

iES20GF

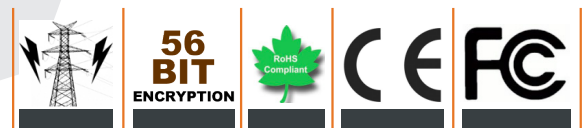
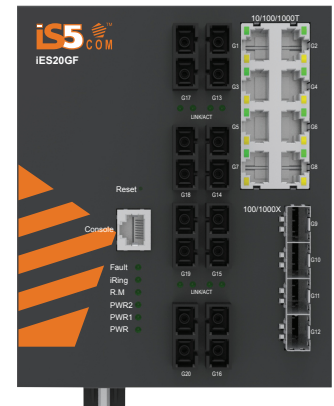


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Industrial 20 Port Managed Ethernet Switch IEC61850 and IEEE1613

Features

- Up to 16x10/100Base (TX), and up to 4x100/1000Base (X) ports
- Fastest Redundant Ethernet Ring : iRing (recovery time <30ms with up to 250 Ethernet Switches)
- iBridge supports other vendors' ring technology in open architecture
- STP/RSTP/MSTP supported
- Supports PTP Client (Precision Time Protocol) clock synchronization
- IGMP v2/v3 (IGMP snooping for support) filtering multicast traffic
- Port Trunking for easy of bandwidth management
- SNMP V1/V2c/V3 support for secured network management
- RMON for traffic monitoring
- Supports LLDP protocol
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- Port lock to prevent access from unauthorized MAC address
- Windows utility (iManage Software Suite) supporting centralized management and configurable by Web-based, Telnet, and Console (CLI)
- Supports two Gigabit combo ports
- Rigid IP-40 housing design
- DIN-Rail and wall mount
- Available with Dual High Voltage power Supplies



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Introduction

The IES20GF managed Ethernet switch with Ethernet Redundancy protocols such as iRing (recovery time <30ms with up to 250 Ethernet Switches), iBridge, and MSTP/RSTP/STP (IEEE 802.1s/w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions to restore connectivity using its fast recovery technology. The unique iBridge technology now provides a means to complement and interconnect with most third party proprietary ring technologies. The switch can be managed centralized and convenient 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.

Specifications

| Model Number IES20GF | |
|--|---|
| Physical Ports | |
| 10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX | Up to 16 |
| 10/100/1000Base-T(X) and 100/1000Base-X SC/ST/LC/SFP Ports | Up to 4 |
| 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-TX 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 : 9 μ s Switching bandwidth : 7.2Gbps Max. Number of Available VLANs : 4096 IGMP multicast groups : 1024 Port rate limiting : User Define |
| 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 | STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (iRing) with recovery time less than 30ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging and GVRP supported IGMP v2/v3 (IGMP snooping support) for multicast filtering Port configuration, status, statistics, monitoring, security SNTp for synchronizing of clocks over network Support PTP Client (Precision Time Protocol) clock synchronization DHCP Server / Client support Port Trunk support MVR (Multicast VLAN Registration) support |

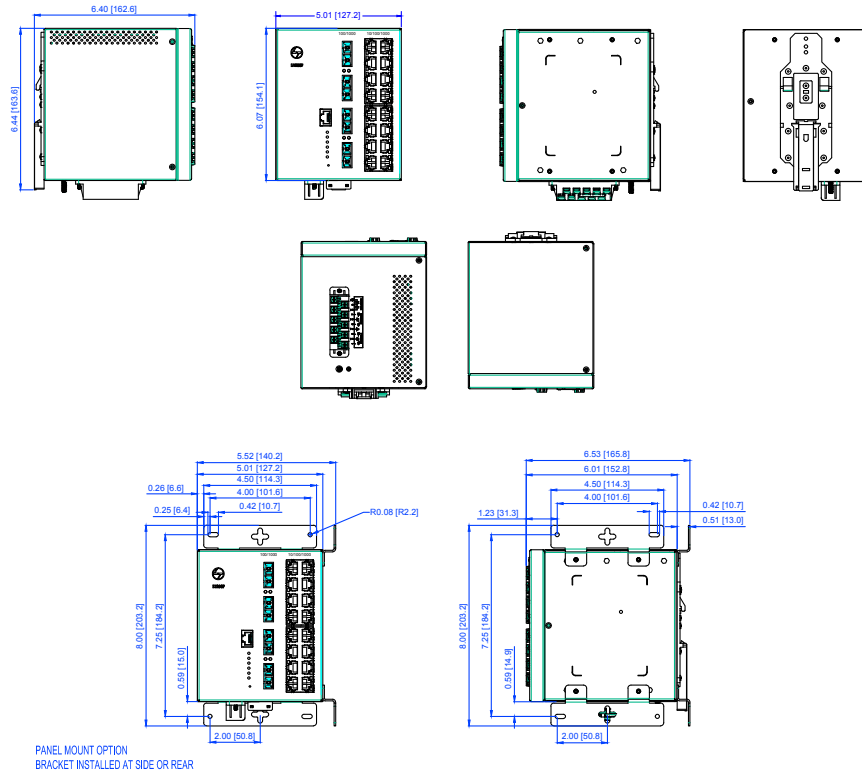


| | |
|--------------------------------|---|
| Network Redundancy | iRing iBridge STP RSTP MSTP |
| Warning / Monitoring System | Relay output for fault event alarming Syslog server / client to record and view events Include SMTP for event warning notification via email Event selection support |
| RS-232 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 | |
| Redundant Input Power | Dual DC inputs 10 to 48VDC, Dual DC Inputs 36-120VDC, or Dual Input 88-370VDC or 85-264VAC. |
| Power Consumption (Typ.) | 12 Watts |
| Overload Current Protection | Present |
| Reverse Polarity Protection | Present on terminal block |
| Physical Characteristic | |
| Enclosure | IP-40 |
| Dimension (W x D x H) | 96.4(W)x108.5(D)x154(H) mm (3.8 x 4.27 x 6.06 inch) |
| Weight (g) | 1220 g |
| Environmental | |
| Storage Temperature | -40°C to 85°C (-40°F to 185°F) |
| Operating Temperature | -40°C to 85°C (-40°F to 158°F) |
| 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 1-8 | Ethernet Port 9-16 | Ethernet Port 17&18† | Ethernet Port 19&20† | Description |
|---------|----------------|----------------|-------|-------------------|--------------------|----------------------|----------------------|---|
| IES20GF | HV | HV | D | 8RJ45 | 8RJ45 | 2MMST | 2SSC15 | |
| IES20GF | | | | | | | | Managed core assembly and packaging |
| | 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 | 8RJ45 | | | 8 X 10/100Base TX RJ45 |
| | | | | | XX | XX | XX | None |
| | | | | | | 2GRJ45 | 2GRJ45 | 2 x 10/100/1000Base TX RJ45 |
| | | | | | | 2GSFP | 2GSFP | 2 x 1000Base (X) SFP (Blank no SFP transceiver**) |



| | | | | | | | | |
|--|--|--|--|--|--|---------|---------|---|
| | | | | | | 2MMSC | 2MMSC | 2 x 100FX Multimode SC, 1310nm, 2Km |
| | | | | | | 2MMST | 2MMST | 2 x 100FX Multimode ST, 1310nm, 2Km |
| | | | | | | 2SSC15 | 2SSC15 | 2 x 100FX Singlemode SC, 1310nm, 15km |
| | | | | | | 2SST15 | 2SST15 | 2 x 100FX Singlemode ST, 1310nm, 15km |
| | | | | | | 2SSC40 | 2SSC40 | 2 x 100FX Singlemode SC, 1310nm, 40km |
| | | | | | | 2SST40 | 2SST40 | 2 x 100FX Singlemode ST, 1310nm, 40km |
| | | | | | | 2SSC60 | 2SSC60 | 2 x 100FX Singlemode SC, 1310nm, 60km |
| | | | | | | 2SST60 | 2SST60 | 2 x 100FX Singlemode ST, 1310nm, 60km |
| | | | | | | 2SSC80 | 2SSC80 | 2 x 100FX Singlemode SC, 1550nm, 80km |
| | | | | | | 2SST80 | 2SST80 | 2 x 100FX Singlemode ST, 1550nm, 80km |
| | | | | | | 2SSC100 | 2SSC100 | 2 x 100FX Singlemode SC, 1550nm, 100km |
| | | | | | | 2SST100 | 2SST100 | 2 x 100FX Singlemode SC, 1550nm, 100km |
| | | | | | | 2GMMSC | 2GMMSC | 2 x 1000 SX Multimode ST, 850nm, 550m |
| | | | | | | 2GMMST | 2GMMST | 2 x 1000 SX Multimode SC, 850nm, 550m |
| | | | | | | 2GSST10 | 2GSST10 | 2 x 1000 LX Singlemode ST, 1310nm, 10km |
| | | | | | | 2GSST40 | 2GSST40 | 2 x 1000 LX Singlemode ST, 1310nm, 40km |
| | | | | | | 2GSST70 | 2GSST70 | 2 x 1000 LX Singlemode ST, 1550nm, 70km |
| | | | | | | 2GSSC10 | 2GSSC10 | 2 x 1000 LX Singlemode SC, 1310nm, 10km |
| | | | | | | 2GSSC40 | 2GSSC40 | 2 x 1000 LX Singlemode SC, 1310nm, 40km |
| | | | | | | 2GSSC70 | 2GSSC70 | 2 x 1000 LX Singlemode SC, 1550nm, 70km |

†Ports 17 and 18 must either be Singlemode or Multimode and not mixed.
Connector type must also be the same i.e. SC/ST cannot be combined with SFP or RJ45
†Ports 19 and 20 must either be Singlemode or Multimode and not mixed.
Connector type must also be the same i.e. SC/ST cannot be combined with SFP or RJ45
SFP** SFP's to be ordered separately

Example Order Code: IES20GF-HV-HV-D-8RJ45-8RJ45-2MMST-2SSC15-C1-F3.07
Description: 20 Port Gigabit Switch, Dual Input 88-370VDC or 85-264VAC, DIN Rail Mount, 16x10/100Base
TX Ports, 2 x 100FX Multimode ST, 2 x 100FX Singlemode SC, 15Km 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 |