



PdbU

PoE UPS & LV Midspan PoE UPS

Overview

When IP devices became a reality in the security industry through cameras and encoders, the adoption of PoE as the main method of powering these was quick to follow. After all, it does simplify things for everyone, from the installer that has to run a single CAT cable instead of separate power, the hardware that consolidates the power supply and network switches and the end user who gets a cleaner and, hopefully, robust solution.

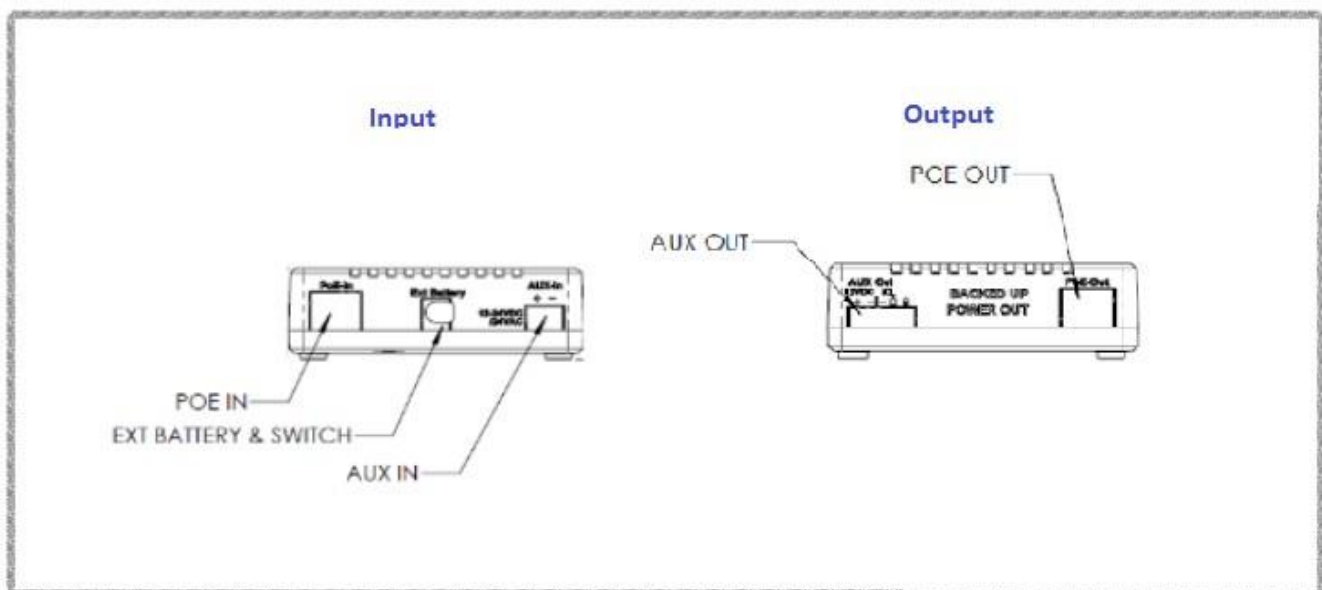
The one issue that still exists is the ability to operate the IP PoE based devices when there is either a failure or a temporary shortage of network and power. The PdbU offers a simple and affordable solution to some of those situations that are so often left out of consideration at the design stage but become a serious limitation later on.

What is the PdbU?

The PdbU is a revolutionary device that was designed to solve the problems related to Power-over Ethernet dropping off. The unit is designed to be installed between the power source (PoE, 12-24VDC or 24VAC) and the edge device operated by PoE (IP cameras, IP access control device etc.). Under normal operating conditions, while being completely transparent to the device connected to it, the unit will be charging its internal batteries. In case of a power failure, the unit will seamlessly switch to battery power and will keep the edge device up and running.

This allows the PdbU to be used as the following:

- PoE UPS injector
- Inline PoE UPS
- (Low Voltage) LV Midspan PoE UPS injector





Difficulties When Using PoE

With all the great things that PoE brought into the industry came certain complications that have not been properly addressed until now. The best practices for installation of cameras and other edge devices have changed, but the tools to cope with them have not.

Using PoE also exposes the users to issues when the PoE power source is gone and renders the edge devices useless.

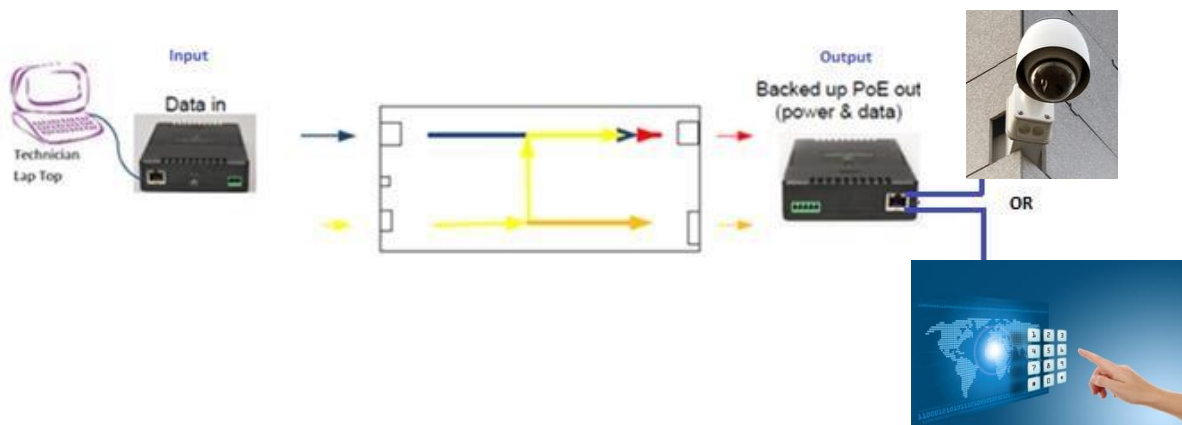
Ways to Use the PdbU

Set up and focus of IP cameras

The adoption of the IP-based cameras has changed the way system installers can access them for the purpose of setting up and focusing. In the analog days, the installer would connect a portable monitor to the analog output of the camera and be able to set up and focus it. Although some IP cameras still offer an analog output in parallel to the networked one, this is not common and complicates the task.

Now, the installer needs to use a laptop to connect to the IP camera, but as soon as the camera is disconnected from the switch in order to connect to the laptop, power is lost to the camera. This leads to all sorts of creative, but seldom efficient, solutions, such as adding a switch or running longer cables.

The PdbU offers a great solution for these installers! It allows connecting the laptop to its input port and the IP camera to its output, which will not only provide the connectivity, but it will power up the camera while doing it.



Loss of power to the edge

As in the past, not all installers remember or take into account the need to use UPS for the camera's power. With IP cameras, if the network switches are not backed up by UPS, the minute power is lost, the entire video

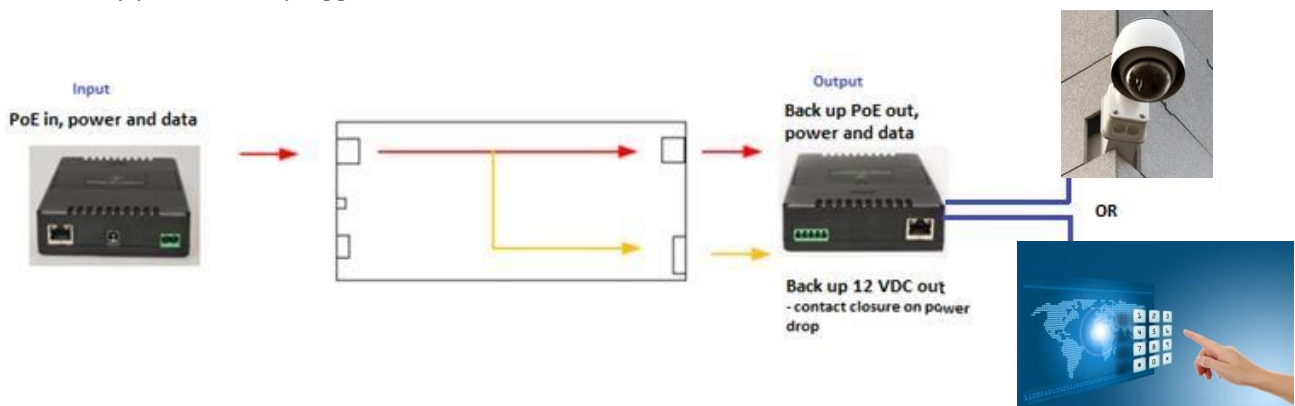


system fails. With IP / PoE based access control devices this is even a bigger issue, as those rely on the power supply to keep the reader and locks up and running, so losing power means losing control over the specific door's functionality.

With all the intelligence moving to the edge devices, the PdbU can provide the exact peace of mind needed. As it is installed inline between the switch (PoE or not) and the edge device, it keeps charging all the time and passes the data and power to the device. In case of power loss from the switch or power source, the PdbU will keep providing battery power and the edge device will keep functioning for as long as the batteries last.

In cases where the source is a PoE switch, the network might be disconnected but the edge device can keep functioning; in this way an IP camera can be recording to its internal SD card, so video evidence will still be available after the power returns, this will also ensure local setting such as time or other parameters that might get lost with power failure are protected. In fact, the PdbU will provide a dry contact event to the cameras, which can be used to trigger that recording on and off. Another example is a PoE door controller that will keep functioning, including opening and closing the door's locks that feed off its power.

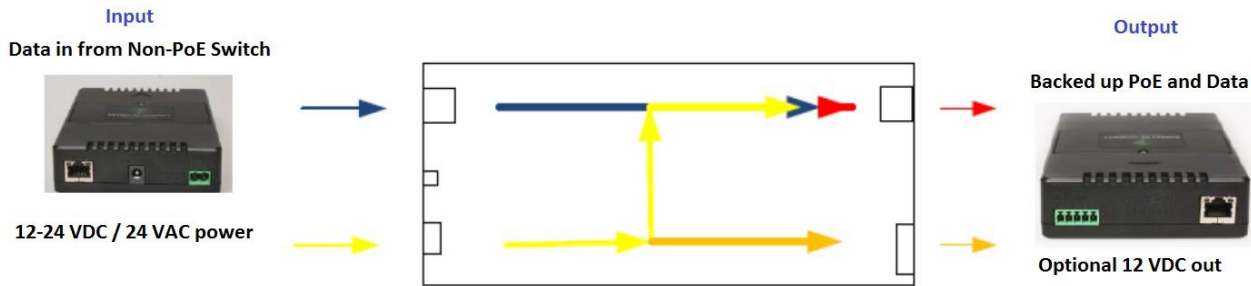
The unit holds an hour and a half worth of power for an 11W draw (most cameras require less) and can be charged by the installer at the PoE switch or even in a car from the 12VDC supply. If longer time is required, an external battery pack can be plugged into the unit.



No PoE infrastructure

In many installations that started as analog and are moving to IP or that had older IP technology that did not power over the network, complex solutions are required to move to newer PoE-based IP cameras. With these complexities usually comes a price tag, which ends up canceling the entire upgrade plan.

The PdbU has an answer to this issue as well. Because the unit can be power from an AC / DC power supply, it can now be connected to the power source previously used to run the analog camera or older door hardware and connect the new IP one to the PoE out. In this way the unit becomes a PoE injector, but unlike others, it has built-in battery backup!



Summary

With IP devices becoming a reality in the security industry through cameras and encoders, as well as in day-to-day use with the IoT trend, the adoption of PoE is the method of choice to powering them.

This makes the need operate the IP PoE based devices when there is either a failure or a temporary shortage of network and power a critical one. The PdbU offers a simple and affordable solution to some of those situations that are so often left out of consideration at the design stage and become a serious limitation later on.

Using PoE instead of separate power supplies makes installation easier for all those involved. The installer only needs to run a single CAT cable, less hardware is required and the end-user has a clean and solid solution. But the possibility of power loss remains a critical issue. The PdbU provides an easy and cost-effective solution for these situations. Therefore, it should be considered an integral part of the design stage.



Frequently Asked Questions

Q: Isn't the PdbU just a simple PoE injector?

Not exactly. The PdbU can be used as an injector, but it can also be used as an inline UPS; in both cases it will have the ability to utilize its built-in batteries and keep the edge device running if input power is lost.

Q: How long will it provide battery power to my device?

The unit charges off the normal power input so should be ready for use at all times. It is capable of providing 11W PoE power for about an hour and half. With most edge devices requiring much less, it will provide a longer time period.

Q: What if I need additional time on battery?

An additional battery pack can be purchased and added onto the unit to achieve more time on battery power.

Q: What mounting options does the unit have?

Wall mounting plates are offered separately as well as a DIN mount.

Q: Is there a solution for higher power edge devices?

A high power PdbU is in development and planned to offer 30W power, followed later by a 60W unit.

Q: If I only have regular switches with no PoE can the device still help me?

Yes it can. The unit will take 12-24VDC or 24VAC input and act as an injector and UPS.

Q: How is this different from a UPS on my switch?

Putting your PoE switches on UPS is a good solution, if you remember to do so; even then, the PdbU offers a few interesting advantages:

1. Each edge device has its own backup unlike a switch (24 or 48 ports) that will fail together in case of a UPS issue.
2. With the PdbU there is a trigger to the camera (dry contact) to let it know it has now switched to battery power.
3. With a UPS, the backup is all the way down the line at the switch; if the line is cut you still lost power.
4. If the switch is not PoE, it doesn't matter if it's backed up and you need your power supply on a UPS as well.
5. Power to charge the inline unit is just off the same PoE, so there is no need for dedicated power like a UPS requires.