



Billion SG200

Smart ZigBee Lighting Control Box

Billion SG200 is an indoor smart lighting solution designed to deploy at commercial offices, warehouses and factories for remote lighting controls. When SG200 is connected to a dimmable indoor LED driver, SG200 can perform dimming and control lighting on/off through a Billion's provided smart energy gateway. Based on Billion's API, the lighting system integrators can remotely control lighting either via BEsmart APP or integrate into their lighting software on PC, Smartphone or cloud-based to pair with Billion's SG200 and smart meters. The smart lighting control box is a ZigBee wireless corresponding solution that can reduce the extra wiring and installation costs.

The SG200 supports a universal range of AC input (AC 100~277V), which can correspond to worldwide power environments. The SG200 also supports power on/off control feature, supporting up to maximum 277VAC 10A (N.C) load. SG200 is also embedded with a built-in four channels of dimming function supporting DC 0~10V dimming output. SG200 utilizes DI (Digital Input) and DO (Digital Output) to provide additional applications for a lighting system. The DI can connect to motion sensors or lighting sensors, and can interact with the sensors via the DO port. DO can trigger other pre-defined sensors, such as like alarm sensor, to enable instant alerting.

● Flexible API Supports Extensive Application Developments

Billion Smart Energy Gateway (SG6200NXL or SG600 R2) are integrated with scalable IP-based API. Through the received API, the smart energy gateway can control SG200 automatically, allowing system integrators to develop their backend software system on Billion's hardware platform.

● Digital Input and Digital Output Proving Value-Added Automation

The DI/DO feature of SG200 is flexible for providing a variety of applications to meet the customer needs. For example, if a warehouse is empty, the lights in this warehouse should be off to save energy. In this application, the SG200's DI can connect to a motion sensor detecting human activities. SG200 then can automatically turn the lights on/off based on the environmental variables. To enhance security, SG200's DO can connect to a buzzer, and when the motion sensors detect human activities outside of the operational hours, SG200 can trigger the buzzer to deliver instant alarms. By providing reliable SG200's DI/DO, the customer can easily integrate this state-of-art device to create a broad range of value-added applications.

● Convenient Setup and Easy Installation

SG200 ZigBee Lighting Control Box is a compact device embedded with AC and dimming terminals. The device is easy for installers to providing wiring and setup services. The only thing that needs to be done is to plug-in an AC power cable and a lighting power cable to the quick install terminals of SG200. SG200 will support automatic allocation with Billion Smart Energy Gateway when triggering the pairing function on the smart gateway. The LED indicator on the front panel is for the customer to understand the communication and the relay status.

- IEEE 802.15.4 and ZigBee PRO compliant
- AC input: 100~277VAC 50/60Hz
- Relay switching load: 277VAC 10A (N.C)
- Output: 4 channel of DC 0~10V max. 4mA dimming output
- Digital Input x 1
- Digital Output x1
- External Antenna
- Compliant with ZigBee HAN (Home Automation Profile)
- Provides API for system integrator to develop their App and cloud service
- Ideal for:
 - Warehouse
 - Industrial and commercial offices
- Works as part of ZigBee-based energy management solution for business partners:
 - ESCO company
 - Commercial construction builder
 - Lighting system integrator
 - ZigBee network system integrator and planners

Product Specification

Network Protocols and Features

- Fully IEEE 802.15.4 and ZigBee PRO compliant
- RF: ZigBee 2.4GHz IEEE 802.15.4
- Compliant with ZigBee HAN (Home Automation Profile)
- Provides API for vendors to develop their App and cloud service

Physical Interface

- 4 channel of DC 0~10V max. 4mA dimming output
- 1 x Relay switching load: 277V 10A (N.C)
- Load inrush current <= 64A
- Digital Input x 1, source type 12VDC 12mA
- Digital Output x 1, sink type 5~24VDC max.1A
- Antenna: External Antenna
- Dimensions: 3.54" x 2.76" x 1.81" (90mm x 70mm x 30mm)

Power Requirements

- Input : 100~277VAC 50/60Hz

RF Specifications

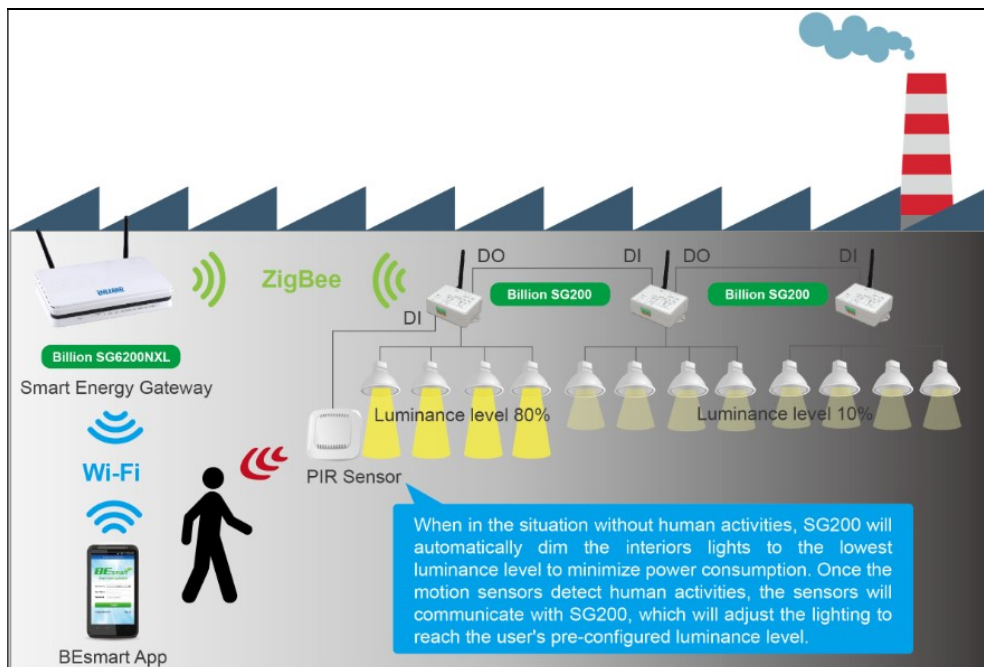
- ZigBee 2.4GHz IEEE 802.15.4-2003

Operating Environment

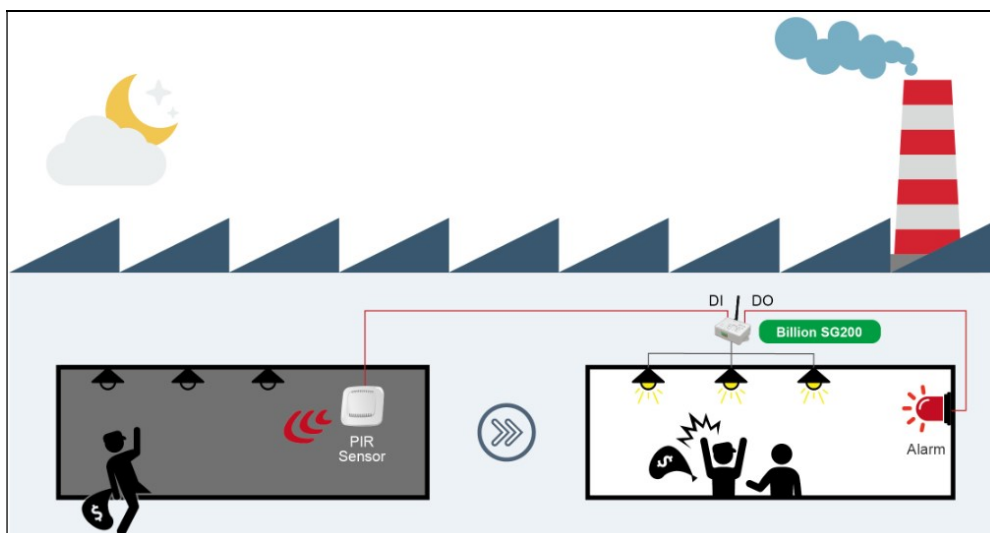
- Operating temperature: 0°C – 60°C
- Storage temperature: -20°C – 70°C
- Humidity: 20% – 95% non-condensing

Application Scenarios – SG200's Interactive Dimming with Motion Sensors

PIR motion sensors can be integrated in SG200's DI to provide automatic dimming for a more energy-saving lighting management.

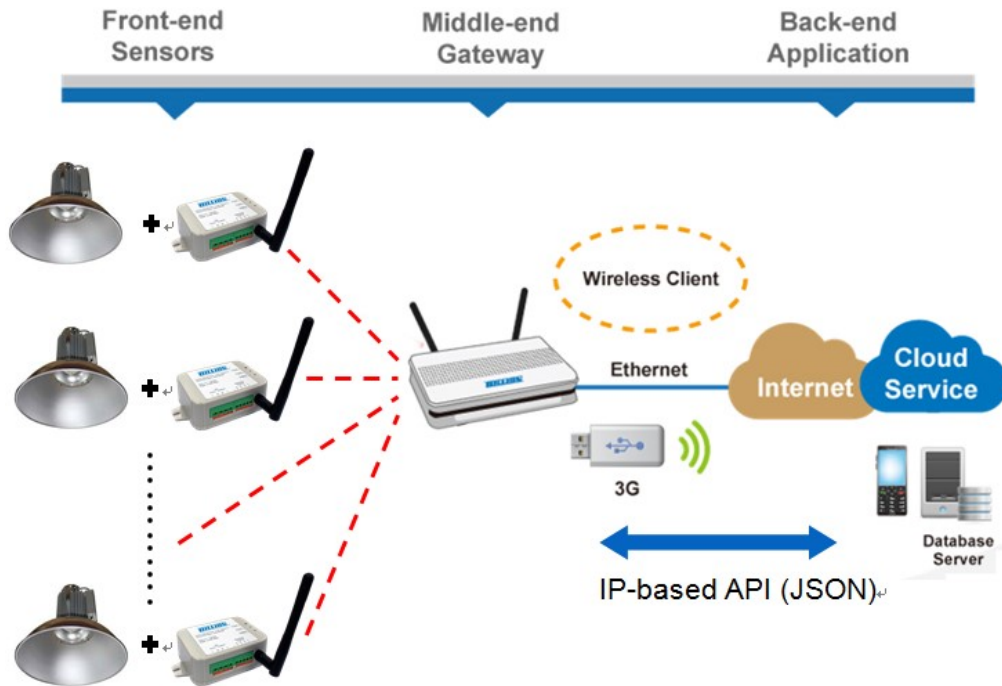


SG200's DI /DO enhance the security management when integrating both motion sensors and security buzzers & alarms



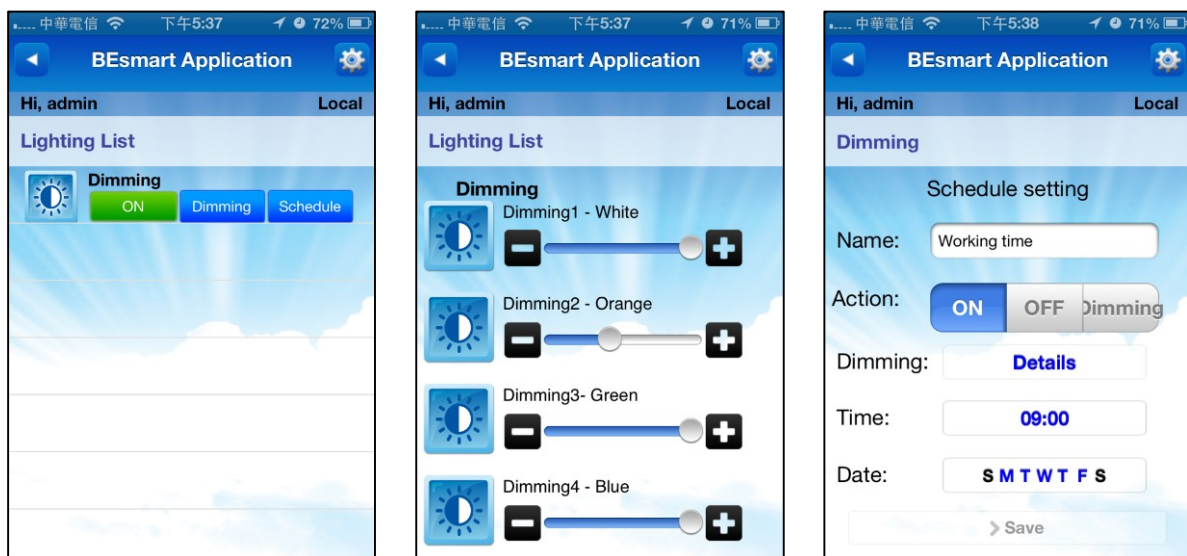
Application Scenarios – Open IP-based API

Billion Smart Energy Gateway (SG6200NXL or SG600 R2) can directly control SG200 based on the received API. System integrator can develop their backend software system using any language on Billion's provided hardware.



BEsmart Smart Lighting APP designed for PC, Smartphone, and Any Portable Devices

On the BEsmart Smart Lighting APP, users can review the real-time energy consumption data of each lighting bulb, access to temperature and humidity reports, schedule an ideal dimming schedule, and remotely control lighting on and off up to 277VAC 10A (N.C) load.



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