

IES-M0812F2GH

8 10/100TX + 12 100FX + 2 Giga Mini-GBIC Industrial Managed Switch



Features

- ◆ Back-plane (Switching Fabric): 8 Gbps
- ◆ Mini-GBIC supports gigabit mode only
- ◆ Provide 8K MAC address table
- ◆ Provide 9022bytes Jumbo Frame
- ◆ Redundant Power inputs
- ◆ Support wide operating temperature
- ◆ Support X-Ring function
- ◆ Provide SNMP v1/v2/v3 Web, Telnet, CLI Management
- ◆ TFTP firmware update, system configure restore and backup
- ◆ Meets IEC-61850-3 & IEEE-1613 standard

Introduction

The IES-M0812F2GH series is a cost-effective solution and meets the high reliability requirements demanded by industrial applications. The IES-M0812F2GH series can be easily managed through the Web GUI. The use of fiber port extending the connection distance increases the network elasticity and performance. It provides the X-Ring function that can prevent the network connection failure, and meets the standard of IEC-61850-3 and IEEE-1613 for the substation environment applications.

Specifications

Ethernet Communications

- Standard
 - IEEE802.3
 - IEEE802.3u
 - IEEE802.3z
 - IEEE802.3x
 - IEEE802.3ad
 - IEEE802.1d
 - IEEE802.1p
 - IEEE802.1Q
 - IEEE802.1X
 - IEEE802.1ab
- Port connector
 - 100FX SC * 12
 - 10/100TX: RJ-45 * 8
 - SFP: 1000 Mini-GBIC * 2
 - Console Port RJ45 * 1

Hardware

- Switch Architecture Back-plane: 8 Gbps
- Packet Buffer 4Mbits
- Mac Address 8K
- Jumbo Frame 9022bytes

Mechanism

- Enclosure IP30, metal shell
- Dimensions (W*H*D) 440*44*280 mm
- Installation 19" Rack Mount Design

Power

- Power consumption
 - 27.6 Watts Max @ 110VDC
 - 26.2 Watts Max @ 110VAC/60Hz
- Power input 100 – 240 VAC/VDC Redundant Power
- Power connector 2 x 5 poles terminal block * 1
- Relay Output 1A@24VDC

General

- LED Indicators
 - System: P1, P2, Fault, R-master,
 - 10/100TX: Link/Activity, FDX/COL
 - Mini-GBIC: Link/Activity

Environment

- Operating Temperature -40 ~ 85°C (-40 ~ 185°F)
- Storage Temperature -40 ~ 85°C (-40 ~ 185°F)
- Operating Humidity 5 ~ 95%(non-condensing)
- Storage Humidity 5 ~ 95%(non-condensing)
- MTBF 82564 hrs

Specifications (Continued)

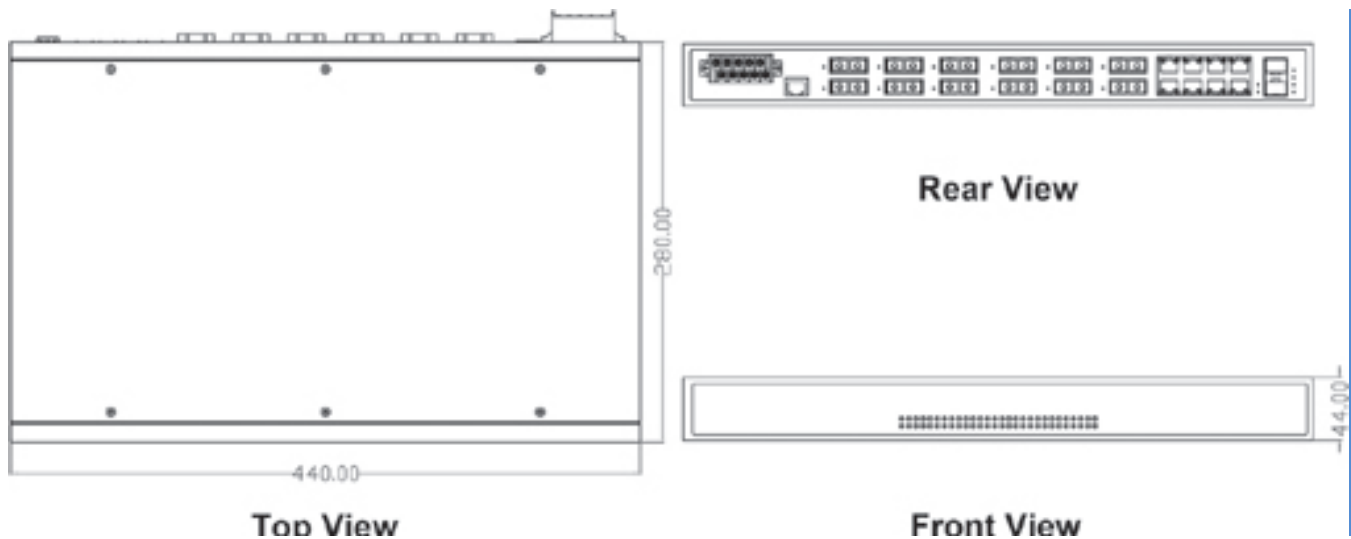
Software

- Configuration SNMP v1/v2c/v3, Web, Telnet, CLI
- VLAN IEEE 802.1Q, GVRP, Port-based VLAN,
- Redundancy X-Ring, Dual Homing and Couple Ring
IEEE 802.1d STP/IEEE 802.1w RSTP
- Security IP access security, port security, DHCP
Server, Port-IP Binding, IEEE802.1x, Port Access Control,
Layer 3 & Layer 4, Access Control List
- Traffic control IGMP Snooping/ Query for multicast group
Management, multicast filtering, Port
Trunking IEEE 802.1p QoS/CoS/ToS/DSCP
Priority queuing, IEEE 802.3x flow control
- Diagnostic Port Mirroring, Real-time traffic Statistics,
MAC Address Table, SNTP, Syslog, E-mail Alert,
SNMP Trap, RMON

Certifications

- Standard Meets IEC-61850-3 & IEEE-1613
CE, FCC Class A
- EMC EN61000-6-4
EN61000-6-2
EN61000-4-2 (ESD)
EN61000-4-3 (RS)
EN61000-4-4 (EFT)
EN61000-4-5 (Surge)
EN61000-4-6 (CS)
EN61000-4-8(Magnetic Field)
EN61000-4-11(DIP)
EN61000-4-12
EN61000-3-2
EN61000-3-3
- Shock IEC60068-2-27
- Freefall IEC60068-2-32

Dimensions (unit: mm)



Ordering Information

Product Name	Descriptions
IES-M0812F2GH(MM)	8 10/100TX+12 100FX(MM 2km)+2 Giga SFP w/ X-Ring Managed Industrial Switch, Rear Cable Connection, Redundant AC Power

Hardware Specifications

Switch Architecture	Back-plane (Switching Fabric): 8Gbps Packet throughput ability(Full-Duplex): 11.9 Mpps@64bytes
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port
Packet Buffer	4Mbits
Mac Address	8K MAC address table
FLASH ROM	4Mbytes
DRAM	64Mbytes
Connector	10/100TX: 8 x RJ-45 100FX: 12 x SC type Gigabit Mini-GBIC: 2 x Mini-GBIC sockets RS-232 connector: RJ-45 type
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable EIA/TIA-568 100-ohm (100m)
Optical cable	Inner/Outer Diameter: 50/125um~62.5/125um (Multi-mode) 9/125um (Single mode) Available distance: Fast Ethernet: 2km (Multi-mode)/30km (Single-mode) Gigabit Ethernet (mini-GBIC): 550m (Multi-mode)/Single-mode: depends on the transceiver Wavelength: Fast Ethernet: 1310nm (Multi-mode/Single-mode) Gigabit Ethernet (mini-GBIC): 850nm (Multi-mode)/1310nm (Single-mode)
Jumbo Frame	9022bytes (for Gigabit ports)
Protocol	CSMA/CD
LED	Front Panel Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red), R-Master (Green) 12 100FX: Link/Activity (Green), Speed (100M, Green) 8 10/100TX : Link/Activity (Green), Speed (100M, Green) Gigabit Mini-GBIC: Link/Activity (Green), Speed (1000M, Green) Rear Panel Per unit: Power 1 (Green), Power 2 (Green), P-Fail (Red), R-Master (Green) 12 100FX: Link/Activity (Green) 8 10/100TX : Link/Activity (Amber), FDX (Green) Gigabit Mini-GBIC: Link/Activity (Green)
Reverse Polarity Protection	Present
Overload Current Protection	Present
Relay Output	Alarm relay current carrying ability: 1A @ 24VDC, P-Fail detection for power fail, port link-down
Power Input	IFX-2082M-12FX: AC/DC 100~240V inputs, Redundant power with polarity reverse protection
Power Consumption	27.6 Watts max. @ 110 VDC 26.2 Watts max. @ 110 VAC
Installation	19" Rack mounting design

Operating Humidity	5% to 95% (Non-condensing)
Operating Temperature	Wide operating temperature -40°C ~85°C
Storage Temperature	-40°C ~ 85°C
Case Dimension	IP30, 440mm (W) x 44mm (H) x 280mm (D)
Installation	19" Rack mounting design
EMC	FCC Class A, CE EN61000-4-2 (ESD), CE EN61000-4-3 (RS), CE EN-61000-4-4 (EFT), CE EN61000-4-5 (Surge), CE EN61000-4-6 (CS), CE EN61000-4-8 (Magnetic Field), CE EN61000-4-11 (Voltage DIP), CE EN61000-3-2 (Harmonics Current), CE EN61000-3-3 (Voltage Fluctuation & Flickers), CE EN61000-6-2, CE EN61000-6-4
Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration) IEC61850-3, IEEE1613 Class 2

Software Features

Management	SNMP v1, v2c, v3/ Web/Telnet/CLI
SNMP MIB	RFC 1215 Trap, RFC1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643 , RFC 1757, RSTP MIB, LLDP MIB, Private MIB
VLAN	Port Based VLAN IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4094) GVRP (256 Groups)
Port Trunk with LACP	LACP Port Trunk: 13 Trunk groups/Maximum 4 trunk members
LLDP	Support LLDP to allow the switch to advise its identification and capability on the LAN
Spanning Tree	Support IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree
X-Ring	Support X-Ring, Dual Homing, Couple Ring Topology Provide redundant backup feature with recovery time below 20ms
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service
Class of Service	Support IEEE802.1p class of service, per port provides 4 priority queues
Port Mirroring	Support 3 mirroring types: "RX, TX, and Both" packet
IGMP	Support IGMP snooping v1, v2 256 multicast groups and IGMP query Support Multi-cast Filtering up to 50 entries
IP Security	Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder
Login Security	Support IEEE802.1x Authentication/RADIUS
ACL	Layer 3 & Layer 4 access control list
Bandwidth Control	Support ingress packet filter and egress packet limit The egress rate control supports all of packet type and the limit rates are 0~100Mbps (10/100TX), 0 ~ 1000Mbps (Giga port). Broadcast Strom rate: Packets types include Flooded Unicast/Multicast Packets/Control Packets/IP Multicast Packets/Broadcast Packets. The packet filter rate can be set to be 1/2, 1/4, 1/8 or 1/16 of ingress Rate.
Flow Control	Support Flow Control for Full-duplex and Back Pressure for Half-duplex
System Log	Support system log record and remote system log server
SMTP	Support SMTP Server and 6 e-mail accounts for receiving event alert
Relay Alarm	Alarm Relay current carrying ability: 1A @ DC24V
SNMP Trap	Up to 3 trap stations Trap type including: Cold start, Warm start, Port link up, Port link down, Authentication Failure, Private Trap for power status and X-Ring topology change
DHCP	Provide the DHCP client/DHCP server functions
SNTP	Support SNTP to synchronize system clock in the Internet
Firmware Update	Support TFTP firmware update, TFTP backup/restore
Conf. Upload/Download	Support binary configuration file for system quick installation
ifAlias	Each port allows an alphabetic string of 128-bit assigned as its own unique name via the SNMP or CLI interface