iES26G

## Intelligent 26 Port Managed Gigabit Ethernet Switch IEC 61850-3 and IEEE 1613

Features

➡ Suitable for Substation Automation Applications

➡ Rapid Network Recovery: iRing (recovery time <30ms up to 250 Ethernet Switches)

➡ iBridge is a unique feature that supports third party ring technologies

➡ MSTP/RSTP/STP (IEEE 802.1s/w/D)

➡ Secure ACL supported

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

➡ Port Trunking for bandwidth management

➡ SNMP v1/v2c/v3 support for secure network management

➡ Supports LLDP (Link Layer Discovery Protocol)

➡ Port lock to prevent access from unauthorized MAC addresses

➡ Event notification through Syslog, Email, SNMP trap, and Relay Output

➡ iManage Software Suite supports centralization management and is configurable via a Webbrowser, Telnet, Console (CLI)

➡ Isolated Dual Redundant Power Supply Inputs with 12-36VDC or 36-72VDC or 100-240VAC power supply range

➡ 19 inch rack mountable

➡ Up to 24x10/100Base-T(X) Ports

➡ 2 Gigabit SFP or RJ45 Optional Ports

56 BIT ENCRYPTION

RoHS Compliant

CE FC
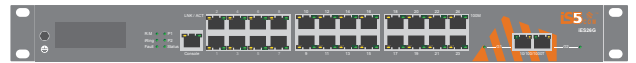
iS5 COMMUNICATIONS

SERVICES • SUPPORT • SECURITY • SOLUTIONS • SYSTEMS

Tel: +905-670-0004
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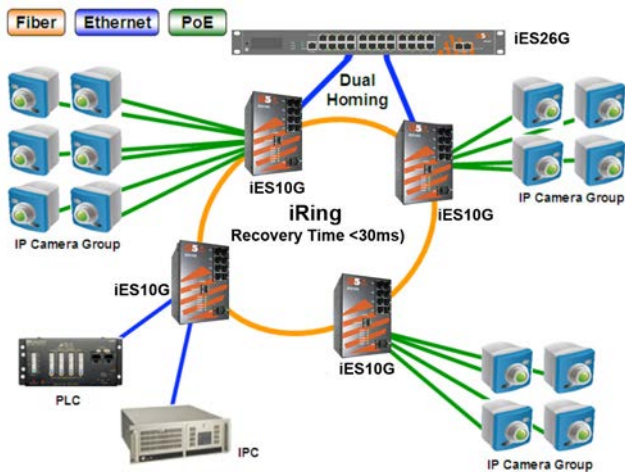#3-7490 Pacific Circle, Mississauga, Ontario, L5T 2A3

Introduction

The iES26G switch is a 26-port rack mount highly redundant Managed Gigabit Ethernet Switch, designed for the demanding environments required for power substation and rolling stock applications. The iES26G complies with IEC61850-3 and IEEE1613 standards. 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 iES26G can protect all mission-critical applications from network interruptions and temporary malfunctions to restore connectivity quickly. The iBridge technology allows these switches to provide a means to complement and inter-operate with most third party proprietary ring technologies. The iES26G switch can be managed centrally and conveniently by our powerful windows utility called the iManage Software Suite.
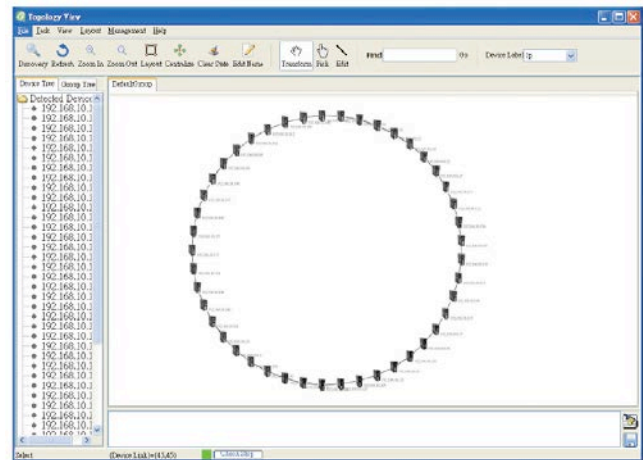
The iES26G switch provides a multi power, dual input, redundant design providing a combination of DC and/or AC inputs ensuring continuous operation. An IP-40 galvanized steel, fanless enclosure, and a wide operating temperature range of -40oC to +85oC to suit the harshest of environments. An additional relay output is provided for system alarm warning.
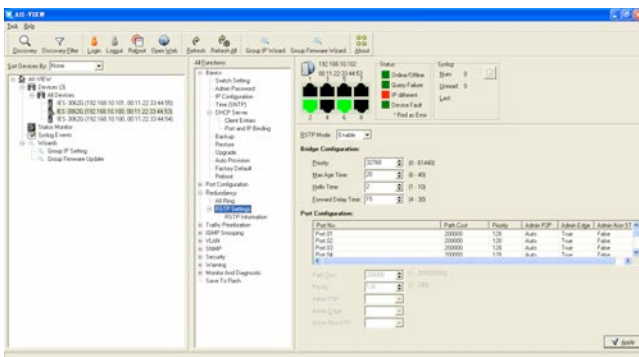
iManage Software Suite

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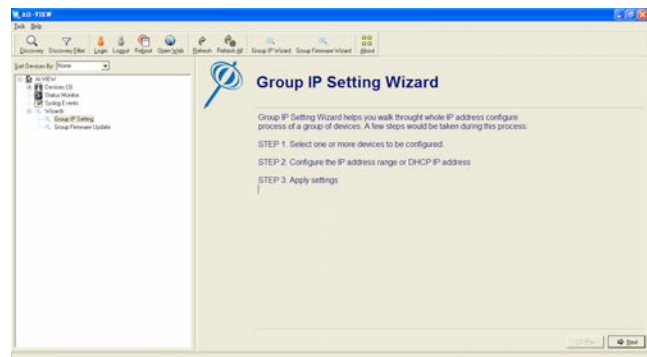

Network connection

Topology View

Monitoring and Configuration interface

Specifications

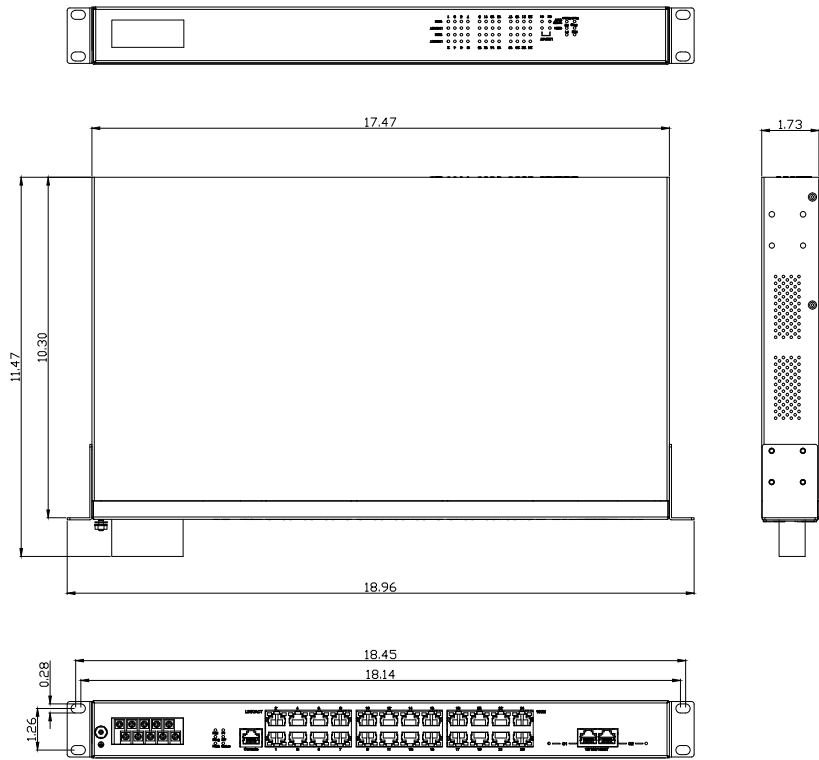| Switch Model	iES26G
Physical Ports	
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	24
Gigabit combo port with 10/100/1000Base-T(X) and/or 1000Base-X SFP	2
RS-232 Serial Console Port in back	RS-232 console cable. 9600bps, 8, N, 1
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3z for 1000Base-X 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 bandwidth : 8.8Gbps Max. Number of Available VLANs:4096 IGMP multicast groups: 1024 Port rate limiting: User Define
Security Features	Enable/disable ports, MAC based port security ACL supported Port based network access control (802.1x) VLAN (802.1q) to segregate and secure network traffic 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 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 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		
LED Indicators In Front And Back			
Power indicator	Green: Power LED x 2		
System Ready Indicator	Green: Indicate system ready. Blinking for system is upgrading firmware.		
Ring Master Indicator	Green: Indicate system operated in iRing Master mode		
iRing Indicator	Green: Indicate system operated in iRing mode Blinking to indicate Ring is broken.		
Fault indicator	Amber: Indicate unexpected event occurred		
10/100Base-T(X) RJ45 port indicator	Green at left for port Link/Act. Amber at right for 100Mbps indicator		
10/100/1000Base-T(X) RJ45 port indicator with combo port	Green at down for port Link/Act		
1000Base-X SFP port indicator with combo port	Green at up for port Link/Act		
Fault Contact			
Relay	Relay output to carry capacity of 1A at 24VDC		
Power			
Redundant Input power	12 ~ 36VDC power inputs	36 ~ 72VDC power inputs	88 ~300VDC/100 ~ 240VAC power inputs
Power consumption (Typ.)	TBD	TBD	18 Watts
Overload current protection	Present	Present	Present on terminal block
Physical Characteristic			
Dimension (W x D x H)	443.7(W) x 262.7(D) x 44(H) mm (17.46 x 10.34 x 1.73 inch)		
Enclosure	IP-40 Galvanized Steel Housing		
Weight (g)	4 Kg		
Environmental			
Storage Temperature	-40oC to 85oC (-40oF to 185oF)		
Operating Temperature	-40oC to 85oC (-40oF to 185oF) No fans		
Operating Humidity	5% to 95% Non-condensing		
Regulatory Approvals			
Power Automation	IEC 61850-3, IEEE 1613		
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)		
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-11		
Warranty			
Warranty	5 Years		

Dimensions

All Dimensions are in Inches

17.47

1.73

11.47

10.30

18.96

18.45
18.14
0.28
1.26

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	Ethernet Port 26	Description
iES26G	HV	LV	R	8GRJ45	8GRJ45	XX	1GRJ45	1SFP**	
iES26G	|	|	|	|	|	|	|	|	Core assembly and packaging
	LV	LV	|	|	|	|	|	|	12-36VDC
	MV	MV	|	|	|	|	|	|	36-72VDC)
	HV	HV	|	|	|	|	|	|	88-300VDC or 100-240VAC
			R	|	|	|	|	|	Rack Mount
			P	|	|	|	|	|	Panel Mounting
			N	|	|	|	|	|	No Mounting Hardware
				|	XX	XX	|	|	None
				8GRJ45	8GRJ45	8GRJ45	|	|	8 X 10/100/1000Base TX RJ45
							XX	XX	None
							1GRJ45	1GRJ45	10/100/1000Base TX RJ45
							1SFP**	1SFP**	100/1000Base (X) SFP (Blank no SFP transciever)

Example order code: iES26G-HV-LV-R-8GRJ45-8GRJ45-XX-1GRJ45-1SFP**-C1-F3.07
Description: 26 Port Gigabit Switch, Single Input Power Supply 1: 88-300VDC or 100-240VAC, Single Input Power Supply 2:
                        12-36VDC, Rack Mount, 8-10/100/1000Base-T(X) Ports, 8-10/100/1000Base-T(X) Ports, XX, 1x10/100/1000Base-T(X),
                        1x1000Base-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
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