# I(P)GS-3208MGF

## 8 GE (w/PoE) + 2 2.5GE SFP+ L2+ NAT Router Switch



## OVERVIEW

The Lantech I(P)GS-3208MGF (OS2 Pro platform) is a compact router switch, offering a total PoE budget up to 240W (52V model), designed for 24V/52V input applications. It features 8 10/100/1000T + 2 1G/2.5G SFP ports, along with 8 PoE 802.3af/at Ethernet ports. The switch offers Layer 2 management, NAT, unique AUTO-FEED configuration, MQTT, advanced security functions and Health diagnostic snapshot maintenance to ensure reliable and easy onboard network deployment. Its WebGUI and complete CLI interface make configuration straightforward for all skill levels. Additionally, the OPEN API document format enhances central management efficiency, making it ideal for fleet management and AIoT applications.

***PoE budget up to 240W (52V model) for 8 Ports with PD detection, auto PD reboot, scheduling and PoE & Ethernet power input galvanic isolation; support Perpetual*/Fast PoE***

IPGS-3208MGF supports maximum PoE budget of 240W for 52V model, 120W for 24V and 80W for 24VI model with advanced PoE management features, including PoE auto-detection and scheduling. The PoE detection function can identify if a connected Powered Device (PD) becomes unresponsive and then auto-restart the PD. Moreover, PoE scheduling allows for a pre-set power feeding schedule based on a routine timetable. Each PoE port can be enabled or disabled, and it provides information on voltage, current, power (W), and temperature.

Perpetual* and Fast PoE provides immediate and continuous power to devices during PSE switch reboots.

Galvanic isolation between the power input and Ethernet power system enhances safety. Extra PoE galvanic isolation on 802.3at/af ports insulates the power input from PoE Ethernet ports, preventing damage from cabling and grounding incidents to the Ethernet switch.

***PoE models: Dual power 24Vdc/52Vdc input, high PoE budget***

The PoE model is designed with dual power supply at 12-57VDC input (24VI model) and can provide 80W PoE budget. 24V model can support dual power 12-57VDC and can provide 120W PoE budget, the 52V model can support dual power 52-57VDC input and can offer 240W PoE budget.

***Non PoE models: Dual power 24Vdc input voltage selection***

The non-PoE model is designed with dual power supply at 12-57VDC input (24VI model). The Ethernet galvanic isolation is built in.

***Comprehensive Network Protection Against DDoS and Layer 2 Threats***

Lantech OS2Pro generation integrates advanced security mechanisms to safeguard both switches and networks. Key features include DDoS attack mitigation, 802.1X port-based authentication, Dynamic ARP Inspection (DAI), IP Source Guard, and Port Security, providing multi-layer protection against spoofing, unauthorized access, and traffic floods. These security capabilities ensure stable, resilient network operation.

***Lantech OS2 PRO Platform with advanced L2 management and L3 routing protocols incl. OSPF and RIP V1&V2***

The switch developed on Lantech OS2 Pro platform is equipped with Layer 2 management and some Layer 3 routing protocols, including OSPF and RIP V1,V2. Engineered for diverse applications, this platform also supports a range of features such as NAT, Port forwarding, multiple Static IP address, DHCP server/option/client/relay/port based, VLAN, IGMP, RSTP/ G.8032 enhanced ring recovery, LACP etc.

***Support Open API document for Restful API for better switch performance***

The switch supports an OPEN API that uses JSON format to access and manipulate data using GET, PUT, POST, and DELETE methods, thereby avoiding the CPU utilization associated with traditional SNMP management.

***mDNS (Multicast DNS) and DNS server/client feature and MQTT-role of Publisher or Broker***

It supports mDNS (Multicast DNS) which enables hosts in the LAN to discover and communicate with devices each other in compliance with the DNS protocol, without requiring a traditional DNS server. The switch can act as MQTT Publisher or Broker that can send data to the broker then broker distributors the “payload” to the subscribers all in a very lightweight protocol.

***Reliable eMMC for better power efficiency and reliability***

The switch utilizes eMMC for firmware storage. The eMMC’s standard interface streamlines the design process while delivering improved power efficiency and enhanced reliability, thereby extending the storage’s lifespan.

***Auto feed configuration for swapped new switches for Seamless Network Maintenance, USB port for backup, restoring configuration and upgrading firmware***

The switch supports auto-feed configuration features that revolutionize network switch setup and management. It ensures that new and replacement switches automatically receive the correct configurations without manual intervention. Additionally, it supports the traditional way of uploading or downloading the firmware / configuration through a USB dongle.

***User-friendly GUI, Auto topology drawing, Editable configuration text file, Enhanced Environmental Monitoring, CPU watchdog, Snapshot switch information for trouble-shooting analysis***

The user-friendly UI, innovative auto topology drawing, and topology demo make the Lantech switch much easier to use. The complete CLI enables professional engineers to configure settings via the command line. The configuration file can be exported as a text file, allowing it to be easily edited and reconfigured for mass deployment. It supports enhanced environmental monitoring of actual input voltage, current, ambient temperature, and total power load (including PoE if any) where user can set threshold to trigger an alert or event log. The built-in watchdog design can automatically reboot the switch if the CPU becomes unresponsive. With the distinctive Snapshot feature, the switch can gather data, including port statistics, system core information, configuration, and event logs, either at a specific point in time or by scheduling, to address switch issues and analyze the root cause promptly.

## OPTIONAL FEATURES

***Optional IEC 62443-4-2 Model with Physical Tamper Resistance and a Variety of Security Measures***

For enhanced cybersecurity, the optional IEC 62443-4-2** is available on standard models (-SEC models). This includes over 90 security measures such as vulnerability checking, encrypted files, public key management, strong password enforcement, account management, and both penetration and stress testing. It emphasizes protection against unauthorized access, tampering, and malware through detailed log events and roots of trust security IC.

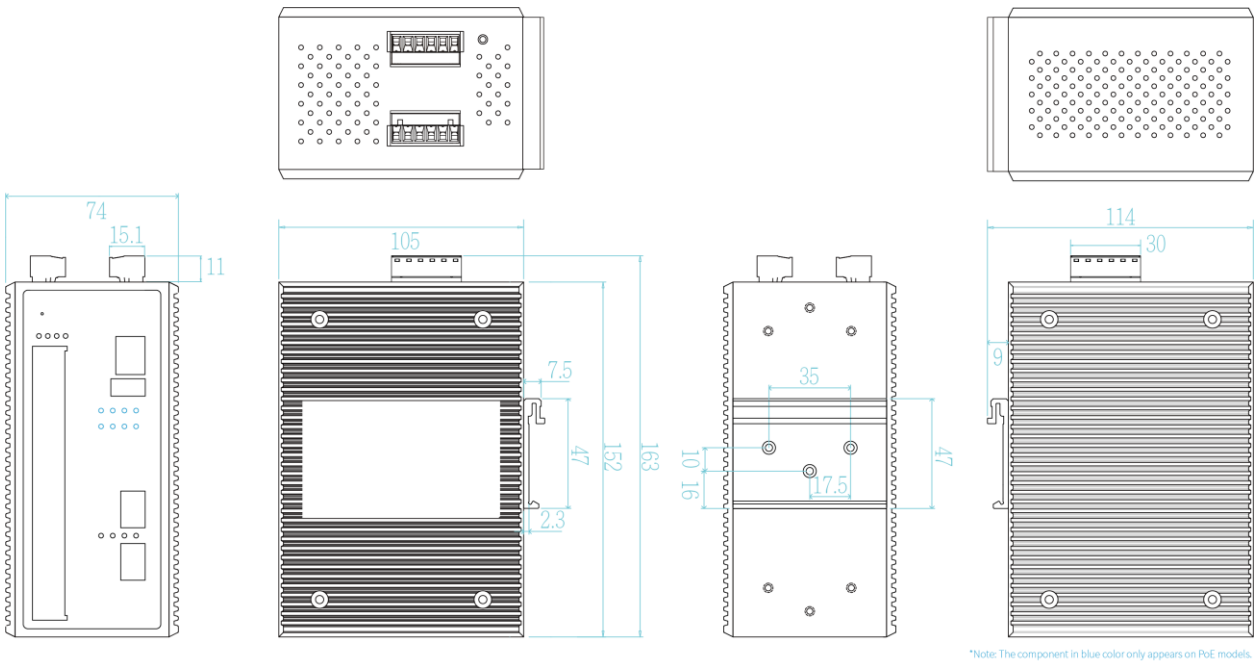
***Optional LantechView for Lantech devices maintenance***

LantechView** can automatically discover Lantech devices on the network, providing seamless configuration management across multiple IP subnets and VLAN areas (single device and batch). It also supports firmware management, allowing single and batch verification and simultaneous upgrades to the latest firmware versions. To learn more about Lantech LantechView** software solutions, please refer to
https://www.lantechcom.tw/global/eng/download/datasheet/D-LantechView.pdf

***OS2 Pro vs. OS2 Pro - SEC models comparison***

| | OS2 Pro | OS2 Pro - SEC |
|---|---|---|
| **Management** | Web UI/Telnet<br>complete CLI command line | Web UI/Telnet<br>complete CLI command line |
| **IEC 62443-4-2 Cyber Security** | NA | Y, need optional license |
| **Hardware Environmental Monitoring** | Y | Y |
| **Boot up time** | Within 60sec. | Around 90sec. |

## DIMENSIONS (unit=mm)



# SPECIFICATIONS

## Hardware Specification

| | |
|---|---|
| Standards | IEEE802.3 10Base-T Ethernet<br>IEEE802.3u 100Base-TX<br>IEEE802.3ab 1000Base-T Ethernet<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 (PoE model) |
| Switch Architecture | Back-plane (Switching Fabric): 26Gbps |
| Transfer Rate | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port<br>1,488,000pps for Gigabit Ethernet port |
| Mac Address | 16K MAC address table |
| Jumbo frame | 10KB |
| Connectors | 10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function (Router/LAN configurable)<br>Mini-GBIC: 2 x 1G/2.5G SFP socket with DDMI<br>Power & Relay connector: 1 x 6-pole terminal block<br>RS-232 connector: RJ-45 type<br>USB x 1 |
| Network Cable | 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) |
| Optical Cable | **1Gbps:**<br>Multi-mode: 0 to 550 m, 850 nm (50/125 µm); 0 to 2 km, 1310 nm (50/125 µm)<br>Single-mode: 0 to 10 km/ 30 km/ 40 km, 1310 nm (9/125 µm); 0 to 50 km/ 60 km/ 80km/ 120 km, 1550 nm (9/125 µm)<br>**2.5Gbps**<br>Multi-mode: 0 to 300 m, 850 nm (50/125 µm);<br>Single mode: 0 to 2 km/ 15 km/ 40 km, 1310 nm (9/125 µm); 0 to 40 km/ 80 km/ 100km, 1550 nm (9/125 µm)<br>**WDM 1Gbps:**<br>Single-mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1310 nm (9/125 µm); 0 to 80 km, 1490 nm (9/125 µm); 0 to 10 km/ 20 km/ 40 km/ 60 km/ 80 km, 1550 nm (9/125 µm)<br>**WDM 2.5Gbps**<br>Single-mode: 0 to 5 km/ 20 km/ 40 km/ 60 km, 1310 /1550nm (9/125 µm); 0 to 80 km, 1490/1550 nm (9/125 µm)<br>**10Gbps** |
| | Multi-mode: 0 to 300 m, 850 nm (OM3 50/125 µm);<br>Single mode: 0 to 10 km/ 20 km, 1310 nm (9/125 µm); 0 to 40 km/ 80km/ 100 km, 1550 nm (9/125 µm)<br>**WDM 10Gbps**<br>Single-mode: 0 to 10 km/ 20 km/ 40 km/ 60 km, 1270/1330 nm (9/125 µm); 0 to 80km, 1490/1550 nm (9/125 µm) |
| LED | Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green)<br>Ethernet port: Link/Activity (Green), Speed (Amber)<br>SFP port: Link/ACT(Green), Speed 2.5G (Amber)<br>PoE: Link/Act (Green) |
| Operating Humidity | 5% ~ 95% (Non-condensing) |
| Operating Temperature | -40˚C ~ 75˚C (-40˚F ~ 167˚F) (-E model)<br>-20˚C ~ 60˚C (-4˚F ~ 140˚F) |
| Storage Temperature | -40°C~85°C / -40°F~185°F |
| Power Supply | PoE model:<br>12-57VDC (24VI model w/PoE & Ethernet galvanic isolation)<br>12-57VDC (24V model w/Ethernet galvanic isolation)<br>52-57VDC (52V model w/Ethernet galvanic isolation)<br><br>Non-PoE model:<br>12-57VDC (24VI model w/Ethernet galvanic isolation |
| PoE Budget (PoE model) | 24VI model: 80W at 24Vdc<br>24V model: 120W at 24Vdc<br>52V model: 240W at 52Vdc (above) |
| PoE pin assignment (PoE model) | RJ-45 port # 1~#8 support IEEE 802.3at/af<br>End-point, Alternative A mode.<br>Positive (VCC+): RJ-45 pin 1,2.<br>Negative (VCC-): RJ-45 pin 3,6. |
| Power Consumption | 7W (w/o PoE load) |
| Case Dimension | Metal case IP30<br>105mm(W)x152mm(H)x74mm(D) |
| Weight | 900g |
| Installation | DIN Rail and Wall Mount** Design |
| EMI & EMS | FCC Class A,<br>CE EN55032 Class A, CE EN55024,<br>CE EN61000-4-2, CE EN61000-4-3,<br>CE EN61000-4-4, CE EN61000-4-5,<br>CE EN61000-4-6, CE EN61000-4-8,<br>CE EN61000-6-2, CE EN61000-6-4 |
| MTBF | TBC (standards: IEC 62380) |

## Software Specification

**Lantech OS2PRO Platform**
Download Software Datasheet
(https://www.lantechcom.tw/global/eng/download/datasheet/D-OS2PRO.pdf)

*Future release
**Optional

# ORDERING INFORMATION

Model names add -SEC for Cybersecurity models; add -E for wide temp. models; add -gPTP for gPTP models.
＊To support environmental sustainability, a console cable will not be included with each device by default. If your project requires one, please contact your sales representative.

- **IPGS-3208MGF-8-24VI-E…..…….…..... P/N: 8351-16501**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ PoE & Ethernet galvanic isolation; 12~57VDC dual input; -40°C to 75°C
- **IPGS-3208MGF-8-24VI …..…….…..... P/N: 8351-16502**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ PoE & Ethernet galvanic isolation; 12~57VDC dual input; -20°C to 60°C
- **IPGS-3208MGF-8-24V-E…..…….…..... P/N: 8351-16503**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 12~57VDC dual input; -40°C to 75°C
- **IPGS-3208MGF-8-24V …..…….…..... P/N: 8351-16504**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 12~57VDC dual input; -20°C to 60°C
- **IPGS-3208MGF-8-52V-E…..…….…..... P/N: 8351-16505**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 52~57VDC dual input; -40°C to 75°C
- **IPGS-3208MGF-8-52V…..…….…..... P/N: 8351-16506**
  8 10/100/1000T PoE at/af + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 52~57VDC dual input; -20°C to 60°C
- **IGS-3208MGF-24VI-E…..…….…..... P/N: 8351-16507**
  8 10/100/1000T + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 12~57VDC dual input; -40°C to 75°C
- **IGS-3208MGF-24VI…..…….…..... P/N: 8351-16508**
  8 10/100/1000T + 2 1G/2.5G SFP+ L2+ NAT router Switch w/ Ethernet galvanic isolation; 12~57VDC dual input; -20°C to 60°C

*For all detailed part nos. and model names, please refer to
https://www.lantechcom.tw/global/eng/download/datasheet/P-I(P)GS-3208MGF.pdf

## OPTIONAL ACCESSORIES

### Software package

Please refer to the software datasheet (https://www.lantechcom.tw/global/eng/download/datasheet/D-OS2PRO.pdf)

### 48~54VDC DIN Rail Power for 802.3at Applications

- **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)

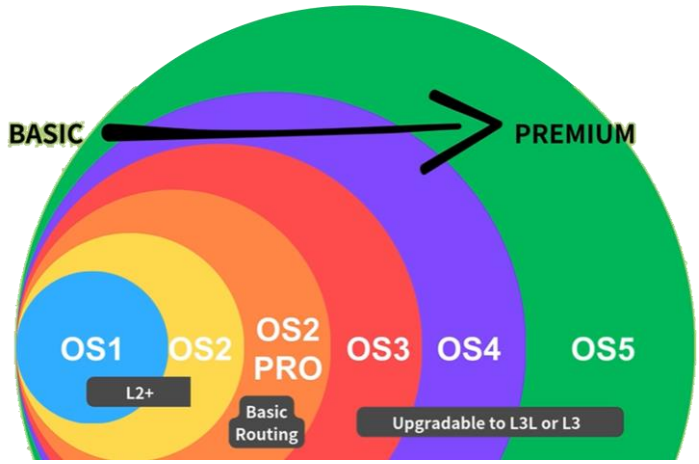
### Mini GBIC (SFP)

- **8330-162-V1** MINI GBIC 1000SX (LC/0.5km) Transceiver
- **8330-163-V1** MINI GBIC 1000SX2 (LC/2km) Transceiver
- **8330-165-V1** MINI GBIC 1000LX (LC/10km) Transceiver
- **8340-0591-V1** MINI GBIC 1000LHX (LC/40km) Transceiver
- **8330-166-V1** MINI GBIC 1000XD (LC/50km) Transceiver
- **8330-169-V1** MINI GBIC 1000XD (LC/60km) Transceiver
- **8330-167-V1** MINI GBIC 1000ZX (LC/80km) Transceiver
- **8330-170-V1** MINI GBIC 1000EZX (120km) Transceiver
- **8330-168-V1** MINI GBIC 1000T (100m) Transceiver
- **8330-188-V1** LTSFP-1000BX-10KM Transceiver (WDM 1310)
- **8330-189-V1** LTSFP-1000BX-10KM Transceiver (WDM 1550)
- **8330-186-V1** LTSFP-1000BX-20KM Transceiver (WDM 1310)
- **8330-187-V1** LTSFP-1000BX-20KM Transceiver (WDM 1550)
- **8330-180-V1** LTSFP-1000BX-40KM Transceiver (WDM 1310)
- **8330-182-V1** LTSFP-1000BX-40KM Transceiver (WDM 1550)
- **8330-181-V1** LTSFP-1000BX-60KM Transceiver (WDM 1310)
- **8330-183-V1** LTSFP-1000BX-60KM Transceiver (WDM 1550)
- **8330-184-V1** LTSFP-1000BX-80KM Transceiver (WDM 1490)
- **8330-185-V1** LTSFP-1000BX-80KM Transceiver (WDM 1550)
- **8330-262D-V1** MINI GBIC 2.5G 850nm VCSEL (LC/0.3km) Transceiver
- **8330-263D-V1** MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver
- **8330-265D-V1** MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver
- **8330-193D-V1** 10G Base SFP+ SR, Multi-mode (LC/300m) Transceiver
- **8330-194D-V1** 10G Base SFP+ LR, Single-mode (LC/10km) Transceiver
- **8330-209D-V1** 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1270)
- **8330-210D-V1** 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1330)
- **8330-200D-V1** 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1270)
- **8330-201D-V1** 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1330)
- **8330-202D-V1** 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1270)
- **8330-203D-V1** 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1330)
- **8330-206-V1** 10G/5G/2.5G/1000Base-T SFP, 3.3V,30m (10G) 50m (2.5G/5G) 100m (1G); -10~70°C (only used from 18V~56VDC power input, maximum two ports)

All SFPs ended with D are with Diagnostic function

## Managed Switch OS Generations

We offer a comprehensive range of managed switches, from OS1 and OS2 with rich L2+ management features, to OS2 PRO with basic routing functionality, and OS3, OS4, and OS5, which can be upgraded with optional Layer 3 Lite or Layer 3 capabilities to meet diverse customer needs. Note: Model differences include both software features and hardware specifications.




**[LEARN MORE]**

→ OS2PRO Generation

→ OS3/OS4 Generation

→ OS5 Generation

**[CHECK THE DIFFERENCES]**

→ Generation Comparison Table

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