IGPS-9622DGP+-BT

Industrial 10-port Layer 2 Managed PoE++ Switch with 6x10/100/1GBase-T(X) P.S.E ports, 2x10/100/1G/2.5GBase-T(X) P.S.E ports with 2x1G/10GBase-X, SFP+ socket

Features

- Support 8-ports IEEE 802.3af/at/bt compliant PoE and total power budget is 240W with maximum **90W per port**
- Support 2-ports multi-G RJ45 up to **2.5Gbps** uplink
- Support **O-Ring** (recovery time < 30ms) and MSTP(RSTP/STP compatible) for Ethernet Redundancy
- **O-Chain** allow multiple redundant network rings
- Support Modbus TCP protocol
- Provided HTTPS/SSH protocol to enhance network security
- Support SMTP client and NTP server protocol
- Support IP-based bandwidth management
- Support application-based QoS management
- Support Device Binding security function
- Support DOS/DDOS auto prevention
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Support SNMP v1/v2c/v3 & RMON & 802.1Q VLAN Network Management
- Support ACL, TACACS+, RADIUS and 802.1X User Authentication for security
- Support 10K Bytes Jumbo Frame
- Syslog/SNMP Trap notification for warning of unexpected event
- Support DBU-01 backup unit device to quickly backup/restore configuration
- Web-based, SNMP v1/v2c/v3, Telnet, Console (CLI), and Windows utility (Open-Vision) configuration
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled





Introduction

IGPS-9622DGP+-BT is Layer-2 managed Gigabit Ethernet switch with 6x10/100/1000Base-T(X) P.S.E ports and 2x100/1G/**2.5G** Base-T(X) P.S.E ports plus 2x1G/10GBase-X SFP+ slots. The switch support Ethernet Redundancy protocol, O-Ring (recovery time < 30ms) and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. IGPS-9622DGP+-BT also support Power over Ethernet, a system to transmit electrical power up to **90 watts** with total 240 watts PoE budget, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each IGPS-9622DGP+-BT switch has 6x10/100/1000Base-T(X) P.S.E. (Power Sourcing Equipment) ports. P.S.E. and 2x100/1G/**2.5G** Base-T(X) P.S.E ports are a device (switch or hub for instance) that will provide power in a PoE connection. And support wide operating temperature from -40 degrees C to 75 degrees C. IGPS-9622DGP+-BT can also be managed centralized and convenient by Open-Vision, Except the Web-based interface, Telnet and console (CLI) configuration. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.

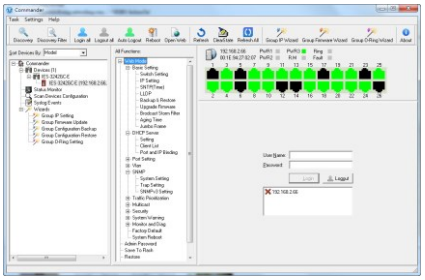
- **O-Ring :** O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- **O-Chain :** O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology. O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.
- **IP-based Bandwidth Management :** The switch provide advanced IP-based bandwidth management which can limit the maximum bandwidth for each IP device. User can configure IP camera and NVR with more bandwidth and limit other device bandwidth.
- **Application-Based QoS :** The switch also support application-based QoS. Application-based QoS can set highest priority for data stream according to TCP/UDP port number.

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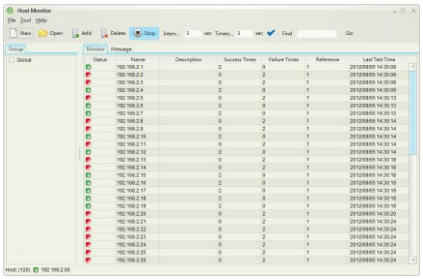
- **Device Binding Function :** ORing special Device Binding function can only permit allowed IP address with MAC address to access the network. Hacker cannot access the IP surveillance network without permission. It can avoid hacker from stealing video privacy data and attacking IP camera, NVR and controllers.
- **Advanced DOS/DDOS Auto Prevention :** The switch also provided advanced DOS/DDOS auto prevention. If there is any IP flow become big in short time, the switch will lock the source IP address for certain time to prevent the attack. It's hardware-based prevention so it can prevent DOS/DDOS attack immediately and completely.
- **Modbus TCP :** This is a Modbus variant used for communications over TCP/IP networks.

Open-Vision

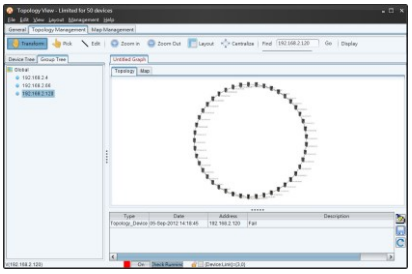
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Commander

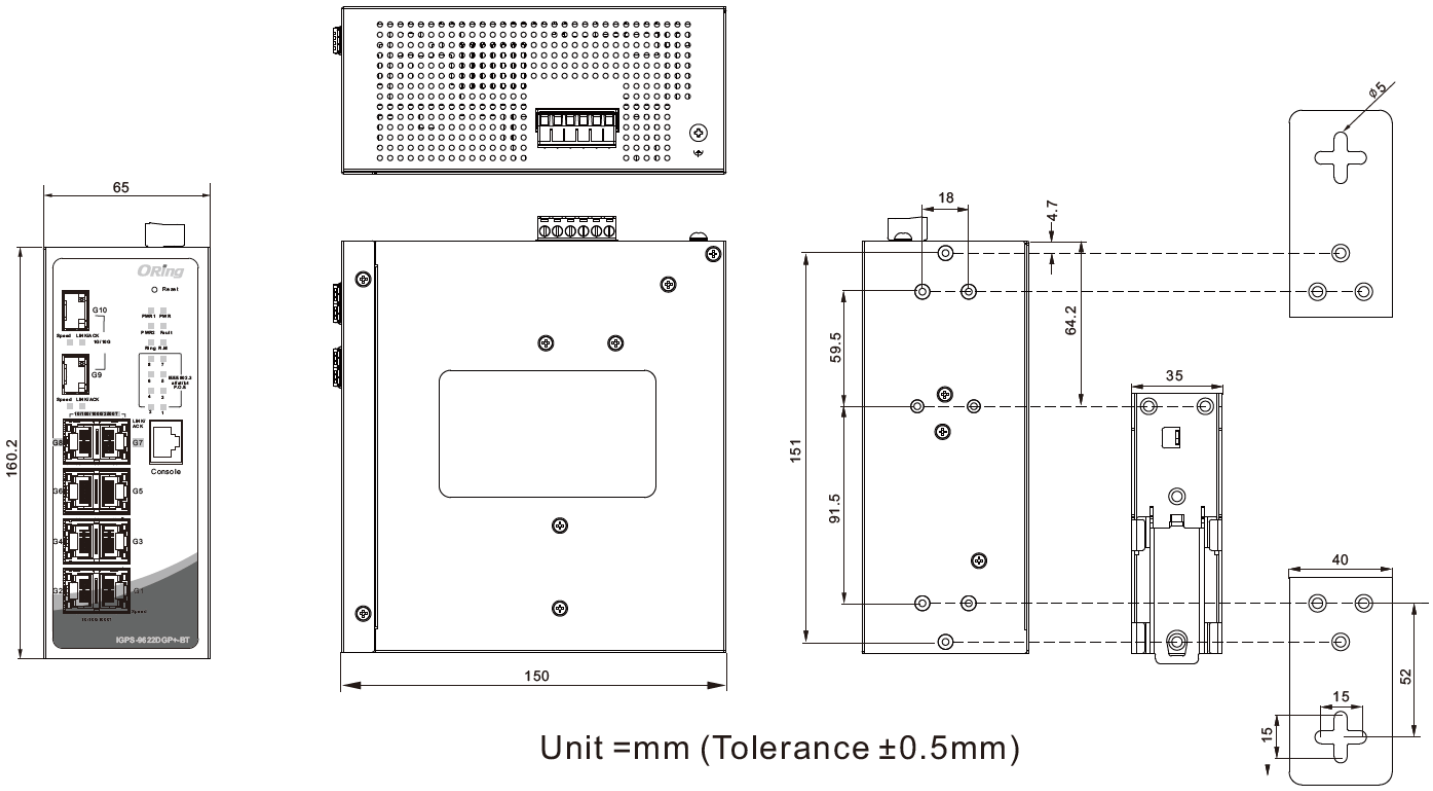


Host Monitor



Topology View

Dimensions



Unit =mm (Tolerance ±0.5mm)

PoE Pin Definition

Pin Definition / Pin No.	Data	IEEE 802.3af/at/bt (Type 1/2/3)		IEEE 802.3bt (Type 3/4)
		Mode A/Endpoint	Mode B/Midspan	
# 1	BI_DA+	PoE power output -	Unused	PoE power output -
# 2	BI_DA-	PoE power output -	Unused	PoE power output -
# 3	BI_DB+	PoE power output +	Unused	PoE power output +
# 4	BI_DC+ (for 1/2.5Gbps only)	Unused	PoE power output +	PoE power output +
# 5	BI_DC+ (for 1/2.5Gbps only)	Unused	PoE power output +	PoE power output +
# 6	BI_DC-	PoE power output +	Unused	PoE power output +
# 7	BI_DD+ (for 1/2.5Gbps only)	Unused	PoE power output -	PoE power output -
# 8	BI_DD- (for 1/2.5Gbps only)	Unused	PoE power output -	PoE power output -

Note: PoE++ Switch will auto detect PoE power input mode with PDs

Specifications

ORing Switch Model	IGPS-9622DGP+-BT
Physical Ports	
10/100/1000Base-T(X) with P.S.E Ports in RJ45 Auto MDI/MDIX	6
100/1G/2.5GBase-T(X) with P.S.E Ports in RJ45 Auto MDI/MDIX	2
1G/10GBase-X with SFP+ Slots	2
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 802.3bz for 2.5GBase-T IEEE 802.3ae for 10Gigabit Ethernet 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) IEEE 802.3af/at/bt PoE++ (Per port up to 90 watts Type-4 PoE output)
MAC Table	16K
Packet Buffer	8Mbits
Priority Queues	8, supports traffic classification based, strict and DWRR schedule mode
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 62Gbps Throughput (packet per second): 46.13Mpps@64Bytes packet Max. Number of Available VLANs: 4096 (ID Range: VID 1 to 4095) Port rate limiting: User Define
Jumbo Frame	Up to 10K Bytes
Security Features	Device Binding 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

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	RADIUS/TACACS+ centralized password management SNMPv3 encrypted authentication and access security HTTPS / SSH / SSL enhance network security DOS/DDOS auto prevention IP Source Guard Per port MAC limit control Access Control List DHCP Snooping
Software Features	Redundant Ring (O-Ring) with recovery time less than 30ms Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging, MAC-based VLAN, IP Subnet-based VLAN Private VLAN IGMP Snooping v1/v2/v3, up to 512 groups MLD Snooping v1/v2, up to 128 groups IP-based bandwidth management Application-based QoS management Port configuration, status, statistics, monitoring, security, description DHCP Server/Client/Relay SMTP Client Modbus TCP NTP server/client IEC61850
QoS	TOS/Diffserv supported CoS Application based QoS IP based bandwidth management
Network Redundancy	O-Ring O-Chain MSTP (RSTP/STP compatible)
PoE Management	PoE configuration PoE Status PoE Scheduling (turn on/off the PoE device) Auto-Ping check (Reboot PDs if there is no responses)
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 115200bps, 8, N, 1
Diagnosis/Monitor/Warning	Syslog, system log, cable diagnostic, SFP/SFP+ transceiver DDM
LED Indicators	
Power Indicator (PWR)	Green: Power LED x 3
Ring Master Indicator (R.M.)	Green: Indicates that the system is operating in O-Ring Master mode
O-Ring Indicator (Ring)	Green: Indicates that the system operating in O-Ring mode Green Blinking: Indicates that the Ring is broken.
Fault Indicator (Fault)	Amber: Indicate unexpected event occurred
10/100/1000Base-T(X) RJ45 Port Indicator	Link/ACT: Light with Green for Link indicator. Blinking with Green for act (data transmitted) Speed: Light with Green for 1000Mbps, Light with Amber for 100Mbps, Off for 10Mbps
100/1G/2.5GBase-T(X) RJ45 Port Indicator	Link/ACT: Light with Green for Link indicator. Blinking with Green for act (data transmitted) Speed: Light with Green for 1Gbps or 2.5Gbps, Light with Amber for 100Mbps
PoE Indicator	Green: Indicates that PoE port has PoE power output
1G/10GBase-X SFP Port Indicator	Link/ACT: Light with Green for Link indicator. Blinking with Green for act (data transmitted) Speed: Light with Green for 10Gbps, Off for 1Gbps
Fault Contact	
Relay	Relay output to carry capacity of 1A at 24VDC (pin 3 and 4 for 6-pin removeable terminal block)
Reset Function	
Reset Button	< 5 sec: System reboot, > 5 sec: Factory default
Power	
Redundant Input power	Dual DC inputs. 50-57VDC (6-pin removeable terminal block, power input 1: pin 1 and 2, power input 2: pin 5 and 6,): IEEE 802.3af PoE output @ 50-57VDC input, IEEE 802.3at PoE+ output @ 52-57VDC input, IEEE 802.3bt (Type 4) PoE++ output @ 55-57VDC input
Power Consumption (Typ.)	23.8 Watts without any PoE power output
Total PoE Power Budget	240 Watts (Max.), per PoE port up to max. 90 watts
Overload current protection	Present

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Reverse Polarity Protection	Not present, switch isn't working without any damaged
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	65 x 160.2 x 153.6mm/2.56 x 6.31 x 6.05 inch
Weight (g)	1377g
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 75 degrees C (-40 to 167 degrees F) @ 1G SFP transceiver installation -40 to 60 degrees C (-40 to 140 degrees F) @ 10G SFP+ transceiver installation
Operating Humidity	5% to 95% Non-condensing
Regulatory approvals	
EMC	CE EMC (EN 55024, EN 55032), EN50121-4 (compliant), FCC Part 15 B
EMI	EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, FCC Part 15 B class A
EMS	IEC/EN 61000-4-2 (ESD),IEC/EN 61000-4-3 (RS),IEC/EN 61000-4-4 (EFT),IEC/EN 61000-4-5(Surge),IEC/EN 61000-4-6 (CS) IEC/EN 61000-4-8(PFMF)
Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-31
Vibration	IEC 60068-2-6
MTBF	713020.68hours @ 25 degrees C
Warranty	5 years

Ordering Information

Available Model	Model Name	Description
	IGPS-9622DGP+-BT	Industrial 10-port Layer 2 Managed PoE++ Switch with 6x10/100/1GBase-T(X) P.S.E ports, 2x10/100/1G/2.5GBase-T(X) P.S.E ports and 2x1G/10GBase-X, SFP+ socket

Packing List

- IGPS-9622DGP+-BT x 1
- DIN-Rail Kit x 1
- ORing Tool CD Card x 1
- Wall-mount Kit x 2
- Quick Installation Guide x 1
- Console Cable x 1

Optional Accessories

- Open-Vision M500: Powerful Network Management Windows Utility Suit, 500 IP devices
- SFP 1G series: 1Gbps SFP optical transceiver
- SFP+ 10G series: 10Gbps SFP+ optical transceiver
- DR/SDR/DRP Series DIN-Rail power supply

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