



EtherWAN

What is Power over Link™ (PoL)?

An introduction to EtherWAN's in-house developed Power over Link™ technology.

BACKGROUND

Power over Ethernet (PoE) technology has steadily increased in popularity since its introduction, and its adoption is becoming more widespread. However, one of the drawbacks of PoE is distance. The maximum effective length for UTP cable is 100 meters (328 feet). Fiber optic cabling, used in conjunction with PoE-enabled media converters, can overcome the distance limitations of copper cable, but there still exist many applications where it is not practical or economically feasible to use fiber.

What is needed is a system that can deliver power and data together over existing (non-UTP) wiring, one that is suitable for long distance connections, and that can eliminate the need to run power cables to the remote site. Rising to the challenge, EtherWAN developed Power over Link (PoL) technology. PoL allows power and data to be transported over a single pair of wires, and even works using traditional phone lines or coaxial cable. PoL can deliver the power needed (up to 30 Watts) to end devices such as IP cameras, controllers and access points, up to a distance of 1.2 kilometers (0.75 miles).

EtherWAN currently offers three models of Ethernet Extender that support Power over Link: ED3238, ED3538, ED3638



HOW DOES IT WORK?

The PoL Ethernet Extenders are used in pairs, with the local extender receiving power from a DC power supply, and transmitting power to the remote extender. The link between the devices runs at full 100Mbps at distances from 180 meters (ED3238), to 1.8 kilometers (ED3638), many times the distance achievable with Cat 6 cable.

Powered devices connected to the remote extender receive power through a normal PoE connection via the Ethernet port.

Power over Link™ (PoL) Enabled				
Data Rate Indicators (Min. Rate)	ED3538T/R Reference performance (a pair of 24 AWG copper wires)		ED3638T/R Reference performance (RG6 coaxial cable)	
	Distance	PoE Power Output	Distance	PoE Power Output
100Mbps	300m (984ft.)	30.0W	400m (1312ft.)	30.0W
80Mbps	400m (1312ft.)	15.4W	600m (1968ft.)	15.4W
60Mbps	600m (1968ft.)	14.0W	800m (2624ft.)	15.4W
40Mbps	800m (2624ft.)	9.5W	1200m (3937ft.)	8W
20Mbps	1200m (3937ft.)	5.0W	1600m (5249ft.)	6W
Link (<20 Mbps)	-	-	1800m (5905ft.)	4W

This system allows existing cabling infrastructure to be leveraged in modern networks, and provides a way to deliver power to devices in remote locations. The following performance table shows the full capability of Power over Link in terms of data rate and wattage.

The combination of VDSL2 (Very-high-bit-rate digital subscriber line 2) and PoL technology is a powerful tool for system installers and integrator, allowing for networks that are faster, cheaper, and easier to install.

SOLUTIONS



ED3238

10/100BASE-TX IEEE802.3af
PoE Ethernet Extender over
Coaxial Cable



ED3538

Hardened 10/100BASE-TX
PoL/PoE Ethernet Extender
over Copper Wires



ED3638

Hardened 10/100BASE-TX
PoL™/PoE Ethernet Extender
over Coaxial Cable

SIDE PRODUCT SELECTIONS



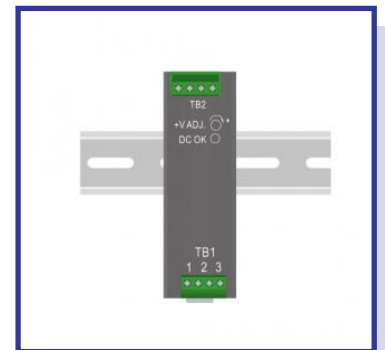
EX77000 Series

Hardened Managed 24-port
10/100BASE and 4-port
Gigabit Ethernet Switch
with SFP options



EX17162

Web-smart 16-port
10/100BASE-TX PoE
(IEEE802.3at) and 2-port
combo Gigabit SFP Ethernet
Switch



DIN Rail Power Supply
Industrial Power Supply
Series