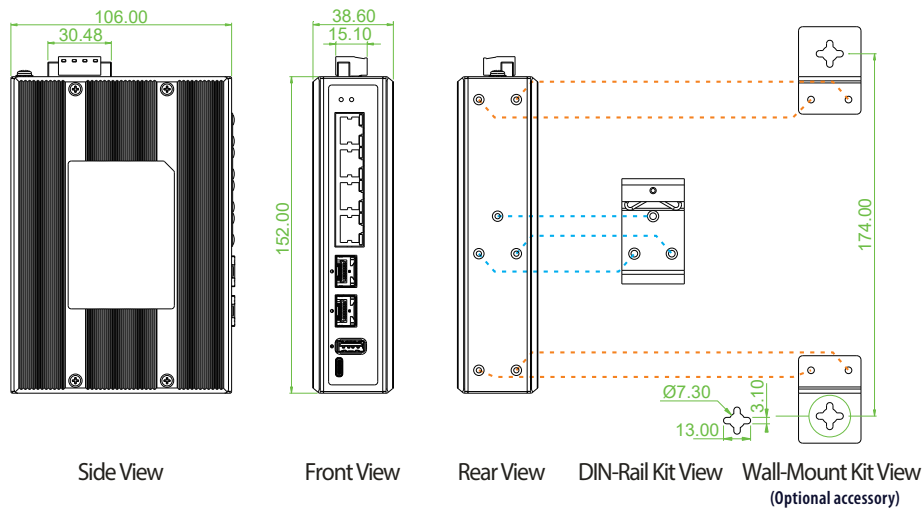
Industrial Web Managed FE 802.3bt PoE Switch IFS-402GSW-4PB

Application

Figure 1 : Application Example



Dimensions



Ordering Information

Model Name	Total Port	UTP		Fiber		PoE Port		Input Power		Certification	Operating 10/100Base-TX
		10/100Base-TX	100/1000 Base-X	100/1000 Base-X	2 SFP	IEEE802.3bt 90W	PowerBudget	Redundant	CE,FCC		
IFS-402GSW-4PB	6	4	2 SFP	4	240W	48VDC	V	-10~60°C			
IFS-402GSW-4PB-E	6	4	2 SFP	4	240W	48VDC	V	-40~75°C			

Package List

- IFS-402GSW-4PB device
- Terminal block
- Din Rail with screws
- Protective caps for SFP ports

Optional Accessories

Wall Mount Kit

IND-WMK05 Wall Mount kit for Industrial product (2pcs in 1 set, 42 x 30mm)

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 data sheets 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-240-48 Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 240W, -20 ~ +70°C

NDR-480-48 Industrial Power, Input 90 ~ 264VAC/127 ~ 370VDC, Output 48VDC, 480W, -20 ~ +70°C (For more ref.)