

iES10GF

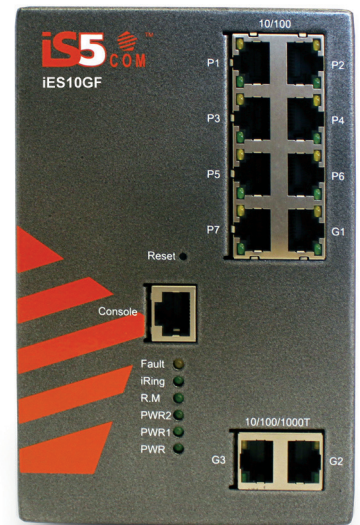


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Intelligent 10 Port Managed Gigabit Ethernet Switch IEC61850, IEEE1613 Compliant

Features

- Rapid Network Recovery: iRing recovery time < 30ms up to 250 ethernet switches
- iBridge is a unique feature that supports third party ring technologies
- Supports STP/RSTP/MSTP
- Supports PTP Client (Precision Time Protocol) clock synchronization
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Port Trunking for easy bandwidth management
- SNMP v1/v2c/v3 support for network management
- Supports RMON traffic monitoring
- Supports DDM (Digital Diagnostic Monitoring) function for SFP modules
- Supports LLDP (Link Layer Discovery Protocol)
- Port lock to prevent access from unauthorized MAC address
- Event notifications via Syslog, Email, SNMP trap, and Relay Output
- iManage Software Suite supports centralized management and configurable by Web-based, Telnet, Console(CLI)
- IP-40 Galvanized Steel Housing
- DIN-Rail and wall mounting
- 7x10/100Base-T(X) ports and up to 3 SFP or RJ45 optional ports



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Introduction

The iES10GF is an intelligent managed Gigabit Ethernet Switch, IEC61850-3 and IEEE1613 compliant. The Intelligent Operating System (iOS) offers many powerful features including iRing delivering a total recovery time <30ms with up to 250 ethernet switches. The iBridge technology, and MSTP/RSTP/STP (IEEE 802.1s/w/D) feature set ensures that the best redundancy options are available to protect mission critical applications from network interruptions. Every function of the iES10GF can be managed conveniently using the iManage Software Suite. The iES10GF switch supports DDM (Digital Diagnostic Monitoring), which instantly monitors the status of electrical voltage, current, and temperature of the SFP module. The product is made from galvanized steel and has a wide operating temperature range from -40 to +85oC suitable for the harshest of environments without the use of fans.

Specifications

Model Number iES10GF	
Physical Ports	
10/100 Base-TX Ports (RJ45) Auto MDI/MDIX	7
Gigabit combo Ports with 10/100/1000Base-TX and 100/1000Base-X SFP Ports	3- Base T(X) or 3- Base (X) SFP
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3z for 1000Base-X IEEE 802.3ab for 1000Base-T IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
MAC Table	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 7.4Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Defined
Security Features	Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Supports Q-in-Q VLAN for performance & security to expand the VLAN space Radius centralized password management SNMP v1/v2c/v3 encrypted authentication and access security

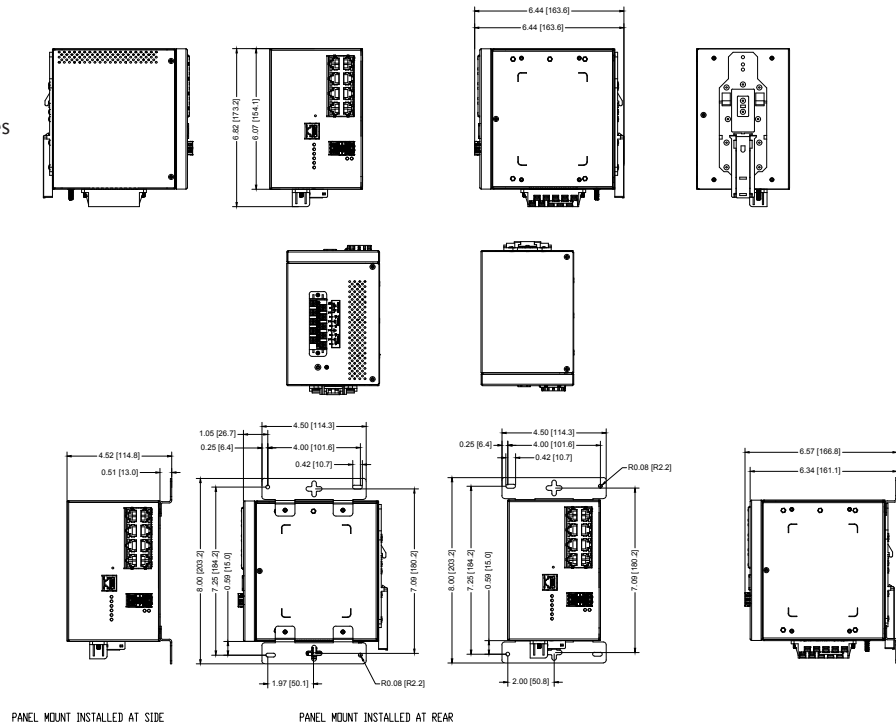


Software Features	<p>STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (iRing) with recovery time less than 10ms up to 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging and GVRP supported IGMP Snooping for multicast filtering Port configuration, status, statistics, monitoring, security SNTP for synchronizing of clocks over network Supports PTP Client (Precision Time Protocol) clock synchronization DHCP Server / Client support Port Trunk support MVR (Multicast VLAN Registration) support</p>
Network Redundancy	iRing, iBridge, STP, RSTP, MSTP
Warning / Monitoring System	<p>Relay output for fault event alarming Syslog server / client to record and view events SMTP for event warning notification via email Event selection support</p>
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1
Fault Contact	
Relay	Relay output capacity: 1A at 24VDC
Power	
Input Power	Dual DC inputs 10 to 48VDC, Dual DC Inputs 36-72VDC, or Dual Input Universal Supplies 120-370VDC or 85-264VAC
Power Consumption (Typ.)	20 Watts Max.
Overload Current Protection	Present
Reverse Polarity Protection	Internal
Physical Characteristic	
Enclosure	IP-40 Galvanized Steel Housing
Dimension (W x D x H)	74.3(W)x109.2(D)x153.6(H) mm (2.93 x 4.3 x 6.05 inch)
Weight (g)	1.1 kg
Environmental	
Storage Temperature	-40oC to 85oC (-40oF to 185oF)
Operating Temperature	-40oC to 85oC (-40oF to 185oF) NO FANS
Operating Humidity	5% to 95% Non-condensing
Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	
Warranty	5 Years



Dimensions

All Dimensions are in Inches



Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Ethernet Port 1-7(8)	Ethernet Port 8*	Ethernet Port 9 & 10	Description
iES10GF	LV	LV	D	7RJ45&1GRJ45	1GSFP	XX	
iES10GF							Managed core assembly and packaging
	XX	XX					None
	LV	LV					Power Supply Input (10-48VDC)
	MV	MV					Power Supply Input (36-72VDC)
	HV	HV					Power Supply Input 88-370VDC or 85-264VAC
			D				DIN Rail Mounting
			P				Panel Mounting
			N				No Mounting Hardware
							None
				7RJ45&1GRJ45			7x10/100Base TX RJ45 and 1x10/100/1000 (TX) RJ45
					XX	XX	None
						2GRJ45	2x10/100/1000 Tx RJ45
					1GSFP	2GSFP	100/1000Base (X) SFP (Blank no optical transceiver**)

*DEFAULT PORT TYPE IS GRJ45 PORT 9 & 10 MUST HAVE SAME PORT TYPE

Example Order Code: iES10GF-LV-LV-D-7RJ451GRJ45-1GSFP-XX-C1-F3.07
 Description: 10 Port Gigabit Switch, Dual 36-72VDC Inputs, DIN Mount, 7-10/100Base TX Ports, 1-10/100/1000Base-TX, 1-100/1000Base-X SFP** Ports, Conformal Coating, Firmware version 3.07
 C1 – Add for conformal coating
 FW – Leave blank for latest firmware



**SFP's to be ordered separately.

SFP Module #	Description
SFP100-MM-2	SFP 100Mbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP100-SM-30	SFP 100Mbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP100-SM-60	SFP 100Mbps Singlemode LC Transceiver 60km, 1310nm, -40C - +85C
SFP100-SM-100	SFP 100Mbps Singlemode LC Transceiver 100km, 1550nm, -40C - +85C
SFP100-SM-120	SFP 100Mbps Singlemode LC Transceiver 120km, 1550nm, -40C - +85C
SFP100BIDI1-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP100BIDI1-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP100BIDI2-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000-MM-550	SFP 1Gbps Multimode LC Transceiver 500m, 850nm, -20C - +85C
SFP1000-MM-2	SFP 1Gbps Multimode LC Transceiver 2km, 1310nm, -40C - +85C
SFP1000-SM-10	SFP 1Gbps Singlemode LC Transceiver 10km, 1310nm, -40C - +85C
SFP1000-SM-20	SFP 1Gbps Singlemode LC Transceiver 20km, 1310nm, -40C - +85C
SFP1000-SM-30	SFP 1Gbps Singlemode LC Transceiver 30km, 1310nm, -40C - +85C
SFP1000-SM-40	SFP 1Gbps Singlemode LC Transceiver 40km, 1310nm, -40C - +85C
SFP1000-SM-50	SFP 1Gbps Singlemode LC Transceiver 50km, 1550nm, -40C - +85C
SFP1000-SM-70	SFP 1Gbps Singlemode LC Transceiver 70km, 1550nm, -40C - +85C
SFP1000-SM-8-	SFP 1Gbps Singlemode LC Transceiver 80km, 1550nm, -40C - +85C
SFP1000BIDI1-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1550 nm, RX1310nm, -40C - +85C
SFP1000BIDI1-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1310 nm, RX1550nm, -40C - +85C
SFP1000BIDI2-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1550 nm, RX1310nm, -40C - +85C