

**Billion SG110-A**

Temperature and Humidity Sensor for Energy Saving

Billion SG110-A is equipped with a high-precision temperature and humidity sensor using ZigBee wireless transmission technology. Built-in wireless antenna and a battery power source making it become a highly convenient tool that can instantly and accurately collect current temperature and humidity data, then transmit to the central control system.

SG110-A's mounting capability, battery-powered feature, and aesthetic design help the users ease the installation process and provide them an ideal decoration for indoor environments. You only need a screwdriver in installation process without any other tools to modify the environment.

Billion SG110-A primary using is for manage energy system. And because of it's high accuracy, it also can be used for precision agriculture and greenhouses owners, museums, library, laboratory environment, etc.. It can be one of air quality monitoring tools.

The central control system (Billion Smart Energy Gateway) can gather information transform usable data then it can ask the central air conditioning and other equipment to make adjustments. Due to any change in the environment, it can keep the ambient temperature and humidity in the most comfortable or user setting stat, achieving energy saving and carbon reduction.

- Built-in High accuracy MEMS temperature and humidity sensor element making the unit not only for observation, but also applicable to precision control.
- Wireless transmitting means easy scalability when the user wants to add new observation nodes. Wireless transmitting means the installation of this unit can avoid unnecessary construction work and the unacceptable dust from construction work.
- Two AA batteries which can last for one year or more means easy installation and maintenance.
- ZigBee Home Automation Profile compliant means the device is compatible with other ZigBee HA certified receivers that add the flexibility to choose.
- ZigBee-based energy management solution for business partners:
- ESCO company
- Commercial construction builder
- ZigBee network system integrator and planners



Product Specification

Network Protocols and Features

- Fully IEEE 802.15.4 and ZigBee 2007/PRO compliant
- RF: ZigBee 2.4GHz ISM Band IEEE 802.15.4
- Transmitting Protocol : ZigBee: HA profile
- RF Output Power 1mW/ 0dBm
- Network Topology : Star/ Tree/ Mesh
- Measurement Acc : Temperature +/-0.5 °C / Humidity +/-5%
- Receiver Sensitivity : -92dBm

Physical Interface

- DIP Switch x 5 (Transmit Interval 1sec. to 70min. by setting DIP Switch)
- Antenna: Built-in Antenna
- Weight : 95g / 3.4oz
- Dimensions: 3.54" x 1.97" x 1.1" (90mm x 50mm x 28mm)

Power Requirements

- Power supply : AA (LR-03) batteries x 2
- Run Time : 1 year based on sending data per 15 min.
- Power Consumption : TX : 35mA Sleep : 1.3uA

RF Specifications

- ZigBee 2.4GHz ISM Band IEEE 802.15.4

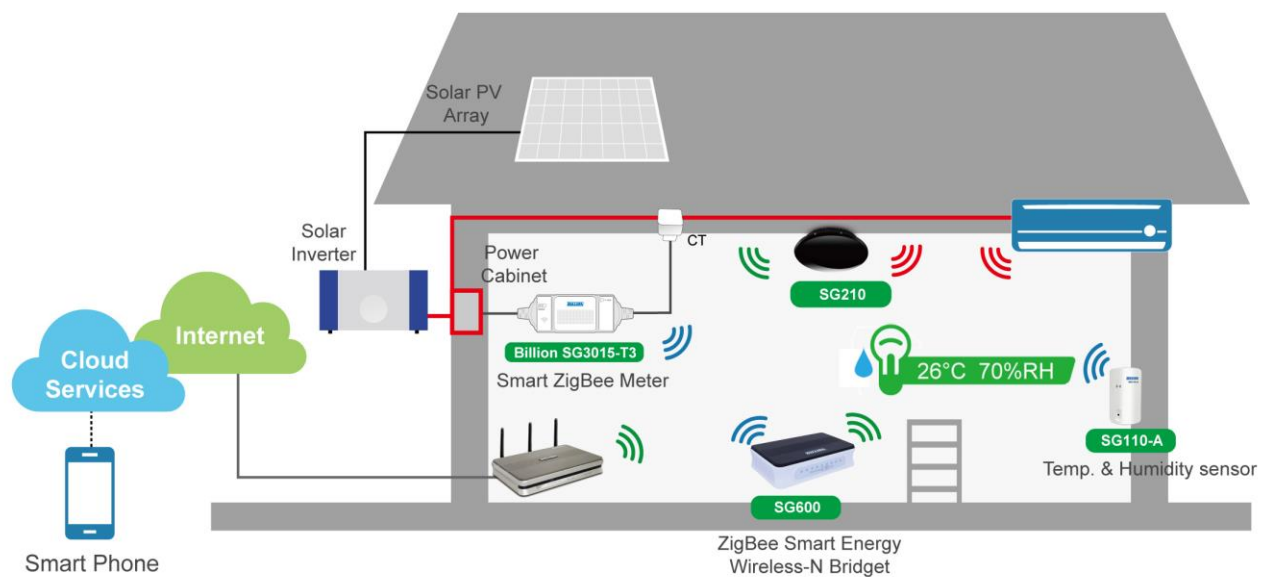
Operating Environment

- Operating temperature : -10°C – 50°C/ 14 – 122°F
- Operating Humidity : 0% – 95% RH
- Storage temperature: -20°C – 60°C

Application Scenarios

Hybrid SG110-A's Air-Conditioner Energy Management

SG110-A can report Temp. and humidity information to the smart gateway SG600. SG600 can command SG 210 (Wi-Fi + IR controller) which can control the air conditioning to change the output.



Review Real-Time Temperature & Humidity Data on Any Portable Devices

Users can review the real-time environmental temperature and humidity data through Billion SEMS Smartphone APP at anytime, anywhere.

