

iSG4F

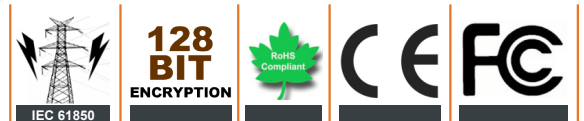


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Intelligent 4 Port Flexible Secure Gateway IEC 61850-3 and IEEE 1613 compliant

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 RS-232 ports, or 1 x RS-232 and 1 x RS-485 port
- 1 x 10/100Base-T(X) RJ45 and 1 x 100/1000Base-X SFP 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
- IP-40 Galvanized Steel Housing
- DIN Rail and wall mount
- Supports Dual Redundant Power Supplies



iS5 COMMUNICATIONS

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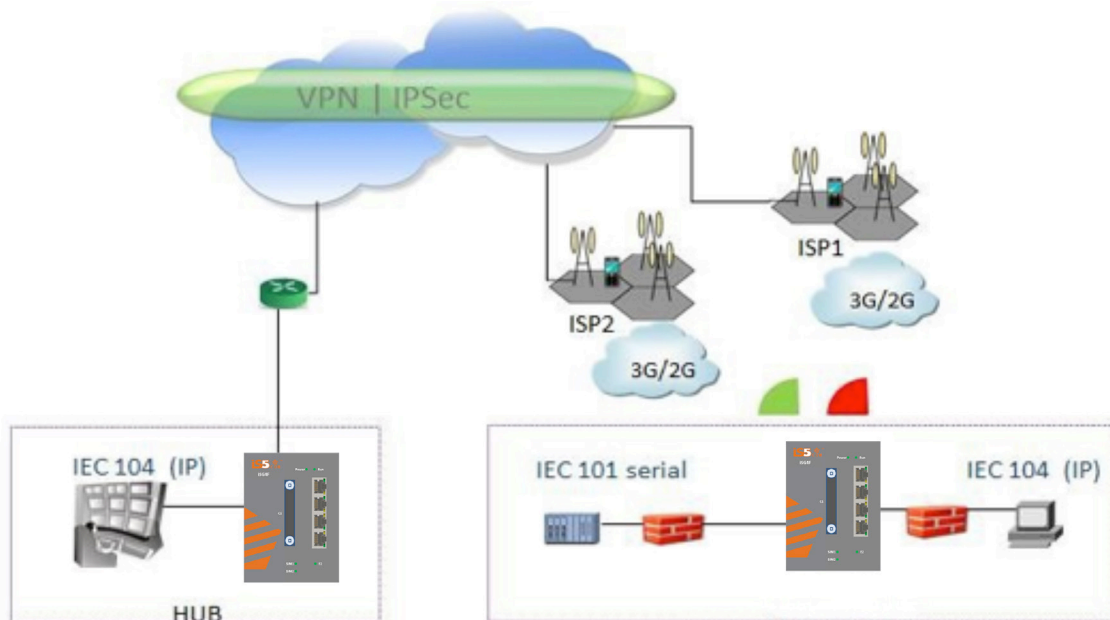


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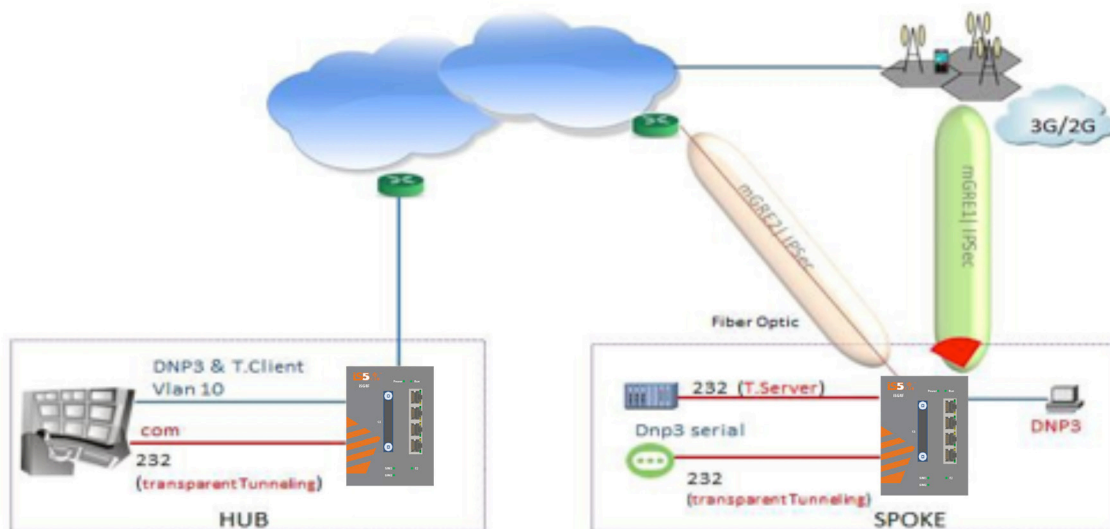


Introduction

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 (iDMS) Industrial Device Management System. 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	
10/100Base-T(X) RJ45 Port	1
100/1000Base-X SFP Port	1
RS-232, or RS-232 and RS-485 Serial Ports	2
SIM 2G/3G/LTE Cellular Modem Port	2 SIM Card Slots
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

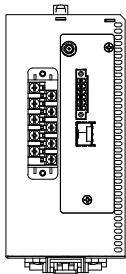
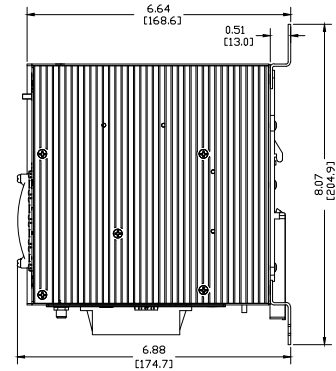
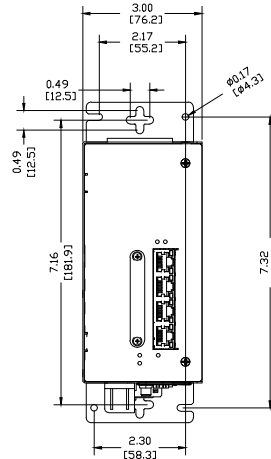
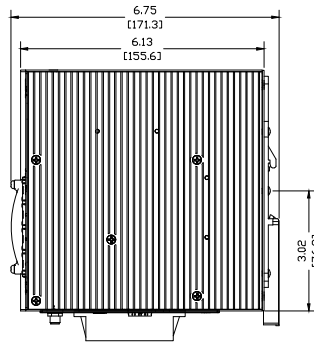
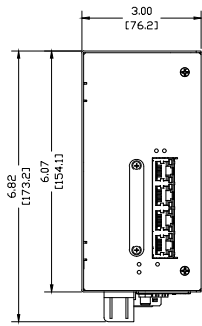


RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 115200bps, 8, N, 1
Power	
Input Power	Redundant Power Supplies: Dual DC Inputs 9-36VDC, Dual DC Inputs 36-72VDC, or Dual Input 88-370VDC or 85-264VAC
Overload Current Protection	Present
Reverse Polarity Protection	Present
Physical Characteristics	
Enclosure	IP-40 Galvanized Steel
Dimension (W x D x H)	76.2 (W) x 161.1 (D) x 154.1 (H) mm (3 x 6.37 x 6.07 inches)
Weight (g)	~2000 g
Environmental	
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Operating Temperature	-40°C to +85°C (-40°F to +185°F) No Fans
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



Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Serial Port 1-2	Ethernet Port 1-2	Cellular Port	Description
iSG4F	HV	XX	D	2SRJ45	1RJ45&1GSFP	2SIM-LTE2	
iSG4F							Core assembly and packaging
		XX					None
	LV	LV					Input (9-36VDC)
	MV	MV					Input (36-72VDC)
	HV	HV					Input 88-370VDC or 85-264VAC
			D				DIN Rail Mounting
			P				Panel Mounting
			N				No Mounting Hardware
				XX			None
				2SRJ45			2 X RS232 Serial RJ45
				2CRJ45			1 X RS232 Serial RJ45 and 1 X RS485 Serial RJ45
					1RJ45&1GSFP		1 X 10/100Base-T(X) RJ45 and 1 X 100/1000Base-X SFP (Blank no optical transceiver**)
						XX	None
						2SIM-LTE1	Dual SIM 2G/3G/LTE Modem with LTE International
						2SIM-LTE2	Dual SIM 2G/3G/LTE Modem with LTE Americas

Example Order Code: iSG4F-HV-XX-D-2CRJ45-1RJ45&1GSFP-2SIM-LTE2-C1-F3.07

Description: 4 Port Secure Gateway/Switch, (Power Supply 1) Input 88-370VDC or 85-264VAC, (Power Supply 2) None, DIN Rail Mounting, 1 x RS232 Serial RJ45 and 1 x RS485 Serial RJ45 Ports, 1 x 10/100Base-T(X) RJ45 and 1 x 100/1000Base-X SFP Ports, Dual SIM 2G/3G/LTE Modem with LTE Americas, Conformal Coating, Firmware version 3.07

C1 – Add for conformal coating

FW – Leave blank for latest firmware

NOTE: When selecting 1GSFP (Blank no optical transceiver) **SFP's to be ordered separately.**



**SFP's to be ordered separately.

SFP Module #	Description
SFP100-MM-05	SFP 100Mbps Multimode LC Transceiver 550m, 850nm, -40°C to +85°C
SFP100-MM-2	SFP 100Mbps Multimode LC Transceiver 2km, 1310nm, -40°C to +85°C
SFP100-SM-10	SFP 100Mbps Singlemode LC Transceiver 10km, 1310nm, -40°C to +85°C
SFP100-SM-30	SFP 100Mbps Singlemode LC Transceiver 30km, 1310nm, -40°C to +85°C
SFP100-SM-60	SFP 100Mbps Singlemode LC Transceiver 60km, 1310nm, -40°C to +85°C
SFP100-SM-100	SFP 100Mbps Singlemode LC Transceiver 100km, 1550nm, -40°C to +85°C
SFP100-SM-120	SFP 100Mbps Singlemode LC Transceiver 120km, 1550nm, -40°C to +85°C
SFP100BIDI1-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1310nm, RX1550nm, -40°C to +85°C
SFP100BIDI2-SM-20	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 20km, TX1550nm, RX1310nm, -40°C to +85°C
SFP100BIDI1-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1310nm, RX1550nm, -40°C to +85°C
SFP100BIDI2-SM-40	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 40km, TX1550nm, RX1310nm, -40°C to +85°C
SFP100BIDI1-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1310nm, RX1550nm, -40°C to +85°C
SFP100BIDI2-SM-60	SFP 100Mbps Bi-Directional Singlemode LC Transceiver 60km, TX1550nm, RX1310nm, -40°C to +85°C
SFP1000-TX	SFP 10/100/1000Mbps TX RJ45 Transceiver 100m, -40°C to +85°C
SFP1000-MM-05	SFP 1Gbps Multimode LC Transceiver 550m, 850nm, -40°C to +85°C
SFP1000-MM-2	SFP 1Gbps Multimode LC Transceiver 2km, 1310nm, -40°C to +85°C
SFP1000-SM-10	SFP 1Gbps Singlemode LC Transceiver 10km, 1310nm, -40°C to +85°C
SFP1000-SM-20	SFP 1Gbps Singlemode LC Transceiver 20km, 1310nm, -40°C to +85°C
SFP1000-SM-30	SFP 1Gbps Singlemode LC Transceiver 30km, 1310nm, -40°C to +85°C
SFP1000-SM-40	SFP 1Gbps Singlemode LC Transceiver 40km, 1310nm, -40°C to +85°C
SFP1000-SM-50	SFP 1Gbps Singlemode LC Transceiver 50km, 1550nm, -40°C to +85°C
SFP1000-SM-70	SFP 1Gbps Singlemode LC Transceiver 70km, 1550nm, -40°C to +85°C
SFP1000-SM-80	SFP 1Gbps Singlemode LC Transceiver 80km, 1550nm, -40°C to +85°C
SFP1000BIDI1-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1310nm, RX1550nm, -40°C to +85°C
SFP1000BIDI2-SM-10	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 10km, TX1550nm, RX1310nm, -40°C to +85°C
SFP1000BIDI1-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1310nm, RX1550nm, -40°C to +85°C
SFP1000BIDI2-SM-20	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 20km, TX1550nm, RX1310nm, -40°C to +85°C
SFP1000BIDI1-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1310nm, RX1550nm, -40°C to +85°C
SFP1000BIDI2-SM-40	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 40km, TX1550nm, RX1310nm, -40°C to +85°C
SFP1000BIDI1-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1310nm, RX1550nm, -40°C to +85°C
SFP1000BIDI2-SM-60	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 60km, TX1550nm, RX1310nm, -40°C to +85°C
SFP1000BIDI1-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1310nm, RX1550nm, -40°C to +85°C
SFP1000BIDI2-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1550nm, RX1310nm, -40°C to +85°C