

## The EkoPLC System

### Frequently-Asked Questions – Technical

#### What equipment do I need to deploy EkoPLC's System?

EkoPLC components are lightweight, compact, and straightforward to install. The system uses four key components – the Telkonet Gateway, the Telkonet eXtender, the Telkonet Coupler, and the Telkonet iBridge – to deliver networking in a facility. In some environments, Telkonet eXtenders are necessary to extend the reach and amplify the signal within the building. Telkonet components are UL 60950 listed, FCC Part 15 compliant, FIPS 140-2 compliant, and CE certi.ed.

**Telkonet eXtender** – Provides additional reach and scalability for networks that cannot be properly covered by a single Telkonet Gateway or multi-building environments.

**Telkonet iBridge** – An intelligent, single-port Ethernet-to-PLC device converting an AC outlet to a LAN drop, enabling a user to connect a computer or IP device to the PLC network.

#### How long does it take to install EkoPLC's System?

Installation can be completed anywhere from a few hours to a couple of days. A licensed electrician is needed only for a very limited amount of time to install the Telkonet Coupler(s); the number will depend on the physical layout of the facility. Once the Telkonet Coupler(s) are installed and connected to the Telkonet Gateway and Telkonet eXtenders (as required), the network backbone is ready for use.

#### Can the EkoPLC System provide broadband Internet and data access to multiple buildings?

Yes. The system can accommodate situations, such as apartment complexes, with more than one building. Telkonet uses a variety of methods and technologies to address a multi-building environment. The system can be combined with other networking technologies to help tie multiple buildings together into one cohesive system.

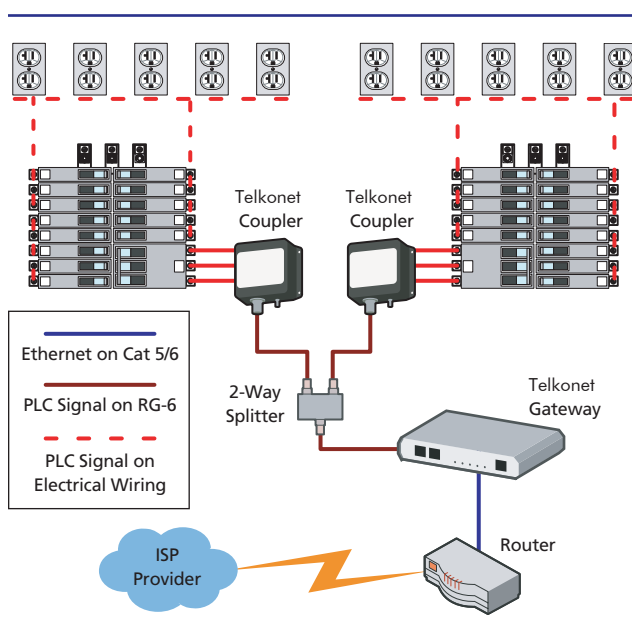
#### How many Telkonet iBridges do I need to order?

Typically, you will need a Telkonet iBridge for each high-speed Internet connection that you require. The Telkonet iBridge can be connected to a switch, router, or wireless access point (WAP) to service multiple, simultaneous users.

#### How secure is EkoPLC's System?

Telkonet's patent-pending Telkonet iBridge-to-Telkonet Gateway architecture allows the system to be configured for various degrees of security. By default, each Telkonet iBridge is isolated from every other Telkonet iBridge on the

#### The EkoPLC Backbone



**Telkonet Gateway** – Acts as a remotely manageable network switch which converts data between a 10/100 Ethernet port and a PLC interface. Each Telkonet Gateway supports up to 63 EkoPLC eXtenders, 1,023 Telkonet iBridges and up to 4,096 Ethernet endpoints.

**Telkonet Coupler** – Injects the PLC signal from a Telkonet Gateway or Telkonet eXtender into a building's electrical wiring.

PLC network. Data in transit between the TelkonetiBridge and the TelkonetGateway is encrypted with 56-bit Data Encryption Standard (DES).

For government applications, EkoPLC's system implements 256-bit Advanced Encryption Standard (AES) for enhanced security of data communication over the PLC network. The combination of AES encryption, FIPS 140-2 compliance, and network configuration management provided by the Telkonet Gateway, guarantees security equivalent or better than traditional CAT 5 and is a substantial improvement over the wireless standards (802.11b and g) currently available on the market.

#### **How does the system handle interference on power circuits?**

EkoPLC's System implements orthogonal frequency division multiplexing (OFDM) over an available spectrum of 76 channels. The channels are constantly monitored for noise and interference that may disrupt data transmission. When interference is detected, EkoPLC's system adapts to the changing conditions to ensure continuous operation.

#### **Does EkoPLC's System support Virtual Private Networks (VPNs)?**

Yes. The EkoPLC system simply provides the transport mechanism for VPNs.

#### **Does EkoPLC's System operate on open standards?**

Yes. EkoPLC's System adheres to open standards for Ethernet communication.

#### **Does the EkoPLC system meet any industry standards for quality?**

Yes. The Telkonet iWire System is UL60950 listed, FCC Part 15 compliant, CE approved and is certified to FIPS 140-2 standards. In addition, EkoPLC's System is the subject of an ongoing certification program around the world.

#### **Can EkoPLC's system be extended using wireless technology?**

Yes. A wireless system can be used to network a multi-building environment with the use of Telkonet eXtenders. The Telkonet iBridge can also be used to provide wireless access to end users via a WAP.

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