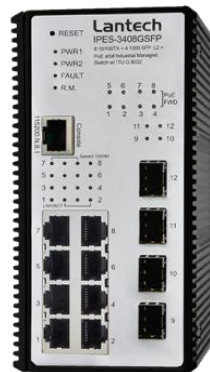


# IPES-3408GSFP

8 10/100TX + 4 1000 SFP L2+ PoE at/af Industrial Managed Ethernet Switch w/ enhanced G.8032 Ring & LTDP\*\*

- Enhanced G.8032 ring protection < 20ms for single ring. Supports auto mode, enhanced mode, train mode, multi-VLAN and basic mode; Enhanced G.8032 ring covers multicast packets; MSTP 16MSTI /RSTP ; support MRP ring\*\*
- LTDP\*\* (Link Train Discovery Protocol) to auto-assign IP as well as inherit the configuration in replaced switch
- Miss-wiring avoidance & node failure protection
- User friendly UI, including auto topology drawing and DDM threshold monitoring with dB values\*\*\*; Complete CLI
- Support LACP link aggregation, IGMP v3/router port, DHCP server & DHCP Option82; Port based DHCP distribution, Mac based DHCP server, QoS by VLAN, SSH/SSL, HTTPS, INGRESS/EGRESS ACL L2/L3, TACACS+\*, QinQ\*\*, SMS\*\*
- Protocol based VLAN\*\* ; IPv4/IPv6 Subnet based VLAN\*\*
- Optional Environmental Monitoring\*\* for temp., voltage, total PoE load and current. (-M model)
- Optional InstaView\*\* for centralized backup, editing the configuration file and upgrade firmware



## OVERVIEW

Lantech IPES-3408GSFP is a high performance L2+ (Gigabit uplink) switch with 8 10/100TX + 4 1000M SFP 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 in single ring while also supports train ring, enhanced mode, multiple VLAN model with easy configuration. The comprehensive QoS, QoS by VLAN, advanced security including INGRESS/EGRESS ACL L2/L3, TACACS+\*, SSH/SSL, Mac based DHCP server, DHCP Option 82, DHCP server, IGMPv1/v2/v3/router port, QinQ\*\* are supported and also required in large network. It also supports Cisco Discovery Protocol (CDP) for Ciscoworks to detect the switch info and show on L2 map topology.

### **Innovative LTDP\*\* (Link Train Discovery Protocol) to assign proper IP address as well as inherit configuration for replaced switch**

With port-based DHCP server, LTDP\*\* allows Lantech EN50155 switch series in single ring discover the current IP addresses and to assign the same IP address and configuration. Furthermore, LTDP\*\* can inherit the same configuration to new replaced switch for zero-touch maintenance.

### **Up to 8 PoE at/af ports w/advanced PoE management**

Compliant with 802.3af/at standard, the Lantech IPES-3408GSFP is able to feed each PoE port up to 30 Watts@54 VDC providing the connected PD devices. Lantech IPES-3408GSFP 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.

### **Miss-wiring avoidance, Repowered auto ring restore, Loop protection**

The IPES-3408GSFP 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 IPES-3408GSFP is able to alert with the LED indicator and disable ring automatically. Repowered auto ring restore function (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.

### **DHCP option 82 & Port based, Mac based DHCP, Option66, IPv6 DHCP server\*\***

DHCP option 82 and Port based DHCP function can offer the same IP address on port base or VLAN base where there is need to replace the new device connecting to Lantech switches to avoid any network disruption. The built-in DHCP Option 82 server offers the convenience of policy setting on the switch. Mac based DHCP server function assigns an IP address according to its MAC address to include dumb switches in

DHCP network. DHCP option 66 is also supported. Optional IPv6 address resolution for DHCP server can be supported.

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

The user friendly UI, innovative auto topology drawing and topology demo makes IPES-3408GSFP much easier to get hands-on. The complete CLI enables professional engineer to configure setting by command line.

#### **Enhanced G.8032 ring, 16 MSTI MSTP; Optional MRP ring**

Lantech IPES-3408GSFP 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 double ring, multi-chain (under enhanced ring), train ring, basic ring, multiple-VLAN ring and auto-ring by easy setup than others. The innovative auto-Ring configurator (auto mode) can calculate owner and neighbor in one step. It supports MSTP that allows each spanning tree for each VLAN for redundant links with 16 MSTI.

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

#### **Editable configuration file; InstaView\*\* for mass deployment**

The configuration file of Lantech IPES-3408GSFP can be exported and edited with word processor for the other switches configuration with ease. The 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.

With optional InstaView, the configuration files can be mass backup, mass-editable deployed and auto upgrading firmware in batch make maintenance easy.

#### **QoS by VLAN for legacy device**

QoS by VLAN can allow switch to tag QoS by VLAN regardless the devices acknowledge QoS or not in which greatly enhance the bandwidth management in a network.

#### **QinQ\*\*, QoS QinQ\*\* and GVRP\*\* supported**

It supports the QinQ\*\*, QoS QinQ\*\*, 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.

#### **Event log & message; 2DI / 2DO**

In case of event, the IPES-3408GSFP is able to send email & SMS text message 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.

#### **Optional environmental monitoring\*\* for switch inside information (-M model)**

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

#### **Wide range dual DC powered; Relay contact alarm , High ESD protection**

The Lantech IPES-3408GSFP is designed with dual power supply at 48VDC. The 12V model is built with Booster technology that can accept input voltage from 12V ~ 54V and deliver PoE power at 48V to feed the PD. Featured with relay contact alarm function, the IPES-3408GSFP is able to connect with alarm system in case of power failure. The IPES-3408GSFP also provides  $\pm 2000V$  EFT and  $\pm 6000V$  ESD protection, which can reduce unstable situation caused by power line and Ethernet.

#### **Industrial hardened design for extended temperature operation**

Lantech IPES-3408GSFP 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 and assembly lines.

The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C

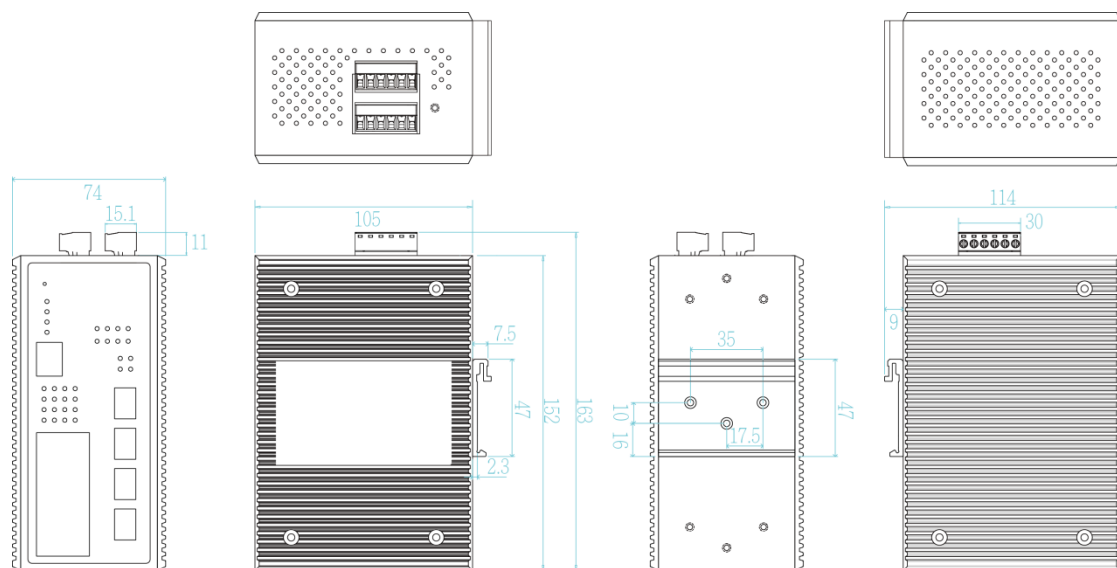
## FEATURES & BENEFITS

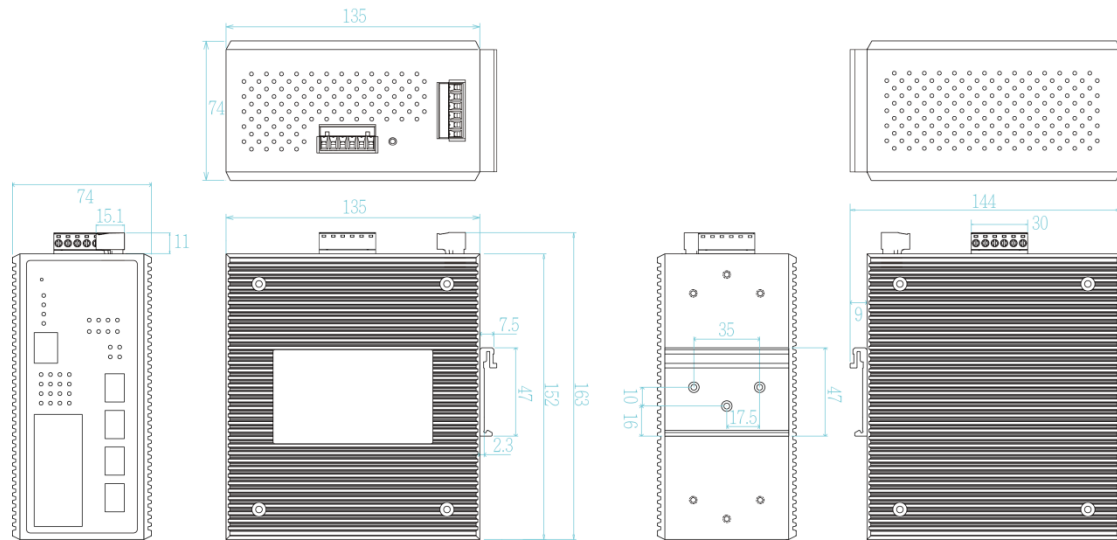
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ 8 10/100TX + 4 1000M SFP w/8 PoE 802.3af/at Injectors (Total 12 Ports Switch)</li> <li>■ Embedded 8 PoE Injectors IEEE802.3af/at function to feed power up to 30W@54V; 15W @ 48V per port for active operation</li> <li>■ PoE voltage boost from 12V to 54V (12V model)</li> <li>■ PoE management including PoE detection and scheduling for PD (power devices)</li> <li>■ Back-plane (Switching Fabric): 9.6Gbps</li> <li>■ 16K MAC address table</li> <li>■ DDM to support SFP diagnostic function***</li> </ul> | <ul style="list-style-type: none"> <li>• Automatically convert the raw data into dB values for TX power/RX power, making it easier to measure the fiber distance</li> <li>■ 10KB Jumbo frame</li> <li>■ User friendly UI, auto topology drawing, topology demo, complete CLI for professional setting</li> <li>■ Enhanced G.8032 Ring protection in 20ms &lt; 256 switches               <ul style="list-style-type: none"> <li>• Support various ring/chain topologies including train ring, enhanced ring, basic ring, auto ring &amp; multiple VLAN ring</li> <li>• Enhanced G.8032 ring configuration with ease</li> </ul> </li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- Auto ring configuration(auto mode) for single ring
- Cover multicast and data packets protection
- LTDP\*\* (Link Train Discovery Protocol) with Port based DHCP can assign the same IP address and configuration to switch in single ring. It can also keep the config file when switches being swapped
- Dual DC input from 9.5V~60VDC, HV model with single 90~305VAC or 120~430VDC power input
- Provides EFT protection  $\pm 2000$  VDC for power line.
- Supports  $\pm 6000$  VDC Ethernet ESD 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 16 MSTI
- 4K 802.1Q VLAN, Port based VLAN, GVRP\*\*, QinQ\*\*, QoS QinQ\*\*
- Supports IEEE 802.1ab LLDP, Cisco CDP; LLDP info can be viewed via Web/ Console/ Lantech™ InstaView\*\*
- DHCP server / client / DHCP Option 82 relay / DHCP Option 82 server Port based DHCP server; DHCP Option 66; IPv6 address resolution for DHCP server\*\*
- Mac based DHCP server to assign IP address that includes dumb switches in DHCP network
- Bandwidth Control
  - Ingress packet filter and egress rate limit
  - Broadcast/multicast packet filter control
- Relay alarm output system events
- Miss-wiring avoidance
  - LED indicator
- Repowered auto ring restore
  - 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/SFTP\*\*/HTTP firmware upgrade; Lantech™ InstaView\*\* for multiple upgrade
- System Event Log, SMTP Email alert, SMS mobile (text) and SNMP Trap for alarm support; 32 RMON counters
- Security
  - SSL/SSH/INGRESS/EGRESS ACL L2/L3
  - Port Security: MAC address entries/Filter/static MAC-Port binding
  - IP Security: 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
- Multicast static route for non- IGMP camera to prevent flooding; IGMP router port to assign query in ring for reversed multicast video flow
- Multicast VLAN registration\* for metro video
- IGMPv1,v2,v3 with Query mode for multimedia; GMRP\*\*
- Factory reset button to restore setting to factory default
- Watchdog design to auto reboot switch CPU is found dead
- Environmental monitoring for system input voltage, current , total PoE load and ambient temperature (-M model)
- Supports 2DI / 2DO (Digital Input/Digital Output)
- Configuration backup and restoration
  - Supports editable configuration file for system quick installation
  - InstaView\*\* for centralized configuration deployment, backup & upgrade
- Fanless IP30 metal housing with DIN rail and Wall-mount\*\* design

## DIMENSIONS (unit=mm)

### Standard model



**12V model****SPECIFICATION****Hardware Specification**

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards           | IEEE802.3 10Base-T Ethernet<br>IEEE802.3u 100Base-TX<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): 9.6Gbps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Transfer Rate       | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port<br>1,488,000pps for Gigabit Fiber Ethernet port                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mac Address         | 16K MAC address table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Jumbo frame         | 10KB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Connectors          | 10/100TX: 8 x ports RJ-45 PoE with Auto MDI/MDI-X function<br>4 x 1000 SFP socket with DDM<br>RS-232 connector: RJ-45 type<br>Power & Relay connector: 1 x 6-pole terminal block<br>DIDO : 1 x 6-pole terminal block                                                                                                                                                                                                                                                                                                    |
| 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)                                                                                                                                                                                                                                                                                                                                                        |
| Optical Cable       | <b>1.25Gbps:</b><br>Multi mode: 0 to 550 m, 850 nm (50/125 μm);<br>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><b>WDM 1.25Gbps:</b><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) |
| LED                   | Per unit: Power 1 (Green), Power 2 (Green), FAULT (Red)<br>Ethernet port: Link/Activity (Green), Speed (Green);<br>Mini-GBIC: Link/Activity (Green)<br>R.M. indicator (Green)<br>PoE : (Green)                                                             |
| DI/DO                 | 2 Digital Input (DI) :<br>Level 0: -30~2V / Level 1: 10~30V<br>Max. input current:8mA<br>2 Digital Output(DO): Open collector to 40 VDC, 200mA                                                                                                             |
| Operating Humidity    | 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)                                                                                                                                                                             |
| Storage Temperature   | -40°C~85°C / -40°F~185°F                                                                                                                                                                                                                                   |
| Power Supply          | Dual 45~56VDC (48V model)<br>Dual 9.5~57VDC (12V model)                                                                                                                                                                                                    |
| PoE Budget            | 240W for 45~56V input<br>(54V input is recommended for PTZ or heater applications)<br>120W for 24V input<br>80W for 12V input                                                                                                                              |
| 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.                                                                                                   |
| Power Consumption     | 10W                                                                                                                                                                                                                                                        |
| Case Dimension        | Metal case. IP-30,<br>74 (W) x 105 (D) x 152 (H) mm (Standard model)<br>74 (W) x 135 (D) x 152 (H) mm (12V model)                                                                                                                                          |
| Weight                | 900 g                                                                                                                                                                                                                                                      |
| Installation          | DIN Rail and Wall Mount** Design                                                                                                                                                                                                                           |

|                               |                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMI & EMS                     | FCC Class A,<br>CE EN55032 , CE EN55024, CE<br>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 EN61000-6-4, CE EN61000-6-2                                                                                                                                                  |
| Stability Testing             | IEC60068-2-32 (Free fall),<br>IEC60068-2-27 (Shock),<br>IEC60068-2-64 (Vibration)                                                                                                                                                                                                                                                    |
| MTBF                          | 938,222 hours<br>(standards: IEC62830)                                                                                                                                                                                                                                                                                               |
| Warranty                      | 5 years                                                                                                                                                                                                                                                                                                                              |
| <b>Software Specification</b> |                                                                                                                                                                                                                                                                                                                                      |
| Management                    | SNMP v1 v2c, v3/ Web/Telnet/CLI                                                                                                                                                                                                                                                                                                      |
| SNMP MIB                      | RFC 1215 Traps MIB*,<br>RFC 1213 MIBII<br>RFC 1158 MIBII<br>RFC 1157 SNMP MIB,<br>RFC 1493 Bridge MIB*<br>RFC 1573 IF MIB<br>RFC 2674 VLAN MIB*,<br>Partial RFC 1757 RMON,<br>RFC 2674 Q-Bridge MIB*, Bridge MIB,<br>LLDP MIB<br>RSTP MIB*<br>Private MIB                                                                            |
| ITU G.8032                    | Support ITU G.8032 v2/2012 for Ring<br>protection in less than 20ms for self-heal<br>recovery (basic mode)<br>Support various ring/chain topologies<br>Includes train ring, auto ring, basic single<br>ring, enhanced ring, multiple-VLAN ring<br>Enhanced G.8032 ring configuration with<br>ease. Protect multicast & unicast data. |
| LTDP**(optional)              | Link Train Discovery Protocol with Port based<br>DHCP server to assign the same IP address<br>when any car changes. It can also keep the<br>config file when switch is swapped.                                                                                                                                                      |
| User friendly UI              | <ul style="list-style-type: none"> <li>Auto topology drawing</li> <li>Topology demo</li> <li>Auto configuration for G.8032(auto<br/>mode) for single ring</li> <li>DDM threshold monitoring with dB<br/>values***</li> <li>Complete CLI for professional<br/>setting</li> </ul>                                                      |
| Port Trunk with LACP          | LACP Port Trunk: 8 Trunk groups                                                                                                                                                                                                                                                                                                      |
| LLDP                          | Supports LLDP to allow switch to advise its<br>identification and capability on the LAN                                                                                                                                                                                                                                              |
| CDP                           | Cisco Discovery Protocol for topology<br>mapping                                                                                                                                                                                                                                                                                     |
| Environmental<br>Monitoring** | System status for input voltage, current and<br>ambient temperature to be shown in GUI and<br>sent alerting if any abnormal status(-M<br>model)                                                                                                                                                                                      |
| VLAN                          | Port Based VLAN<br>IEEE 802.1Q Tag VLAN (256 entries)/ VLAN<br>ID (Up to 4K, VLAN ID can be assigned from<br>1 to 4096.)<br>GVRP**, QinQ**, QoS QinQ**, Protocol<br>based VLAN** ; IPv4/IPv6 Subnet based<br>VLAN**                                                                                                                  |
| IPv6/4                        | Present                                                                                                                                                                                                                                                                                                                              |
| Spanning Tree                 | Supports IEEE802.1d Spanning Tree and<br>IEEE802.1w Rapid Spanning Tree,<br>IEEE802.1s Multiple Spanning Tree with 16<br>MSTI                                                                                                                                                                                                        |
| Quality of Service            | The quality of service determined by port, Tag<br>and IPv4 Type of service, IPv4 Differentiated                                                                                                                                                                                                                                      |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Services Code Points - DSCP                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Class of Service       | Support IEEE802.1p class of service, per port<br>provides 8 priority queues                                                                                                                                                                                                                                                                                                                                                                                       |
| QoS by VLAN            | Tagged QoS by VLAN for all devices in the<br>network                                                                                                                                                                                                                                                                                                                                                                                                              |
| IP Security            | Supports 10 IP addresses that have<br>permission to access the switch management<br>and to prevent unauthorized intruder.                                                                                                                                                                                                                                                                                                                                         |
| Login Security         | Supports IEEE802.1X<br>Authentication/RADIUS                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Port Mirror            | Support 3 mirroring types: "RX, TX and Both<br>packet"                                                                                                                                                                                                                                                                                                                                                                                                            |
| Network Security       | Support 10 IP addresses that have<br>permission to access the switch management<br>and to prevent unauthorized intruder.<br>802.1X access control for port based and<br>MAC based authentication/MAC-Port binding<br>Management access control with priority<br>Ingress/Egress ACL L2/L3<br>SSL/ SSH for Management<br>HTTPS for secure access to the web<br>interface<br>TACACS+* for Authentication                                                             |
| IGMP                   | Support IGMP snooping v1,v2,v3; Supports<br>IGMP static route; 1024 multicast groups;<br>IGMP router port; IGMP query; GMRP**                                                                                                                                                                                                                                                                                                                                     |
| Static MAC-Port bridge | Static multicast forwarding forward reversed<br>IGMP flow with multicast packets binding with<br>ports for IP surveillance application                                                                                                                                                                                                                                                                                                                            |
| Bandwidth Control      | Support ingress packet filter and egress<br>packet limit.<br>The egress rate control supports all of packet<br>type.<br>Ingress filter packet type combination rules<br>are Broadcast/Multicast/Flooded Unicast<br>packet, Broadcast/Multicast packet,<br>Broadcast packet only and all types of<br>packet.<br>The packet filter rate can be set an accurate<br>value through the pull-down menu for the<br>ingress packet filter and the egress packet<br>limit. |
| Flow Control           | Supports Flow Control for Full-duplex and<br>Back Pressure for Half-duplex                                                                                                                                                                                                                                                                                                                                                                                        |
| System Log             | Supports System log record and remote<br>system log server                                                                                                                                                                                                                                                                                                                                                                                                        |
| SMTP/Text SMS          | Supports SMTP Server and 8 e-mail<br>accounts for receiving event alert; can send<br>SMS text alert via mobile                                                                                                                                                                                                                                                                                                                                                    |
| Relay Alarm            | Provides one relay output for port breakdown,<br>power fail and alarm.<br>Alarm Relay current carry ability: 1A @<br>DC24V                                                                                                                                                                                                                                                                                                                                        |
| Protection             | <ul style="list-style-type: none"> <li>Miss-wiring avoidance</li> <li>Repowered auto ring restore</li> <li>Loop protection</li> </ul>                                                                                                                                                                                                                                                                                                                             |
| 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>                                                                                                                                                            |
| DHCP                   | Provide DHCP Client/ DHCP Server/DHCP<br>Option 82/Port based DHCP; DHCP Option<br>66; IPv6 address resolution for DHCP                                                                                                                                                                                                                                                                                                                                           |

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                       | server**                                                                                                                        |
| Mac based DHCP Server | Assign IP address by Mac that can include dumb switch in DHCP network                                                           |
| DNS                   | Provide DNS client feature and support Primary and Secondary DNS server.                                                        |
| SNTP                  | Supports SNTP to synchronize system clock in Internet                                                                           |
| Firmware Update       | Supports TFTP/SFTP** firmware update, TFTP backup and restore; HTTP firmware upgrade; Lantech™ InstaView** for multiple upgrade |
| Configuration         | Supports text configuration file for system                                                                                     |

## upload and download

quick installation; Support factory reset button to restore all settings back to factory default. Optional InstaView for mass backup, editing configuration and upgrade

\*Future release

\*\*Optional

\*\*\*Optional DDM SFP required

## ORDERING INFORMATION

- **IPES-3408GSFP-48V.....P/N: 8350-550**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch; -20°C to 60°C; Dual 45~56VDC
- **IPES-3408GSFP-48V-E.....P/N: 8350-551**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch; -40°C to 75°C; Dual 45~56VDC
- **IPES-3408GSFP-48V-M.....P/N: 8350-552**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch w/Environmental monitoring; -20°C to 60°C; Dual 45~56VDC
- **IPES-3408GSFP-48V-M-E.....P/N: 8350-553**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch w/Environmental monitoring; -40°C to 75°C; Dual 45~56VDC
- **IPES-3408GSFP-12V.....P/N: 8350-558**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch; -20°C to 60°C; Dual 9.5~57VDC
- **IPES-3408GSFP-12V-E.....P/N: 8350-559**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch; -40°C to 75°C; Dual 9.5~57VDC
- **IPES-3408GSFP-12V-M.....P/N: 8350-5581**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch w/Environmental monitoring; -20°C to 60°C; Dual 9.5~57VDC
- **IPES-3408GSFP-12V-M-E.....P/N: 8350-5591**  
8 10/100TX PoE at/af up to 30W + 4 1000M SFP L2+ Industrial PoE Managed Ethernet Switch w/Environmental monitoring; -40°C to 75°C; Dual 9.5~57VDC

## 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)

## Mini GBIC (SFP)

- |                                                                  |                                                                 |
|------------------------------------------------------------------|-----------------------------------------------------------------|
| ■ <b>8330-162X</b> MINI GBIC 1000SX (LC/MM/0.5KM) Transceiver    | ■ <b>8330-196</b> 1.25Gbps BiDi SFP 2KM Transceiver (WDM 1550)  |
| ■ <b>8330-163X</b> MINI GBIC 1000SX2 (LC/MM/2KM) Transceiver     | ■ <b>8330-188</b> 1.25Gbps BiDi SFP 10KM Transceiver (WDM 1310) |
| ■ <b>8330-165X</b> MINI GBIC 1000LX (LC/SM/10KM) Transceiver     | ■ <b>8330-189</b> 1.25Gbps BiDi SFP 10KM Transceiver (WDM 1550) |
| ■ <b>8340-0591</b> MINI GBIC 1000LHX (LC/SM/40KM) Transceiver    | ■ <b>8330-186</b> 1.25Gbps BiDi SFP 20KM Transceiver (WDM 1310) |
| ■ <b>8330-166</b> MINI GBIC 1000XD (LC/SM/50KM) Transceiver      | ■ <b>8330-187</b> 1.25Gbps BiDi SFP 20KM Transceiver (WDM 1550) |
| ■ <b>8330-169</b> MINI GBIC 1000XD (LC/SM/60KM) Transceiver      | ■ <b>8330-180</b> 1.25Gbps BiDi SFP 40KM Transceiver (WDM 1310) |
| ■ <b>8330-167</b> MINI GBIC 1000ZX (LC/SM/80KM) Transceiver      | ■ <b>8330-182</b> 1.25Gbps BiDi SFP 40KM Transceiver (WDM 1550) |
| ■ <b>8330-170</b> MINI GBIC 1000EZ (LC/SM/120KM) Transceiver     | ■ <b>8330-181</b> 1.25Gbps BiDi SFP 60KM Transceiver (WDM 1310) |
| ■ <b>8330-168</b> MINI GBIC 10/100/1000T (100m) Transceiver      | ■ <b>8330-183</b> 1.25Gbps BiDi SFP 60KM Transceiver (WDM 1550) |
| ■ <b>8330-197</b> 1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1310) | ■ <b>8330-184</b> 1.25Gbps BiDi SFP 80KM Transceiver (WDM 1490) |
| ■ <b>8330-198</b> 1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1550) | ■ <b>8330-185</b> 1.25Gbps BiDi SFP 80KM Transceiver (WDM 1550) |
| ■ <b>8330-195</b> 1.25Gbps BiDi SFP 2KM Transceiver (WDM 1310)   |                                                                 |

All SFP# ended with D are with DDM function

**Wall Mount Bracket**

|                  |                                                                                                         |
|------------------|---------------------------------------------------------------------------------------------------------|
| <b>MBAK19003</b> | Wall mount bracket for 74(W) x 105 (D) x 152 (H) mm / 74 (W) x 135 (D) x 152 (H) mm Industrial switches |
| <b>MBAK19004</b> | 19" Rack Mounting Kit for 74x105x152mm/74x135x152mm Industrial Switch                                   |

**Lantech Communications Global Inc.**

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