

PoE L2 Managed 10/100 Switch with (2) Dual-Media SFP Ports

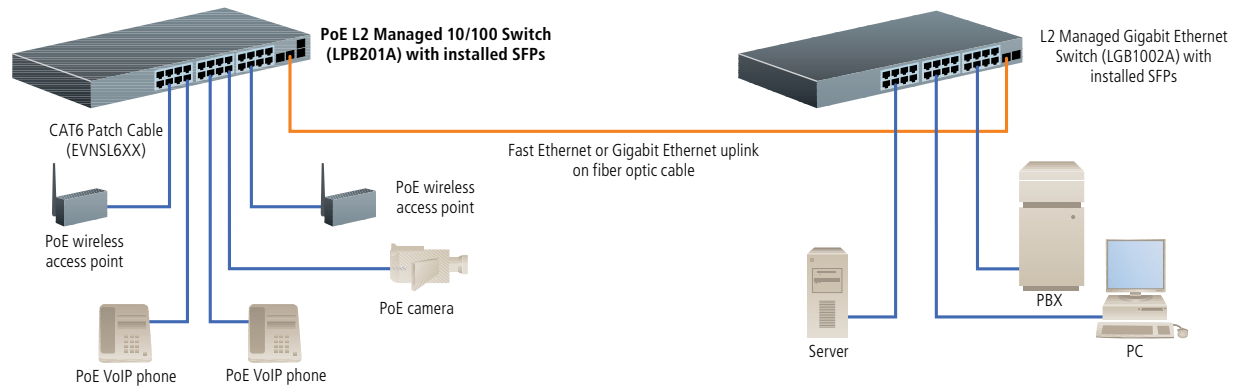
**Power up to 24 devices through
10/100 Ethernet ports—plus
uplink to Gigabit fiber!**



FEATURES

- › Supplies up to 185 watts of power to PoE devices such as wireless access points and network cameras.
- › Fully manageable using any standard Web browser or via SNMP.
- › Autosensing 10-/100-Mbps Ethernet ports.
- › Two ports are dual-media SFP ports for adding fiber SFP modules or for use as copper ports.
- › Autodetects powered device and consumption levels, and supports per-port consumption monitoring.
- › Circuit protection prevents power interference between PoE ports.
- › Enables you to combine ports for higher-bandwidth trunks.
- › Broadcast/multicast storm suppression and port mirroring.
- › Extensive VLAN and QoS capabilities.
- › QoS supports Layer 4 TCP/UDP port and ToS classifications.
- › Keeps ports secure with VLAN and 802.1 Q-in-Q traffic isolation, 802.1x access control authentication, and group isolation capabilities.
- › Spanning Tree (802.1w) algorithms.
- › RoHS compliant.

Add SFPs to create Gigabit fiber uplinks.



OVERVIEW

The **PoE L2 Managed 10/100 Switch** is an ideal choice for your large, managed enterprise network. It packs 24 autosensing 10/100 Ethernet ports into a compact chassis that takes only 1U of rack space. Two dual-media ports function as 10/100 Ethernet ports or as SFP slots for fiber uplinks.

The switch features full SNMP management plus management over any IP network using your Web browser. And when you add the versatility of Power over Ethernet, you have a truly flexible switch that grows with your network.

Power over Ethernet.

The switch acts as a PoE power source device, enabling you to supply power to PoE end devices such as wireless access points, CCTV cameras, and VoIP phones on your 10-/100-Mbps network. By using PoE, you free yourself from restrictions imposed by limited AC outlets and you can centralize your power distribution and backup power.

The 24 autonegotiating PoE ports provide up to 15.4 watts for 12 ports or 7.7 watts each for all ports, up to a total of 185 watts. The switch autodetects device and consumption levels, supports per-port consumption monitoring, and prevents power on one port from interfering with the other ports.

Dual-media SFP ports for extra versatility.

Two ports are dual-media ports with two connectors each—one RJ-45 Ethernet and one SFP. You can use a dual-media port as an ordinary 10-/100-Mbps copper Ethernet port or you can use it to plug in an SFP to create a fiber uplink.

The 1250-Mbps SFPs are ideal for Gigabit Ethernet. They report SFP type, length of fiber link, wavelength, and bit rate. Models with extended diagnostics also report information such as temperature, TX and RX power, voltage, and bias current.

A full range of management and security features.

SNMP v1 and v2 support makes the switch easy to integrate into any managed network. Built-in Web management enables you to manage the switch using a Web browser over any IP network—even the Internet.

Port mirroring helps to track network errors and abnormal packet transmission by forwarding a copy of each incoming and outgoing packet to another switch port where you can examine it with a protocol analyzer.

MAC-based 802.3ad LACP link aggregation enables you to combine six Gigabit ports for 12-Gbps bandwidth on a single trunk. In all, the switch supports up to six trunking groups. Automatic failover ensures that data isn't sent to failed ports but will instead go to remaining active ports.

802.1x Access Control provides user authentication. Port security enables you to limit the number of MAC addresses per port. You can also define static MAC addresses for each port so only registered devices can access those ports.

QoS and VLAN, too!

The switch supports QoS with two internal priority queues, enabling you to provide prioritization where it's required, making it particularly ideal for switching packets in real-time VoIP applications. The switch classifies packets to one of two priorities using Layer 4 TCP/UDP port and ToS classification.

The switch supports port- or tag-based VLAN with up to 256 active VLANs. 802.1ad (Q-in-Q) VLAN stacking or double-tagging provides user isolation and service identification so multisite enterprises can create and maintain private VLANs for separate departments within the structure of their corporate wide-area VLAN.



LPB201Aw

Technically Speaking

PoE.

Twisted-pair Ethernet cable, in addition to carrying data, can also provide electrical power to low-wattage electrical devices through a method called Power over Ethernet (PoE). PoE delivers low-level power—roughly 13 watts at 48 VDC—over CAT5 or higher copper Ethernet cable to PoE-enabled devices such as IP telephones, wireless access points, Web cameras, and audio speakers.

How PoE works

Ethernet cable that meets CAT5 (or better) standards consists of four twisted pairs of cable, and PoE sends power over these pairs to PoE-enabled devices.

In PoE Mode A, power and data are sent over the same pair. Because electricity and data function at opposite ends of the frequency spectrum, their transmissions don't interfere with each other. Electricity has a low frequency of 60 Hz or less, and data transmissions have frequencies that can range from 10 million to 100 million Hz. This method injects both power and data on Pairs 3 and 6 and Pairs 1 and 2.

In PoE Mode B, two wire pairs are used to transmit data, and the remaining two pairs are used for power. This method can be used for 10BASE-T and 100BASE-TX (which transmit data on two pairs), but cannot be used with Gigabit Ethernet (which uses all

four pairs for data transmission).

Basic structure

There are two types of devices involved in PoE configurations: Powered Devices (PD) and Power Sourcing Equipment (PSE).

PDs are devices such as surveillance cameras, sensors, and wireless access points that operate on PoE.

PSEs provide power to PDs over the Ethernet cable. PSEs include mid-span and end-span devices. A mid-span device (often called a power injector) goes between a network switch and a PD and puts power onto the Ethernet cable. An end-span device is often a PoE-enabled network switch that's designed to supply power directly to the cable from each port, eliminating the need for a separate switch and power injector.

PSEs provide power in either PoE Mode A or B. PDs accept power in either mode.

PoE applications

Power over Ethernet is ideal for providing power to low-wattage network devices such as surveillance cameras, wireless access points, and VoIP phones. Most VoIP phones made today support PoE, enabling them to receive uninterrupted power through the network without the need for an AC outlet for each phone. With the addition of network backup power, VoIP phones will continue to function even during a blackout.

TECH SPECS

Broadcast Storm — Multicast/Broadcast/Unknown-Unicast Storm suppression
Buffer — Packet: 256 KB; Control: 128 KB
MAC Addresses — 8K
Management — SNMP v1, v2c; MIB-II; RMON MIB
Port Mirroring — Support for 1:N RX port mirroring;
 Port sniffer: TX Monitor Mode, RX Monitor Mode, and TX-RX Pair Monitor Mode
QoS Supported — Port-based (VIP port); 802.1p, IP TOS and Diffserv (IP v.4/v.6) based packet classification; with four-level priority queues to prioritize inbound and outbound traffic; WRR and strict scheduling; priority in a Q-in-Q tag
Standards — IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3z, IEEE 802.3x, IEEE 802.1q, IEEE 802.1w, ANSI/IEEE 802.3 autonegotiation
Switching Capacity — Non-blocking, wire-speed performance; maximum throughput of 8.8 Gbps
VLAN Capabilities — Port-based VLANs; IEEE 802.1q tag-based VLANs, up to 256 active VLANs; Q-in-Q for enabling subscriber aggregation
CE Approval — Yes
Connectors — (24) RJ-45; (2) SFP/RJ-45
Indicators — LEDs: Per Unit: (1) CPURUN, (1) POWER, (1) ACT, (1) FDX, (1) SPD; Per 10/100 Port: (1) LNK, (1) ACT/FDX/SPD, (1) PoE-PSE ACT

Environmental — Operating temperature: 32 to 104° F (0 to 40° C); Humidity: 5 to 90%, noncondensing
Power — Input: 100–240 VAC, 50–60 Hz, autosensing;
 Output: PoE with 48-VDC power through RJ-45 Pins 1, 2, 3, and 6; 185 watts of total power up to 7.7 watts for 24 ports
Size — 1.75"H (1U) x 17.4"W x 13.2"D (4.4 x 44.2 x 33.5 cm)
Weight — 7.3 lb. (3.3 kg)

Item	Code
PoE L2 Managed 10/100 Switch with (2) Dual-Media SFP Ports (24) 10/100BASE-TX Ports	LPB201A
Add an SFP to convert an SFP port to a fiber port...	
1250-Mbps SFPs	
850-nm Multimode, LC, 300 m	LFP204
1300-nm Multimode, LC, 2 km	LFP205
1310-nm Single-Mode, LC, 20 km	LFP206
1250-Mbps SFPs with Extended Diagnostics	
850-nm Multimode, LC, 300 m	LFP200
1300-nm Multimode, LC, 2 km	LFP201
1310-nm Single-Mode, LC, 20 km	LFP202