iES12GP

## Industrial 12 Port Managed Gigabit PoE Ethernet Switch

Features

➜ 12 port switch with 8x10/100/1000base-T(X) PoE, IEEE 802.3 at compliance, providing up to 30 Watts per port

➜ Jumbo frame up to 9K Bytes

➜ Rapid Network Recovery: iRing (recovery time < 30ms over 250 units of connection),

➜ MSTP/RSTP/STP (IEEE 802.1s/w/D) for Ethernet Redundancy

➜ IPv6 support

➜ Supports SMTP client

➜ Supports IP-based bandwidth management

➜ Supports application-based QoS management

➜ Device Linking security function

➜ DOS/DDOS auto prevention

➜ PoE scheduled configuration and PoE auto-ping check function

➜ IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic

➜ SNMP v1/v2c/v3 support for network management

➜ RMON and 802.1Q VLAN network management

➜ Supports ACL, 802.1x User Authentication for security

➜ Multiple notifications for warning of unexpected events

➜ iManage Software Suite supports centralized management and is configurable via a Web-browser, Telnet, and Console(CLI)

➜ LLDP (Link Layer Discovery Protocol)

➜ IP-40 Galvanized Steel Housing

➜ DIN-Rail and wall mount
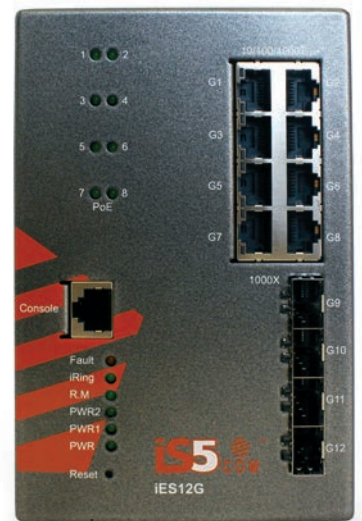
iS5 COMMUNICATIONS

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Introduction

The iES12GP is a Managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-TX ports that supports the PoE function and 4x1000Base-X SFP optional ports. With Ethernet Redundancy protocols such as iRing (recovery time < 30ms up to 250 Ethernet switches), and MSTP/RSTP/STP (IEEE 802.1s/w/D), the iES12GP protects your mission-critical applications from network interruptions or temporary malfunctions and restores connectivity with its fast network recovery technology. The unique Modular-Ring technology provides a means to complement and inter-operate with most third party proprietary ring technologies.

The iES12GP is backed by a fanless, IP-40 galvanized steel enclosure and a wide operating temperature range from -40 to +85oC to suit the most demanding of environments. This switch provides an advanced IP-based bandwidth management which limits the maximum bandwidth for each IP devices. Users can configure an IP camera and NVR with the required bandwidth and limit the bandwidth for other decoders. The iES12GP switch supports application-based QoS. Application-based QoS can set the highest priority for data streaming according to the TCP/UDP port number. iS5Com's switches special Device Linking function can permit only allowed IP addresses with a MAC address to access the network. Intruders will not be able to access the IP surveillance network without permission. Our switches also provided advanced DOS/DDOS auto prevention. If any IP flow gets too large in short period of time, the switch will lock the source IP address out for certain amount of time to prevent an attack. This hardware based prevention can prevent DOS/DDOS attacks in real-time. The iES12GP supports Power over Ethernet (PoE) to transmit electrical power, along with data to remote devices over a standard twisted-pair cable. Each iES12GP switch has 8x10/100/1000Base-T(X) PoE ports. All functions of the iES12GP can be managed centrally and conveniently by our powerful windows utility called the iManage Software Suite. Therefore, this switch is one of the most reliable choices for highly-managed Gigabit Fiber Ethernet applications.
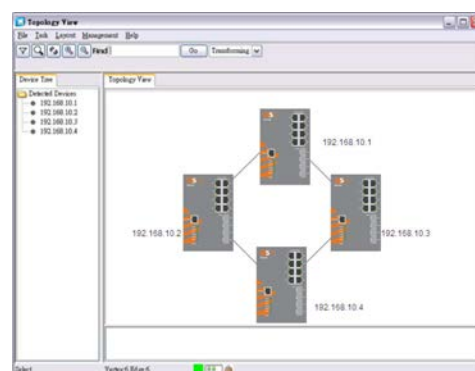
iManaged Software Suite
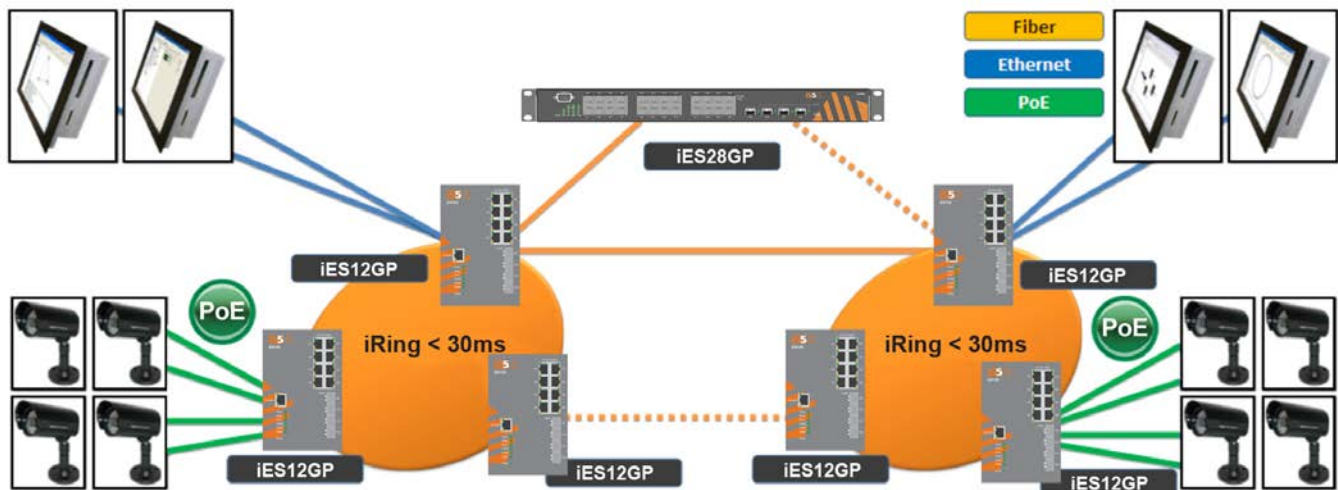
Fiber Network connection
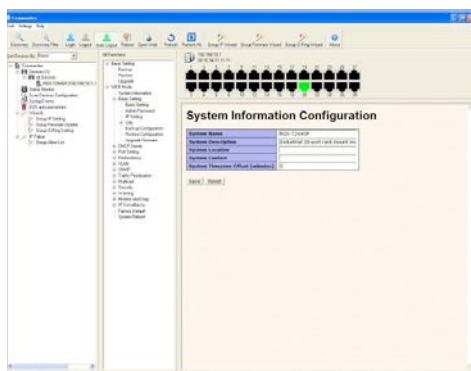
Monitoring and Configuration interface

Topology View

PoE Pin Definition

10/100Base-T(X) P.S.E. RJ-45 Port		1000Base-T P.S.E. RJ-45 Port	
RJ-45 Pin Definition		RJ-45 Pin Definition	
Pin No.	Description	Pin No.	Description
#1	TD+ with PoE Power input +	#1	BI_DA+ with PoE Power input +
#2	TD- with PoE Power input +	#2	BI_DA- with PoE Power input +
#3	RD+ with PoE Power input -	#3	BI_DB+ with PoE Power input -
		#4	BI_DC+
		#5	BI_DC-
#6	RD- with PoE Power input -	#6	BI_DB- with PoE Power input -
		#7	BI_DD+
		#8	BI_DD-

Specifications

| Model Number iES12GP	
Physical Ports	
10/100/1000Base-T(X) with P.S.E. ports in RJ45 Auto MDI/MDIX	8
1000Base-X SFP Port	4
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-TX IEEE 802.3z for 1000Base-X IEEE 802.3ab for 1000Base-T, 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) IEEE 802.3at PoE specification (up to 30 Watts per port for P.S.E.)
MAC Table	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 24Gbps Max. Number of Available VLANs: 256 IGMP multicast groups: 128 for each VLAN Port rate limiting: User Define
Jumbo Frame	Up to 9K Bytes

Security Features	Device Linking security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network 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 Snooping IP-based bandwidth management Application-based QoS management DOS/DDOS auto prevention Port configuration, status, statistics, monitoring, security DHCP Client/Server SMTP Client
Network Redundancy	iRing Fast Recovery Mode STP / RSTP MSTP
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 115200bps, 8, N, 1

LED Indicators

Power indicator	Green : Power LED x 3
R.M. indicator	Green : indicate system operated in iRingMaster Mode
Ring indicator	Green : indicate system operated in iRing Mode
Fault indicator	Amber : Indicate unexpected event occurred
10/100/1000Base-T(X) RJ45 port indicator	Green for port Link/Act.
PoE indicator	Green for PoE enable indicator
1000Base-X Fiber port indicator	Green for port Link/Act.

Fault Contact

Relay	Relay output to carry capacity of 1A at 24VDC

Power

Redundant Input power	Dual DC inputs. 50~57VDC on 6-pin terminal block
Power consumption (Typ.)	20Watts (power device not included)
Overload current protection	Present
Reverse polarity protection	Not Present

Physical Characteristic

Enclosure	IP-40 Galvanized Steel Housing
Dimension (W x D x H)	96.4 (W) x 108.5 (D) x 154 (H) mm (3.8 x 4.2.7 x 6.06 inch)
Weight (g)	1400g

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	
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
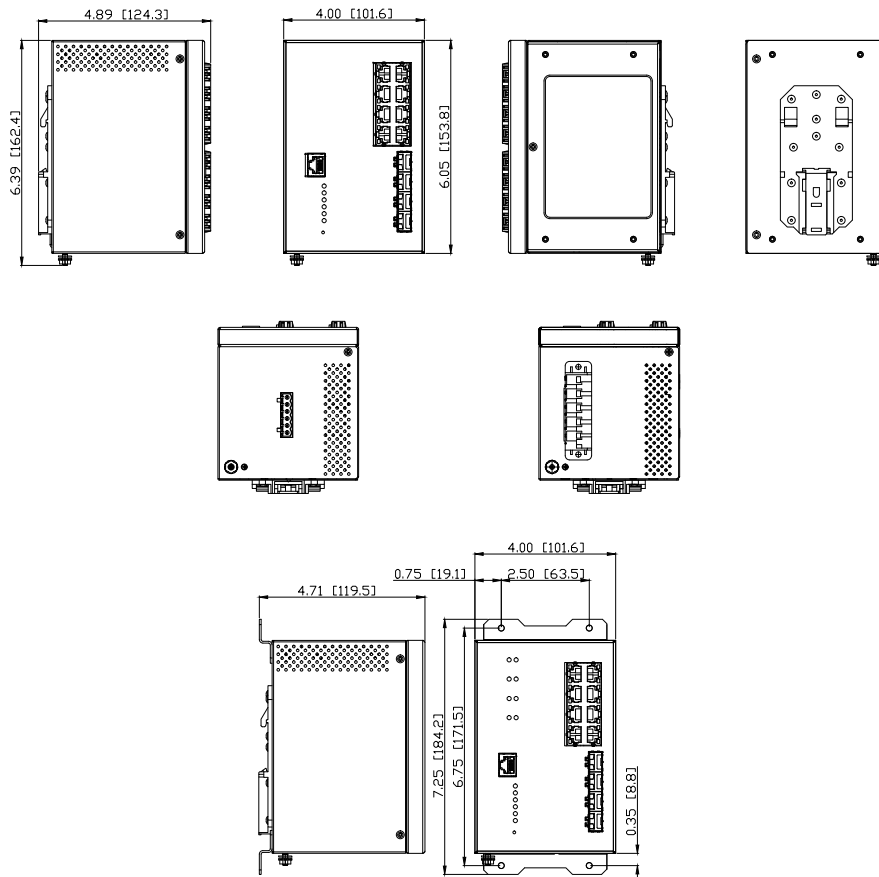
PANEL MOUNT
BRACKET INSTALLED AT REAR
SHOWN iES12GP

Ordering Information

Base	Power Supply	Mount	Ethernet Port 1-8	Ethernet Port 9-12	Description
iES12GP	MV	D	8GRJ45	4GSFP**	
iES12GP	|	|	|	|	Core assembly and packaging
	MV	|	|	|	Dual Input (50-57VDC)
		D	|	|	DIN Rail Mounting
		P	|	|	Panel Mounting
		N	|	|	No Mounting Hardware
			|	XX	None
			8GRJ45	XX	8 X 10/100/1000BaseTX RJ45
				4GSFP**	4 x 1000 BASE (X) SFP (Blank no SFP transciever)

Example Order Code: iES12GP-MV-D-8GRJ45-4GSFP**-C1-F3.07
Description: 12 Port Gigabit PoE Switch, Dual Input 50-57VDC, DIN Rail Mount, 8-10/100/1000Base TX PoE Ports,
4-1000Base-X SFP 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
SFP1000BID2-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
SFP1000BID2-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
SFP1000BID2-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
SFP1000BID2-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
SFP1000BID2-SM-80	SFP 1Gbps Bi-Directional Singlemode LC Transceiver 80km, TX1550 nm, RX1310nm, -40C - +85C