

PowerLine Guardian

User Manual

General Description: The PowerLine Guardian (PLG) is a critical part of the Smart Wire Grid system to assist utilities and other industrial customers with retrofitting existing power line infrastructure and allow power flow control for the grid. The PLG is the workhorse of the system which is mounted on the power line and controlled through the RF link to enable and disable the control system of the PLG and provide telemetry back to the base station.

Installation: The PowerLine Guardian is typically installed on a high-tension power line by first shutting down the power line, attaching the PLG, and then returning power to the line. The PLG mounts to the power line by placing the bottom housing underneath the line then capturing the power line with the top housing, then bolting the two housings together to clamp onto the power line. Once bolted together, the PLG is ready for use.

Operation: The PowerLine Guardian turns on automatically when the power line is powered on. Once powered on, the PLG communicates to a base station using the RF link which utilized 915MHz band or 868MHz band depending on the local regulations. The RF link is then used to turn the control system of the PLG on and off to allow for smart power flow control for the grid. In addition to enabling and disabling the features of the PLG, the radio link communicates the current status of the PLG to the base station. The PowerLine Guardian is equipped with an optional cellular modem that may utilize the cellular service available in the area.

Lifespan & Service: The PLG unit is designed to withstand a 20 year operational life. In the event of malfunction, the PLG may remain on the power line until the next service interval. A PLG unit may be serviced by removing it from the power line and returning the unit to the factory. There are no field serviceable parts inside.
