I(P)GS-L5416MGSFPR-2AC

16 GE + 4 1G/2.5G SFP OS3 (w/16 PoE af/at) Industrial Managed Ethernet Rackmount Switch dual AC Power

OVERVIEW

Lantech I(P)GS-L5416MGSFPR-2AC is a high performance OS3 Industrial Ethernet switch with 16 10/100/1000T + 4 1G/2.5G SFP which provides advanced security function for network aggregation deployment. PoE model has 16 PoE 802.3af/at ports.

Up to 16 PoE at/af ports w/advanced PoE management w/advanced PoE management and PoE galvanic isolation with max PoE budget

Compliant with 802.3af/at standard, the PoE model is able to feed each PoE port up to 30 Watt at each PoE port for various IP PD devices, the switch supports 120W PoE budget. It supports advanced PoE management including PoE detection and scheduling. PoE detection can detect if the connected PD hangs then restart the PD; PoE scheduling is to allow pre-set power feeding schedule upon routine time table. Each PoE ports can be Enabled/disabled, get the voltage, current, Watt, and temperature info displayed on WebUI.

Lantech OS3 Platform with complete L2 management and upgradable optional L3 & communication protocols

The switch runs Lantech OS3 platform which is powerful with complete Layer 2 management features and optional upgradable for future expansion, such as Layer 3 Lite, Layer 3, etc. To learn more about the Lantech OS3 Platform, please refer to **Lantech OS3/OS4 Software Datasheet**

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.

Enhanced cybersecurity features with IEC 62443-4-1 certification

Lantech OS3 platform is designed with high standard of cybersecurity to prevent the threats from network attack such as DDoS attacks. To ensure the safety and reliability of communication networks, Lantech develops our products under strict international security standard and is certified with IEC 62443-4-1 network security standard. To learn more about Lantech cybersecurity software solution, please refer to **Lantech OS3/OS4 Software Datasheet**

Miss-wiring avoidance, node failure protection, Loop protection

The switch also embedded several features for strong and reliable network protection in an easy and intuitive way. When the pre-set ring configuration failed or looped by miss-wiring, the switch being 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.

Auto feed configuration for swapped new switches for Seamless Network Maintenance

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.

User friendly GUI, Auto topology drawing, Enhanced Environmental Monitoring, Snapshot switch information for trouble-shooting analysis

The user-friendly UI, innovative auto topology drawing and topology demo makes the switch much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line. It supports enhanced environmental monitoring for actual input voltage, current, ambient temperature and total power load. 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.

Editable configuration file; USB port for import/export configuration; optional out-of-band management via 1000T Ethernet port

The configuration file of the switch can be imported and edited with word processor for the following switches to configure with ease. The USB port can import/export the configuration from/to USB dongle and also to upgrade firmware from USB dongle. TFTP/HTTP firmware upgrade is supported.

Dual AC power supplies

The switch is designed with dual redundant galvanic isolated power supplies at 100~240VAC with IEC320 sockets.

Industrial hardened design with high EFT and ESD protection

The switch features 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 applications. The switch can be used in extreme environments with an operating temperature range of -40°C to 70°C.

OPTIONAL FEATURES

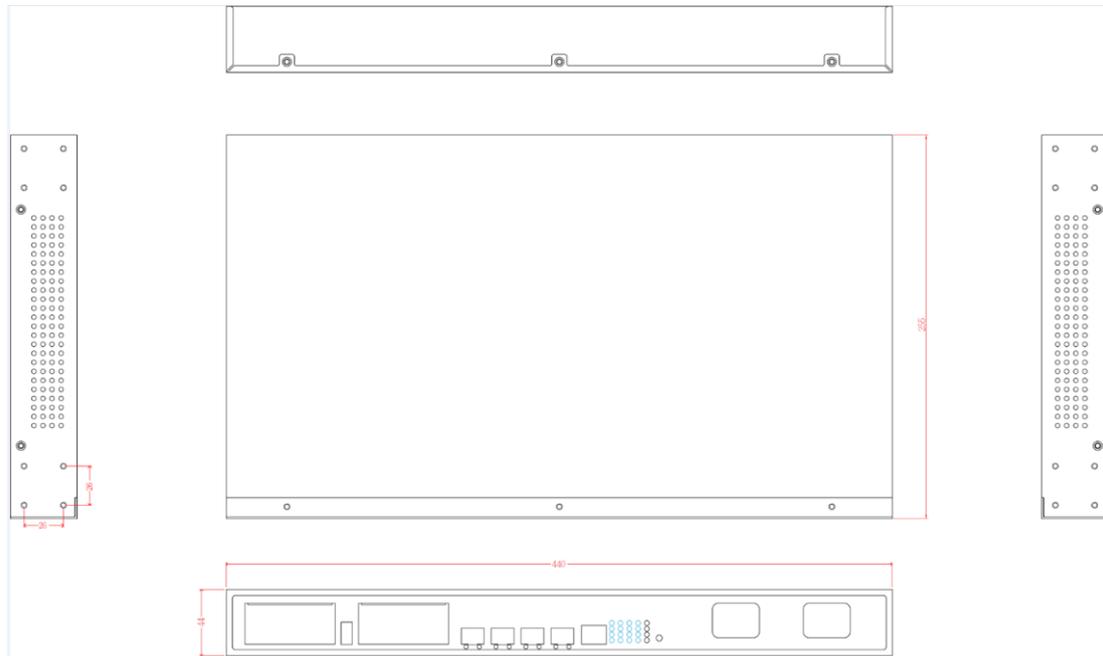**Optional Out-Of-Band management**

The console port can act as OOB** management. It allows a separate and secure method to access and manage the switch even when the primary network is inaccessible. (-OOB model)

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

DIMENSIONS (unit=mm)

SPECIFICATIONS

Hardware Specification

Standards	IEEE802.3 10Base-T Ethernet
	IEEE802.3u 100Base-TX
	IEEE802.3ab 1000Base-T
	IEEE802.3x Flow Control and Back Pressure
	IEEE802.3ad Port trunk with LACP
	IEEE802.1d Spanning Tree
	IEEE802.1w Rapid Spanning Tree
	IEEE802.1s Multiple Spanning Tree
	IEEE802.3ad Link Aggregation Control Protocol (LACP)
	IEEE802.1AB Link Layer Discovery Protocol (LLDP)
	IEEE802.1X User Authentication (Radius)
	IEEE802.1p Class of Service
	IEEE802.1Q VLAN Tag
	IEEE802.3at/af Power over Ethernet (PoE model)
Switch Architecture	Back-plane (Switching Fabric): 52Gbps
Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	10/100/1000T: 16 x ports RJ-45 with Auto MDI/MDI-X function

	Mini-GBIC: 4 x 1G/2.5G SFP socket with DDMI RS-232 connector: RJ-45 type for CLI; optional 100Mbps Ethernet for management out-of-band feature
	USB x 1
	Power connector: 2 x IEC320 sockets
Network Cable	100Base-TX: 2-pair STP Cat. 5/ 5E/ 6 cable; EIA/TIA-568 100-ohm (100m)
	1000Base-T: 4-pair STP Cat5E/6 cable
Optical Cable	**1Gbps:**
	Multi-mode: 0 to 550 m, 850 nm (50/125 µm); 0 to 2 km, 1310 nm (50/125 µm)
	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)
	2.5Gbps
	Multi-mode: 0 to 300 m, 850 nm (50/125 µm);
	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)
	WDM 1Gbps:
	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) **WDM 2.5Gbps** 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)
LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green) 10/100/1000T Ethernet port: Link/Activity (Green) 1G/2.5G fiber: Link/Act (Orange) PoE : Link/Act (Green) (PoE model)
Operating Humidity	5% ~ 95% (non-condensing)
Operating Temperature	-40°C~70°C / -40°F~167°F
Storage Temperature	-40°C~85°C / -40°F~185°F
PoE Budget (PoE model)	120W
PoE pin assignment (PoE model)	M12 port #1~#8; support IEEE 802.3at/af End-point, Alternative A mode
Power Supply	Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply
Power Consumption	Max. 27.5W without PoE load
Case Dimension	Metal case. IP-30,

	440mm(W)x255mm(D)x44mm(H)
Weight	3.2kg
Installation	Rack Mount Design
EMI & EMS	EN 50121-4:2016/A1:2019 EN 50121-5:2017/A1:2019 EN 55035:2017/A11:2020 EN 55032:2015/A11:2020 FCC Part 15, Subpart B ICES-003 Issue 7-2020 IEC 61000-4-9:2016 IEC 61000-4-10:2016 IEC 61000-6-5:2015 IEC 61000-6-2:2016 IEC 61000-6-4:2018 EN IEC 61000-6-2:2019 EN 61000-6-4:2019 BS EN 55035:2017+A11:2020 BS EN 55032:2015+A1:2020
Verifications	IEC 61850-3:2013 IEEE 1613:2009 EN 50155:2021
MTBF	TBC (standards: IEC 62380)

Software Specification

Lantech OS3 Platform	**Download Software Datasheet**

*Future release
**Optional

ORDERING INFORMATION

- **IGS-L5416MGSFPR-2AC-EU** ……………...................P/N: 8361-5843
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (EU plug); -40°C to 70°C; IP30 Rackmount design

- **IPGS-L5416MGSFPR-2AC-EU** ….…………..................P/N: 8361-5844
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (EU plug); PoE budget 120W -40°C to 70°C; IP30 Rackmount design

- **IGS-L5416MGSFPR-2AC-EU** ….…………..................P/N: 8361-5843OOB
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (EU plug); -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

- **IPGS-L5416MGSFPR-2AC-EU** ….…………..................P/N: 8361-5844OOB
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (EU plug); PoE budget 120W -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

- **IGS-L5416MGSFPR-2AC-UK** ….…………..................P/N: 8361-58431
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (UK plug); -40°C to 70°C; IP30 Rackmount design

- **IPGS-L5416MGSFPR-2AC-UK** ….…………..................P/N: 8361-58441
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (UK plug); PoE budget 120W; -40°C to 70°C; IP30 Rackmount design

- **IGS-L5416MGSFPR-2AC-UK** ….…………..................P/N: 8361-58431OOB
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (UK plug); -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

- **IPGS-L5416MGSFPR-2AC-UK** ….…………..................P/N: 8361-58441OOB
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (UK plug); PoE budget 120W; -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

- **IGS-L5416MGSFPR-2AC-US** ….…………..................P/N: 8361-58432
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (US plug); -40°C to 70°C; IP30 Rackmount design

- **IPGS-L5416MGSFPR-2AC-US** ….…………..................P/N: 8361-58442
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (US plug); PoE budget 120W; -40°C to 70°C; IP30 Rackmount design

- **IGS-L5416MGSFPR-2AC-US** ….…………..................P/N: 8361-58432OOB
  16 10/100/1000T + 4 1G/2.5G SFP OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic isolated AC 100~240VAC IEC320 power supply (US plug); -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

- **IPGS-L5416MGSFPR-2AC-US** ….…………..................P/N: 8361-58442OOB
  16 10/100/1000T + 4 1G/2.5G SFP w/16 PoE 802.3af/at ports OS3 Managed Ethernet Switch; Built-in 2x redundant galvanic

isolated AC 100~240VAC IEC320 power supply (US plug); PoE budget 120W; -40°C to 70°C; IP30 Rackmount design, w/out-of-band management feature

OPTIONAL ACCESSORIES

**Software package**

Please refer to the software datasheet

Mini GBIC (SFP)

8330-162D-V1	MINI GBIC 1000SX (LC/0.5km) Transceiver	**8330-187D-V1**	LTSFP-1000BX-20KM Transceiver (WDM 1550)
8330-163D-V1	MINI GBIC 1000SX2 (LC/2km) Transceiver	**8330-180D-V1**	LTSFP-1000BX-40KM Transceiver (WDM 1310)
8330-165D-V1	MINI GBIC 1000LX (LC/10km) Transceiver	**8330-182D-V1**	LTSFP-1000BX-40KM Transceiver (WDM 1550)
8340-0591D-V1	MINI GBIC 1000LHX (LC/40km) Transceiver	**8330-181D-V1**	LTSFP-1000BX-60KM Transceiver (WDM 1310)
8330-166D-V1	MINI GBIC 1000XD (LC/50km) Transceiver	**8330-183D-V1**	LTSFP-1000BX-60KM Transceiver (WDM 1550)
8330-169D-V1	MINI GBIC 1000XD (LC/60km) Transceiver	**8330-184D-V1**	LTSFP-1000BX-80KM Transceiver (WDM 1490)
8330-167D-V1	MINI GBIC 1000ZX (LC/80km) Transceiver	**8330-185D-V1**	LTSFP-1000BX-80KM Transceiver (WDM 1550)
8330-170D-V1	MINI GBIC 1000EZX (120km) Transceiver	**8330-262D-V1**	MINI GBIC 2.5G 850nm VCSEL (LC/0.3km) Transceiver
8330-168-V1	MINI GBIC 1000T (100m) Transceiver		
8330-188D-V1	LTSFP-1000BX-10KM Transceiver (WDM 1310)	**8330-263D-V1**	MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver
8330-189D-V1	LTSFP-1000BX-10KM Transceiver (WDM 1550)	**8330-265D-V1**	MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver
8330-186D-V1	LTSFP-1000BX-20KM Transceiver (WDM 1310)		

All SFP 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.
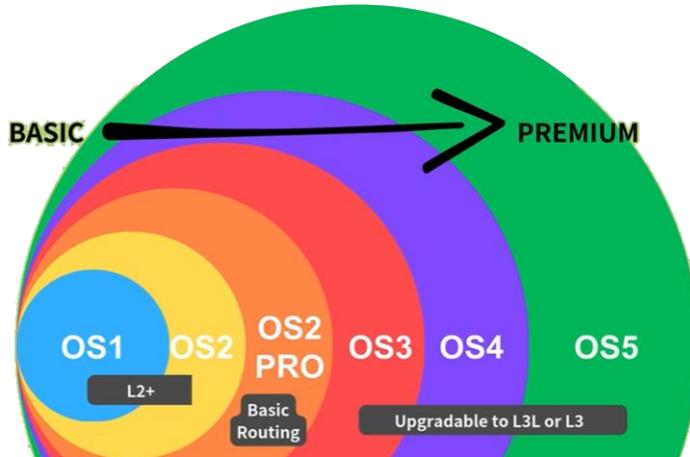
[LEARN MORE]

→ **OS2PRO Generation**

→ **OS3/OS4 Generation**

→ **OS5 Generation**

[CHECK THE DIFFERENCES]

→ **Generation Comparison Table**