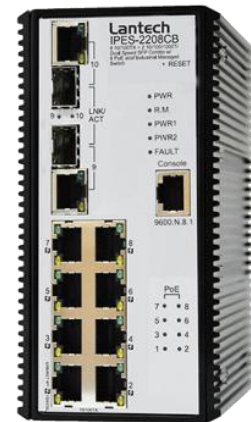


IPES-2208CB

8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo
w/ 8-PoE at/af Managed Industrial Switch

- Pro-Ring IIse/Pro-ring IIIm for single ring & couple ring self-healing in 20ms
- Support PoE Plus 802.3at/af ;240W PoE budget; 12V~48V input (12V model)
- PoE management incl. Detection, Delay and Scheduling
- Support Advanced SNMP including QoS, IGMP query & source only / v3, DDM***, Environmental Monitoring**



OVERVIEW

The Lantech IPES-2208CB is a full wire speed 8-port 10/100BaseTX + 2-port 10/100/1000T/Dual Speed SFP Combo industrial PoE switch w/8 POE 802.3at/af Injectors and Pro-Ring IIse and couple ring (Pro-Ring IIIm) self-recovery in less than 20ms. The SFP connection is suitable with 100M or 1000M Dual Speed. The advanced SNMP management features include QoS for 4 queues, 802.1q VLAN, IGMP snooping, query and source only for multicast IP surveillance, DDM*** as well as Web Ping, Environmental Monitoring**, SNTP and SMTP etc.

Compliant with 802.2at/af PoE Plus standard, the Lantech IPES-2208CB is able to feed each PoE port up to 30 Watts@54 VDC providing the connected PD devices. The built-in relay contact is able to connect with alarm system and send Email, SNMP trap and Syslog alert in case of power or connection failure. IPES-2208CB-12V is built with Booster technology that can accept input voltage from 12V ~ 48V and deliver PoE power at 48V to feed the PD.

Lantech IPES-2208CB supports advanced PoE management including PoE detection, delay and scheduling. PoE detection can detect if the connected PD is hanging up then restart the PD; PoE delay is to delay power feeding when the switch is completely booted up; PoE scheduling is to allow pre-set power feeding schedule upon routine time table. The exclusive IGMP source only function can auto choose IGMP query for

surveillance application.

The innovative Pro-Ring IIse self-recovery scheme can recover single ring network in less than 20ms while Pro-ring IIIm for couple ring topology with only one step configuration. Lantech IPES-2208CB builds all the important management features required in large network like DHCP Client/Server, 802.1X authentication, IGMP Query / Snooping / v3 and Source only for reverse multicast flow, and advanced QoS. It also supports Ping commands via Web to detect whether a specific device is connected for easy trouble-shooting.

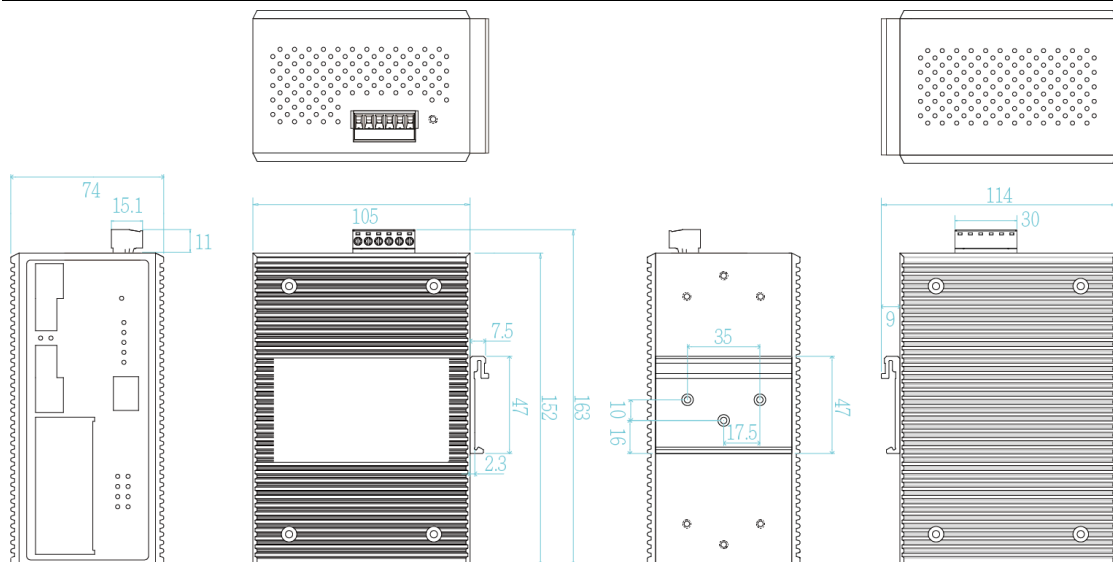
The built-in factory reset button can restore all setting back to factory default in case of User name and Password are missing. The optional environmental monitoring model can display ambient temperature inside case, Input voltage, current, power consumption, PoE load info at a glance and with capability of alert setting.

The Lantech IPES-2208CB can support up to ± 6 KV ESD contact per UTP port to minimize the burn down risk where the electronic static discharge is usually found. It is the best to be used in municipal, city surveillance, automation, transportation, mining, heavy Industrial factory where needs PoE functionality under harsh environment. The -E model can be used in extreme environments with an operating temperature range of -40°C to 75°C.

FEATURES & BENEFITS

- Pro-Ring IIse for self-recovery scheme in less than 20ms in Ring for single ring and Pro-ringIIm for coupling ring protection
- Embedded 8-port PoE plus to feed power up to 30W@54V.
- PoE management including PoE detection, delay and scheduling for PD(power devices)
- PoE voltage boost from 12V to 48V (12V model)
- SFP slot supports 100/1000 Dual Mode with DDM*** for SFP diagnostic and monitoring
- Back-plane(switch fabric): 5.6Gbps
- 1Mbits Packet Buffer / 8K MAC address table
- Support switching full wire speed
- IP30 metal housing with DIN rail and Wall-mount** design
- Dual Power Design for +DV power input
- Provides EFT protection ± 2000 VDC for power line
- Supports ± 6000 VDC ESD protection
- Support CPU load monitoring every 1,5,15 minutes and Web Ping to check if the connected device is alive
- IEEE 802.1d STP, IEEE 802.1w RSTP
- IGMP with Snooping / v1,v2,v3, Query mode for Multi Media Application
- IGMP source only for auto query chosen in surveillance application
- Manual static multicast route for non-IGMP application
- Port Based VLAN, 802.1Q Tag VLAN, GVRP
- Port Trunk with LACP
- Supports IEEE 802.1ab LLDP
- Supports IEEE 802.1p CoS, 4 priority queues per port
- 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 up to 6 emails
- Security
 - Port Security: MAC address entries/Filter
 - IP Source Guard: IP address security management to prevent unauthorized intruder
 - Login Security: IEEE802.1X/RADIUS/SSH**/SSL**
- SNMP Trap
 - Device cold start, Power status, Authentication failure, Port Link up/Link down
 - PoE event
 - Environmental Monitoring**
- Relay Alarm Output System Events
- TFTP Firmware Update
- Factory reset bottom can restore all setting back to factory default
- Optional environmental graphical monitoring for ambient temperature inside case, system input voltage, current, power consumption and PoE load as well as event alerting

DIMENSIONS (unit=mm)



SPECIFICATION

Hardware Specification		53-56V(at)	54V@30W						
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 /at Power over Ethernet IEEE802.1d Spanning Tree IEEE802.1w Rapid Spanning Tree IEEE802.1s Multiple Spanning Tree IEEE802.1p Class of Service IEEE802.1Q VLAN Tag IEEE802.1x User Authentication (Radius) IEEE802.1ab LLDP	LED	Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green) 8 port 10/100: Link/Activity (Green), Full duplex/Collision (Yellow) Combo port: SFP LNK/ACT(Green), 1000T: LNK/ACT(Green), 1000M(Yellow) R.M. indicator (Green)						
Switch Architecture	Back-plane (Switching Fabric): 5.6Gbps, support full wire speed	Power Supply	PoE input 48V/54VDC; 9.5V-56V(IPES-2208CB-12V); Dual 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 Ethernet / Gigabit Fiber 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						
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 with DDM*** RS-232 connector: RJ-45 type	Case Dimension	IP-30, 74(W) x 114.3 (D) x 152 (H) mm						
Network Cable	10Base-T: 2-pair UTP/STP Cat. 3, 4, 5/ 5E/ 6 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)	Weight	850 g						
Optical Fiber	1.25Gbps: 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) 125Mbps: Multi mode: 0 to 2 km/ 5 km, 1310 nm (62.5/125 μm) Single mode: 0 to 30 km, 1310 nm (62.5/125 μm) WDM 1.25Gbps: 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 125Mbps: Single mode: 0 to 20 km/ 40 km/ 60 km/ 80 km, 1310 nm (9/125 μm); 0 to 20 km/ 40 km/ 60 km/ 80 km, 1550 nm (9/125 μm)	Fan Number	0						
Protocol	CSMA/CD	Installation	DIN Rail and Wall Mount** Design						
PoE pin assignment	RJ-45 port # 1- # 8 support IEEE 802.3at/af End-point. Per port provides up to 30W Positive (VCC+): RJ-45 pin 1,2. Negative (VCC-): RJ-45 pin 3,6.	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 EN61000-6-2, CE EN55032 Class A, CE EN55024						
PoE input voltage & Power feed voltage	<table border="1"> <thead> <tr> <th>Input V</th> <th>Active Mode A /Output V</th> </tr> </thead> <tbody> <tr> <td>9.5V-56V</td> <td>48V/54V@15W/30W(IPES-2208 CB-12V)</td> </tr> <tr> <td>45-56V(af)</td> <td>48V@15W</td> </tr> </tbody> </table>	Input V	Active Mode A /Output V	9.5V-56V	48V/54V@15W/30W(IPES-2208 CB-12V)	45-56V(af)	48V@15W	Safety	UL 60950
Input V	Active Mode A /Output V								
9.5V-56V	48V/54V@15W/30W(IPES-2208 CB-12V)								
45-56V(af)	48V@15W								
		Stability Testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)						
		Power Consumption	9.86 W (no PoE load) for Ethernet data at full load						
		PoE Power Budget	240W @48VDC; 120W @24VDC; 90W @12VDC (54V input is recommended for PTZ or heater applications)						
		MTBF	865,786 hours						
		Warranty	5 years						
		Software Specification							
		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, LLDP MIB						
		System Information	Show detail info incl.Name, Version,CPU load monitoring for every 1,5,15 minutes Display network parameters incl. Mac, IP, Gateway, Netmask Allow adding port description						
		Pro-Ring Ilse/Pro-ring Ilm	Pro-Ring Ilse fos Single-Ring and Pro-ring Ilm for couple ring supporting network recovery in less than 20ms up to 50 switches in a ring. 20ms recovery is on fiber port.						
		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 (256 Groups)						
		Ping detection	Support Ping command through Web to detect the connected devices						
		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 & Storm 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) Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set from 100K-102400Kbps(10/100), 100K-256000Kbps(1000)
Spanning Tree	Supports IEEE802.1d Spanning Tree, IEEE802.1w Rapid Spanning Tree		
PoE Management	<ul style="list-style-type: none"> ■ PoE Detection to check if PD is hang up then restart the PD ■ PoE Delay to send power when switch is completely boot up ■ PoE Scheduling to On/OFF PD upon routine time table 		
Environmental Monitoring **	Graphical display of Ambient temperature inside case, Input voltage, Input current, Power consumption, PoE load with capability of alert setting	Relay Alarm	Provides one relay output for port breakdown, power fail alarm. Alarm Relay current carry ability: 1A @ DC24V
Quality of Service	The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service	SNMP Trap	<ol style="list-style-type: none"> 1. Cold start 2. Link down 3. Link up 4. Authorization fail 5. PoE port event 6. Environmental abnormal event**
Class of Service	Supports IEEE802.1p class of service, per port provides 4 priority queues		
Port Security	Supports 100 entries of MAC address for static MAC and another 100 for MAC filter		
Port Mirror	Supports 3 mirroring types: *RX, TX and Both packet*	DHCP	Provides DHCP Client/ DHCP Server/ Port and IP Binding
IGMP	Supports IGMP snooping v1,v2,v3 IGMP Source only for query auto chosen Static Multicast Route for non-IGMP multicast 256 multicast groups and IGMP query	DNS	Provide DNS client feature and support Primary and Secondary DNS server.
		Firmware Update	Supports TFTP and Web firmware update, TFTP backup and restore.
IP Source Guard	Supports 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.	Factory reset	Factory reset bottom can restore all setting back to factory default
Login Security	Supports IEEE802.1X Authentication/RADIUS/Telnet SSL**/ SSH** for Management	ifAlias	Each port allows importing 128bits of alphabetic string of word on SNMP and CLI interface
Flow Control	Supports Flow Control for Full-duplex and Back Pressure for Half-duplex		*Future Release
System Log	Supports System log record and remote system log server		**Optional
SMTP	Supports SMTP Server and 6 e-mail accounts for receiving event alert		***Optional DDM SFP required
SNTP	Supports SNTP to synchronize system clock to Internet		

ORDERING INFORMATION

- **IPES-2208CB.....P/N: 8350-784**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af Industrial Managed Switch; -20°C to 60°C
- **IPES-2208CB-E.....P/N: 8350-785**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af Industrial Managed Switch; -40°C to 75°C
- **IPES-2208CB-12V.....P/N: 8350-786**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af Industrial Switch w/9.5V-56V PoE input; -20°C to 60°C
- **IPES-2208CB-12V-E.....P/N: 8350-787**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af w/9.5V-56V PoE input Industrial Switch; -40°C to 75°C
- **IPES-2208CB-M.....P/N: 8350-7841**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af & Environmental monitoring Industrial Switch; -20°C to 60°C
- **IPES-2208CB-M-E.....P/N: 8350-7851**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af & Environmental monitoring Industrial Managed Switch; -40°C to 75°C
- **IPES-2208CB-12V-M.....P/N: 8350-7861**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af & Environmental monitoring Industrial Managed Switch w/9.5V-56V PoE input ; -20°C to 60°C
- **IPES-2208CB-12V-M-E.....P/N: 8350-7871**
8 10/100TX + 2 10/100/1000T/Dual Speed SFP Combo w/8 PoE Injectors 802.3at/af & Environmental monitoring industrial Managed Switch w/9.5V-56V PoE input; -40°C to 75°C

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)

- | | | | |
|--------------------|--|-------------------|---|
| ■ 8330-162X | MINI GBIC 1000SX (LC/MM/0.5KM) Transceiver | ■ 8330-187 | 1.25Gbps BiDi SFP 20KM Transceiver (WDM 1550) |
| ■ 8330-163X | MINI GBIC 1000SX2 (LC/MM/2KM) Transceiver | ■ 8330-180 | 1.25Gbps BiDi SFP 40KM Transceiver (WDM 1310) |
| ■ 8330-165X | MINI GBIC 1000LX (LC/SM/10KM) Transceiver | ■ 8330-182 | 1.25Gbps BiDi SFP 40KM Transceiver (WDM 1550) |
| ■ 8340-0591 | MINI GBIC 1000LHX (LC/SM/40KM) Transceiver | ■ 8330-181 | 1.25Gbps BiDi SFP 60KM Transceiver (WDM 1310) |
| ■ 8330-166 | MINI GBIC 1000XD (LC/SM/50KM) Transceiver | ■ 8330-183 | 1.25Gbps BiDi SFP 60KM Transceiver (WDM 1550) |
| ■ 8330-169 | MINI GBIC 1000XD (LC/SM/60KM) Transceiver | ■ 8330-184 | 1.25Gbps BiDi SFP 80KM Transceiver (WDM 1490) |
| ■ 8330-167 | MINI GBIC 1000ZX (LC/SM/80KM) Transceiver | ■ 8330-185 | 1.25Gbps BiDi SFP 80KM Transceiver (WDM 1550) |
| ■ 8330-170 | MINI GBIC 1000EZ (LC/SM/120KM) Transceiver | ■ 8330-071 | 125Mbps BiDi SFP 2KM (WDM 1310) Transceiver |
| ■ 8330-168 | MINI GBIC 10/100/1000T (100m) Transceiver | ■ 8330-072 | 125Mbps BiDi SFP 2KM (WDM 1550) Transceiver |
| ■ 8330-060 | MINI GBIC 100Base (LC/MM/2KM) Transceiver | ■ 8330-069 | 125Mbps BiDi SFP 20KM (WDM 1310) Transceiver |
| ■ 8330-065 | MINI GBIC 100Base (LC/MM/5KM) Transceiver | ■ 8330-068 | 125Mbps BiDi SFP 20KM (WDM 1550) Transceiver |
| ■ 8330-061 | MINI GBIC 100Base (LC/SM/30KM) Transceiver | ■ 8330-080 | 125Mbps BiDi SFP 40KM (WDM 1310) Transceiver |
| ■ 8330-197 | 1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1310) | ■ 8330-082 | 125Mbps BiDi SFP 40KM (WDM 1550) Transceiver |
| ■ 8330-198 | 1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1550) | ■ 8330-081 | 125Mbps BiDi SFP 60KM (WDM 1310) Transceiver |
| ■ 8330-195 | 1.25Gbps BiDi SFP 2KM Transceiver (WDM 1310) | ■ 8330-083 | 125Mbps BiDi SFP 60KM (WDM 1550) Transceiver |
| ■ 8330-196 | 1.25Gbps BiDi SFP 2KM Transceiver (WDM 1550) | ■ 8330-084 | 125Mbps BiDi SFP 80KM (WDM 1310) Transceiver |
| ■ 8330-188 | 1.25Gbps BiDi SFP 10KM Transceiver (WDM 1310) | ■ 8330-085 | 125Mbps BiDi SFP 80KM (WDM 1550) Transceiver |
| ■ 8330-189 | 1.25Gbps BiDi SFP 10KM Transceiver (WDM 1550) | ■ 8330-191 | Dual Speed SFP 100M/1000M-LX 10KM Transceiver |
| ■ 8330-186 | 1.25Gbps BiDi SFP 20KM Transceiver (WDM 1310) | | |
- All SFP# ended with D are with DDM function

Lantech Communications Global, Inc.

www.lantechcom.tw
info@lantechcom.tw

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