

iSG4F

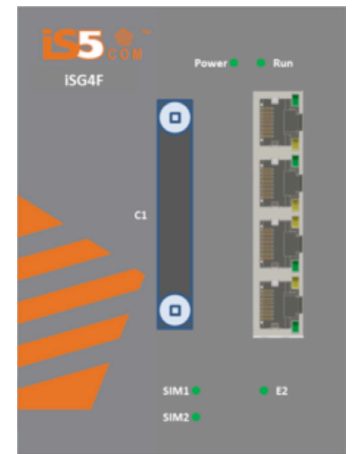


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Intelligent Flexible Secure Gateway IEC 61850-3 and IEEE 1613 compliant

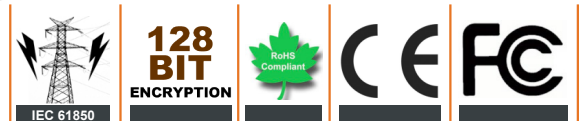
Features

- 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 2 x RS232 ports, or 1 x RS232 and 1 x RS485 port.
- Supports 1 x 10/100 Base (TX) and 1 x 1000 Base (X) Ethernet ports.
- Supports 2 x SIM Cellular Interfaces for connecting to remote isolated sites (with VPN) over a cellular network.
- Supports Layer 3 protection using Dynamic protocols like OSPF and RIP.
- Supports Gateway Translation for IEC 101, IEC 104, Modbus, and DNP3.
- Rigid IP-40 Galvanized metal housing.
- DIN Rail or Wall mount option.
- Available with Dual Power Supplies.



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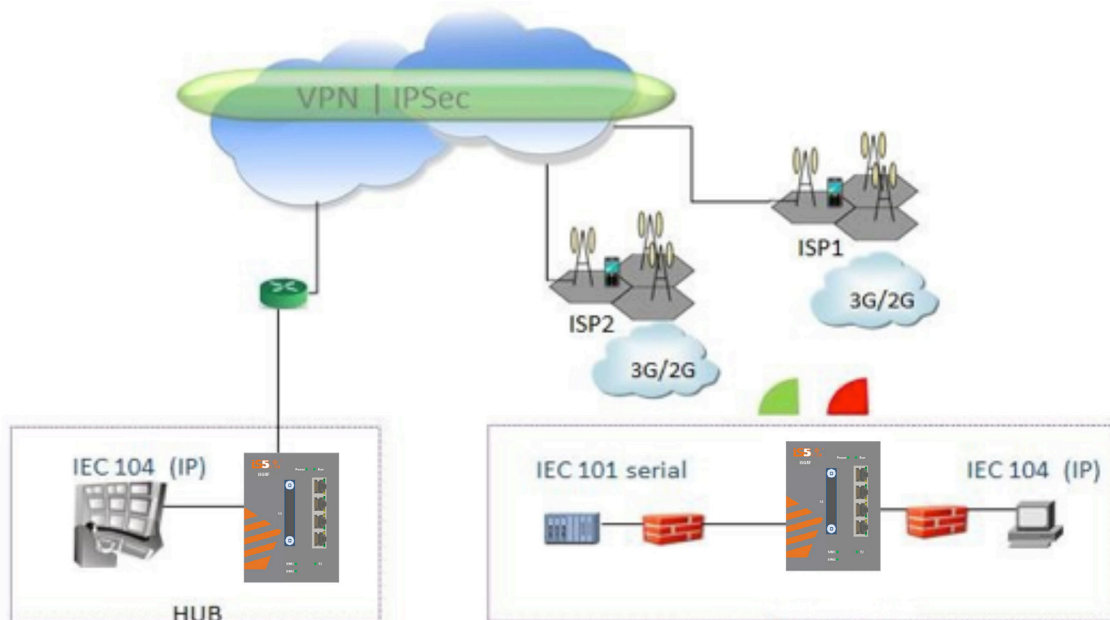


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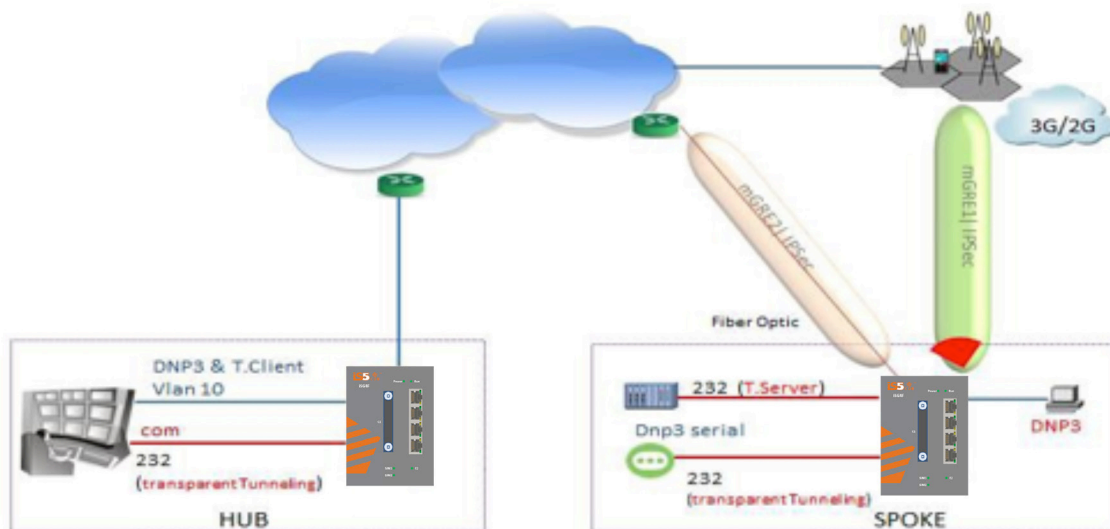


Introduction

The iSG4F Flexible Secure Gateway is designed for use in remote sites that require secure remote connections over a public network (via serial or IP connection). A serial RTU/IED connected to an iSG4F would communicate its data over a landline or a cellular public/private connection for those sites that are remotely distributed and connected to a SCADA control center. The user data can either be transparently encapsulated over an IP tunnel, or converted to an IP SCADA session using the integrated SCADA gateway. Network connectivity is secured using a Layer 2 or Layer 3 VPN with IPsec, as well a SCADA firewall for validating all traffic to the device. The iSG4F can be managed centrally and conveniently by our 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.



Remote site access over redundant cellular networks



Remote site access over fiber and a backup cellular link



Specifications

Model Number iSG4F	
Physical Ports	
10/100/1000Base-T(X) Ports in RJ45	1
100/1000Base-X with SFP port	1
2 Serial Ports	1 or 2 x RS232 DB-9, or 1 RS485 RJ45 and 1 x RS232 DB-9
Cellular	GPRS/UMTS with 2 SIM Cards
Discrete Lines	2 In, 2 Out
Technology	
Networking	SCADA Gateway for IEC 101/104 ModBus RTU/TCP and DNP3 Terminal Server Frame and Byte Modes Serial Transparent Tunneling Byte Mode Layer 3 mGRE DM-VPN Layer 3 IPSec VPN Layer 2 VPN GRE QOS: Prioritization, Shaping, Scheduling, Limit, Queues Discrete IO Control Discrete IO Tunneling IEEE 802.1x for Authentication IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
Routing	Static Routing OSPF V2, V3 IPv4
Switching	Auto Crossing Auto Negotiating IEEE 802.3ab VLAN Tagging
Time	Local Time Settings NTP
Diagnostic	Counters and Statistics per Port LED Diagnostics Ping
Protection	Conditioned/Scheduled System Reboot OSPF V2, V3 Protection between Cellular ISP (SIM Card Backup)
Security Features	Firewall Learning Mode VPN Encryption using AES, 3DES SCADA firewall for IEC 101/104, Modbus and Firewall DNP3 Firewall Simulation Mode Firewall ModBus RTU Firewall ModBus TCP IEC 101 Firewall IEC 104 Firewall IPSec IPSec Certificates X.509 IPSec Dynamic Key Exchange Local Authentication MAC Limit SFTP Client
Management	Backup/Restore Running Config Conditioned/Scheduled System ReBoot Remote Upgrade In-Band Management Safe Mode FTP Client, TFTP Client Syslog, Severity Levels, Multiple Targets

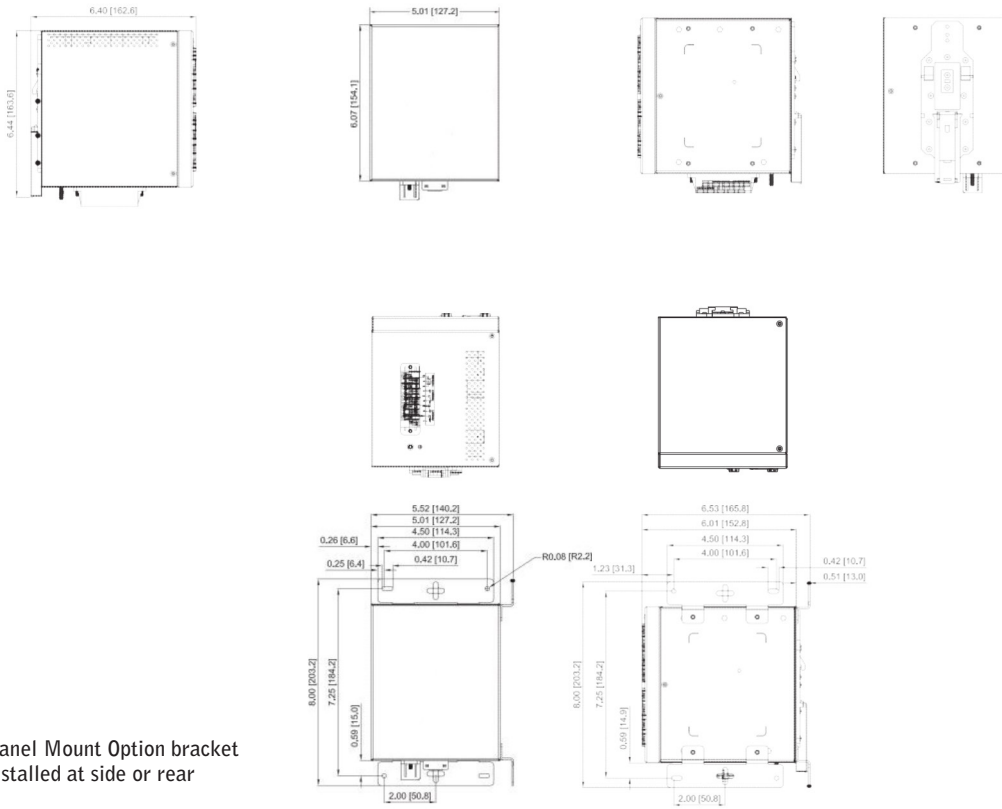


RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 115200bps, 8, N, 1
Power	
Redundant Input power	Dual DC inputs 10 to 48VDC, Dual DC Inputs 36-72VDC, or Dual input universal supply 88-370VDC or 85-264VAC
Power consumption (Typ.)	TBD
Overload current protection	Present
Reverse Polarity Protection	Present
Physical Characteristic	
Enclosure	IP-40
Dimension (W x D x H)	5 x 6.44 x 6.07 inches
Environmental	
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
Regulatory Approvals	
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
Warranty	
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	Serial Interface	Ethernet Port 1-2	Cellular Port	Description
iSG4F	HV	XX	D	2DB9	1GRJ451GSFP	2SIM	
iSG4F							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
				XX			None
				2DB9			2 X RS232 DB9 Ports
				1DB91RJ45			1 X RS232 DB9 Port and 1 X RS485 RJ45 Port
					1GRJ451GSFP		1 X 10/100/1000 Base TX RJ45 and 1 X 100/1000 Base X SFP Port (Blank no SFP transceiver**)
						2SIM	Dual SIM GPRS/UMTS

SFP** SEE ACCESSORIES FOR SFP TRANSCEIVER PRICING

Example Order Code: iSG4F-HV-XX-D-2DB9-1GRJ451GSFP-2SIM
 Description: Flexible Secure Gateway, Power Supply 1 Input 88-370VDC or 85-264VAC, Power Supply 2 None, DIN Rail Mount, 2xRS232 DB9 Ports, 1x10/100/1000 TX, 1x100/1000 SFP Port, Dual SIM Ports
 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