



Power Extenders for Intermittently-Powered Light Poles Enable Continuous Wi-Fi at Outdoor Shopping Center

Executive Summary

Client:

3-dB Networks, Outdoor Shopping Center

Client Challenge:

Deploy Wi-Fi throughout outdoor shopping center on intermittently-powered light poles

Product Solution:

Power Extender for Intermittently-Powered Light Poles

Ventev's Power Extender enables continuous operation of Wi-Fi APs, cameras or other PoE+ devices on light poles with intermittent AC power.

- For light poles controlled by timers or photo cells that interrupt AC power
- Powers devices up to 18 hours during the day and recharges within 6 hours at night
- Provides PoE+ for Wi-Fi AP and additional 25V of PoE power for 1 - 2 other devices



While large retail chains have deployed Wi-Fi indoors for several years, now outdoor Wi-Fi in mall parking lots and outdoor shopping centers is gaining popularity. With outdoor Wi-Fi, businesses have the ability to engage their customers before they even enter their store, and influence them with special offers, discounts or coupons. The shopping center management enhances the shoppers' Wi-Fi experience, and gains an additional revenue stream.

Tim Murphy with NewMark Merrill Companies, the owner, developer, and management for the shopping center, chose 3-dB Networks, an industry-leader in deploying, managing, and securing complex retail networks, to provide the state of the art Wi-Fi throughout the new Village at the Peaks, an ultra-modern outdoor shopping center in Longmont, Colorado. The shopping center offers patrons one-half mile of stores, dining and entertainment venues, including a theatre and an amphitheater, and parking for 2,500 vehicles. Gary Hanson, 3-dB Networks' sales executive, was key to initiating, designing and implementing the Wi-Fi network.

There were two major goals for the outdoor Wi-Fi network. First, the shopping center management needed to provide an optimized Wi-Fi user experience to shoppers throughout the shopping center.

"Consumers expect a seamless Wi-Fi experience while shopping to communicate with friends and family, make informed buying decisions by researching online, and have the ability to enjoy all their favorite online offerings when they are visiting shopping centers," says Hanson. "They want to have the same or better wireless experience than they have at home."

The second goal was to be able to use the Wi-Fi connection to introduce new visitors to the shopping center when they arrive, and when visitors return to the shopping center, re-engage with them by offering information and promotions based on their previous visits, such as discounts at their favorite stores, movie times, restaurant specials, or entertainment scheduled at the amphitheater.

Deploying the Wi-Fi network outdoors does present challenges however. "The best location for deploying the access points for the network is on centrally located light poles," said Hanson. "However, in parking lots you have two problems; the AC power at the poles is mostly 208VAC or 480VAC power, so you have the wrong voltage, and the lights go on at night and off during the day.

"Our choices to overcome these challenges were to run a separate conduit under the asphalt to get 110VAC power to the light pole. That ends up being expensive and time consuming. Or we could use solar power, but that's not a very aesthetically pleasing solution because it would require a fairly large solar panel for each access point."

Fortunately, there is a third option. Ventev's Outdoor Multi-Port Power Extender enables continuous operation of access points, security cameras, backhaul radios or other devices installed on light poles with intermittent AC power. The specialized power system provides primary power to radios and devices during day light hours, and then performs a fast-recharge at night when AC power is available. It



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Multi-Port Power Extender

Manuf.# PWR-XTDR-VNV235
TESSCO No. 586690

Compatible with most PoE+ devices and access points: Cisco 1572EAC & IW3700, Aruba 270, Meraki MR74, and others



Painted Power Extenders blend with the light pole for a more aesthetically pleasing solution. Radios are located at the top of the pole.

converts the AC-site power to clean, reliable DC power without fluctuation to power active equipment. To protect from harsh weather, theft and tampering, the Power Extender has a NEMA 4X enclosure and includes latch locks.

“We chose the Power Extender because it is the most efficient solution. We could retrofit the existing light poles and we didn’t have to trench for power. The Power Extenders were easy to mount quickly onto the poles using stainless steel bands (not inc.). And, because aesthetics are very important at the new shopping center, Ventev was able to paint them to match the light poles,” said Hanson. “Ventev’s Power Extender is an elegant solution that solves many problems. It puts everything we need at the base of the light pole, right where we need it.”

NewMark Merrill Companies and 3-dB Networks are very satisfied with the Wi-Fi network. “The Village at the Peaks has created a multi-sensory outdoor environment for patrons and the wireless system helps support this goal,” says Hanson. “This is a win-win situation for both patrons and merchants.”