

I(P)GS-L6408XSFP

8 10/100/1000T + 4 1G/2.5G/10G SFP+ (w/8 PoE af/at/bt) OS3

Industrial Managed Ethernet Switch w/ Enhanced G.8032 Ring, PXE ;
24V/48V input

- Total 8 10/100/1000T + 4 Auto-sensing triple speed 1G/2.5G/10G SFP+ Uplink Cage w/8 PoE af/at/bt ports(PoE -PBT model)
- 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; support MRP ring
- Support PXE to verify switch firmware with the latest or certain version on server
- MPOiss-wiring avoidance & node failure protection
- User friendly UI, including auto topology drawing; Complete CLI
- Support LACP link aggregation, IGMP v3/router port, MLD snooping, DHCP server & DHCP Option82; Port based DHCP distribution, Mac based DHCP server, DHCP Snooping, SSH v2/SSL, HTTPS, INGRESS ACL L2/L3, TACACS+, QinQ, QoS by VLAN
- Protocol based VLAN; IPv4 Subnet based VLAN
- Enhanced Environmental Monitoring for temp., actual input voltage, current & total power load
- USB port to upload & download the configuration file
- Optional L3Lite/L3* to be upgradable
- Dual 24V/48V input voltage; Max PoE budget 120W @24V; 240W@48V (PoE model)
- Factory reset pin to restore to factory default setting
- Wide range operation temperature: -40~70C/-40~158F



OVERVIEW

Lantech I(P)GS-L6408XSFP is a high performance OS3 Industrial Ethernet switch with 8 10/100/1000T + 4 1G/2.5G/10G auto sensing SFP+ (w/8 802.3at/af/bt PoE ports) which provides advanced security function for network aggregation deployment. It delivers ITU G.8032 enhanced ring recovery less than 20ms in single ring while also supports enhanced mode with easy configuration. The comprehensive QoS, advanced security including INGRESS ACL L2/L3, TACACS+, SSH v2/SSL and Mac based DHCP server, DHCP Option 82, DHCP server, IGMPv1/v2/v3/router port are supported and are also required in large network. It also supports 10K Jumbo frames.

Up to 8 PoE 802.3bt ports w/advanced PoE management (PoE -PBT model)

Compliant with 802.3bt standard, the Lantech IPGS-L6408XSFP being able to feed each PoE port up to 60 Watt (-PBT model) at each PoE port for various IP PD devices. Lantech IPGS-L6408XSFP 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 port can be Enabled/disabled, get the voltage, current, Watt, and temperature info displayed on WebUI.

Miss-wiring avoidance, Node failure protection, Loop protection

The I(P)GS-L6408XSFP 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, Lantech I(P)GS-L6408XSFP being able to alert with the LED indicator and disable ring automatically. Node failure protection ensures the Ethernet switches in a ring to survive after power breakout is back. The status can be shown in NMS when each Ethernet 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.

DHCP option 82 & Port based, Mac based DHCP, Option66, DHCP Snooping, IPv6 DHCP server

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. Basic IPv6 DHCP service can be supported.

Support PXE to verify switch firmware with the latest or

certain version

The switch can check its firmware version during booting time via PXE protocol. If switch finds any newer version, it will upload automatically.

User friendly GUI, Auto topology drawing

The user-friendly UI, innovative auto topology drawing and topology demo makes I(P)GS-L6408XSFP 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; MRP ring

Lantech I(P)GS-L6408XSFP 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 RSTP over VLAN for redundant links with 8 MSTI.

MRP (Media Redundancy Protocol) can be supported for industrial automation networks.

Enhanced Storm control

Storm control prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on one of the physical interfaces and the detection is more precise and reaction is more efficient.

Optional L3Lite/L3* to be upgradable

Lantech OS3 is optional upgradable to L3 Lite for future expansion. The optional L3Lite includes editable routing table, VRRP, Router-on-a-stick, Inter-VLAN routing.

QinQ, QoS and GVRP supported

It supports the QinQ, QoS and GVRP for large VLAN segmentation.

Protocol based VLAN; Subnet based VLAN

The protocol-based VLAN processes traffic based on protocol. It filters IP traffic from nearby end-stations using a particular protocol such as IP, IPX, ARP or other Ethernet-types in a Hex value. Subnet based VLANs group traffics into logical VLANs based on the source IP address and IP subnet. The above features can help to build VLAN in the network mixed with managed and un-managed switch as to define packets to which VLAN group based on protocol or subnet.

IGMPv3, GMRP, router port, MLD Snooping, 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, MLD snooping and static multicast forwarding binding by ports for video surveillance application.

802.1X security by MAC address

MAC-based port authentication is an alternative approach to

802.1x for authenticating hosts connected to a port. By authenticating based on the host's source MAC address, the host is not required to run a user for the 802.1x protocol. The RADIUS server that performs the authentication will inform the switch if this MAC can be registered in the MAC address table of switch.

Editable configuration file; USB port for upload/download configuration

The configuration file of Lantech I(P)GS-L6408XSFP can be exported and edited with word processor for the following Ethernet switches to configure with ease.

The USB port can upload/download the configuration from/to USB dongle.

Event log & message; 2 DI + 2 DO; Factory default pin

I(P)GS-L6408XSFP 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 outside alarm and switch will send alert information to IP network with email and traps.

The factory reset pin can restore the setting back to factory default.

Enhanced environmental monitoring for switch inside information

The enhanced environmental monitoring can detect switch overall temperature, total power load, actual input voltage and current it also can send the SNMP traps alert when abnormal.

Dual power 24V/48V input with max budget

The Lantech I(P)GS-L6408MXSFP is designed with dual power supply at 44~56VDC (48V model) or 12V~56VDC input (24V model). The 48V model can have 240W PoE budget while 24V model can have 120W (24V input) budget. The Lantech IGS-L6408MXSFP is designed with dual power supply at 12V~56VDC input (24V model).

A voltage which can be minimal 0,5 Un nominal voltage (when $V_{in} \geq 36V$) and/or a voltage which can be maximal 1,5 Un nominal voltage for more than 1000 consecutive ms (one second).

Industrial hardened design with high EFT and ESD protection

Lantech I(P)GS-L6408MXSFP 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. Featured with relay contact alarm function, the I(P)GS-L6408XSFP being able to connect with alarm system in case of power failure or port disconnection.

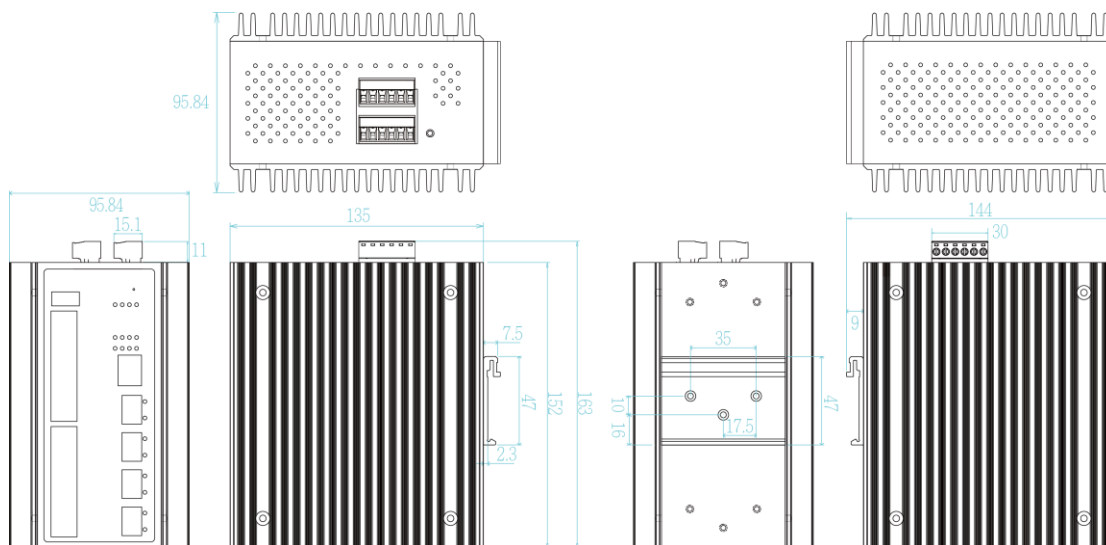
It is the best solution for Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory applications. The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

FEATURES & BENEFITS

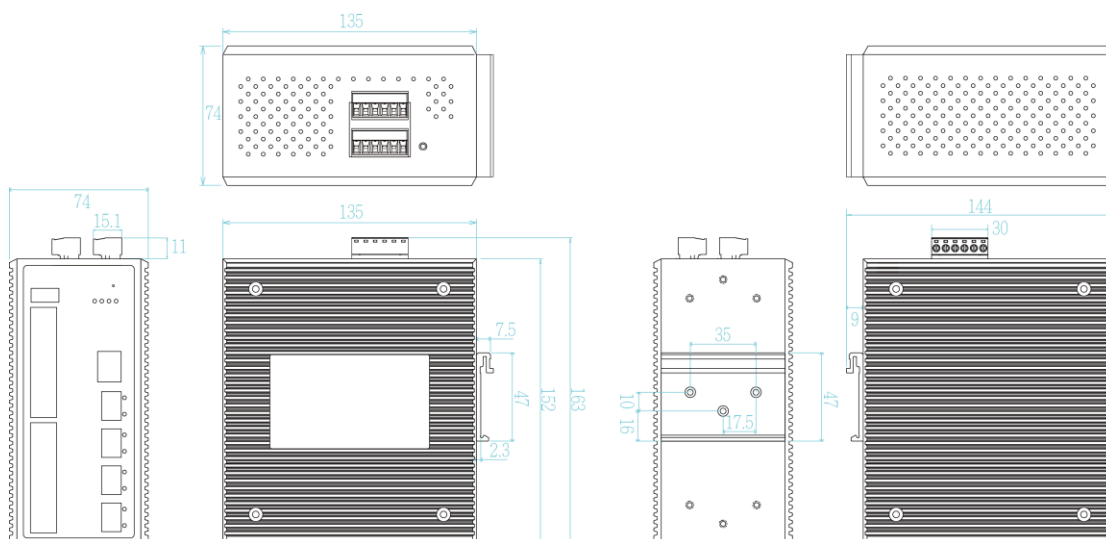
- 8 10/100/1000T + 4 1G/2.5G/10G auto sensing SFP+
- PoE -PBT model: w/8 802.3at/af/bt PoE ports to feed power up to 60W for active mode operation
- PoE model: w/8 802.3at/af PoE ports to feed power up to 30W for active mode operation
- PoE model: 48V input for PoE budget 240W; 24V input for PoE budget 120W
- PoE model: PoE management including PoE detection and scheduling for PD (power devices)
- Galvanic isolation from power input/Ethernet ports to system 1.5KV
- Back-plane (Switching Fabric): 96Gbps
- 16K MAC address table
- 10KB Jumbo frame
- User friendly UI, auto topology drawing, topology demo, complete CLI for professional setting
- Enhanced G.8032 Ring protection in 20ms for 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
- 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, QinQ, QoS
- Subnet VLAN and protocol VLAN
- Supports IEEE 802.1ab LLDP, Cisco CDP; LLDP info can be viewed via Web/ Console
- Support PXE to verify switch firmware with the latest or certain version
- DHCP server / client / DHCP Option 82 relay / DHCP Option 82 server; Port based DHCP server; DHCP Snooping, DHCP Option 66; basic IPv6 DHCP server
- Mac based DHCP server to assign IP address that includes dumb Ethernet switches in DHCP network
- Bandwidth Control
 - Ingress packet filter and egress* rate limit
 - Broadcast/multicast packet filter control
- 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
- System Event Log, SMTP** alert and SNMP Trap for alarm support
- Security
 - SSL/SSH v2/INGRESS ACL L2/L3
 - MAC address table: MAC address entries/Filter/static MAC-Port binding
 - Remote Admin: IP address security management to prevent unauthorized intruder
 - TACACS+
 - 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
- IGMP router port for Multicast protection
- IGMPv1, v2, v3 with Query mode for multi media
- Dual image firmware support
- MLD Snooping for IPv6 Multicast stream
- Factory reset button to restore setting to factory default
- Enhanced environmental monitoring for system actual input voltage, current, ambient temperature, and total power load
- Supports 2DI/2DO (Digital Input/Digital Output)
- Configuration backup and restoration
 - Supports editable configuration file for system quick installation
 - USB port for upload/download configuration file
- TFTP/HTTP firmware upgrade
- Diagnostic including Ping / ARP table / DDM information
- Enhanced Storm Control
- Optional L3Lite/L3* to be upgradable
- IP30 metal housing with DIN rail and Wall-mount** design

DIMENSIONS (unit=mm)

IPGS-L6408XSFP



IGS-L6408XSFP



SPECIFICATION

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 IEEE802.3bt Power over Ethernet (PoE -PBT model)
Switch	Back-plane (Switching Fabric): 96Gbps

Architecture	
Mac Address	16K MAC address table
Jumbo frame	10KB
Connectors	10/100/1000T: 8 x ports RJ-45 with Auto MDI/MDI-X function Mini-GBIC: 4 x 1G/2.5G/10G SFP socket with DDMI RS-232 connector: RJ-45 type USB x 1 Power & Relay connector: 1 x 6-pole terminal block DIDO: 1 x 6-pole terminal block
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; 10GBaseT:4-pair STP Cat6/6A/7 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) 10Gbps Multi-mode: 0 to 300 m, 850 nm (OM3 50/125 μm); 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) WDM 10Gbps 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)	BS EN55032:2020 BS EN55035:2020 BS EN61000-4-2:2009 BS EN61000-4-3:2020 BS EN61000-4-4:2012 BS EN61000-4-5:2017 BS EN61000-4-6:2015 BS EN61000-4-8:2010"
	Safety	EN IEC 62368-1
	Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
	MTBF	TBC (standards: IEC 62380)
	Warranty	5 years
Software Specification		
	Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
	SNMP MIB	RFC 1213 MIBII RFC 1158 MIB RFC 1157 SNMP MIB RFC 1493 Bridge MIB* RFC 1573 IF MIB RFC 2674 Q-Bridge MIB* RFC 2819 RMON MIB Private MIB
	PoE Management (PoE model)	PoE Detection to check if PD hangs then restart the PD PoE scheduling
	Per Port PoE Status (PoE model)	On/ Off, voltage, current, watts, temperature
	ITU G.8032	Support ITU G.8032 for Ring protection in less than 20ms for self-heal recovery (single ring enhanced mode) Support basic single ring & enhanced ring Enhanced G.8032 ring configuration with ease Cover multicast & data packets protection
	User friendly UI	☒ Auto topology drawing ☒ Topology demo ☒ Complete CLI for professional setting
	Port Trunk with LACP	LACP Port Trunk: 8 Trunk groups
	LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN
	CDP	Cisco Discovery Protocol for topology mapping
	Environmental Monitoring	System status for actual input voltage, current ambient temperature and total power load to be shown in GUI and sent alerting if any abnormal status
	VLAN	Port Based VLAN IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096) GVRP, QinQ, QoS Protocol based VLAN IPv4 Subnet based VLAN
	Spanning Tree	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 IPv4 Type of service, IPv4 Differentiated Services Code Points - DSCP
	Class of Service	Support IEEE802.1p class of service, per port provides 8 priority queues
	Remote Admin	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder
	Login Security	Supports IEEE802.1X Authentication/RADIUS
	Port Mirror	Support 3 mirroring types: "RX, TX and Both packet"
	Network Security	Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder. 802.1X access control for port based and MAC based authentication/static MAC-Port binding Ingress ACL L2/L3 SSL/SSH v2 for Management HTTPS for secure access to the web interface TACACS+ for Authentication
	IGMP	Support IGMP snooping v1, v2, v3; Supports IGMP

LED	Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red); RM(Green) 10/100/1000T Ethernet port: Link/Activity (Green) 1G/2.5G/10G fiber: Link/Act (Orange) PoE: Link/Act (Green, PoE model)
DI/DO	2 Digital Input (DI): Level 0: -30~2V / Level 1: 10~30V Max. input current:8mA 2 Digital Output (DO): Open collector to 40 VDC, 200mA
PoE Budget (PoE model)	240W for 44~56V input (48V model) 120W at 24V input; 60W at 12V input (24V model) Maximum current: 5A Higher PoE budget can be applied upon request. **
PoE pin assignment (PoE model)	RJ-45 port # 1~#8 support IEEE 802.3at/af End-point, Alternative A mode. RJ-45 port # 1~#8 support IEEE 802.3at/af/bt End-point, Alternative A mode. (-PBT model) Positive (VCC+): RJ-45 pin 1,2. Negative (VCC-): RJ-45 pin 3,6.
Operating Humidity	5% ~ 95% (Non-condensing)
Operating Temperature	-20°C~60°C / -40°F~140°F (Standard model) -40°C~75°C / -40°F~167°F (-E model)
Storage Temperature	-40°C~85°C / -40°F~185°F
Power Supply	Dual DC input, 44~56V (48V model); Dual DC input, 12V~56V; Dual DC input 16V~56V when using 10G copper (24V model)
Power Consumption	Max. 33.6W exclude PoE load
Case Dimension	Metal case. IP-30, IPGS-L6408XSFP 95.84 (W) x 135 (D) x 163 (H) mm IGS-L6408XSFP 74 (W) x 135 (D) x 163 (H) mm
Weight	3.6kgs
Installation	Wall Mount Design
EMI & EMS	EN55032:2020 EN55035:2020 FCC IEC / EN 61000-6-2:2019 IEC / EN 61000-6-4:2019 IEC 61000-4-2:2008 IEC 61000-4-3:2020 IEC 61000-4-4:2012 IEC 61000-4-5:2017 IEC 61000-4-6:2015 IEC 61000-4-8:2009 EN 55011:2016

	static route; 1024 multicast groups; IGMP router port; IGMP query; GMRP	PXE	PXE to verify switch firmware with the latest or certain version
MLD Snooping	Support IPv6 Multicast stream	DHCP	Provide DHCP Client/ DHCP Server/DHCP Option 82/Port based DHCP; DHCP Option 66; DHCP Snooping, Basic IPv6 DHCP server
Static multicast forwarding	Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application	Mac based DHCP Server	Assign IP address by Mac that can include dumb switch in DHCP network
Bandwidth Control	Support ingress packet filter and egress* packet limit. The egress* rate control supports all of packet type. Ingress filter packet type combination rules are Broadcast/Multicast/Flooded Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all types of packet. The packet filter rate can be set an accurate value through the pull-down menu for the ingress packet filter and the egress* packet limit.	DNS	Provide DNS client feature and can set Primary and Secondary DNS server
Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex	SNTP	Supports NTP/SNTP to synchronize system clock in Internet
System Log	Supports System log record and remote system log server	Firmware Update	Supports TFTP firmware update, TFTP backup and restore; HTTP firmware upgrade
Protection	- Miss-wiring avoidance - Node failure protection - Loop protection	Configuration upload and download	Supports editable configuration file for system quick installation; Support factory reset button to restore all settings back to factory default
SNMP Trap	Up to 5 trap stations; trap types including: - Device cold start - Authorization failure - Port link up/link down - DI/DO open/close - Typology change (ITU ring) - Power failure - Environmental abnormal	Enhanced Storm Control	prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on one of the physical interfaces
		Optional L3Lite/L3*	Lantech OS3 is optional upgradable to L3 Lite/L3* for future expansion. The optional L3Lite includes editable routing table, VRRP, Router-on-a-stick, Inter- VLAN routing.
		Diagnostic	Support Ping, ARP table and DDM information
		Dual Image Firmware	Support dual image firmware function

*Future release
 **Optional

ORDERING INFORMATION

- **IPGS-L6408XSFP-48V-PBT.....P/N: 8350-85901**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt for 60W budget OS3 Managed Ethernet Switch; dual 44~56VDC input; -20°C to 60°C ; IP30 housing
- **IPGS-L6408XSFP-48V-PBT-E.....P/N: 8350-85911**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt for 60W budget OS3 Managed Ethernet Switch; dual 44~56VDC input; -40°C to 75°C; IP30 housing
- **IPGS-L6408XSFP-24V-PBT.....P/N: 8350-85921**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt OS3 Managed Ethernet Switch; dual 24VDC input; -20°C to 60°C ; IP30 housing
- **IPGS-L6408XSFP-24V-PBT-E.....P/N: 8350-85931**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/at/bt OS3 Managed Ethernet Switch; dual 24VDC input; -40°C to 75°C; IP30 housing
- **IPGS-L6408XSFP-48V.....P/N: 8350-859**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 44~56VDC input; -20°C to 60°C ; IP30 housing
- **IPGS-L6408XSFP-48V-E.....P/N: 8350-8591**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 44~56VDC input; -40°C to 75°C; IP30 housing
- **IPGS-L6408XSFP-24V.....P/N: 8350-8592**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 24VDC input; -20°C to 60°C ; IP30 housing
- **IPGS-L6408XSFP-24V-E.....P/N: 8350-8593**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ w/8 PoE 802.3 af/af OS3 Managed Ethernet Switch; dual 24VDC input; -40°C to 75°C; IP30 housing
- **IGS-L6408XSFP-24V.....P/N: 8350-8594**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ OS3 Managed Ethernet Switch; dual 24VDC input; -20°C to 60°C ; IP30 housing
- **IGS-L6408XSFP-24V-E.....P/N: 8350-8595**
 8 10/100/1000T + 4 1G/2.5G/10G SFP+ OS3 Managed Ethernet Switch; dual 24VDC input; -40°C to 75°C; IP30 housing

OPTIONAL ACCESSORIES

Software package

- **OS3 – L3L.....P/N: 9000-114**
 OS3 software platform with Layer 3 Lite functions (please check Lantech software data sheet for details)

■ **OS3 – L3*P/N: 9000-116**

OS3 software platform with Layer 3 functions incl. L3L (please check Lantech software data sheet for details)

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)

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|-----------------------|---|-----------------------|--|
| ■ 8330-162-V1 | MINI GBIC 1000SX (LC/0.5km) Transceiver | ■ 8330-263D-V1 | MINI GBIC 2.5G 1310nm FP (LC/2km) Transceiver |
| ■ 8330-163-V1 | MINI GBIC 1000SX2 (LC/2km) Transceiver | ■ 8330-265D-V1 | MINI GBIC 2.5G 1310nm DFB (LC/15km) Transceiver |
| ■ 8330-165-V1 | MINI GBIC 1000LX (LC/10km) Transceiver | ■ 8330-193D-V1 | 10G Base SFP+ SR, Multi-mode (LC/300m) Transceiver |
| ■ 8340-0591-V1 | MINI GBIC 1000LHX (LC/40km) Transceiver | ■ 8330-194D-V1 | 10G Base SFP+ LR, Single-mode (LC/10km) Transceiver |
| ■ 8330-166-V1 | MINI GBIC 1000XD (LC/50km) Transceiver | ■ 8330-209D-V1 | 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1270) |
| ■ 8330-169-V1 | MINI GBIC 1000XD (LC/60km) Transceiver | ■ 8330-210D-V1 | 10G Base SFP+ , Single-mode(10km) Transceiver (WDM 1330) |
| ■ 8330-167-V1 | MINI GBIC 1000ZX (LC/80km) Transceiver | ■ 8330-200D-V1 | 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1270) |
| ■ 8330-170-V1 | MINI GBIC 1000EZ (120km) Transceiver | ■ 8330-201D-V1 | 10G Base SFP+ , Single-mode(20km) Transceiver (WDM 1330) |
| ■ 8330-168-V1 | MINI GBIC 1000T (100m) Transceiver | ■ 8330-202D-V1 | 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1270) |
| ■ 8330-188-V1 | LTSFP-1000BX-10KM Transceiver (WDM 1310) | ■ 8330-203D-V1 | 10G Base SFP+ , Single-mode(40km) Transceiver (WDM 1330) |
| ■ 8330-189-V1 | LTSFP-1000BX-10KM Transceiver (WDM 1550) | ■ 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) |
| ■ 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 | | |

All SFPs ended with D are with Diagnostic function

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