

# LinkPower™ LPS10868ATM

## Industrial L2+ Managed 8-Port 2.5Gb 802.3bt PoE Network Switch with 4 10 Gb Fiber Uplink Ports

IEEE802.3bt PoE++

2.5 Gigabit & SFP+

Ethernet Surge Protection

Industrial Grade  
-40°C to +75°C



### APPLICATIONS

- Smart City
- IP Video Surveillances
- Campus Networks
- Fixed Wireless Networks
- Border Security Surveillance
- Municipal Networks
- Hospitality Networks
- Hotel Resort Networks
- Hotspot Integrations
- VOIP Services
- Traffic Monitoring

The LPS10868ATMP Industrial PoE Switch is a 2.5G L2+ managed industrial PoE switch with 120Gbps forwarding bandwidth for carrier Ethernet Access and Edge applications, and it offers 8 10/100/1000/2500 Base-T RJ45 ports and 4 1/10G SFP+ fiber ports. Port one to eight support IEEE802.3af/at/bt PoE standards. Single-port POE power up to 90W. It can supply power to POE terminal equipment such as wireless AP, web cameras, VoIP phones, and industrial sensors through network cables and meet the network environment that needs a high-power PoE power supply. As a PoE power supply device, it can automatically detect and recognize the type of power-receiving equipment that meets the IEEE 802 PoE standard and supply power through the network cable.

The LPS10868ATMP Industrial PoE Switch has L2+ full network management function, supports IPV4/IPV6 management, static route forwarding, complete security protection mechanism, complete ACL/QoS policy, and 4K-entry VLAN functions, and is easy to manage and maintain. The switch has a 4K-entry VLAN table and provides VLAN classification according to port-based, protocol-and-port-based, MAC-based, and Flow-based capability. It also supports IVL (Independent VLAN Learning), SVL (Shared VLAN Learning), and IVL/SVL (both Independent and Shared VLAN Learning) for flexible network topology architecture. In network access applications, it provides IEEE802.1ad (Q-in-Q) for double tag insertion and removal functions. In addition, the VLAN translation function also supports Metro Ethernet applications and multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS(<20ms) to improve link backup and network reliability. Communication can be quickly restored when a one-way network fails to ensure important uninterrupted communication for applications. According to the actual application needs, PoE power management, port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other application services are configured through network management methods such as Web, CLI, SNMP, Telnet, etc.

### KEY SYSTEM FEATURES

**\* 2.5G network access, 10G optical port uplink**

- Support non-blocking 240Gb switching capacity and 120G wire-speed forwarding.
- Support full-duplex based on IEEE802.3x and half-duplex based on Back-pressure.
- Support eight 2.5G Ethernet port and four 10G SFP+ port combination, enabling users to build carrier networking to meet the needs of wire-speed performance.

**\* Intelligent PoE power supply**

- IEEE802.3af/at/bt PoE standards without damaging non-PoE devices.
- PoE network management, realizing PoE port on/off, priority setting, port power status viewing, time scheduling, etc.
- The priority system for the PoE port will first supply power to the high-priority level port when the power budget is insufficient and avoid overwork of the device.
- 8 10/100/1000/2500 Base-T RJ45 support PoE power, meeting the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

\*  
\*\*\* LinkPower LPS Outdoor & Industrial PoE Series Products are protected under several of Inscape Data's U.S. Patents. \*\*\*

**\* Powerful secure network capability**

- ERPS/STP/RSTP/MSTP.
- Static and dynamic aggregation.
- IEEE802.1Q VLAN, flexible VLAN division, Voice VLAN, and QinQ configuration, and IEEE802.1ad (Q-in-Q) for double tag insertion and removal function.
- The QoS, Priority mode based on 802.1P, Port & DSCP, queue scheduling algorithm including Equ, SP, WRR & SP+WRR.
- ALC filters data packets by configuring matching rules, processing operations & time permission, and providing flexible and safe access control.
- IGMP Snooping V1/V2/V3 multicast protocol meets the requirements for multi-terminal high-definition video surveillance and video conference access.

**\* Network Security**

- Port isolation, storm control.
- IP+MAC+port+VLAN quadruple flexible combination binding function.
- An independent 4K-entry Multicast table is used to support Multicast functions, such as IGMP snooping.
- 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

**\* Reliable & Stable**

- CCC, CE, FCC, and RoHS.
- Low power consumption, aluminum casing with fin heat sink. No fan.
- The user-friendly panel can show the device status through the PWR, SYS, Link,L/A, PoE LED indicators.

**\* Design control for easy operation and management**

- HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.
- RMON, system log, and port traffic statistics are convenient for network optimization and transformation.
- LLDP is convenient for the network management system to query and judge the communication status of the link.
- Various management and maintenance methods include Web network management, CLI command line (Console, Telnet), SNMP (V1/V2C/V3), and Telnet.

Model	LPS10868ATMP
<b>Interface Characteristics</b>	
Fixed Port	Power off alarm switch port (FAULT) 1*RS232 console port (115200, N, 8,1) 4*1/10G uplink SFP+ ports (Data) 8*10/100/1000/2500Base-T PoE ports (Data/Power) 2 set of V+, V- redundant DC power ports (6 Pin Phoenix terminal)
Ethernet Port	Port 1-8 support 10/100/1000/2500Base-T auto-sensing, full/half duplex MDI/MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP(≤100 meters) 100BASE-TX: Cat5 or later UTP(≤100 meters) 1000BASE-T: Cat5e or later UTP(≤100 meters) 2500BASE-T: Cat6A or later UTP(≤100 meters)
Optical Fiber Port	1/10G SFP+ optical fiber port, default no include optical modules (optional order single-mode / multi-mode, single fiber / dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm / 0-500M Single-mode: 1310nm / 0-40KM, 1550nm / 0-120KM
<b>Chip Parameter</b>	
Network Management Type	L2+
Network Protocol	IEEE802.3 10BASE-T, IEEE802.3i 10Base-T IEEE802.3u 100Base-TX, IEEE802.3ab 1000Base-T IEEE802.3z 1000Base-X, IEEE802.3be 2.5GBase-T IEEE802.3ae 10GBase-SR/LR, IEEE802.3x
Forwarding Mode	Store and Forward(Full Wire Speed)
Switching Capacity	240Gbps

Forwarding Rate@64byte	120Gbps
CPU	Dual Core 1GHz
DRAM	2G
FLASH	256Mbit
MAC	32K
Buffer Memory	16Mbit
Jumbo Frame	12Kbytes
LED Indicator	Power/System: SYS (Green), Network:Link (Yellow), PoE: PoE (Green), Fiber port: L/A (Green) Speed: 100/1000(Green)
Reset Switch	Yes, press and hold the switch for 10 seconds and release it to restore the factory settings
<b>PoE &amp; Power Supply</b>	
PoE Port	Port 1 to 8
PoE Management	Port PoE output on/off PoE work and time scheduling Port PoE real-time load power display
Power Supply Pin	1/2, 4/5 (+) 3/6, 7/8 (-)
Max Power Per Port	30W, IEEE802.3af/at, 90W, IEEE802.3bt
Power Consumption	Standby<13W, Full load af<140W, at<240W, bt<380W
Working Voltage	DC48-57V, 6 Pin industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
<b>Physical Parameter</b>	
Operation TEMP / Humidity	-40~+75°C, 5%~90% RH Non condensing
Storage TEMP / Humidity	-40~+85°C, 5%~95% RH Non condensing

Dimension (L*W*H)	164*149*74mm
Net /Gross Weight	<1.2kg / <1.5kg
Installation	Desktop, 35mm DIN rail
<b>Certification &amp; Warranty</b>	
Lightning Protection	<p>Lightning protection: 6KV 8/20us, Protection level: IP40</p> <p>IEC61000-4-2(ESD):±8kV contact discharge,±15kV air discharge</p> <p>IEC61000-4-3(RS):10V/m(80~1000MHz)</p> <p>IEC61000-4-4(EFT): power cable:±4kV; data cable:±2kV</p> <p>IEC61000-4-5(Surge):power cable:CM±4kV/DM±2kV; data cable:±4kV</p> <p>IEC61000-4-6(radio frequency transmission):10V(150kHz~80MHz)</p> <p>IEC61000-4-8(power frequency magnetic field):100A/m;1000A/m ,1s to 3s</p> <p>IEC61000-4-9(pulsed magnet field):1000A/m</p> <p>IEC61000-4-10(damped oscillation):30A/m 1MHz</p> <p>IEC61000-4-12/18(shockwave):CM 2.5kV,DM 1kV</p> <p>IEC61000-4-16(common-mode transmission):30V; 300V,1s</p> <p>FCC Part 15/CISPR22(EN55022):Class B</p> <p>IEC61000-6-2(Common Industrial Standard)</p>
Mechanical Properties	<p>IEC60068-2-6 (anti vibration)</p> <p>IEC60068-2-27 (anti shock)</p> <p>IEC60068-2-32 (free fall)</p>
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.
<b>Network Management Features</b>	
Interface	<p>IEEE802.3x flow control (full duplex)</p> <p>Port exception protection mechanism</p> <p>Port real-time flow management (Flow Interval)</p> <p>Broadcast storm suppression based on port rate</p>

	<p>Optical port SFP module DDMI real-time digital diagnosis</p> <p>Limit the rate of incoming and outgoing packet traffic, with a minimum granularity of 16Kbps and a maximum of 1Gbps</p> <p>Port IEEE Green Ethernet Energy-Saving configuration and status view</p> <p>Jumbo frame configuration, the largest 12000byte</p>
Layer 3 Features	<p>L2+ network management function, dual-stack IPv4/IPv6 management</p> <p>Static routing, RIPv1/v2, RIPng, OSPFv1/v2, OSPFv3</p> <p>The maximum number of entries in the ARP protocol is 1024</p>
VLAN	<p>VLAN based on MAC, VLAN based on the protocol</p> <p>Port configuration of Access, Trunk, Hybrid. GVRP VLAN protocol (4K) VLAN based on port, IEEE802.1q, Voice VLAN, QinQ configuration</p>
Port Aggregation	<p>LACP dynamic aggregation, Static aggregation</p> <p>Max 6 aggregation groups and maximum 8 ports per group.</p>
Spanning Tree	<p>STP BPDU Guard, BPDU filtering and BPDU forwarding</p> <p>STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)</p>
ERPS Ring Network	<p>Support ERPS ring network, ring network self-healing time is less than 20ms, ITU-T G.8032</p>
Multicast	<p>MLD Snooping, IGMP Snooping, Multicast VLAN</p> <p>User quick log out, MVR (Multicast LAN registration)</p> <p>IGMP Snooping v1/v2/v3 and 1024 multicast groups at most</p>
Mirroring	<p>Bidirectional traffic mirroring for basic ports</p> <p>one-to-multiple mirroring, supports up to 4 port sessions</p>
QoS	<p>Queue Scheduling Algorithm (SP, WRR, SP+WRR)</p> <p>Flow-based Rate Limiting, Stream based redirection</p> <p>Flow-based Packet Filtering, 8*Output queues of each port</p> <p>802.1p/DSCP priority mapping, Diff-Serv QoS, Priority Mark/Remark</p>
ACL	<p>ACL distribution based on port and VLAN</p> <p>L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination</p>

	MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc.
Security	<p>Port based IEEE802.1X authentication</p> <p>SSL guarantees data transmission security</p> <p>Quad binding function of IP+MAC+VLAN+ports</p> <p>MAC address learning limit, MAC address black hole</p> <p>Anti DoS attack, Port broadcast message suppression</p> <p>IP Source Guard function, AAA&amp;RADIUS certification</p> <p>Hierarchical user management and password protection</p> <p>SSH 2.0 provides a secure encrypted channel for user login</p> <p>Host data backup mechanism, ARP intrusion detection function</p> <p>Port isolation, IP Source Guard, ARP message speed limit function</p>
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Network Management	<p>Web network management (https)</p> <p>Link Layer Discovery Protocol(LLDP)</p> <p>Viewing CPU Instant Utilization Status</p> <p>NTP clock, One click restore, SNMP V1/V2C/V3</p> <p>Cable status check, Ping detection, System work log</p> <p>NMS platform cluster management (LLDP+SNMP)</p> <p>Console/AUX Modem/Telnet/CLI command line configuration</p> <p>FTP, TFTP, Xmodem, SFTP file upload and download management</p>
System	<p>Category 5 Ethernet network cable</p> <p>Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher, Microsoft Internet Explorer10 or later</p> <p>TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in a network</p>

**PACKAGE CONTENTS**

1. LinkPower LPS10868ATMP Gigabit PoE Switch:
2. User's Manual
3. Quick Install Guide
4. Warranty Information