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Data Sheet

iES10GF

Intelligent 10 Port Managed Gigabit Ethernet Switch
IEC61850 and IEEE1613 Compliant

Product Overview

The iES10GF is an intelligent 10 port managed Gigabit Ethernet switch with 7 x 10/100Base-T(X) RJ45 ports, up to 3 x 10/100/1000Base-T(X) RJ45 ports, up to 3 Combo of 10/100/1000Base-T(X) RJ45 and 100/1000Base-X ports, and up to 2 x 100/1000Base-X SFP ports. The switch is IEC61850-3 and IEEE1613 compliant.

The iES10GF provides redundancy support through functions such as STP/RSTP/MSTP assuring protection of all mission critical network applications. iES10GF can be managed via the Web UI, iManage Software Suite, Telnet, and Console (CLI)/ SSH v2.

The switch is made of IP-40 galvanized steel and has a wide operating temperature range from -40°C to +85°C, which is suitable for the harshest of environments without the use of fans.

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Features

Table 1. Features

Feature
Supports: - STP / RSTP / MSTP   - LLDP (Link Layer Discovery Protocol)   - Modbus TCP   - VLAN Priority—supports priority-tagged frames to be received by specific IEDs   - HTTPS / SSH v2   - SNTP for synchronizing the switch's clock
IGMP v2 / v3 (IGMP Snooping)
SNMP v1 / v2c / v3
RADIUS for 802.1x authentication TACACS+ for user login authentication
Supports DDM (Digital Diagnostic Monitoring) function for SFP modules
Multiple alarm notification methods
Configurable by Web UI, Telnet, Console(CLI), iManage software running on Windows 10, NT /2000/ XP/2003/VISTA/7
DIN rail and panel mount

Product Specifications

Table 2. Technical Specification

Description	Specification
10/100Base-T(X) RJ45	7
1 X 10/100/1000Base-T(X) RJ45	Up to 3
Combo 10/100/1000Base-T(X) RJ45 and 100/1000Base-X	Up to 3
100/1000Base-X SFP	Up to 2
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable: 9600 bps, 8, N, 1
Warning / Monitoring System	Relay output for fault event alarming 2 alarm warning methods for system events supported: • SYSLOG with server / client structure; recording and viewing events in the System Event Log • SMTP for notification via email Event selection per port
Alarm	Relay output to carry capacity of 1 A at 24 VDC
Technology	
MAC Table	8K
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 µs Switching bandwidth: 7.4 Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 32 Port rate limiting: User Defined
Security Features	• STP/RSTP/MSTP • RADIUS for 802.1x authentication • TACACS+ for user login authentication • Port based network access control (NAS) 802.1x • VLAN (802.1 Q) for segregation and securing network traffic enabled by GVRP • SNMPv3 authentication and privacy encryption • Management Security • Port security and MAC Blacklist • IP Guard • HTTPS / SSH v2 • Web and CLI authentication and authorization

Description	Specification
Software Features	• Web or CLI based Management (RS-232 Serial Console or Telnet / SSH v2) • HTTPS • DHCP Server /Client / Relay • VLAN—Port-based (untagged) and 802.1Q (tagged) • Supports SNMPv1/v2/v3 • Traffic Prioritization—QoS, Port-based Priority, COS/802.1p, TOS/ DSCP • Multicast traffic—IGMP Snooping (IGMP v2 / v3), MVR, Static Multicast Filtering • Warnings (SYSLOG and SMTP), Fault Alarm (power and ports failure), and Event Selection • Monitoring and Diagnostics—MAC Table and Port Statistics, Counters, and Monitoring, System Event Log, Traffic Monitoring, and Ping • SNTP for synchronizing of clocks over network
Network Redundancy	• STP/ RSTP/ MSTP, Fast Recovery, Dual Port Recovery, and Ring
Physical Characteristics	
Enclosure	IP-40 Galvanized Steel
Dimensions (W x D x H)	133.7 (W) x 159.4 (D) x 203 (H) mm (5.27 x 6.28 x 8.00 inches) panel mount 133.7 (W) x 167.1 (D) x 173.2 (H) mm (5.27 x 6.58 x 6.82 inches) DIN rail
Weight (g)	~2.3 kg
Power	
Input Power	Redundant Power Supplies: Dual Input 10-48VDC, Dual Input 36-75VDC, or Dual Input 110-370VDC or 90-264VAC
Power Consumption (Typ.)	12 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Internal

Table 3. Compliance Specifications

| Type	Standards
Electromagnetic Emissions	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
Electromagnetic Immunity	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
Industry Standards	IEC 61850-3, IEEE 1613
Safety Standards	EN60950-1
Operating Environment	-40ºC to +85ºC (-40º to 185ºF) (no fans) EN 60068-2-21
Storage Environment	-40ºC to +85ºC (-40º to 185ºF) EN 60068-2-14
Operating Humidity	5% to 95% Non-condensing EN 60068-2-30
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Warranty	5 years

Table 4. Standards and Management

Description	Specification		
IEEE Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3ab for 1000Base-T IEEE 802.z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.1D Spanning Tree Protocol IEEE 802.1w -2001 Rapid Spanning Tree Protocol (RSTP) IEEE 802.1D-2004 Rapid Spanning Tree Protocol (RSTP:2004) IEEE 802.1X-2010 Port Based Network Access Control IEEE 802.1AB – 2016 Station and Media Access Connectivity discovery (LLDP)		
RFC Compliance	• RFC 768: UDP • RFC 783: TFTP • RFC 791: IPv4 • RFC 792: ICMP • RFC 793: TCP • RFC 854: Telnet • RFC 959: FTP • RFC 1157: SNMP • RFC 1901,1902-1907 SNMPv2	• RFC 2273-2275: SNMPv3 • RFC 2571: SNMP Management • RFC 1166: IP Addresses • RFC 1643: Ethernet Interface MIB • RFC 2068: HTTP • RFC 2131, 2132: DHCP	• RFC 2817 Upgrading to TLS Within HTTP/1.1 • RFC 2818 HTTP Over TLS • RFC 3376: IGMP v3 • RFC 2474: DiffServ Precedence • RFC 3046: DHCP Relay Agent Information Option • RFC 3580: 802.1x RADIUS • RFC draft-ietf-opsawg-tacacs-09 -TACACS+

Dimensions

All dimensions are shown in inches.
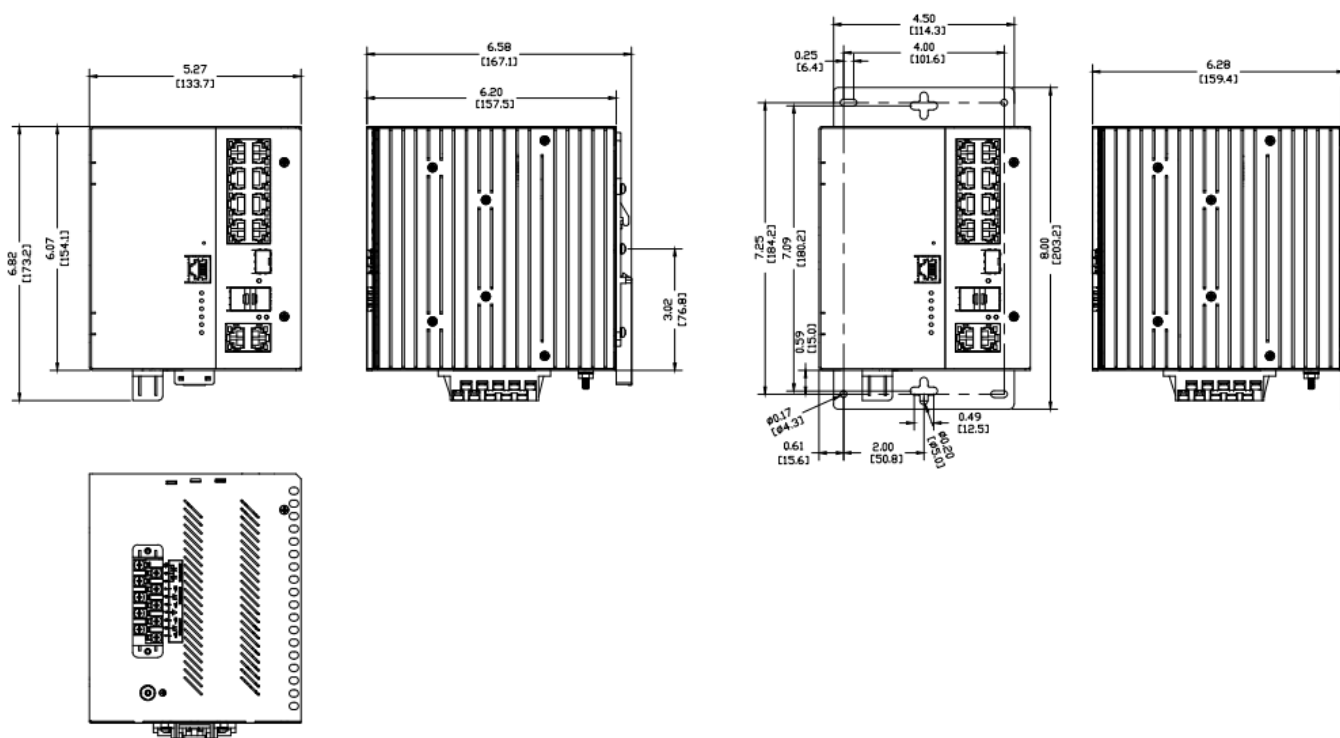
Ordering Information

Base	Power Supply 1	Power Supply 2	Mount	Ethernet Port 1-7 (8)*	Ethernet Port 9 & 10	Conformal Coating	Description
iES10GF	HV	LV	D	7RJ45&1GRJ45	2GRJ45	C1	
iES10GF	|	|	|	|	|	|	Managed core assembly and packaging
	|	XX	|	|	|	|	None
	LV	LV	|	|	|	|	Input 9-36VDC
	MV	MV	|	|	|	|	Input 36-75VDC
	HV	HV	|	|	|	|	Input 110-370VDC or 90-264VAC
			D	|	|	|	DIN Rail Mounting
			P	|	|	|	Panel Mounting
			N	|	|	|	No Mounting Hardware
				|	|	|	None
				7RJ45&1GRJ45	|	|	7 X 10/100Base-T(X) RJ45 and 1 X 10/100/1000Base-T(X) RJ45
				7RJ45&1GCX	|	|	Combo** 1 X 10/100/1000Base-T(X) RJ45 and 1 X 100/1000Base-X
					XX	|	None
					2GRJ45	|	2 X 10/100/1000Base-T(X) RJ45
					2GSFP	|	2 X 100/1000Base-X SFP
					2GCX		Combo** 2 X 10/100/1000Base-T(X) RJ45 and 2 X 100/1000Base-X
						C1	Conformal Coating

*Port 9&10 cannot be XX when 7RJ45&1GCX is selected

**Combo of the 2 ports available, only 1 Port can be used in combination

Example Order Code Description: **iES10GF-HV-LV-D-7RJ45&1GCX-2GRJ45-C1**

61850 10 Port Ethernet Switch with a combination of Gig ports, (Power Supply 1) Input 10-48VDC, (Power Supply 2) Input 9-36VDC, (Mount) DIN Rail Mounting, (Ethernet Port 1-8) 7 X 10/100Base-T(X) RJ45 and 1 X 10/100/1000Base-T(X) RJ45, (Ethernet Port 9 -10) 2 X 10/100/1000Base-T(X) RJ45, C1 - added for conformal coating.