iES12G

## Intelligent 12 Port Managed Gigabit Ethernet Switch

Features

➜ 8 Gigabit RJ45 ports and up to 12 Gigabit SFP optional ports

➜ Supports Jumbo frame up to 9.6K Bytes

➜ Rapid Network Recovery: iRing recovery time <30ms up to 250 switches

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

➜ Supports IP v6

➜ Supports SMTP client

➜ Supports IP based bandwidth management

➜ Supports application based QoS management

➜ Supports ring linking security function

➜ Supports DOS/DDOS auto prevention

➜ Supports DDM (Digital Diagnostic Monitoring for SFP Ports 1 to 8)

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

➜ Supports SNMP v1/v2c/v3, RMON and 802.1Q VLAN Network Management

➜ Supports ACL, 802.1x User Authentication for security

➜ Multiple notification for warning of unexpected event

➜ iManage Softwae Suite supports centralized management and is configurable with a Telnet Concole (CLI) or a web-based browser

➜ Supports LLDP

➜ Rigid IP-40 galvanized steel housing
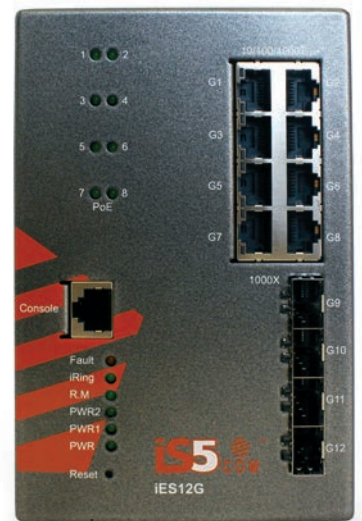
iS5 COMMUNICATIONS

SERVICES • SUPPORT • SECURITY • SOLUTIONS • SYSTEMS

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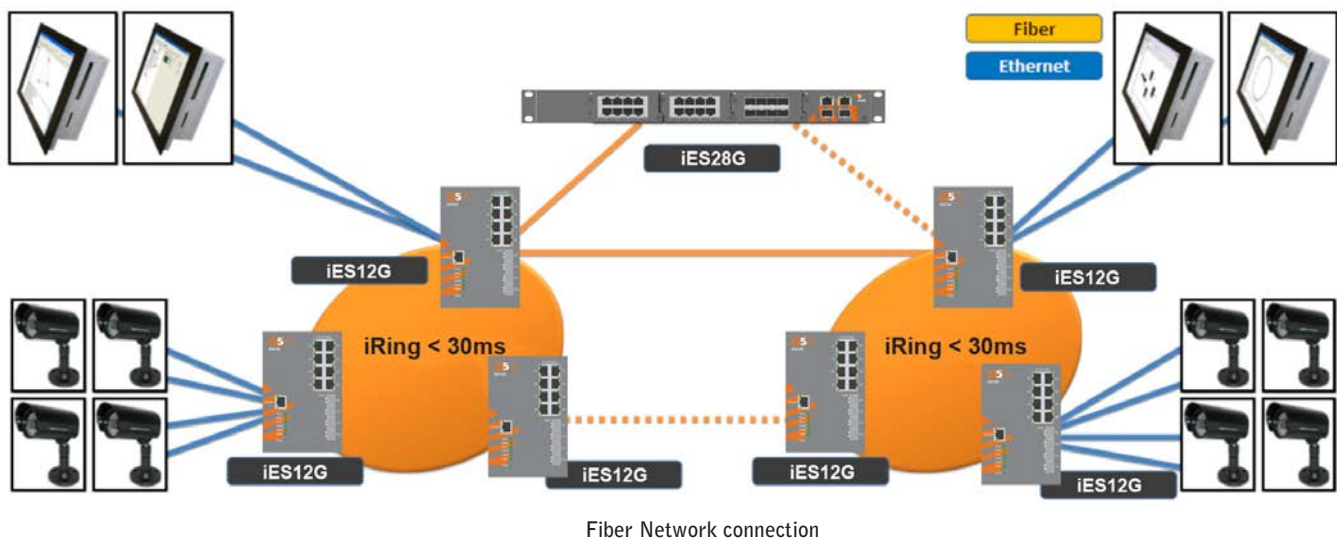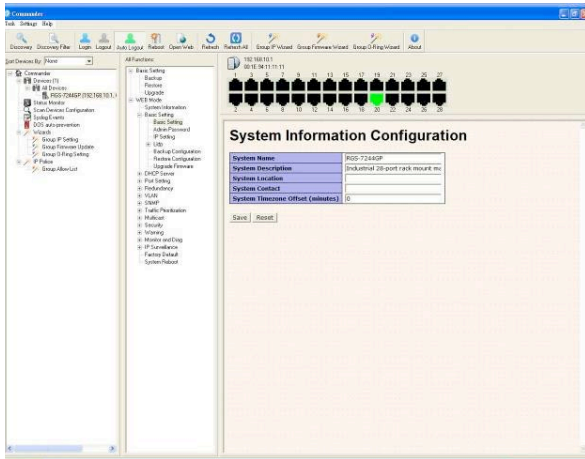#3-7490 Pacific Circle, Mississauga, Ontario, L5T 2A3

Introduction

The iES12G is a Managed Gigabit 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). The iES12G protects your mission-critical applications from network interruptions or temporary malfunctions to restore connectivity with its fast network recovery technology. With the iBridge technology, these switches can provide a means to complement and inter-operate with most third party proprietary ring technologies. The iES12G can be managed centrally and conveniently by our powerful windows utility called the iManage Software Suite.
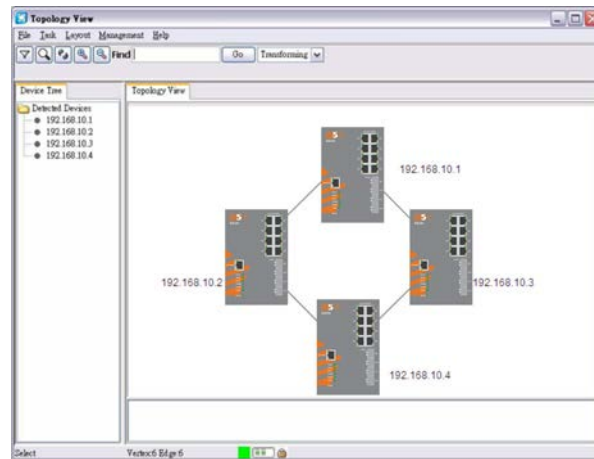
The iES12G is backed by a fanless, IP-40 galvanized steel enclosure and a wide operating temperature range of -40 to +85oC to suit the harshest of environments. This switch provides an advanced IP-based bandwidth management which limits the maximum bandwidth for each IP device. Users can configure an IP camera and NVR with the required bandwidth and limit the bandwidth for other decoders. The iES12G switch also supports application-based QoS. Application-based QoS can set the highest priority for data streaming according to the TCP/UDP port number. iS5Com's special 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 a short period of time, the switch will lock the source IP address out for a certain amount of time to prevent an attack. This hardware based prevention can prevent DOS/DDOS attacks in real-time. The iES12G can be managed centrally and conveniently by our powerful windows utility called 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

Specifications

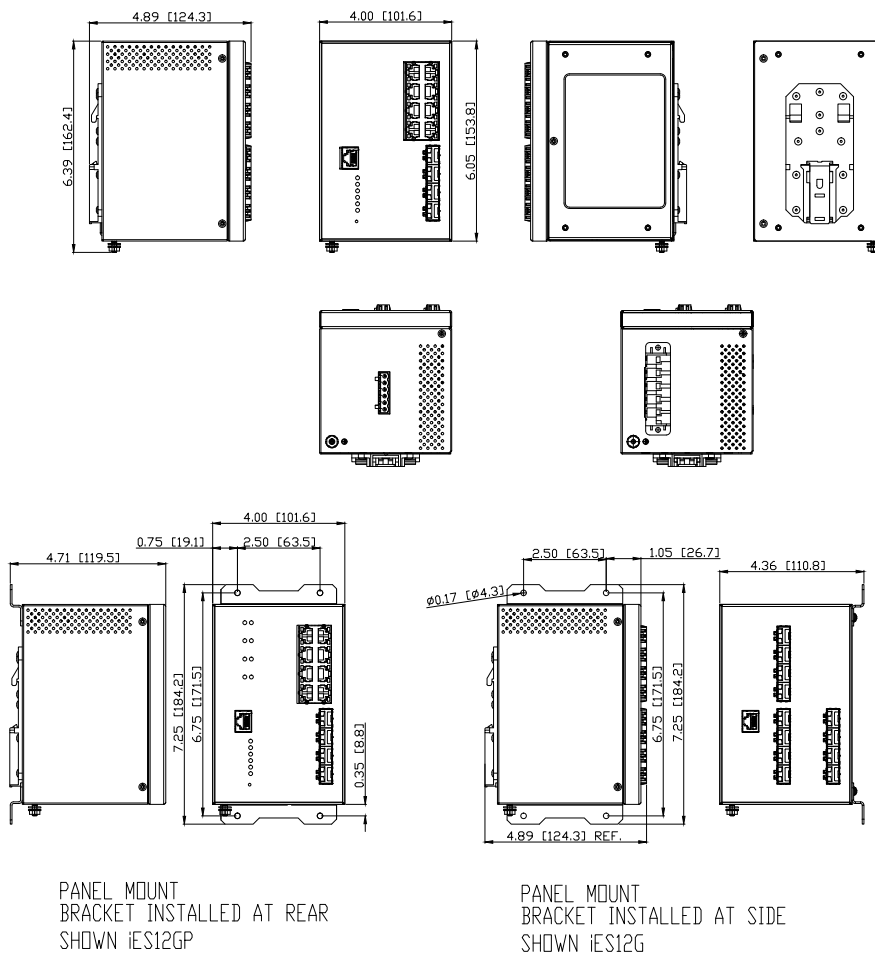| Model Number iES12G	
Physical Ports	
Ggiabit Combo Port with 10/100/1000Base-T(X) and 100/1000Base-X SFP ports	8
1000Base-X SFP Port	4
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3z for 1000Base-X IEEE 802.3ab for 1000Base-T IEEE 802.3x 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)
MAC Table	8k
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 24Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 128 for each VLAN Port rate limiting: User Define
Jumbo Frame	Up to 9.6K 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 ethernet switches 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 compatible MSTP
Warning / Monitoring System	Relay output for fault event alarming Syslog server / client to record and view events SMTP for event warning notification via email Event selection support
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. Amber for Duplex/Collision
SFP 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 10 to 48VDC, Dual DC Inputs 36-72VDC, or Single input universal supply 120-370VDC or 85-264VAC with a single 10-48VDC Backup
Power consumption (Typ.)	22 Watts
Overload current protection	Present
Reverse polarity protection	Internal

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)	1.4KG

Environmental

Storage Temperature	-40 to 85ºC (-40 to 185ºF)
Operating Temperature	-40 to 85ºC (-40 to 185ºF)
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

PANEL MOUNT
BRACKET INSTALLED AT SIDE
SHOWN iES12G

Ordering Information

Base	Power Supply	Mount	Ethernet Port 1-8	Ethernet Port 9-12	Description
iES12G	HV	D	8GRJ45	XX	
iES12G						Core assembly and packaging
	LV					Dual Input (10-48VDC)
	MV					Dual Input (36-72VDC)
	HV					Single Input 120-370VDC or 85-264VAC with Single 10-48VDC Backup
		D				DIN Rail Mounting
		P				Panel Mounting
		N				No Mounting Hardware
			XX	XX	None
			8GRJ45	XX	8 X 10/100/1000BaseTX RJ45
			8SFP**	XX	8 X 100/1000 BASE (X) SFP (Blank no SFP transciever)
				4SFP**	4 x 1000 BASE (X) SFP (Blank no SFP transciever)

iES12G-HV-D-8GRJ45-XX-C1-F3.07
Description: 12 Port Gigabit Switch, Single Input 120-370VDC or 85-264VAC with Single 10-48VDC Backup,
                DIN Rail Mount, 8-10/100/1000Base TX Ports, XX,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