

# IPGS-3008

## 8 10/100/1000T L2+ 8 PoE at/af Industrial Managed Ethernet Switch w/ Enhanced G.8032 Ring; Optional 12V

- Support IEEE802.3at/af up to 30W per port
- PoE management incl, Detection and Scheduling
- Enhanced G.8032 ring protection < 20ms for single ring. Supports enhanced mode and basic mode; Enhanced G.8032 ring covers multicast packets; MSTP 8 MSTI /RSTP
- Miss-wiring avoidance & node failure protection
- User friendly UI, including auto topology drawing; Complete CLI.
- Support LACP link aggregation, IGMP v3/router port, DHCP server & DHCP Option82; DHCP Snooping; Port based DHCP distribution, Mac based DHCP server, SSH v2/SSL, HTTPS, INGRESS ACL L2/L3
- Dual 9.5V~56VDC input (12V model) or Dual 44~56VDC input (48V model)
- Optional Environmental monitoring function to display inside switch info incl. temperature, voltage, current, power consumption



## OVERVIEW

Lantech IPGS-3008 is a high performance L2+ all Gigabit switch with 8 10/100/1000T w/8 PoE 802.3af/at Injectors which provides L2 wire speed and advanced security function for network aggregation deployment. It delivers ITU G.8032 enhanced ring recovery less than 20ms for single ring, comprehensive QoS, VLAN, GVRP, advanced security SSH v2/SSL, INGRESS ACL L2/L3, IGMPv1/v2/v3/router port, DHCP server/relay, jumbo frame which are important features required in mid and large network. It also supports Cisco Discovery Protocol (CDP) and LLDP for Ciscoworks to detect the switch info and to be shown on L2 map topology.

### **Miss-wiring avoidance, Node failure protection, Loop protection**

The IPGS-3008 also embedded several features for stronger and reliable network protection in an easy and intuitive way. When the pre-set ring configuration failed or looped by miss-wiring, Lantech IPGS-3008 is able to alert with the LED indicator and disable ring automatically. Node failure protection ensures the switches in a ring to survive after power breakout is back. The status can be shown in NMS when each switch is back. Loop protection is also available to prevent the generation of broadcast storm when a dumb switch is inserted in a closed loop connection.

### **User friendly GUI, Auto topology drawing**

The user friendly UI, innovative auto topology drawing and topology demo makes IPGS-3008 much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line.

### **Enhanced G.8032 ring, 8 MSTI MSTP**

Lantech IPGS-3008 features enhanced G.8032 ring which can be self-healed in less than 20ms for single ring topology protection covering multicast packets. It also supports various ring topologies that covers enhanced ring and basic ring by easy setup than others. It supports MSTP that allows each spanning tree for each VLAN for redundant links with 8 MSTI.

### **DHCP option 82 & Port based, Mac based DHCP, Option66, DHCP Snooping**

DHCP server can assign dedicated IP address by MAC or by port (Port based for single switch), it also can assign IP address by port for multiple switches with single DHCP option82 server. DHCP Snooping is supported. DHCP Option66 server can offer IP address of TFTP server to DHCP client for VOIP application.

### **GVRP supported**

It supports the GVRP for large VLAN segmentation.

### **IGMPv3, GMRP, router port, static multicast forwarding and**

**multicast Ring protection**

The unique multicast protection under enhanced G.8032 ring can offer immediate self-recovery instead of waiting for IGMP table timeout. It also supports IGMPv3, GMRP, router port and static multicast forwarding binding by ports for video surveillance application.

**Editable configuration text file; Factory reset button; CPU watchdog**

The configuration file of Lantech IPGS-3204MGSFP can be exported in text file so that it can be edited and configured back to switch with ease for mass deployment. Factory reset button can restore the setting back to factory default and built-in watchdog design can automatically reboot the switch when CPU is found dead. IPGS-3008 also supports dual image firmware function.

**Event log & message; 2 DI + 2DO**

In case of event, the IPGS-3008 is able to send an email to pre-defined addresses as well as SNMP Traps out immediately. It provides 2DI and 2DO. When disconnection of the specific port was detected; DO will activate the signal LED to alarm. DI can integrate the sensors for events and DO will trigger the alarm while sending alert information to IP network with email and traps.

**Relay alarm and email/trap alerting**

Featured with relay contact alarm function, the IPGS-3008 is able to connect with alarm system in case of power failure and port disconnection. In case of such event, it will send out email, trap alerting to predefined users.

**Dual 12V~48V input with boost technology to 54V PoE output for 12V model, PoE budget 60W**

Lantech IPGS-3008-12V is designed with dual input power at 9.5V~56VDC while IPGS-3008-48V allows with 44~56VDC input. The PoE budget for 12V input is 60W and for 24V input is 120W.

**Industrial hardened design for extended temperature operation**

Lantech IPGS-3008 provides  $\pm 2000V$  EFT/SURGE and  $\pm 4000$  VDC (Contact) /  $\pm 8000$  VDC (Air) Ethernet ESD protection, which can reduce unstable situation caused by power line and Ethernet. It has high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in factory, substation, steel automation, aviation, mining and process control. It is the best solution for Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory and assembly lines.

**Environmental monitoring for switch inside information**

The environmental monitoring can detect switch overall temperature, voltage and current where can send the SNMP traps, and email alert when abnormal.

The -E model can be used in extreme environments with an operating temperature range of  $-40^{\circ}C$  to  $75^{\circ}C$ .

**Editable configuration file**

The configuration file of Lantech IPGS-3008 can be exported and edited with word processor for the other switches configuration with ease.

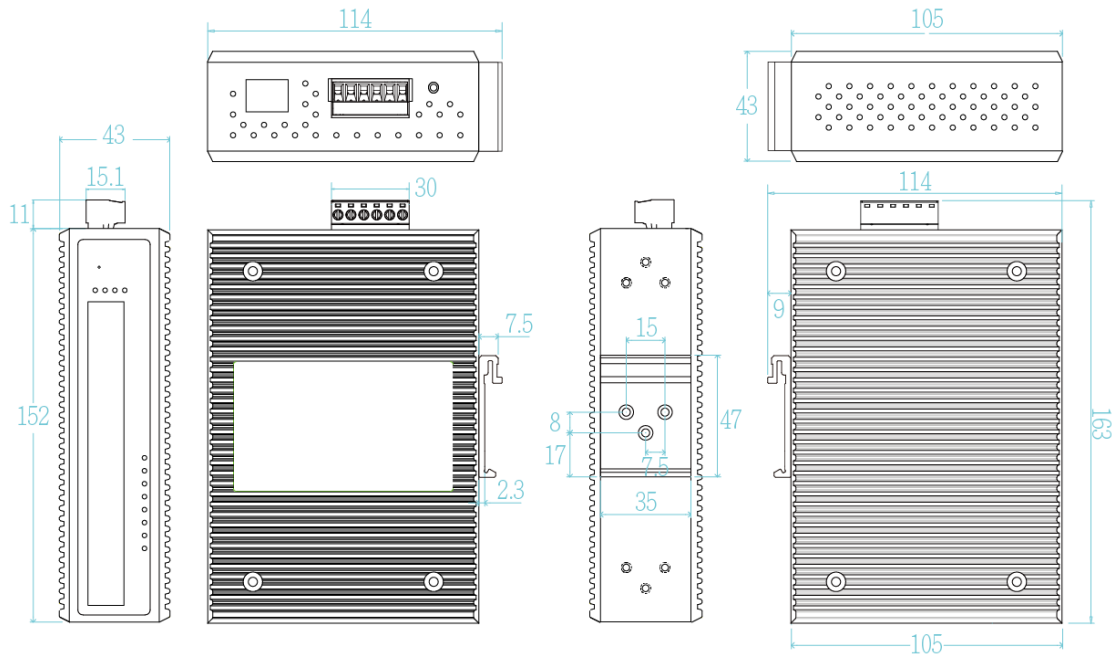
The built-in watchdog design can automatically reboot the switch when CPU is found dead.

## FEATURES & BENEFITS

- 8 10/100/1000T w/8 PoE 802.3af/at Injectors (Total 8 Ports Switch)
- Embedded 8 PoE Injectors IEEE802.3af/at function to feed power up to 30W@54V; 15W @ 48V per port for active operation
- Dual 9.5V~56VDC power input for 12V model with PoE budget 60W at 12V input, 120W at 24V input  
Dual 45V~56VDC power input for 48V model with PoE budget 240W
- PoE management including PoE detection and scheduling for PD (power devices)
- Back-plane (Switching Fabric): 16Gbps
- 16K MAC address table
- 10KB Jumbo frame supported
- User friendly UI, auto topology drawing, topology demo, complete CLI for professional setting
- Enhanced G.8032 Ring protection in 20ms (single ring)
  - Support various ring/chain topologies, including enhanced ring and basic ring
  - Enhanced G.8032 ring configuration with ease
  - Cover multicast and data packets protection
- Provides EFT/SURGE protection  $\pm 2000$  VDC for power line
- Supports  $\pm 4000$  VDC (Contact) and  $\pm 8000$  VDC (Air) Ethernet ESD protection
- Built-in RTC (Real Time Clock) to keep track of time
- Supports IEEE 802.1p Class of Service, per port provides 8 priority queues Port base, Tag Base and Type of Service Priority
- IEEE 802.1d STP, IEEE 802.1w RSTP, 802.1s MSTP VLAN redundancy with 8 MSTI
- 4K 802.1Q VLAN, Port based VLAN, GVRP
- Supports IEEE 802.1ab LLDP, Cisco CDP; LLDP info can be viewed via Web/ Console
- DHCP server / client / DHCP Option 82 relay / DHCP Option 82 server; Port based DHCP server; DHCP Snooping; DHCP option 66
- Bandwidth Control
  - Ingress packet filter
  - Broadcast/multicast packet filter control
- Relay alarm output system events
- Miss-wiring avoidance
  - LED indicator
- Node failure protection
  - Ensure the switches in a ring to survive after power breakout is back

- The status can be shown in NMS when each switch is back
- **TFTP/ HTTP firmware upgrade**
- **Configuration backup and restoration**
  - Supports editable configuration file for system quick installation
- **System Event Log, SMTP Email alert and SNMP Trap for alarm support; 32 RMON counters**
- **Security**
  - SSL/SSH v2/INGRESS ACL L2/L3
  - Port Security: MAC address entries/Filter/static MAC-Port binding
  - Remote Admin: IP address security management to prevent unauthorized intruder.
  - Login Security: IEEE802.1X/RADIUS
  - HTTPS for secure access to the web interface
- **Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application**
- **Multicast static forwarding for non- IGMP camera to prevent flooding; IGMP router port to assign query in ring and for reversed multicast video flow**
- **IGMPv1,v2,v3 with Query mode for multimedia; GMRP**
- **Dual image firmware support**
- **Factory reset button to restore setting to factory default**
- **Optional environmental monitoring for system input voltage, current, ambient temperature**
- **Watchdog design to auto reboot switch CPU is found dead**
- **IP30 metal housing with DIN rail and Wall-mount\*\* design**

**DIMENSIONS (unit=mm)**



**SPECIFICATION**

| Hardware Specification |  |
|------------------------|--|
| Standards              | IEEE802.3 10Base-T Ethernet<br>IEEE802.3u 100Base-TX<br>IEEE802.3ab 1000Base-T Ethernet<br>IEEE802.3z Gigabit fiber<br>IEEE802.3x Flow Control and Back Pressure<br>IEEE802.3ad Port trunk with LACP<br>IEEE802.1d Spanning Tree<br>IEEE802.1w Rapid Spanning Tree<br>IEEE802.1s Multiple Spanning Tree<br>IEEE802.3ad Link Aggregation Control Protocol (LACP)<br>IEEE802.1AB Link Layer Discovery Protocol (LLDP)<br>IEEE802.1X User Authentication (Radius)<br>IEEE802.1p Class of Service<br>IEEE802.1Q VLAN Tag<br>IEEE802.3at/af Power over Ethernet |
| Switch Architecture    | Back-plane (Switching Fabric): 16Gbps  |
| Transfer Rate          | 14,880pps for Ethernet port  |
| Flash                  | 148,800pps for Fast Ethernet port<br>1,488,000pps for Gigabit Fiber / Gigabit Ethernet port  |
| Mac Address            | 128M Byte  |
| Jumbo frame            | 16K MAC address table  |
| Connectors             | 10KB   |
| Network Cable          | 10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function<br>Power & Relay connector: 1 x 6-pole terminal block   |
| LED                    | 10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 cable<br>EIA/TIA-568 100-ohm (100m)<br>100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable<br>EIA/TIA-568 100-ohm (100m)<br>1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable<br>EIA/TIA-568 100-ohm (100m)  |
| Operating Humidity     | Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green)<br>Ethernet port: Link/Activity (Green), Speed (Amber); PoE: Link/Act (Green)   |
|                        | 5% - 95% (Non-condensing)  |

|                               |   |                                   |  |
|-------------------------------|---|-----------------------------------|--|
| Operating Temperature         | -20°C~60°C / -4°F~140°F (Standard model)<br>-40°C~75°C / -40°F~167°F(-E model)  | Class of Service                  | IPv4 Type of service, IPv4 Differentiated Services Code Points - DSCP<br>Support IEEE802.1p class of service, per port provides 8 priority queues  |
| Storage Temperature           | -40°C~85°C / -40°F~185°F  | Remote Admin                      | Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.  |
| Power Supply                  | 44~56VDC(48V model); 9.5V~56VDC(12V model)  | Login Security                    | Supports IEEE802.1X Authentication/RADIUS  |
| Power Consumption             | 10W   | Port Mirror                       | Support 3 mirroring types: "RX, TX and Both packet"  |
| PoE Budget                    | 240W for 44~56V input (48V model)<br>(54V input is recommended for PTZ or heater applications)<br>60W at 12V input ; 120W at 24V input (12V model)  | Network Security                  | Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.<br>802.1X access control for port based and MAC based authentication/static MAC-Port binding<br>Ingress ACL L2/L3<br>SSL/ SSH v2 for Management<br>HTTPS for secure access to the web interface         |
| PoE pin assignment            | RJ-45 port # 1~ # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W<br>Positive (VCC+): RJ-45 pin 1,2.<br>Negative (VCC-): RJ-45 pin 3,6.  | IGMP                              | Support IGMP snooping v1,v2,v3; 1024 multicast groups; IGMP router port ; IGMP query; GMRP   |
| Power Consumption             | 10W   | Static MAC-Port bridge            | Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application   |
| Case Dimension                | Metal case. IP-30, 43 (W) x 105 (D) x 152 (H) mm  | Bandwidth Control                 | Support ingress packet filter.<br>Ingress filter packet type combination rules are Broadcast/Multicast/Flooded Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all types of packet.<br>The packet filter rate can be set an accurate value through the pull-down menu for the ingress packet filter. |
| Weight                        | 660 g   | Flow Control                      | Supports Flow Control for Full-duplex and Back Pressure for Half-duplex  |
| Installation                  | DIN Rail and Wall Mount** Design  | System Log                        | Supports System log record and remote system log server  |
| EMI & EMS                     | FCC Part 15 Class A<br>IEC/EN61000-6-2<br>CE EN55032 Class A<br>CE EN55024: CE EN61000-4-2 (ESD) Level 3<br>CE EN61000-4-3 (RS) Level 3<br>CE EN61000-4-4 (EFT) Level 3<br>CE EN61000-4-5 ED3 (Surge) Level 3<br>CE EN61000-4-6 (CS) Level 3<br>CE EN61000-4-8 (Magnetic field) Level 3                   | SMTP                              | Supports SMTP Server and 8 e-mail accounts for receiving event alert   |
| Safety                        | EN62368 (LVD)   | Relay Alarm                       | Provides one relay output for port breakdown, power fail and alarm.<br>Alarm Relay current carry ability: 1A @ DC24V   |
| Stability Testing             | IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)  | Protection                        | <ul style="list-style-type: none"> <li>■ Miss-wiring avoidance</li> <li>■ Node failure protection</li> <li>■ Loop protection</li> </ul>  |
| MTBF                          | 791,695 Hrs (Standards: IEC 62380)  | SNMP Trap                         | Up to 10 trap stations; trap types including: <ul style="list-style-type: none"> <li>● Device cold start</li> <li>● Authorization failure</li> <li>● Port link up/link down</li> <li>● DI/DO open/close</li> <li>● Topology change(ITU ring)</li> <li>● Power failure</li> <li>● Environmental abnormal</li> </ul>         |
| Warranty                      | 5 years   | DHCP                              | Provide DHCP Client/ DHCP Server/DHCP Option 82 (Client & Server)/Port based DHCP; DHCP Snooping; DHCP option 66   |
| <b>Software Specification</b> |   | Mac based DHCP Server             | Assign IP address by Mac that can include dumb switch in DHCP network  |
| Management                    | SNMP v1 v2c, v3/ Web/Telnet/CLI   | DNS                               | Provide DNS Client feature and support Primary and Secondary DNS server.   |
| SNMP MIB                      | RFC 1213 MIBII<br>RFC 1158 MIBII<br>RFC 1157 SNMP MIB,<br>RFC 1573 IF MIB<br>Partial RFC 1757 RMON,<br>Bridge MIB,<br>LLDP MIB<br>Private MIB   | SNTP                              | Supports SNTP to synchronize system clock in Internet  |
| Enhanced G.8032 ring          | Support ITU G.8032 v2/2012 for Ring protection in less than 20ms for self-heal recovery (single ring enhanced mode)<br>Support various ring/chain topologies<br>Includes basic single ring and enhanced ring<br>Enhanced G.8032 ring configuration with ease<br>Cover multicast & data packets protection | Environmental Monitoring**        | System status for input voltage, current, consumption and ambient temperature to be shown in GUI and sent alerting if any abnormal status(-M models)   |
| PoE Management                | <ol style="list-style-type: none"> <li>1. PoE Detection to check if PD is hang up then restart the PD</li> <li>2. PoE Scheduling to On/OFF PD upon routine time table</li> </ol>  | Firmware Update                   | Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade  |
| Per Port PoE Status           | On/ Off, voltage, current, watts, temperature   | Configuration upload and download | Supports editable configuration file for system quick installation;<br>Support factory reset button to restore all settings back to factory default;<br>USB port for upload/download configuration by USB dongle   |
| User friendly UI              | <ul style="list-style-type: none"> <li>■ Auto topology drawing</li> <li>■ Topology demo</li> <li>■ Complete CLI for professional setting</li> </ul>   | Dual Image Firmware               | Support dual image firmware function   |
| Port Trunk with LACP          | LACP Port Trunk: 8 Trunk groups/Maximum 10 trunk members  |                                   |  |
| LLDP                          | Supports LLDP to allow switch to advise its identification and capability on the LAN  |                                   |  |
| CDP                           | Cisco Discovery Protocol for topology mapping   |                                   |  |
| VLAN                          | Port Based VLAN<br>IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.)<br>GVRP  |                                   |  |
| IPv6/4                        | Present   |                                   |  |
| RSTP/MSTP                     | Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree, IEEE802.1s Multiple Spanning Tree 8 MSTI  |                                   |  |
| Quality of Service            | The quality of service determined by port, Tag and  |                                   |  |

\*Future Release  
\*\* Optional Release

## ORDERING INFORMATION

- **IPGS-3008-48V.....P/N: 8350-986**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 44~56VDC input; -20°C to 60°C
- **IPGS-3008-48V-E.....P/N: 8350-987**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 44~56VDC input; -40°C to 75°C
- **IPGS-3008-M-48V.....P/N: 8350-9861**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 44~56VDC input w/environmental monitoring; -20°C to 60°C
- **IPGS-3008-M-48V-E.....P/N: 8350-9871**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 44~56VDC input w/environmental monitoring; -40°C to 75°C
- **IPGS-3008-12V.....P/N: 8350-988**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 9.5V~56VDC input; -20°C to 60°C
- **IPGS-3008-12V-E.....P/N: 8350-989**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 9.5V~56VDC input; -40°C to 75°C
- **IPGS-3008-M-12V.....P/N: 8350-9884**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 9.5V~56VDC input w/ environmental monitoring; -20°C to 60°C
- **IPGS-3008-M-12V-E.....P/N: 8350-9892**  
8 10/100/1000T w/8 PoE Mode A 802.3at/af 30W L2+ Industrial Managed Ethernet Switch;  
dual 9.5V~56VDC input w/ environmental monitoring; -40°C to 75°C

## OPTIONAL ACCESSORIES

### DIN Rail Power

- **NDR-480 Series** 480W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ;  
Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-240 Series** 240W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ;  
Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **NDR-120 Series** 120W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ;  
Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to  
derating curve on NDR-120 Series datasheet)
- **NDR-75 Series** 75W Single Output Industrial Din Rail Power; 90-264VAC / 127-370VDC Input Range; Cooling by free air convection; RoHS2 ;  
Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C; For 115VAC, please refer to  
derating curve on NDR-120 Series datasheet)

Lantech Communications Global Inc.

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