

IFS-803GSM-8PH24

Industrial Managed FE PoE Switch

8x FE RJ45 + 3x 100/1000Base-X SFP with 8x PoE 180W, 24/48VDC

- » Supports IEEE 1588 PTP V2
- » Supports u-Ring, ERPS, EPS, MSTP, RSTP, STP for Redundant Cabling
- » 24/48VDC (20~57VDC) Redundant Dual Power Input with Built-in Very High Efficiency Booster
- » Auto Checking and Auto Reset When PoE PD Fail
- » EN50121-4, UL60950-1, NEMA-TS2, EN61000-6-2, EN61000-6-4, CE and FCC Certified



UL60950-1



The industrial PoE Ethernet switch IFS-803GSM-8PH24 has 8 Gigabit UTP ports, each port complies with IEEE802.3af/at up to 30W PoE+ standard. Equipped with 3 100/1000Mbps SFP slots, for fiber optic connections to meet the requirements for extended transmission distance and high-speed transmission, fanless design, high MTBF, supports wide operating temperature, redundant power input, suitable for heavy-duty applications in harsh environments, such as industrial factory automations, data centers, intelligent transportation systems, military and utility market applications where environmental conditions exceed commercial product specifications.

Features

- Regulated PoE output voltage (52VDC) to stabilize PoE device, and guarantee delivery PoE power distance to 100meter
- Provides 8 port IEEE 802.3af / 802.3at PoE output (30W per Port)
- Cable diagnostics, identifies opens/shorts distance
- Provides 5 ring instances that each can support μ -Ring, μ -Chain or Sub-Ring type for flexible uses. Supports up to 5 rings in one device
- μ -Ring for redundant cabling, recovery time<10ms in 250 devices
- Supports IEEE 1588 PTP V2 for precise time synchronization to operate in Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master, Slave mode by each port
- 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 802.3af		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)
ITU-T G.8032 / Y.1344		ERPS (Ethernet Ring Protection Switching)
ITU-T G.8031 / Y.1342		EPS (Ethernet Protection Switching)
IEEE 802.1Q		Virtual LANs (VLAN)
IEEE 802.1X		Port based and MAC based Network Access Control, Authentication
IEEE 802.3ac		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): 10.6Gbps (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	8x 10/100Base-TX RJ-45 + 3x 100/1000Base-X SFP				
	RJ-45 UTP port supports Auto-negotiation speed, Auto MDI/MDI-X function				
	SFP ports supports 100/1000M with DDML				
PoE Standard & RJ-45 Pin Assignment	8x 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 DC 24/48V (20~57VDC) Input power (Removable Terminal Block)				
	Built-in very high efficiency booster (94~97%) to rise up 52VDC for PoE output				
	Regulated PoE output voltage (52VDC) to stabilize PoE device, and guarantee delivery PoE power distance to 100 meter				
Power Consumption	Input Voltage	Total Power Consumption	Device Power Consumption	PoE Budget	Boost Efficiency
	24VDC	198.3W	7.3W	180W	94%
	48VDC	193.2W	7.9W	180W	97%
PoE Power Budget	Maximum PoE Output power budget 30W/port, Total 180W				
LED	System: Power 1 (Green), Power 2 (Green), Fault (Amber), CPU Act (Green), Ring Master (Yellow)				
	UTP: 10/100 Link/Active (Green)				
	SFP Slot: Link/Active (Green)				
	PoE: ON (Green)				
Jumbo Frame	9.6KB				
IEEE 802.3ac	Max frame size extended to 1522Bytes (allow Q-tag in packet)				
MAC Address Table	8K				
Memory Buffer	512K Bytes for packet buffer				
Device Memory	16M Bytes Flash ROM, 128M Bytes RAM				
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	Provides 2 redundant power, alarm relay contact, 6 Pin				
Operating Temperature	-10 ~ 60°C (IFS-803GSM-8PH24)				
	-40 ~ 75°C (IFS-803GSM-8PHE24)				
Operating Humidity	5% to 95% (Non-condensing)				
Storage Temperature	-40 ~ 85°C				
Housing	Rugged Metal, IP30 Protection, Fanless				
Dimensions	106 x 72 x 152mm (D x W x H)				
Weight	0.96kg				
Installation Mounting	DIN Rail mounting or wall mounting (Optional)				
MTBF	466,542 Hours (MIL-HDBK-217)				
Certification					
EMC	CE				
EMI (Electromagnetic Interference)	FCC Part 15 Subpart B Class A,CE				
Railway Traffic	EN50121-4				
Traffic Control	NEMA-TS2				
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
Safety	UL60950-1
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 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 (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
Multiple μ-Ring	Up to 5 instances that each supports μ -Ring, μ -Chain or Sub-Ring type for flexible uses, and maximum up to 5 Rings.
	Recovery time <10ms
	The maximum number of device is allowed 250 nodes in a Ring.
Loop Protection	Supported
ITU-T G.8032 / Y.1344 ERPS (Ethernet Ring Protection)	Recovery time <50ms
	Single Ring, Sub-Ring, Multiple ring topology network
ITU-T G.8031 / Y.1342 EPS (Ethernet Protection Switching)	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
RADIUS	Authentication & Accounting
TACACS+	Authentication
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	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, alarm relay
DNS	Client, Proxy
IEEE1588 PTP V2	Supports 5 operating mode in each port :
	Ordinary-Boundary, Peer to Peer Transparent Clock, End to End Transparent Clock, Master and Slave
NTP, SNTP	Client
LLDP (IEEE802.1ab)	Link Layer Discovery Protocol
	LLDP-MED

IPv6 Features

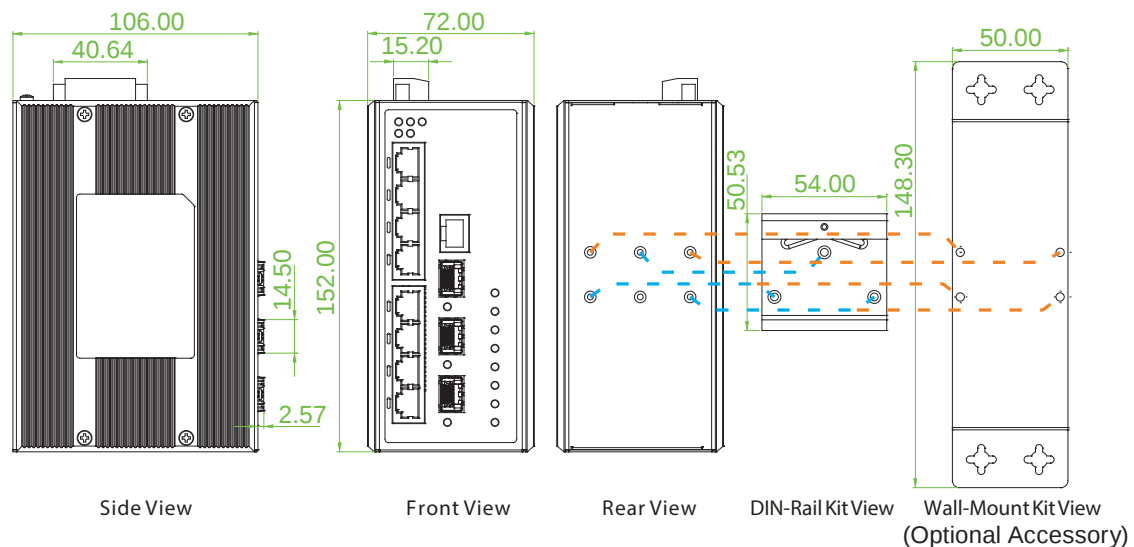
IPv6 Management	Telnet Server/ICMP v6
SNMP over IPv6	Supported
HTTP over IPv6	Supported
SSH over IPv6	Supported
IPv6 Telnet	Supported
IPv6 NTP, SNTP	Client
IPv6 TFTP	Supported
IPv6 QoS	Supported
IPv6 ACL	Number of rules: up to 256 entries
	for L2 / L3 / L4
	L2 : Mac address SA/DA/VLAN
	L3: IP address 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
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 180W

Dimensions**Ordering Information**

Model Name	Total Port	RJ45	SFP	PoE		Input Power	Certification				Operating Temperature
		10/100 Base-TX	100/1000 Base-X	IEEE802.3 at/af	Power Budget		UL60950-1	EN50121-4	NEMA TS2	CE, FCC EN61000-6-2 EN61000-6-4	
IFS-803GSM-8PH24	11	8	3	8	180W	24/48VDC	V	V	V	V	-10~60°C
IFS-803GSM-8PHE24	11	8	3	8	180W	24/48VDC	V	V	V	V	-40~75°C

Optional Accessories**■ Wall Mount Kit**

IND-WMK02	Wall Mount kit for Industrial product (Wide) (184 x 50mm)
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■ 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-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