# CABSY Blogs



# Blog 1 - Why Ethernet?

Ethernet is a system for transporting data across networks. It's the underlying technology that allows for fast connection speeds and data flow. This article will teach you about Ethernet and the several reasons why you should consider adopting the technology for your lighting needs.

## What is Ethernet?

Ethernet is a type of network that lets you send and receive data in the form of electrical signals, or pulses. The way it works is pretty simple. Ethernet cables pair up with your electronic equipment to create what's called a Local Area Network (LAN). All of the devices on your LAN can talk to each other, but they can't communicate with any devices that are outside of your LAN. The flow of data and power is controlled through the use of a network switch or an Ethernet switch.

Ethernet has been around for more than 60 years and has been used in a wide variety of applications, from connecting computers within a building, to connecting cities across continents. Today, Ethernet serves as the backbone for most modern networks and provides reliable, high-speed connectivity for organizations worldwide.

That's why we use Ethernet for lighting, to connect our lights together so they can talk to each other and make sure all our equipment is working properly!

Ethernet relies on an infrastructure of cables that connect computers and other devices to each other, and to the internet. If you want to use Ethernet for your energy saving LED lighting, you'll need to run a network cable from your router (or another network device) to the location where you want to install the light. This cable will then connect your lights to the rest of the world!

## Power of Ethernet enables smart technology

If you have a smart home or smart building, using Ethernet with your lighting can be really helpful because it allows you to access all kinds of information about your smart lighting. You can capture data related to your lighting and control devices like sensors and switches remotely. Some lighting solutions even let you configure your lights or motion sensor using a computer, smartphone, or tablet.

Ethernet is basically a way of connecting computers and other devices together. You might have heard of it in reference to internet connections, but you can actually use it to connect anything that has an IP address enabling the creation of IoT solutions.

## Conclusion

Ethernet lighting solutions are extremely customizable and highly configurable. You can set up a solution that will fit your budget and is likely to save you time, money, and improve overall energy efficiency.

Ethernet for lighting networking is becoming a more common way to wire fixtures into a control system. Ethernet wiring combines the simplicity of DMX wiring with the functionality of Ethernet networks. As more systems begin to allow Ethernet communication, more and more companies will use it as a quick and reliable transmission method.

# Blog 2 - Power Over Ethernet Concept

The concept of Power over Ethernet is when the electricity you require needs to be accessed through an Ethernet cable. This can be invaluable in certain lighting applications as it means you don't need additional circuits and cables in smaller areas where size is minimal. This article will explain what Ethernet is, how it's being used, and why you need to know about it.

Power over Ethernet (PoE) is a technology standard for powering devices over data lines. I will explain the concept of Power over Ethernet for LED lighting purposes.

## What is Power over Ethernet?

In short, Power over Ethernet (PoE) is the ability to power a device over an ethernet cable. This means that you can transmit data and power through the same cable, which can make your setup simpler, less expensive, and increase energy efficiency.

Power over Ethernet (PoE) is a technology that allows you to deliver power and data over the same Ethernet cable. It saves you from having to run separate power and data cables, which can be costly and time-consuming.

## How does Power over Ethernet Work?

Power over Ethernet works by sending a strong electrical current through a “twisted pair” of wires in an ethernet cable. These wires are typically used to transmit data. To send power, you need specialized equipment at both ends of the ethernet cable, as well as a cable capable of handling the extra load.

Ethernet uses twisted-pair copper wires. You can use 4 of these 8 wires to send power to network devices. The other 4 wires are used for sending data.

In order for a device to receive power over Ethernet, it needs a Power Sourcing Equipment (PSE) on one end and a Powered Device (PD) on the other. PSEs can include network switches, midspans, and injectors. Other switches can include the likes of a PoE switch, which may also be called an Ethernet switch. An example of a PD would be an occupancy sensor, wireless access point, or a security camera. This setup allows for the creation of smart lighting solutions including smart buildings.

## Conclusion

Power over Ethernet is a cable standard that allows an Ethernet network to act as a power source. It's an easy and convenient way to wire your devices without having to worry about finding separate AC outlets or extension cords.

There are many advantages to Power over Ethernet technology. If you're looking to purchase new equipment, it's worth taking a look at PoE products alongside IoT solutions to see if they may be right for your network. Of course, that decision must still be made based on your own criteria and needs.

# Blog 3 - Power Over Ethernet Benefits

Power over Ethernet (PoE) is a lighting technology that enables a simpler installation process, more flexibility, and a lower cost of ownership for LED lighting. It is a greener and more budget-friendly alternative to traditional lighting.

Why is PoE Lighting a better option for my company?

- Power over Ethernet (PoE) is a cost-effective method for power delivery that allows for a simpler installation process and increased flexibility.
- PoE lighting solutions can be controlled through Wi-Fi or the internet to create customized lighting scenarios or automatically adjust levels of lighting to adjust to factors like time of day, occupancy levels, and weather conditions.
- PoE lighting delivers power and data through a single cable, reducing the number of cables needed throughout the installation process.

Let's examine the simplified installation process that Power over Ethernet lighting provides.

## Easier installation process

Using PoE to power your lighting systems can greatly simplify the installation process, reduce costs, and provide future-proof flexibility.

PoE offers an advantage over traditional lighting systems by allowing for lights and motion sensors to be installed without the need for wiring. You can also use a PoE Switch or ethernet switch that has Power over Ethernet functionality built into it.

With traditional lighting systems, cables would have to be routed from each light fixture to a central location where they could be connected to a power supply and controlled through the use of a network switch.

In comparison, PoE allows these cables to deliver both data (to control the lights) and power (to turn on the lights). Because of this one device, one cable approach, you can easily add or relocate devices as needed without the need for new wires or having to rewire existing fixtures.

PoE lighting has the ability to deliver power directly to LED lights over the same cable that provides an internet connection for those devices. This eliminates the need for a separate electrical connection and allows for a more flexible installation process.

PoE can also connect to other network-enabled devices such as smart controllers, switches, motion sensors, and occupancy sensors to enhance LED lighting control and utilization while significantly lowering overall energy consumption.

Let's take a closer look at some of the cost benefits one can enjoy by switching to a PoE lighting solution.

## Reduced Costs

With PoE lighting not requiring a dedicated electrical source, you can save money on installation costs. This is particularly helpful for retrofitting an existing building, where new wiring is not an option.

Using PoE technology eliminates safety risks associated with electrical wiring and reduces the time required to complete the project. This also contributes to a significant reduction in overall installation costs as fewer electricians and other contractors are required for the job.

Our solution, nLuminaire, is an intelligent, self-tuning PoE-enabled Network Lighting Control (NLC) solution. It is low-cost, green, and sustainable and has massive energy-saving capabilities. An instant 30% reduction in energy costs is observed after installing nLuminaire, which can go up to 50% with continuous optimization and monitoring. Our solution greatly simplifies smart building infrastructure. It keeps installation and maintenance costs low and predictable, making it ideal for your budgeting needs.

## Conclusion

We've looked at some of the main benefits of using ethernet solutions for lighting. Here is a summary of what we've covered so far:

- PoE Lighting reduces installation costs and improves energy efficiency.
- There is no need to run additional wiring during construction, renovation, or retrofit projects.
- PoE Lighting is easier to install.
- PoE makes it easier to expand lighting networks.
- PoE Lighting is more flexible.
- Installations can be changed and reconfigured as needs change.
- PoE Lighting can be more reliable.
- It is easier to add backup power sources in the case of power failure.

At CABSY, we specialize in PoE and IoT lighting solutions. We're spearheaded by a team of visionary entrepreneurs, engineers, and lighting specialists who are focused on revolutionizing the traditional AC connectivity of LED lighting through smart lighting technology, future-forward solutions, and intelligent sustainability. Contact us today if you would like to know more about the solutions we offer and how we can help your business enjoy some of the many benefits of PoE technology.

# Blog 4 - Power Over Ethernet Potential and Future

Technology is constantly improving and the standard of power is no exception. The idea of powering devices with Ethernet cables is not a new one, but the current and future potential of Power over Ethernet (PoE) makes it an amazing technology that's worth exploring for your business or at home.

It’s an exciting time for PoE. It's an excellent technology and it has the potential to change a lot in how your lighting is handled. We’re going to see it used more and more as time goes by, as its popularity continues to increase.

Just how far is Power over Ethernet technology going to go? What are the technical, logistical, and economic reasons for implementing PoE lighting? This article will explore these questions and more.

## The Current State of Power Over Ethernet

PoE technology has been around since 2003, and the Institute of Electrical and Electronics Engineers (IEEE) defined several standards for PoE applications.

It soon became clear that there were lots of other applications for this technology, such as lighting. When you could provide power over Ethernet cables, you cut down on the number of wires needed to install lights and make it easier to manage energy consumption and control lighting remotely. The flow of data and power is easily controlled through the use of a PoE switch.

However, PoE used to have a big drawback, it couldn't carry more than 15 watts of power through a cable. That meant that it wasn't powerful enough for most lighting systems or for powering a device like a sensor.

But then PoE was upgraded with PoE Plus which could carry up to 30 watts per cable, and PoE++, which can carry up to 90 watts per cable. These newer versions are now widely used in lighting systems because of the benefits they bring.

The current standard is IEEE 802.3bt, which defines four different types of PoE:

- Type 1: Provides up to 4 watts (W) of power over two pairs of wires.
- Type 2: Provides up to 7 W over two pairs of wire.
- Type 3: Provides up to 15.4 W over two pairs of wire
- Type 4: Provides up to 30 W over four pairs of wire.

This is the current state of the technology. Now let’s look at the future of PoE.

## The Future of Power Over Ethernet

Lighting technology is changing. If you're in the industry, you know that. But even if you're not, it's easy to see the changes happening everywhere, in your home and office, in restaurants, in stadiums, and arenas. You're just seeing a glimpse of what's possible with PoE technology.

PoE is revolutionary for lighting system engineers and installers as it simplifies installation by consolidating power and data into one cable that can be installed with the same equipment and techniques used for traditional data cabling. Not only does PoE save time and money during installation, but it also provides flexibility for future changes with its fast plug-and-play capabilities.

PoE lighting is more than just a way to simplify installation, it also enables new capabilities that haven't been possible before. With PoE devices like our nLuminaire, you can control your lighting system from anywhere using a web browser or mobile app, which means you can remotely control your lights to reduce energy costs or improve security. You'll also be able to connect your building systems together so they can work better together, which maximizes energy savings and energy efficiency.

## Summary

At CABSY, we specialize in PoE and IoT lighting solutions. We're on revolutionizing the traditional AC connectivity of LED lighting through smart lighting technology, future-forward solutions, and intelligent sustainability. Contact us today if you would like to know more about the solutions we offer and how we can help your business enjoy some of the many benefits of PoE technology.