

iES28G



www.iS5com.com

Intelligent 28 Port Managed Gigabit Ethernet Switch

Features

- Supports 24x10/100/1000Base-T(X) and 4x1000Base-X SFP ports
- Supports up to 9K Bytes Jumbo frame
- iRing (recovery time < 30ms over 250 units of connection), MSTP/RSTP/STP (IEEE 802.1s/w/D) for Ethernet Redundancy
- Supports IPV6 new internet protocol version
- Provides HTTPS/SSH protocol to enhance network security
- Supports SMTP client
- Supports IP-based bandwidth management
- Supports application-based QoS management
- Supports Device Linking security function
- Supports DOS/DDOS auto prevention
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Supports SNMP v1/v2c/v3, RMON and 802.1Q VLAN Network Management
- Support ACL, 802.1x User Authentication for security
- Multiple notifications for warning of unexpected events
- Web-based, Telnet, Console (CLI), and Windows utility (iManage Software Suite) configuration.
- Support for LLDP Protocol
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- 19 inches rack mountable



**128
BIT**
ENCRYPTION



iS5 COMMUNICATIONS

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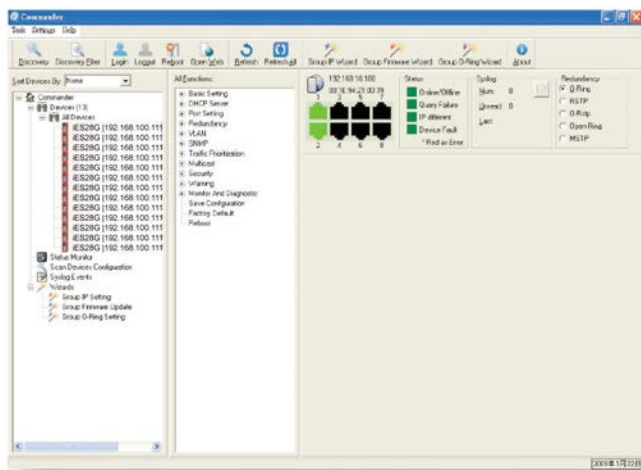
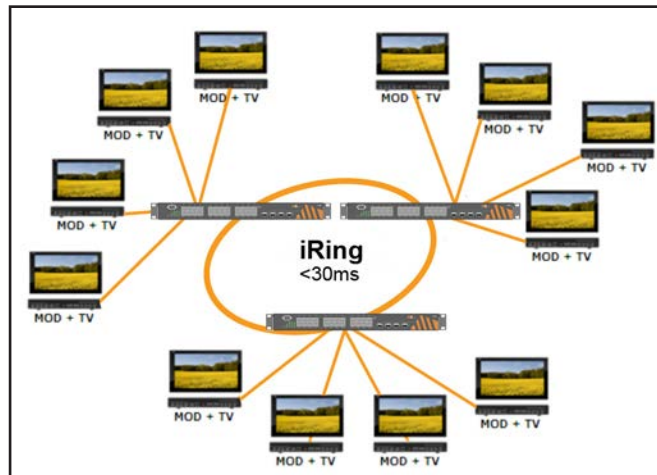


Introduction

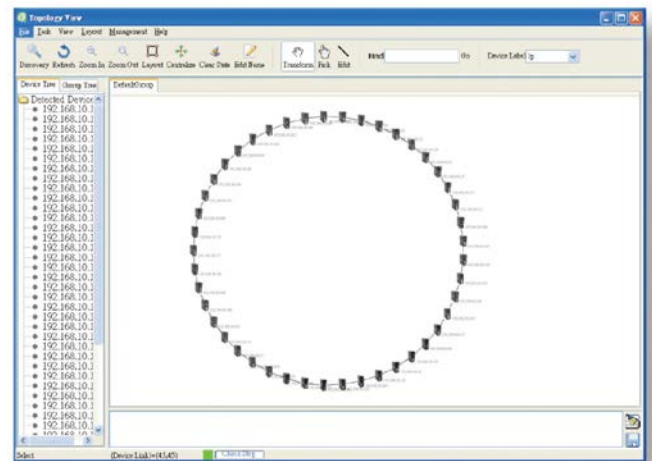
The iES28G is a managed Ethernet switch with Ethernet Redundancy protocols such as iRing (recovery time <30ms with up to 250 Ethernet switches), and MSTP/RSTP/STP (IEEE 802.1s/w/D). The iES28G can protect your mission-critical applications from network interruptions or temporary malfunctions to restore connectivity using its fast recovery technology. This iS5Com switch provides advanced IP-based bandwidth management, which can limit the maximum bandwidth of each IP device. Users can configure an IP camera and NVR with more bandwidth and limit the bandwidth of other devices. The iES28G switch supports application-based QoS. Application-based QoS can set highest priority for data stream according to TCP/UDP port number. The special Device Linking function allows only specific IP addresses with a MAC address to access the networking. The iES28G switch also provides for advanced DOS/DDOS auto prevention. If an IP flow gets too big in a short period of time, the switch locks the source IP address for a certain amount of time to prevent the attack. The switch can be managed centrally using the iManage Software Suite, as well as with a Web-based interface, Telnet and console (CLI) configuration. 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.

iManage Software Suite

The iManage Software Suite provides users a way to conveniently manage and monitor all of the industrial Ethernet switches on the network.



Monitoring and Configuration interface



Topology View



Specifications

Model Number iES28G	
Physical Ports	
10/100/1000 Base-T(X) Ports in RJ45 Auto MDI/MDIX	24 Max.
1000Base-X SFP Port	4 Max.
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.z for 1000Base-X IEEE 802.3x for Flow control IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1D for STP (Spanning Tree Protocol) 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: 56Gbps 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 DB9 connector with console cable. 115200bps, 8, N, 1

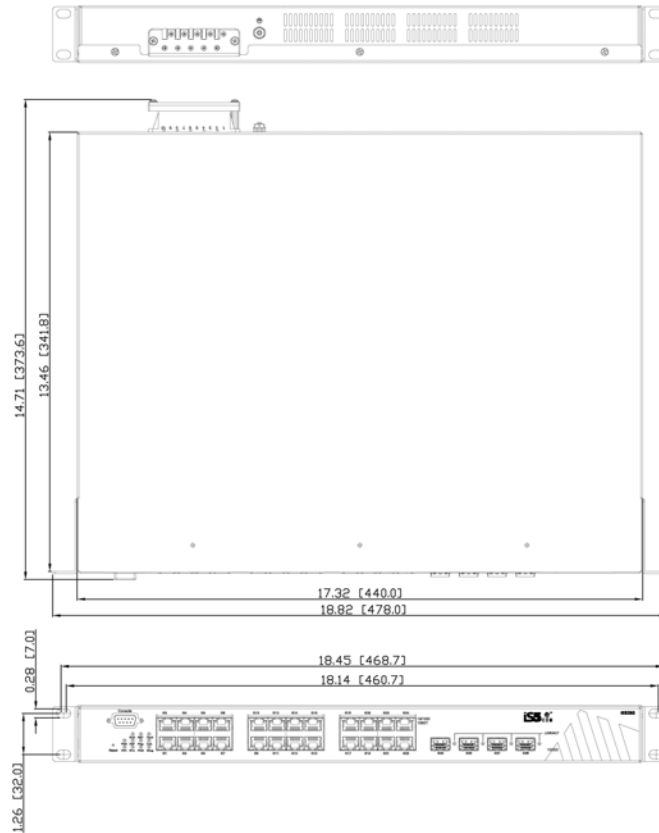


LED Indicators			
Power Indicator (PWR)	Green : Power indicator For AC		Green : Power indicator For AC and DC
Power-1 Indicator (PW1)	Green : Indicate Power-1 input		
Power-2 Indicator (PW2)	Green : Indicate Power-2 input		
System Ready Indicator (STA)	Green : Indicates that the system is ready. Blinking while the system upgrades firmware		
Ring Master Indicator (R.M.)	Green : Indicates that the system is operating in iRing Master mode		
iRing Indicator (Ring)	Green : Indicates system is operating in iRing mode. Blinking indicates the Ring is broken.		
Fault Indicator (Fault)	Amber : Indicates unexpected event occurred		
System Running Indicator (RUN)	Green : System operated continuously		
Supervisor Login Indicator (RMT)	Green : System is accessed remotely		
Reset To Default Running Indicator (DEF)	Green : System reset to default configuration		
Ping Command To The Switch Indicator (Ping)	Green : System is processing "PING" request		
10/100/1000Base-T(X) RJ45 Port Indicator	Left LED - Green for 1000Mbps, and Amber for 10/100Mbps, Right LED - Amber for full-duplex		
1000Base-X SFP Port Indicator	Green for port Link/Act.		
Fault Contact			
Relay	Relay output to carry capacity of 1A at 24VDC		
Power			
Redundant Input Power	Dual 18 ~ 36VDC	Dual 36 ~ 72VDC	Dual 88 ~ 300VDC/85 ~ 264VAC
Power Consumption (Typ.)	36 Watts Max.		
Overload Current Protection	Present internally		
Physical Characteristic			
Enclosure	IP 40 Galvanized Steel Housing		
Dimension (W x D x H)	443 (W) x 342 (D) x 44 (H) mm (17.46 x 13.46 x 1.73 inch)		
Weight (g)	4250g		
Environmental			
Storage Temperature	-40°C to 85oC (-40°F to 185oF)		
Operating Temperature	-40°C to 85oC (-40°F to 158oF)		
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		
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 17-24	Ethernet Port 25-26	Ethernet Port 27-28	Description
iES28G	LV	LV	R	8GRJ45	8GRJ45	8GRJ45	2GSFP**	2GSFP**	
iES28G									Core assembly and packaging
	XX	XX							None
	LV	LV							24VDC (18-36VDC)
	MV	MV							48 VDC (36-72VDC)
	HV	HV							88-300VDC or 85-264VAC
			R						19" Rack Mount
			P						Panel Mounting
			N						No Mounting Hardware
				XX	XX	XX			None
				8GRJ45	8GRJ45	8GRJ45			8 X 10/100/1000Base TX RJ45
							XX	XX	None
							2GSFP**	2GSFP**	2 X 1000Base (X) SFP (Blank, no transceivers)

SFP** SEE ACCESSORIES FOR SFP TRANSCEIVER PRICING

Example Order Code: iES28G-LV-LV-R-8GRJ45-8GRJ45-8GRJ45-2GSFP**-SGSFP**-C1-F3.07

Description: 28 Port Gigabit Switch, Single Input Power Supply 1: 24VDC, Single Input Power Supply 2: 24VDC, Rack Mount, 8x10/100/1000Base-T(X) Ports, 8x10/100/1000Base-T(X) Ports, 8x10/100/1000Base-T(X) Ports, 2x100/1000Base-(X) SFP**, 2x100/1000Base (X) SFP**, 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