10

IFS-A804GSM

8x FE RJ45 + 4x 100/1000Base SFP

NEW

- *Supports u-Ring, ERPS, EPS, MRP, MSTP, RSTP, STP for Redundant Cabling*
- *EN50121-4, EN61000-6-2, EN61000-6-4, CE and FCC Certified*
- *4KV Surge Protection for RJ45 and SFP Ports*

The industrial Ethernet switch IFS-A804SM is one of our new generation designs and comes with 8 fast Ethernet ports and equipped with 4 100/1000Base-X SFP slots for fiber optic connectivity. Meet the requirements for extended transmission distance, fanless design, high MTBF, 4KV surge protection and supports wide temperature operation, 12~48VDC redundant power input, and is designed to comply with cybersecurity regulations. Suitable for heavy-duty applications in harsh environments such as industrial factory automation, data centers, smart transportation systems, military and utility market applications beyond environmental conditions commercial product specifications.

Features

- 12/24/48VDC redundant dual power input
- 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 (Please see CTC μ-Ring white paper for more details and more topology application)
- μ-Ring for redundant cabling, recovery time<10ms in 250 devices
- 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)
	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)

Industrial Managed FE Switch

Switch Architecture	Back-Plane (Switching Fabric): 9.6Gbps (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 + 4x 100/1000Base-X SFP
	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
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 input power (Removable terminal block) 12/24/48VDC (9.6~57VDC)
Power Consumption	TBD
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)
Jumbo Frame	14K Bytes
MAC Address Table	16K
Memory Buffer	1.5M Bytes for packet buffer
Device Memory	2M Bytes Flash ROM, 1024M 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 1 terminal block for Alarm relay, redundant power PWR1 and PWR2
Operating Temperature	-10 ~ 60°C (IFS-A804GSM)
	-40 ~ 75°C (IFS-A804GSM-E)
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 ~ 85°C
Housing	Rugged Metal, IP30 Protection and Fanless
Dimensions	109 x 65 x 152mm (D x W x H)
Weight	TBD
Installation Mounting	DIN Rail mounting or wall mounting (Optional)
MTBF (MIL-HDBK-217)	TBD
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
EMS (Electromagnetic Susceptibility) Protection Level	EN61000-4-6 (CS) Level 3, Criteria A
	EN61000-4-8 (PFMF, Magnetic Field) Field Strength: 300A/m, Criteria A
Surge Protection	4KV for PoE, UTP and Fiber ports
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-31
Vibration	IEC 60068-2-6

10

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 6 trunk group
	Dynamic (IEEE 802.3ad LACP), up to 6 trunk group
Spanning Tree	IEEE 802.1d STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP
MRP (IEC62439-2)	Supported
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 devices in the ring supports 250 nodes.
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, 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, 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 USB 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	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) (Support 4 server)
Warning Message	System syslog, e-mail, alarm relay
DNS	Client, Proxy
NTP V4.0, 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

10

Ordering Information

Model Name	Total Port	RJ45	SFP	Input Power	Certification			Operating Temperature
		10/100 Base-TX	100/1000 Base-X	Redundant	EN50121-4	EN61000-6-2 EN61000-6-4	CE FCC	
IFS-A804GSM	12	8	4	12/24/48VDC	V	V	V	-10~60°C
IFS-A804GSM-E	12	8	4	12/24/48VDC	V	V	V	-40~75°C

Optional Accessories

■ Auto Backup Kit

BUK1-RJ	Backup kit for RJ45 Type RS232 Managed Switch
BUK1-M12	Backup kit for RJ45 Type RS232 Managed Switch

■ 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