

GV-LED

Greenity's GV-LED is a HomePlug Green PHY Powerline Communications (PLC) SoC and LED driver for Smart LED Lighting.

PRODUCT DESCRIPTION

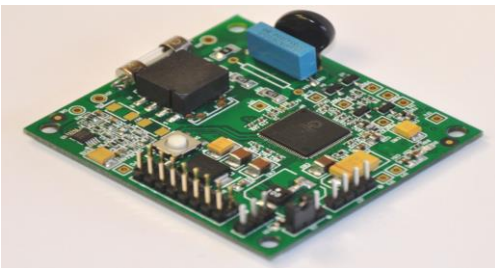
The GV-LED is a HomePlug Green PHY (HPGP) powerline communications (PLC) and LED driver powered by Greenity GV7013 Hybrii-Mini SoC. The GV-LED delivers half-duplex, asynchronous data communication over (50/60 Hz) AC and DC power lines at PHY data rates up to 9.8 Mbps and features Pulse Width Modulation (PWM) to drive LED's and a 0 to 10V output used to drive LED power supplies. With PWM and a 0 to 10V output, the need for stand alone LED drivers are eliminated. The GV-LED is designed to operate with the GV-Controller and GV-Sensor to form a complete Smart LED Lighting system.

GV-LED FEATURES

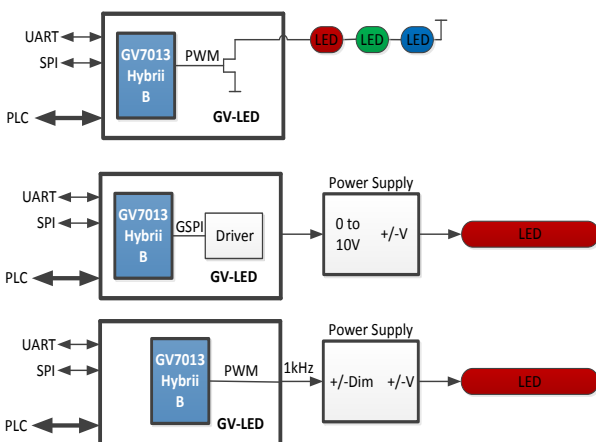
- GV7013 Hybrii-Mini HomePlug PLC SoC
- Supports Wide Range Supply: 12 to 60V

Orderable options

- (4) PWM outputs for LED control
- (1) 0 to 10V output for LED control
- (4) on-board LED transistors with PWM control



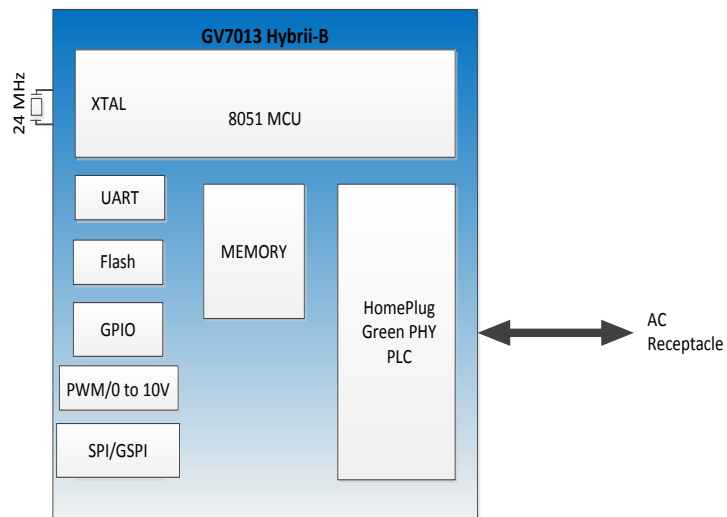
GV-LED APPLICATION DIAGRAM



GV-LED Application Diagram

GV7013 FEATURES

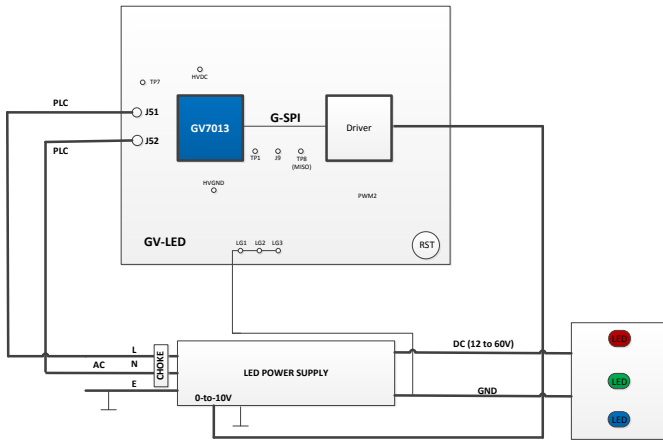
1. Integrated HomePlug Green PHY PLC, 8051 MCU, AE-128 Encryption/Decryption Co-Processor and 256 Kbytes (code) /48 Kbytes (data) RAM
2. Compliant with HomePlug Green PHY and operable with HomePlug AV and IEEE-1901
3. Functions on up to 240 VAC and on DC lines
4. Supports OFDM Mini/Standard/High-Speed ROBO mode's and PHY rates to 9.8 Mbps
5. Wideband frequencies from 2 to 30 MHz
6. Features HPGP power modes plus Active, Standby, Sleep, and Deep Sleep
7. Boots from an external 256 kB to 1 MB serial flash
8. Utilizes a single low cost 24 MHz crystal
9. Supports multiple host interfaces including SPI, UART, and includes GPIO pins
10. Includes PWM and 0 to 10V outputs which eliminates the need for an external LED drivers
11. Digital (1.2/2.5 V), Analog (1.8/2.5 V)
12. Industrial temperature range from -40 to +85°C



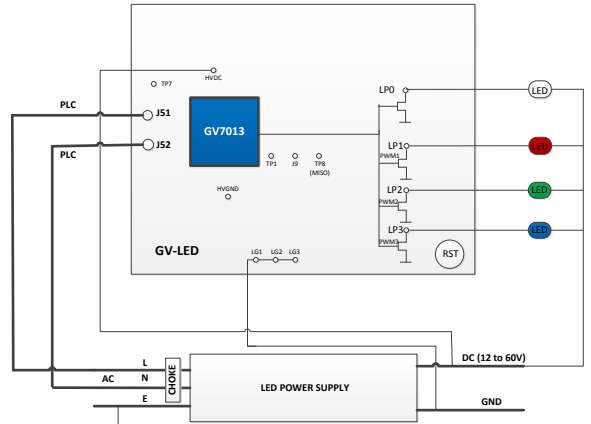
GV7013 Block Diagram

GV-DETAILED APPLICATION DIAGRAM

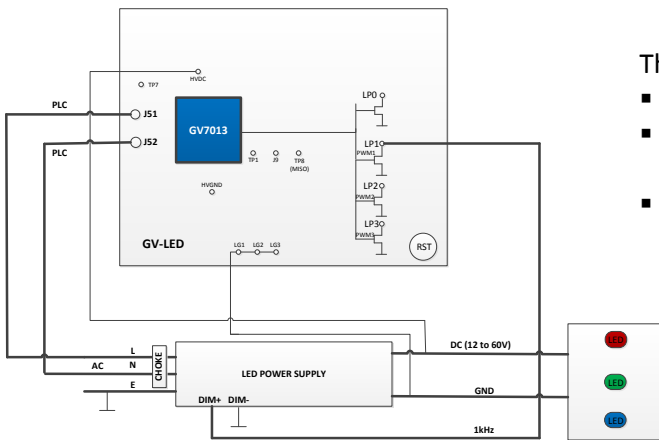
0 to 10V Control



PWM Control



LED Driver Control



The GV-LED is provided as 3 orderable options.

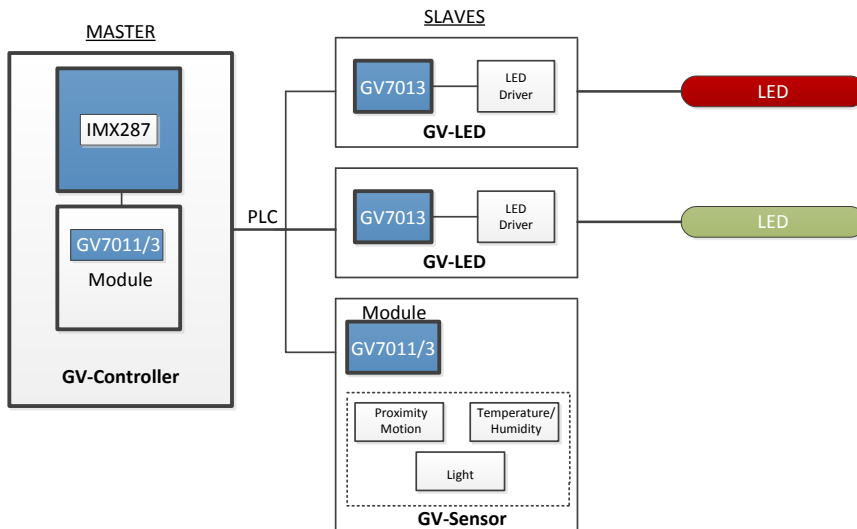
- Option 1: (4) PWM LED control pin
- Option 2: (4) LED power transistor outputs with PWM control
- Option 3: (1) 0 to 10V LED power supply control

TARGET APPLICATIONS

- LED Lighting Control for commercial buildings, streets, parking lots and factories
- Controlled LED lighting, signage and display
- Home/Building Energy Management System

ORDERING CODE

Ordering Code	Description
GV-LED	Smart LED driver module Orderable options <ul style="list-style-type: none"> ▪ Option 1: (4) PWM LED control pin ▪ Option 2: (4) LED power transistor outputs with PWM control ▪ Option 3: (1) 0 to 10V LED power supply control
GV7013-LED-DP	Complete LED Lighting Control Development Platform
GV-Controller	Home Gateway and LED Lighting Controller
GV-Sensor	All-in-One Sensor module
GV7011/3	Hybrii-XL chip (HPGP & ZigBee) or Hybrii-Mini chip (HPGP)



Smart LED Lighting Control with Sensor Network

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