

Ideal PoE switch for IP monitoring

Nowadays, there are more and more devices in LAN network. Significant amount of such devices can generate many technical problems connected with the necessity of structured wiring expansion or creation of new power points. Repeatedly this is quite problematic and that is why there are some standards which help to solve this problem.

Power over Ethernet (802.3 af/at) it is a power supply system for devices with the aid of the most commonly used network cable – Cat 5e twisted pair or higher. **PoE** supply can be used for 10, 100, and 1000 Mbps, yet providing power to devices has no effect on the data transmission.

Thanks to this solution, by using a single network cable you can transmit both data and electricity. In short, **PoE** enables to simplify the process of entire installation and also the need of hooking up devices to 230V. Whereas such a change has its impact on increasing power consumption by power supply device.

It should also be noted that the **PoE** standard was defined in 2003 providing 15,4W power for each connection. In fact, the device gets 12,95W while the rest is earmarked for losses due to the transmission of electricity.

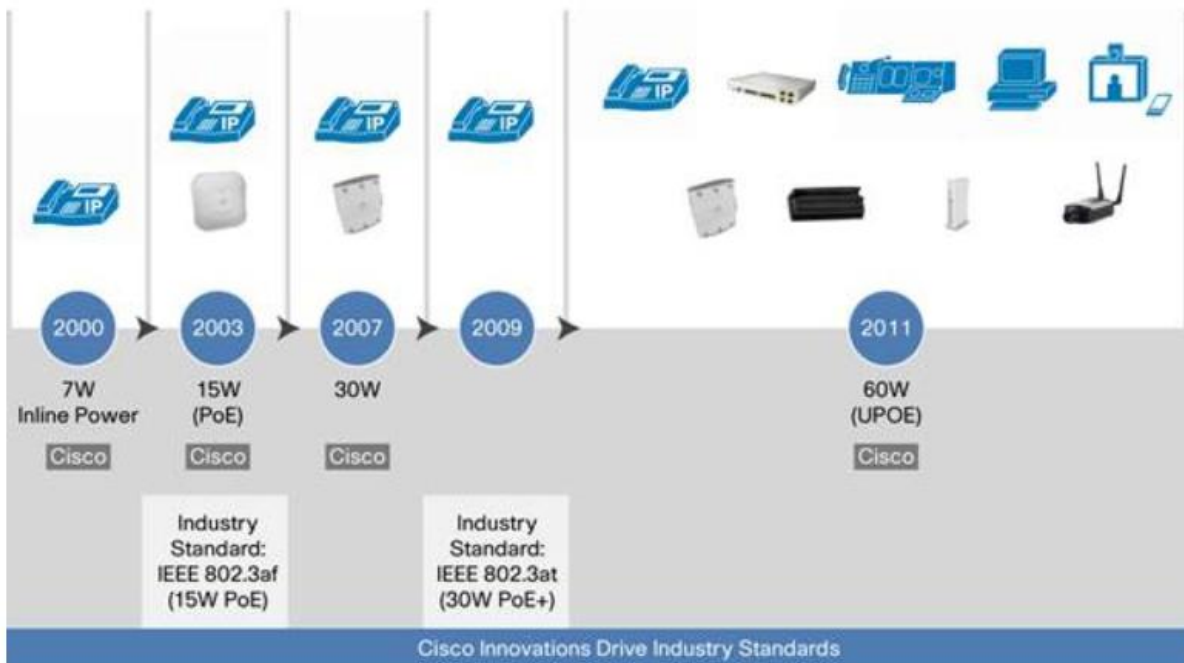
At this moment, there are three applied standards to transmit power by the network cable:

- PoE (802.3af)
- PoE+ (802.3at)
- UPoE

The oldest **PoE** is able to deliver 15,4W, **PoE+** to 30W while **UPoE** (Universal PoE) up to 60W.

The following graphic depicts the development of **PoE** standard:

Power Over Ethernet A Historical Perspective



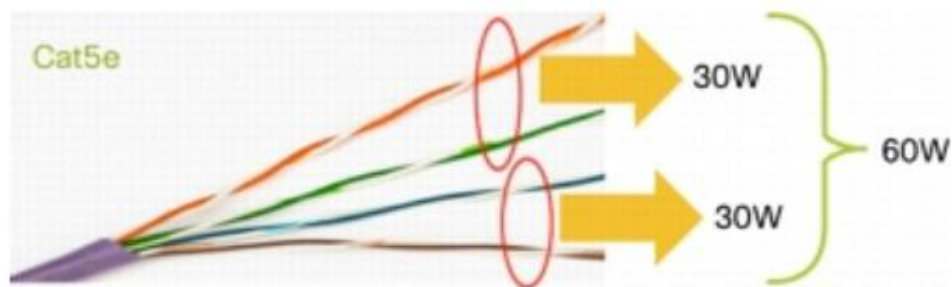
When it comes to **PoE+** it has been introduced due to higher power consumption for powered devices. Analogously the same reason led to the introduction of **UPoE** – standard introduced by Cisco which can energize equipment even to 60W.

UPoE uses 4 pairs of cables to transmit power. Thus, such a solution provides power supply for e.g. virtual desktop displays, various access controllers and LED lights.

PoE+



UPoE



PoE standards are clearly illustrated by the table below:

	PoE	PoE+	UPOE
Cable type	Cat5e	Cat5e	Cat5e
IEEE standard	802.3af	802.3at	Cisco's property
Maximum power per PSE port	15,4W	30W	60W
Maximum power per PD	12,95W	25,5W	51W
The number of used cable pairs	2	2	4

where:

PSE – power sourcing equipment – a power supply device

PD – powered device – a device powered via PoE

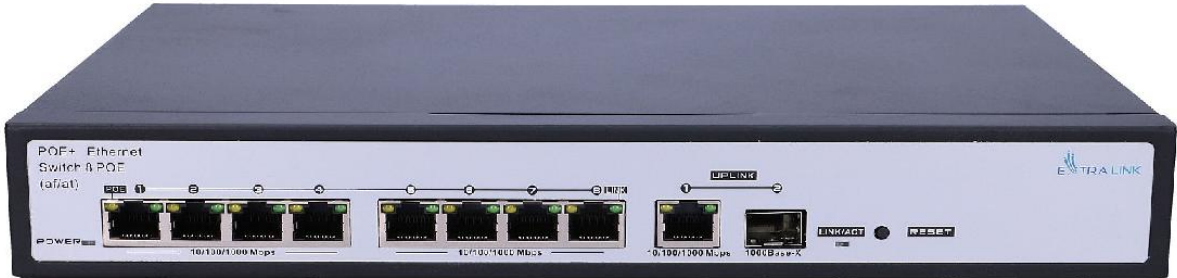
Now let's get to the point... **PoE switch** is one of the most important elements of IP monitoring networks because it connects all network devices to each other e.g. IP cameras, recorders or VoIP telephones. It also provides power supply for all network devices which support this standard.

It should also guarantee the consistent work of the entire system in situation of high intensity of data streams.

Extralink has released a new product on the market – 8-port, unmanaged, gigabit **PoE switch** with 2 uplink ports (1xRJ45 1000M and 1xSFP 1000M) named **KRONOS**.



**KRONOS GIGABIT 8 PORT PoE SWITCH
+ 1X UPLINK RJ45 GIGABIT + 1XUPLINK SFP**



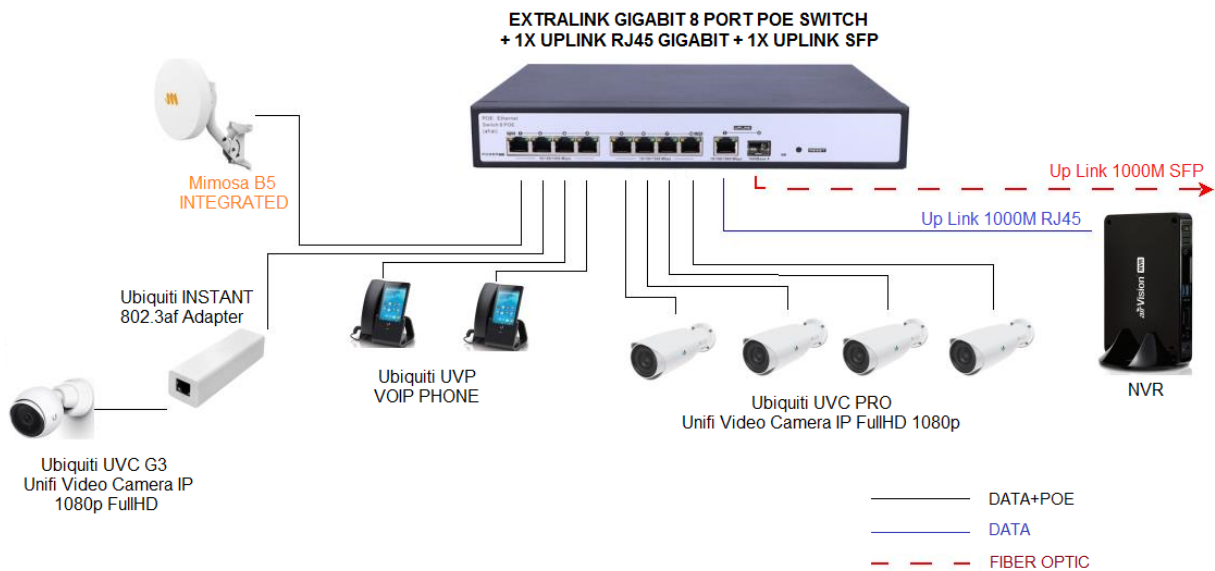
Extralink KRONOS is characterized by the following features:

Item	Description
Network Ports	1~8 Ethernet Port:10/100/1000Mbps 1 x Uplink RJ45 port:10/100/1000Mbps 1 x SFP fiber port: 1000Mbps
Transmission Media	1~8 Ethernet Port:Cat5e/6 standard UTP cable, Uplink RJ45 Port:Cat5e/6 standard UTP cable SFP fiber Port: Optical fiber
PoE Standard	IEEE802.3 af/at standards
PoE Power Supply Wattage	Each port ≤ 30W, Whole device ≤ 260W

Swap Mode	Store-and- forward
MAC Address List	4K
Electrostatic Protection	1a touch electric discharge: level 3 1a Air discharge: level 3 Executive standard:IEC61000-4-2

Thanks to the fact that **KRONOS** has two uplink ports – one supports SFP and SFP 1000M and the other RJ-45 1000M – it’s an ideal solution for network structure based on IP monitoring.

The example of such a structure presents the following diagram:



Attached diagram shows that **EXTRALINK KRONOS** easily supports a large number of cameras, VoIP phones and devices that support wireless network (Mimosa B5) in 802.3at (48V) standard. In addition, by using e.g. Ubiquiti INSTANT 802.3af you can also easily power such devices that need 24V.

Its universality and the maximum load of 260W allows the implementation of such a switch practically anywhere in the office network or/and even in industrial one.

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