Power over Ethernet

Q. What is Power over Ethernet?
A. Power over Ethernet (PoE) allows you to deliver power to Ethernet based devices over existing Ethernet infrastructure. Current standards allow delivery of up to 15.4W/30W/60W of power-over-Ethernet.

Q. What is the main advantage of Power over Ethernet?
A. PoE enables easy installation of IP based devices in hard-to-reach places, namely on ceilings or in old buildings where previously a union electrician was required, or possibly even no new AC installations –in the case of Historic buildings. Additionally:

- The number of cables required is reduced

- Devices are easily connected to a UPS for greater reliability and

- Field-based devices might be managed remotely over a cloud-based management platform

Q. What devices can I power using PoE technology?
A. POE technology can be used to power any IP based devices up to 60W of output. Some good examples include; IP phones, IP cameras, WLAN APs, Thin/Zero clients, Access Control devices, digital displays, pos devices. New PoE-enabled devices are being developed every day. Among them are HD television sets, LED lighting, digital displays, motor control devices and more.   Ratification of the HDBaseT standard has opened many doors for new PoE-enabled devices.

Q: What is the standard level of power required on Ethernet devices?
A:

Ethernet device	Approximate power requirement
VOIP Phones (no display)	3-6W
VOIP Phones (w/display)	Up to 18W
WLAN APs	10-24W
IP Camera's	6-12W
IP Camera's (PTZ)	18-40W
Thin/Zero Clients	30-50W
Access Control Devices (no motor)	6-18W
Access Control Devices (Motor)	35-50W
Digital Displays	30-90W
POS appliances	20-80W

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Q. Can I use CAT3 cable to deploy Power over Ethernet to IP phones, Security Cameras and other PDs?
A. No. IEEE 802.3at standard and the previous IEEE 802.3 af standards both specify CAT5 or better Ethernet Cable to safely deploy PoE to Ethernet based devices.

Q. Can I use PoE to power Legacy devices?
A. Yes. PowerDsine midspans are IEEE compliant and are backwards compatible to power pre-standard and legacy devices as well as all IEEE standard devices, if the device must get the power via a DC connector, a PoE splitter can be used.

Q. Can I deploy PoE beyond outside?
A. PoE can be deployed using a PowerDsine outdoor rated midspan that is installed outside, it can also be deployed using a PD9001G-40SP midspan that is inside, but has a surge protection feature to protect inside devices from potential external power surges. See the PoEs for outdoor installations section below.

Q. Can I power a device that is more than 100 meters from my switch?
A. Yes, you may power using a PoE-extender. PowerDsine PoE-extenders have both a PSE and a PD chip inside so both the power and the data may reliably be transmitted beyond 100m. Devices may be daisy-chained for even greater coverage, though the number of times is dependent on the power requirements of the end device.

Q. Can I use a PowerDsine Midspan to transmit power to my Ethernet devices even if I don't have a PoE Switch?
A. Yes! A midspan will allow you to transmit Power-over-Ethernet over any existing Ethernet infrastructure with Cat5 or greater cabling with ease. Simply plug, and play.

Midspans for outdoor installations.

Q. What is the PowerDsine 9001GO?
A. The PowerDsine 9001GO is an *Outdoor* rated 1-port PoE midspan, it can be installed in an outdoor environment and used to deliver PoE to an outdoor PD.

Q. How does the 9001GO compare to the 9001G Midspan?
A. While both support 802.3at PoE and transmission of 10/100/1000mbps data rates, the 9001G can only be installed in indoor environment while the 9001GO has outdoor rated enclosures that allow it to be installed in either an indoor or outdoor environment

Q. What are the unique product attributes compared to indoor midspans?
A. IP66 outdoor rated enclosure and connectors, extended temperature range -40° to 131° at 30W, GR1089 rated for lightning protection and sufficient UV protection on non-metal parts.

Q. What *OUTDOOR* powered devices (PDs) are compatible with PowerDsine outdoor midspans?
A. Any 802.3af and 802.3at PD can receive Power over Ethernet from both the 9001GO and 9501GO, including AXIS-P4433VE Fixed Camera, Firetide HotClient 2200 Outdoor CPE wireless mesh access point or a Cisco Aironet 1550 Series WLAN access point. See PD9001G-How to Sell Guide, or PowerDsine website for a comprehensive list of compatible products.

Q. What are common uses for PowerDsine *Outdoor* midspans?
A. Ideal applications for the 9001GO and 9501GO midspans include:

- Physical security through the installation of Outdoor IP Cameras
- Information sharing and data accessibility through WLAN Access Points
- Municipal surveillance and physical security through the use of WLAN MESH Access Points

Q. What benefits may be realized through use of outdoor midspans?
A. The secure and reliable power over Ethernet that is made available through the PD-9001GO and PD9501GO will allow campuses, healthcare facilities and municipalities to install powered devices in places that were once un-reachable, yielding the following benefits:

- Increase in revenue through improved municipal surveillance
- Increased physical security and reduction in crime (municipal, campus)
- Improved information sharing and learning through newly installed WLAN APs (campus)

Q. What are the ordering options for PowerDsine outdoor midspans?
A. There are two ordering options for each PowerDsine outdoor midspan:

- PD-9001GO/AC-NA (Pre-installed 3m power cable with North America AC connector)
- PD-9001GO/AC-INT (Pre-installed 3m power cable with open wires for global deployments)
- PD-9501GO/AC-NA (Pre-installed 3m power cable with North America AC connector)
- PD-9501GO/AC-INT (Pre-installed 3m power cable with open wires for global deployments)

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Q. What are the installation options for PowerDsine outdoor midspans?
A. There are two mounting options for installation:

- Wall mount – the unit can be wall mounted via the unit available holes
- Pole mount – use the Outdoor Accessory KIT (PD-MBK/OUT, sold separately)

Q. What is included in with my purchase of a PowerDsine outdoor midspan from Microsemi?
A. The 9001GO and 9501GO boxes are shipped with:

- 9001GO/9501GO unit with pre-installed 3m power cable
- User guide
- Two waterproof covers for RJ45 male connector

Q. Why do I need lightning protection in the PoE Midspan if the access point has lighting protection capabilities?
A. Lighting protection in the WLAN AP can only protect the access point itself, lightning protection in the 9001GO/9501GO device protects the Midspan in case a lightning strike hits either the unit itself or the Ethernet cable connected between the WLAN AP and the PoE unit, to provide complete protection for the entire indoor network.

Q. When is use of an outdoor midspan required? Why can't I use an indoor midspan with lightening protection, such as the 9001G/SP, to power outdoor devices?
A. An outdoor midspan is required when the installation takes place in an environment with risk of exposure to dust and/or water, UV rays, extreme temperatures or lightening. A midspan designed for indoor environments does not offer protection from these conditions. Common examples would be Wireless Mesh applications were the APs are installed on remote poles and even on traffic lights and for security applications were the IP camera is installed in a remote location and connected to the network via wireless link.

Q. Do PowerDsine outdoor midspans support non-standard PoE devices?
A. No, only 802.3af or 802.3at compliant devices can reliably be powered via the 9001GO/9501GO, for some non-compliant devices a dongle or splitter may be used. For support, call 1.650.318.2553 (NA) or 972.54.324.0277 (Europe) or email powerdsine@microsemi.com.

Q. I would like to power an Outdoor IP camera that only requires 10W, is there an 802.3af version of the 9001GO?
A. No, however the 9001GO and 9501GO are fully backwards compatible to 802.3af devices and can be safely used to power any IEEE 802.3af device.

Q. Is there a need to open the unit during installation?
A. AC cables have been pre-installed with outdoor rated RJ45 connectors; therefore there is no need for and installer to open the unit during installation.

Q. What is the maximum allowed distance between the 9001GO/9501GO and the PD?
A. The maximum distance between an Ethernet Switch and the PD is set to 100meters by the IEEE standard, the PD-9001GO does not extend this distance, the total distance between the Switch -> 9001GO -> PD should be up to 100 meters. If an extension is needed a PoE Extender (such as PowerDsine PoE Extender) should be used indoors, in this case the distance from the extender to the PD can be 100m and the total distance from the Switch to the PD can be up to 200 meters

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Q. What does IP66 rating mean?
A. The IP rating is an industry standard that defines an Ingress Protection Rating that classifies and rates the degrees of protection against the intrusion of solids and water in mechanical casings with electrical enclosures. The first digit in an IP Code indicates the protection against solids, and the second digit the protection against water. An IP66 rated product is completely dust tight, and can be exposed to powerful jetting water including torrential rain.

Q: What conditions will not be covered by IP 66 rating?
A. IP66 rating is not considered safe for installations in which complete submersion of the midspan device is required. This condition would require either IP67 or IP68 rating.

Q. What optional accessories are available for the 9001GO / 9501GO?
A. Additional accessories that can be ordered separately: Pole mount brackets (PD-OUT/MBK)

Q. What is included in MBK Accessory KIT?
A. The PD-OUT/MBK box is shipped with – all you need for the installation: mounting base, screws, washers, nuts, worm screw clamps and installation guide.

Q. What is the list price for a PD9001GO? And for the PD9501GO?
A. $249USD for PD-9001GO device and $299USD for the PD-9502GO. A mounting bracket is available separately, for $49USD.

Q. What is the minimum order quantity?
A. PD9001GO and PD9501GO devices must be ordered in factors of 5.