

# iSG18GFP

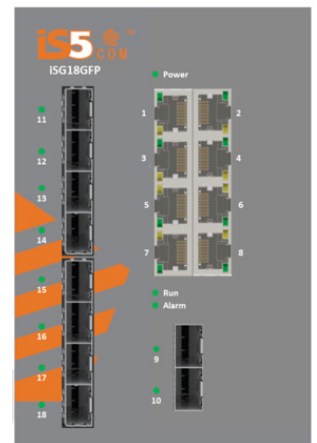


www.iS5com.com

Intelligent 18 Port Compact Service Aware Ethernet Switch IEC 61850-3 and IEEE 1613 Compliant

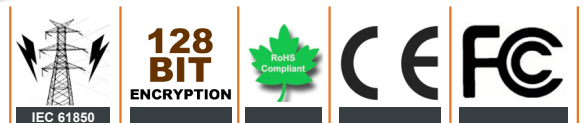
## Features

- Designed for secure remote connections over public networks
- Layer 2 and Layer 3 VPN with IPSec
- Network Uplink over Ethernet or Cellular
- SCADA firewall for validating all traffic to the device
- Supports 4 x RS232 ports with Enhanced 2KV Isolation
- Supports 2 x 1000 Base (X) SFP, up to 16 x 10/100 Base (TX) RJ45, and 8 x 100 Base (X) SFP Ethernet Ports
- Switch Latency <10µSec
- Supports 1588v2 PTP Transparent Clock
- Supports Dual SIM GPRS/UMTS Modems
- Supports Layer 3 protection using Dynamic protocols like OSPF, VRRP Redundancy Scheme, and RIPv2 Routing.
- Supports Gateway Translation for IEC 101, IEC 104, Modbus RTU, Modbus TCP, DNP3 IP, and DNP3 RTU.
- Local and Remote User Authentication (RADIUS, TACACS)
- Rigid IP-40 Galvanized metal housing.
- DIN Rail or Wall mount option
- Available with Dual Power Supplies



**iS5** COMMUNICATIONS

**SERVICES • SUPPORT • SECURITY • SOLUTIONS • SYSTEMS**



Tel: +905-670-0004

Fax: +289-401-5206

Email: info@is5com.com

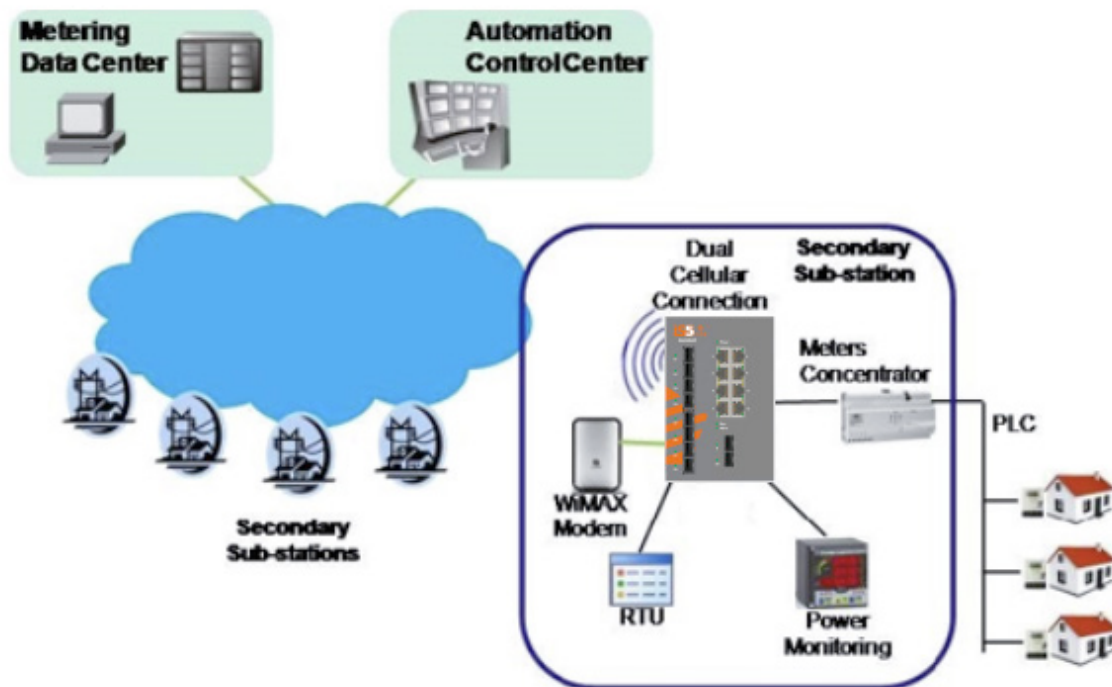


#3-7490 Pacific Circle, Mississauga, Ontario, L5T 2A3



## Introduction

The iSG18GFP is a powerful Compact Service-Aware Ethernet switch designed with a unique strong packet processing application-aware engine to fit the most critical industrial application. The optional support of an integrated firewall on each port of the iSG18GFP provides a network based distributed security. The switch also contains a VPN gateway with 2 operational modes: Inter-site connectivity using IPsec tunnels, and remote user access via SSH. The iSG18GFP is a natural fit for installation at MV/LV Transformer Sites acting as secure access points for the Distributed Automation control of remote sites. This product acts as a secure gateway for Ethernet, IP, and Serial services as an optimized platform for servicing these needs over the network core. The iSG18GFP can be managed centralized and conveniently by a powerful Windows utility called the iManage Software Suite. The product is made from galvanized steel and has a wide operating temperature from -40°C to 85°C suitable for the harshest of environments without the use of fans.



Secure Connection using the iSG18GFP



# Specifications

Model Number iSG18GFP	
<b>Physical Ports</b>	
10/100 Base-T(X) Ports in RJ45	Up to 16
100 Base-X SFP ports	Up to 8
1000 Base-X SPF Ports	2
Serial Ports	4 with 2KV Isolation
Cellular	GPRS/UMTS with 2 SIM Cards
<b>Technology</b>	
Networking (Advanced Layer 2)	ITU-T G.8032v2 Ethernet ring (<50ms recovery) IEEE 802.1s MSTP IEEE 802.1w RSTP, enhanced RSTP IEEE 802.3ad LAG with LACP IEEE 802.1q VLAN segregation Access Lists according to L2-L4 headers IEEE 802.1p per port queues 802.1x Port based network access control DHCP Client and Relay QOS Prioritization, shaping, Scheduling OAM EFM IEEE 802.3ah OAM CFM ITU-T Y.1731/IEEE 802.1ag 1588v2 PTP Transparent Clock Jumbo frames supported
Routing (Layer 3)	Static Routing OSPF V2, V3 RIPv2 VRRP IPv4
Protocol Handling	ModBus RTU – ModBus TCP IEC 101 – IEC 104 DNP3 IP – DNP3 RTU Terminal Server
Performance	Line Rate L2/L3 Switching Throughput Switching Latency <10μSec 16K MAC Addresses 4K VLAN's L2 Multicast IGMP Snooping for Traffic Optimization
Security Features	Enable/Disable port Port access filter per MAC / IP addresses IEEE 802.1x port-based authentication Protect against DoS attacks Egress filtering per VLAN SCADA service-aware firewall per port Remote access using SSH tunnel Layer 2 GRE Transparent Ethernet Bridging Layer 3 GRE DM-VPN IPSec encryption User policy for traffic type IKE, AES or 3DES encryption Dynamic key exchange NAT traversal

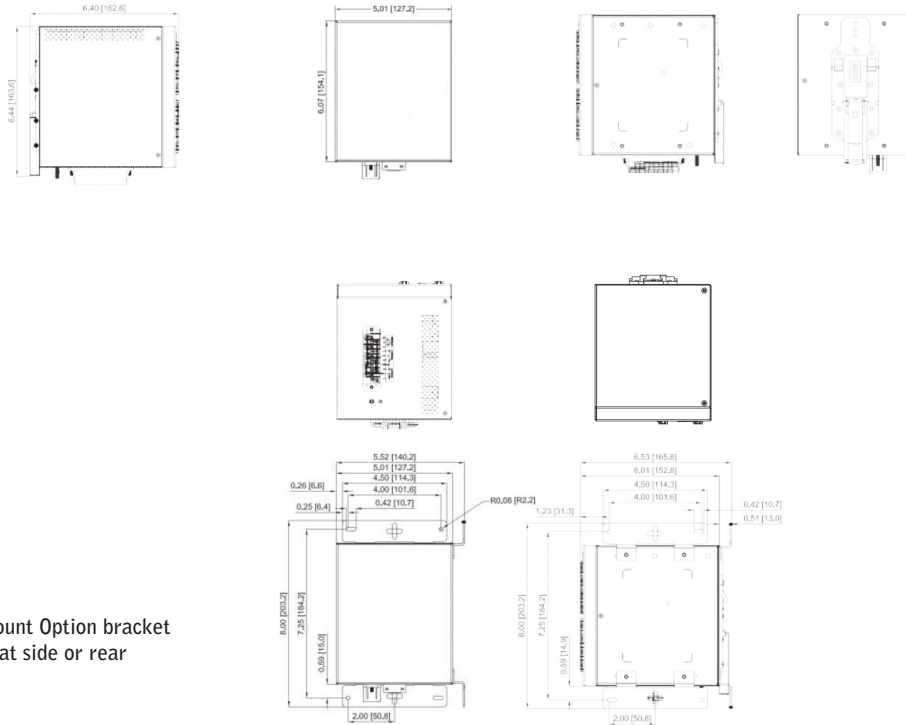


Management	Command-Line interface over local console or over remote SSH SNMPv1/v2/v3 Local and remote user authentication (RADIUS, TACACS) Network elements auto-discovery Wizard for Ethernet ring configuration End-to-End service groups provisioning Security rules planning per service group Network performance & diagnostics tools
Local Operation	RS-232 console port Local USB port for emergency boot Discrete inputs for user-defined triggers Discrete outputs reporting system alarms Failsafe output relay reporting critical alarm
<b>Power</b>	
Redundant Input power	Dual DC inputs 10 to 48VDC, Dual DC Inputs 36-72VDC, or Dual input universal supply 88-370VDC or 85-264VAC
<b>Physical Characteristic</b>	
Enclosure	IP-40
Dimension (W x D x H)	5 x 6.44 x 6.07 inches
<b>Environmental</b>	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 85°C (-40 to 185°F)
Operating Humidity	5% to 95% Non-condensing
<b>Regulatory Approvals</b>	
Power Automation	IEC 61850-3, IEEE 1613
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
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
<b>Warranty</b>	
Warranty	5 Years



# Dimensions

All Dimensions are in Inches



Panel Mount Option bracket installed at side or rear

# Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Ethernet Port 1-8	Ethernet Port 9-10	Options	Description
iSG18GFP	HV	XX	D	8RJ45	2GSFP	XX	
iSG18GFP							Core assembly and packaging
		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
				8RJ45			8 x 10/100 Base TX RJ45
				8PRJ45			8 x 10/100 Base TX RJ45 PoE Ports 30W Max per port***
					XX		None
					2GSFP		2 x 100/1000 Base X SFP Port (Blank no SFP transceiver**)
						XX	None
					8RJ45		8 x 10/100 Base TX RJ45
					8SFP		8 x 100 Base X SFP Port (Blank no SFP transceiver**)
					4SRJ45		4 x RS232 RJ45 Serial Ports with 2KV Isolation
					2SIM		Dual SIM GPRS/UMTS Modem
					6GCX		4 x RS232 RJ45 Serial Ports with 2KV Isolation + Dual SIM

SFP\*\* SEE ACCESSORIES FOR SFP TRANSCEIVER PRICING \*\*\* NOTE: PoE Ports only supported with MV and HV supplies.

Example Order Code: iSG18GFP-MV-XX-D-8RJ45-2GSFP-XX

Description: Flexible Secure Gateway, Power Supply 1: Input 36-72VDC, Power Supply 2: None, DIN Rail Mount, 8x10/100 TX, 2x100/1000 SFP Port, No Options  
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