

OVERVIEW

The AN LV Network Modem and Coupler provides reliable communications over LV powerlines.

This solution maintains sufficient network bandwidth for applications requiring real-time communications and is a cost-effective approach to applications requiring robust, as-good-as-wire reliable communications coverage over the LV powerlines.

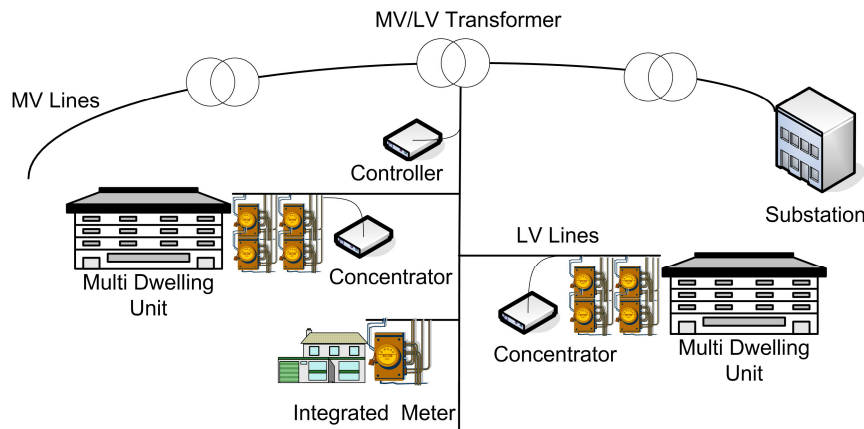
Adaptive Networks' unique approach utilizes powerline-optimized wideband modulation, adaptive equalization, rapid synchronization, error-control coding and powerline optimized token passing protocols. The foundation of this approach is adaptive equalization permitting dynamic adaptation to the inconsistencies of the powerline.

The AN LV Network Modem can be used to provide an error-free transparent link between multiple nodes on the LV network supporting various industrial protocols.

Delivering up to 100 kbps throughput to end-user applications, this solution is suitable for demanding control, automation and monitoring applications that require connectivity over the LV powerline network.

FEATURES

- Up to 100 kbps application-usable throughput
- Coverage anywhere on one side of a transformer
- Transmission over AC, DC powerlines or noisy media
- Powerline-optimized wideband modulation.
- Rapid synchronization
- Adaptive equalization for adaptation to rapidly changing powerline conditions
- Reliable low latency communication
- QoS support inherent in SAR and MAC
- Powerline-optimized Forward Error Correction (FEC) and ARQ
- Support for short frames
- Noise-immune token passing
- Support for large node populations
- Field-proven technology
- Robust performance in demanding real-world operating environments





PowerConnect™ LV Powerline Modem

SPECIFICATIONS

Network Throughput

- 100 kbps (AN1000)
- 19.2 kbps (AN192)
- 4.8 kbps (AN48)

Raw Data Rate

- 268.8 kbps (AN1000)
- 134.3 kbps (AN192)
- 31.5 kbps (AN48)

Modulation

- Wideband

Frequency Band

- Below 525 kHz (AN192, AN1000)
- 10 kHz to 450 kHz - Japan MPT (AN192, AN1000)
- 9 kHz to 95 kHz (AN48)

Data Interface

- RS-232, RS-485
- DB-9 female

BER

- $< 10^{-9}$

Error Detection

- Two level 16-bit CRC

Error Recovery

- FEC and ARQ

Number of Nodes

- 16-bit address space

Standards

- IEC 61334-5-3 (AN48, AN192)
- ISO 10368 (AN192)

Operating Distance

- One side of a LV transformer, up to 5 km

Operating Environment

- Up to 240 V

Line Coupling

- Capacitive

Status Indicators

- MSR - Master
- NTS - Network Sense
- ERR - Error
- PWR - Power

Operating Temperature Range

- -40°C to 70°C
- -40°C to 85°C extended temperature range