

# Universal IoT Hub-Mini (GV-Controller-S)

*Greenvity's Universal IoT Hub-Mini is a smart Gateway and Lighting Control platform that supports multiple communication protocols and multiple IoT functions. The hub utilizes a Greenvity's GV7011-MOD module (or GV7013-MOD) and an ARM9 processor featuring WiFi, Ethernet, ZigBee, wide band power line communication (PLC), IEEE 802.15.4 wireless, Bluetooth Low Energy (BLE) and GSM/3G (optional) to provide intelligence, flexibility and versatility for Smart Lighting, Smart Home/Building Automation and Security applications.*

## PRODUCT DESCRIPTION

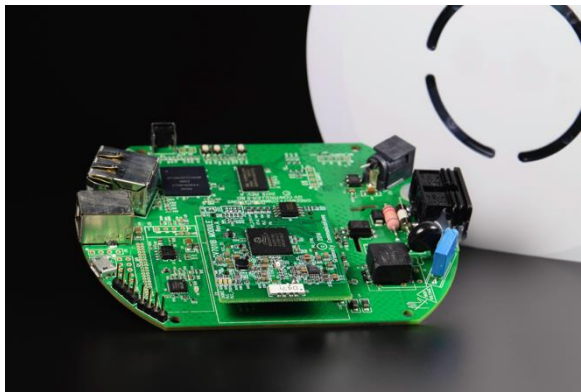
Greenvity's Universal IoT Hub-Mini (a small version of GV-Controller) is a gateway and lighting control platform that is designed to serve the Smart Lighting, Smart Home / Building Automation and Security applications. The GV-Controller-S is powered by either a Greenvity's GV7013 Hybrii-Mini chip with wide band powerline communication (PLC) or a GV7011 Hybrii-XL chip with wide band PLC and IEEE 802.15.4 wireless. It also includes an ARM9 processor to provide intelligence, controllability and also interface to cloud and mobile apps. The Universal IoT Hub is designed to control and monitor various types of IoT devices from lights, smart plugs, light switches to sensors.

The hub features universal connectivity with multiple communication protocols including WiFi, Ethernet, ZigBee, IEEE 802.15.4 wireless, powerline communication (PLC) and Bluetooth Low Energy (BLE) as orderable option. Greenvity's Universal IoT Software (GV-UNIHUB-SW) is an application software layer that enables communications between these protocols within the hub and forms a common interface API to cloud and mobile apps.

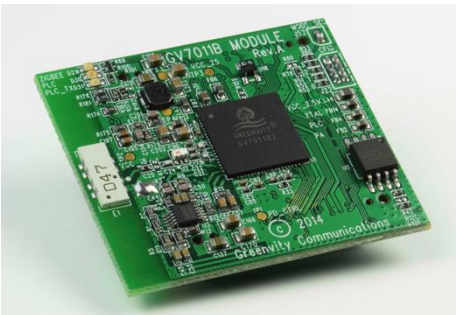
End-users will not have to worry about what protocol or standard of the device that they buy because Greenvity's Universal IoT Hub can communicate with most popular standards in the market. For example, the Universal IoT Hub can control various IoT devices from different manufacturers such as Philips HUE light bulbs, GE and Samsung IoT devices.

For increased flexibility, the hub features 32kB SRAM data memory and 64Mb SDRAM program memory which stores Greenvity's application software. For quick time-to-market, Greenvity's application software can be customization through XML or C API for specific applications.

The GV-Controller-S supports the patented Hybrid-Mesh™ networking that is powered by Greenvity's GV7011 chip featuring PLC & wireless bridging and mesh capability. The Hybrid-Mesh™ enables range extension and highly reliable communication link. This unique and innovative mesh technique can cover a whole building that is an important factor for commercial and industrial building applications.



GV-Controller-S Board



GV7011-MOD Module

Document GV-Controller-PB-001

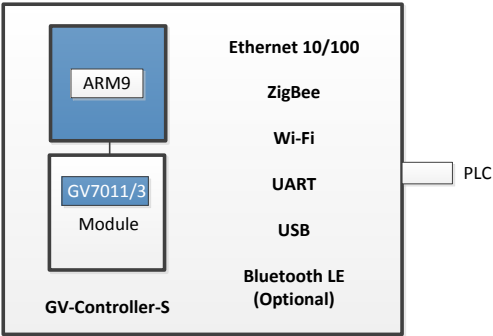
# Universal IoT Hub-Mini (GV-Controller-S)

## GV-CONTROLLER-S FEATURES

- Universal IoT Hub-Mini: Smart Lighting, Smart Home/Building Automation and Security applications for residential, commercial and industrial buildings
- Multi-functions: control and monitor multiple IoT devices from LED lights, non-LED lights, smart plugs, light switches, appliances and sensors
- Multi-protocols for universal connectivity: WiFi, ZigBee, IEEE 802.11 b/g/n, Ethernet, PLC, IEEE 802.15.4 wireless, BLE (option)
- Patented Hybrid-Mesh™ networking with PLC & wireless (based on wide band PLC and IEEE 802.15.4 wireless): highly reliable link, range extension and capable to cover whole building
- Support power line communication (PLC): wide band from 2MHz to 30MHz with throughput up to 3Mbps
- Automatic Installation: easy and simple
- Provision to support either Greenvity's GV7011 Hybrii-XL (PLC/IEEE 802.15.4) or a GV7013 Hybrii-Mini (PLC)
- ARM9 processor features 32KB SRAM data memory and 64MB SDRAM for program memory
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- Supports Linux OS with IPv4, IPv6 and TCP
- RJ45 Ethernet connector
- 4-Port USB Hub
- SD micro-SD for Linux Kernel and Linux filing
- Gateway software allows for XML or API based interface.
- The Universal IoT Hub can control and monitor all IoT products from Greenvity:
  1. Smart LED lighting control modules: GV-LED-11, GV-LED-13 and GV-LED-13
  2. Smart Light Switch (Room Controller): GV-Sensor board
  3. Smart Plug: GV-Plug board

(Contact [sales@greenvity.com](mailto:sales@greenvity.com) for these IoT products)

GV-CONTROLLER-S BLOCK DIAGRAM



**TARGET APPLICATIONS**

- Smart LED lighting control
- Smart energy management for home, building & multi dwelling unit
- Smart appliances & smart home device
- Home and Building Security
- Solar Inverters

**ORDERING CODE**

Ordering Code	Description
GV-Controller	Universal IoT Hub
<b>GV-Controller-S</b>	<b>Universal IoT Hub – Mini (small version of GV-Controller)</b>
GV-LED-11	Smart LED module with PLC and IEEE 802.15.4 wireless
GV-LED-13	Smart LED module with PLC
GV-LED-Mini	Smart LED module with PLC supporting DC low voltage
GV-Sensor	Smart Light Switch
GV-Plug	Smart plug with energy management
GV7011-MOD GV7013-MOD	Modules with GV7011 chip and GV7013 chip



**For more information, please contact Greenvity**

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