

# IPES-2208C

## 8-Port 10/100TX + 2-Port 10/100/1000T/Dual Speed SFP Combo w/ 8-PoE-Injector Pro-Ring Managed Industrial Switch

- Complies with IEEE 802.3af PoE standard
- Adjustable power output up to 15.4W per port
- Redundant power design
- Pro-Ring II system : X-Ring 10ms, Dual Homing, Couple Ring and Dual Ring Topology



### OVERVIEW

The Lantech IPES-2208C is a 8-port 10/100BaseTX + 2-port 10/100/1000T/Dual Speed SFP Combo industrial switch w/8 POE Injectors. The SFP connection is suitable with 100M and 1000M Dual Speed. The full SNMP features are including QoS for 4 queues, 802.1q VLAN, IGMP snooping and query mode as well as SNMP and SMTP etc.

Equipped with DC 48V redundant input power, the Lantech IPES-2208C is able to feed each PoE port up to 15.4Watts with adjustable ability. It also supports relay contact to connect with alarm system in case of power or port failure.

The Lantech IPES-2208C is designed to meet the demands of Industrial environments, comes packaged in a robust IP30 housing and has been tested extensively to meet Industrial EMI and EMC standards. Rigorous mechanical testing has also been undertaken to comply with free fall, shock and vibration

stability test requirements, which ensure long term reliability in critical industrial environments.

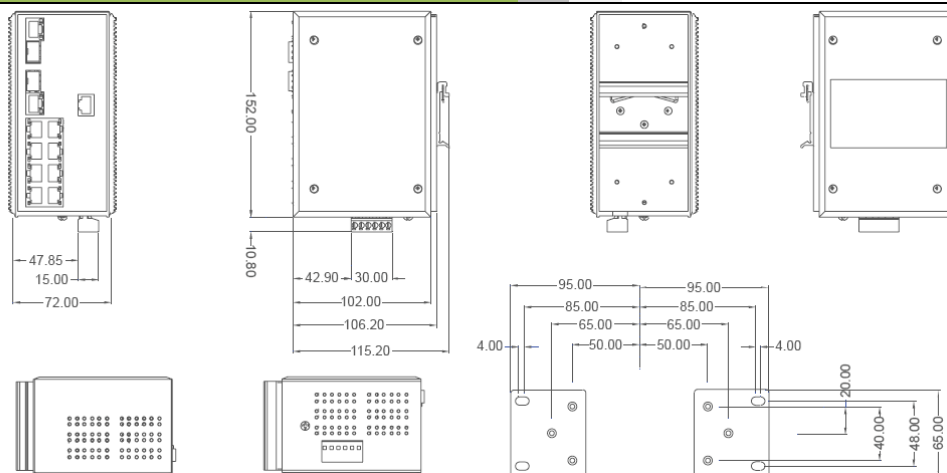
The Lantech IPES-2208C supports Pro-Ring system, which includes X-Ring, an auto-recovery-path within 10ms up to 250 Lantech Industrial Switches; Dual-Homing to ensure two X-Ring groups with redundant back up when connected to a backbone switch. Couple Ring/Dual Ring is to ensure network recovery protection between two X-Ring groups. Furthermore, it can set back-up masters in X-Ring to ensure the most secure network.

The Lantech IPES-2208C is the best to be used in automation, transportation, semi-conductor factory, heavy Industrial factory and other factory assembly lines where needs PoE functionality. The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

### FEATURES & BENEFITS

- RJ-45 Port Support Auto MDI/MDI-X Function
- Embedded 8-port PoE Injector function
- SFP(Mini-GBIC) supports 100/1000 Dual Mode
- Store-and-Forward Switching Architecture
- Back-plane (Switching Fabric): 5.6Gbps
- 1Mbits Packet Buffer / 8K MAC address table
- Adjustable power output up to 15.4W/port
- IGMP with Snooping and Query mode for Multi Media Application
- IP-30 Protection with DIN rail and wall mount design
- Redundant Power Design
- Provides EFT protection 3000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection
- IEEE 802.1d Spanning Tree & IEEE 802.1w RSTP
- Port Based VLAN, 802.1Q Tag VLAN, GVRP
- Double Tag VLAN (Q in Q)\*\*, Private VLAN\*\*
- Pro-Ring
  - X-ring, Dual Homing, Couple Ring, and Dual Ring Topology.
  - Provides redundant backup feature and the recovery time below 10ms for a ring of up to 250 switches.
- Port Trunk with LACP
- Supports IEEE 802.1ab LLDP
- Supports IEEE 802.1p Class of Service, per port provides 4 priority queues
- Port base, Tag Base and Type of Service Priority
- Supports Ingress Packet Filter and Egress Rate Limit
- Supports Broadcast/Multicast Packet Filter Control
- Port Mirror: Monitor traffic in switched networks
  - TX, RX, Both of TX and RX Packet
- System Log Server/Client
- SMTP e-mail Alert
- Security
  - Port Security: MAC address entries/Filter
  - IP Security: IP address security management to prevent unauthorized intruder
  - Login Security: IEEE802.1X/RADIUS
- SNMP Trap
  - Device cold start, Power status, Authentication failure, X-ring topology changed, Port Link up/Link down, PoE port events
- Relay Alarm Output System Events
- TFTP Firmware Update and System Configure Restore/Backup

**DIMENSIONS (unit=mm)**



**SPECIFICATION**

Hardware Specification		Software Specification	
IEEE Standards	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T IEEE802.3z Gigabit fiber IEEE802.3x Flow Control and Back Pressure IEEE802.3ad Port trunk with LACP IEEE802.3af Power over Ethernet IEEE802.1d Spanning Tree IEEE802.1w Rapid Spanning Tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tag IEEE802.1x User Authentication (Radius) IEEE802.1ab LLDP	LED	Negative (VCC-): RJ-45 pin 7,8. <b>Per unit:</b> Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) <b>8 port 10/100:</b> Link/Activity (Green), Full duplex/Collision (Yellow) <b>SFP port:</b> LNK/ACT(Green), 1000T: LNK/ACT(Green), 1000M(Green)
Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps	Power Supply	48VDC (45~56VDC), - 48VDC (- 45~ - 56VDC), Redundant power connective removable terminal block for master and slave power
Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000pps for Gigabit Fiber Ethernet port	Overload current protection	Present
Packet Buffer	1Mbits	Operating Humidity	5% - 95% (Non-condensing)
MAC Address	8K MAC address table	Operating Temperature	Standard: -20°C~60°C / -4°F~140°F Wide Operating Temperature for E models: -40°C~75°C / -40°F~167°F
Flash ROM	4Mbytes	Storage Temperature	-40°C~85°C / -40°F~185°F
DRAM	32Mbytes	Case Dimension	IP-30, 72mm (W) x 105mm (D) x 152mm (H)
Connectors	10/100TX: 8 x ports RJ-45 with Auto MDI/MDI-X function 10/100/1000T/SFP Combo port: 2 x RJ-45 + 2 x 100/1000 SFP socket. RS-232 connector: RJ-45 type	Weight	1418 g
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5, 6/ 5E cable EIA/TIA-568 100-ohm (100m) 100Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m) 1000Base-TX: 2-pair UTP/STP Cat. 5/ 5E/ 6 cable EIA/TIA-568 100-ohm (100m)	Fan Number	0
Optical Fiber	Distance: Multi mode: 0 to 5 km, 1300 nm (50/125 μm, 800 MHz*km) 0 to 4 km, 1300 nm (62.5/125 μm, 500 MHz*km) Single mode: 0 to 40 km, 1310 nm (9/125 μm, 3.5 PS/(nm*km)) 0 to 80 km, 1550 nm (9/125 μm, 19 PS/(nm*km)) Min. TX Output: Multi mode: -20 dBm Single mode: 0 to 40 km, -5 dBm; 0 to 80 km, -5 dBm Max. TX Output: Multi mode: -14 dBm Single mode: 0 to 40 km, 0 dBm; 0 to 80 km, 0 dBm Sensitivity: -36 to -32 dBm(SM); -34 to -30(MM)	Installation	Wall mount or DIN-type cabinet install
Protocol	CSMA/CD	MTBF	190288 hrs
PoE pin assignment	RJ-45 port # 1-# 8 support IEEE 802.3af End-point, Alternative B mode. Per port provides 15.4W ability. Positive (VCC+): RJ-45 pin 4,5.	EMI & EMS	FCC Class A, CE EN61000-4-2, CE EN61000-4-3, CE EN61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-6-2, CE EN61000-6-4
		Safety	UL, cUL, CE/EN60950-1
		Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
		Power Consumption	5.5 Watts (Unload) 9.7 Watts (Full load: Only Ethernet) 111.3 Watts (Full load: Only PD load) 115.6 Watts (Full load)
		Warranty	5 years
		Management	SNMP v1 v2c, v3/ Web/Telnet/CLI
		SNMP MIB	RFC 1215 Traps MIB, RFC 1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643 EtherLike, RFC 1757 Rmon, RSTP MIB, Private MIB, PoE MIB, UPS MIB, LLDP MIB
		VLAN	Port Based VLAN IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4094.) GVRP (256 Groups) Double Tag VLAN (Q in Q)* Private VLAN**
		Port Trunk with LACP	LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members

LLDP	Supports LLDP to allow switch to advise its identification and capability on the LAN	Bandwidth Control	Support ingress packet filter and egress packet limit The egress rate control supports all of packet type and the limit rates are 100K-102400Kbps(10/100), 100K-256000Kbps(1000)
Spanning Tree	Supports IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree	Relay Alarm	Provides one relay output for port breakdown, power fail alarm. Alarm Relay current carry ability: 1A @ DC24V
Pro-ring	Supports X-ring, Dual Homing, Couple Ring, and Dual Ring. Dual Ring can connect two rings without couple ring. Provides redundant backup feature and the recovery time below 10ms for a ring of up to 250 switches		
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service	SNMP Trap	1. Cold start; 2. Link down; 3. Link up; 4. Authorization fail; 5. PD disconnect trap-PoE port event
Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues	DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding
Port Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter	DNS	Provide DNS client feature and support Primary and Secondary DNS server.
Port Mirror	Supports 3 mirroring types: "RX, TX and Both packet"	Firmware Update	Supports TFTP firmware update, TFTP backup and restore.
IGMP	Supports IGMP snooping v1,v2 256 multicast groups and IGMP query	Configuration upload / download	Supports binary format configuration file for system quick installation
IP Security	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.	ifAlias	Each port allows importing 128bits of alphabetic string of word on SNMP and CLI interface
Login Security	Supports IEEE802.1X Authentication/RADIUS		
Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex		
System Log	Supports System log record and remote system log server		
SMTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert		
SNTP	Supports SNTP to synchronize system clock to Internet		

\*Future Release  
\*\*Optional

## ORDERING INFORMATION

- **IPES-2208C.....P/N: 8350-700**  
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors Managed Industrial Switch; -20°C to 60°C
- **IPES-2208C-E.....P/N: 8350-705**  
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors Managed Industrial Switch; -40°C to 75°C

## OPTIONAL ACCESSORIES

### DIN Rail Power

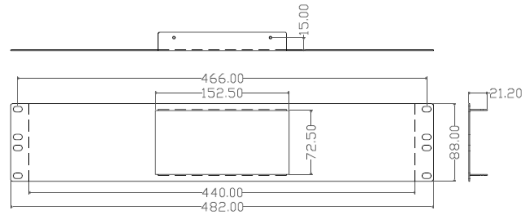
- **AD1048-24FS** 24VDC, 2A, Wide AC Input, Convection Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C-50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 75°C, which means the output is 18 Watts at 75°C.)
- **AD1024-24F** 24VDC, 1A, Wide AC Input, Convection Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C-50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 75°C, which means the output is 9 Watts at 75°C.)
- **AD1240-48S** 48VDC, 5A, Wide AC Input, Build-in fan Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C-50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)
- **AD1120-48F** 48VDC, 2.5A, Wide AC Input, Build-in fan Cooled, DIN Rail or Wall Mounted, RoHS, Operating Temp. -20°C-50°C (ambient, derating each output at 2.5% per degree from 50°C ~ 70°C)

### Mini GBIC (SFP)

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|--|--|
| ■ <b>8330-162</b> MINI GBIC 1000SX (LC/0.5km) Transceiver    | ■ <b>8330-061</b> 100Base LX 30KM, Single-mode, LC Transceiver |
| ■ <b>8330-163</b> MINI GBIC 1000SX2 (LC/2km) Transceiver     | ■ <b>8330-188</b> LTSFP-1000BX-10KM Transceiver (WDM 1310)     |
| ■ <b>8330-165</b> MINI GBIC 1000LX (LC/10km) Transceiver     | ■ <b>8330-189</b> LTSFP-1000BX-10KM Transceiver (WDM 1550)     |
| ■ <b>8340-0591</b> MINI GBIC 1000LHX (LC/40km) Transceiver   | ■ <b>8330-186</b> LTSFP-1000BX-20KM Transceiver (WDM 1310)     |
| ■ <b>8330-166</b> MINI GBIC 1000XD (LC/50km) Transceiver     | ■ <b>8330-187</b> LTSFP-1000BX-20KM Transceiver (WDM 1550)     |
| ■ <b>8330-169</b> MINI GBIC 1000XD (LC/60km) Transceiver     | ■ <b>8330-180</b> LTSFP-1000BX-40KM Transceiver (WDM 1310)     |
| ■ <b>8330-167</b> MINI GBIC 1000ZX (LC/80km) Transceiver     | ■ <b>8330-182</b> LTSFP-1000BX-40KM Transceiver (WDM 1550)     |
| ■ <b>8330-170</b> MINI GBIC 1000EZ (120km) Transceiver       | ■ <b>8330-181</b> LTSFP-1000BX-60KM Transceiver (WDM 1310)     |
| ■ <b>8330-168</b> MINI GBIC 10/100/1000T (100m) Transceiver  | ■ <b>8330-183</b> LTSFP-1000BX-60KM Transceiver (WDM 1550)     |
| ■ <b>8330-060</b> 100Base FX 2KM, Multi-mode, LC Transceiver | ■ <b>8330-184</b> LTSFP-1000BX-80KM Transceiver (WDM 1490)     |
| ■ <b>8330-065</b> 100Base FX 5KM, Multi-mode, LC Transceiver | ■ <b>8330-185</b> LTSFP-1000BX-80KM Transceiver (WDM 1550)     |

**Rack Mounting Kit**

- **MBAK19001** 19" Rack Mounting Kit for 72x105x152mm Industrial Switch



**Lantech Communications Global Inc.**

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