



## Billion SG6300NXL Smart Universal IoT Gateway

The Billion SG6300NXL, Smart Universal Gateway, is an all-in-one router designed for users to enjoy real-time energy management and secure Internet access as well. The SG6300NXL is an important hub of Billion SEMS™ Ecosystem, which consists of various sensors such as smart meter, power plug, smart switch, IHD, thermostat, and other sensors.

### Open API Development Platform Connects all Zigbee-enabled Devices



The Billion SG6300NXL provides flexible and secure development platform via a well-defined API (Application Program Interface) for system integrator and software partner to integrate their back-end solution and application software, and further to come out their cloud services and apps. Integrated with ZigBee wireless technology, the Smart Universal Gateway can communicate wirelessly with Billion ZigBee-enabled smart meters such as Billion SG3015 series and Billion SG3030 series.

### More than a Zigbee Gateway – It is also a Wireless AP and Extended Bridge!



The Billion SG6300NXL not only provides a wireless AP feature by connecting with local smartphone or notebook but also acts as a wireless client for connecting to existing wireless gateway. This feature can extend the wireless coverage and reduce the wiring cost. The Billion SG6300NXL also extends the WAN connection with its Dual-WAN design, Internet access via broadband/DSL and back up through 3G/4G network, to keep users always connected.

### Billion provides two models of Billion SG6300NXL according to different application to meet customers' need:



#### Billion SG6300NXL-Std (Standard Version)

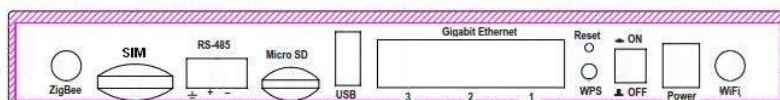
The Billion SG6300NXL-Std is designed for SI and software companies that they can choose any kinds of platforms to create their own software applications based on Billion's API. The Smart Universal Gateway pushes all the recorded data to the back-end software or cloud system that was built by SI and software companies so users can remotely monitor energy consumption and manage their appliances. This solution is ideal for SI of energy management and service providers.



#### Billion SG6300NXL-SDK (Software Development Kit Version)

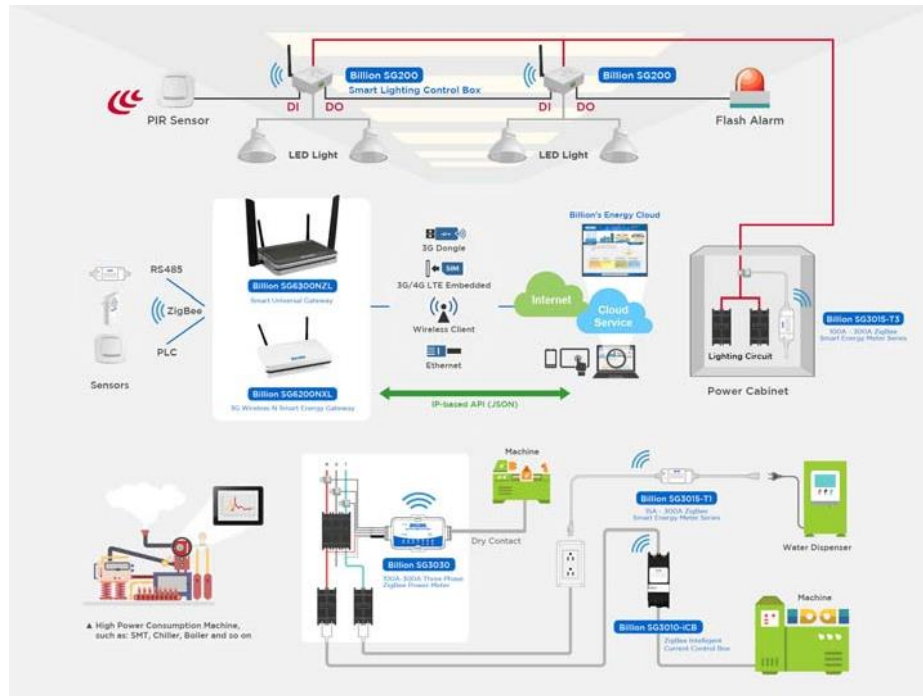
The Billion SG6300NXL-SDK is designed for SI and software companies to develop the software inside of Billion SG6300NXL-SDK for providing the customized services and solutions to the end customers.

- Fully IEEE 802.15.4 and ZigBee PRO compliant
- Build-in RS485 for communicates to RS485 end devices.
- Dual WAN – broadband and 3G/4G connections
- Auto fail-over between broadband and 3G/4G LTE interfaces for always-on connection
- Supports wireless AP mode and clientmode
- Wireless bridge to connect with existing wireless gateway
- 1 x USB 2.0 Host port for USB storage
- Support internal storage for history data log.
- Support Real Time Clock (RTC).
- Compliant with ZigBee HAN (Home Automation Profile)
- Provides Billion's API for vendors to develop their App and cloud service
- Ideal for:
  - Office users
  - Industrial and commercial users
  - Utilities companies
- Works as part of ZigBee-based energy management solution for business partners:
  - Power Utilities: solar power, wind power, etc.
  - ZigBee network system integrator and planners



## Application Diagram

The Billion SG6300NXL can auto collect front-end sensor information via various communication interface like ZigBee, Ethernet to Power Line Communication and RS485. All the data can be stored in SG6300NXL or push to remote server automatically. The SG6300NXL can act as a wireless AP and a wireless client at the same time while collecting data from ZigBee end devices through the ZigBee wireless network to create an energy management solution. It is also able to act as a wireless bridge to connect to other existing wireless gateways.



## Features & Specifications

### Availability and Resilience

- Dual-WAN ports (4G LTE / 3G & Ethernet WAN)
- Auto fail-over/fail-back
- Dual image for firmware backup
- Supported frequency bands: FDD and TDD (Bands depend on module configuration)
- Peak Downlink/Uplink Rate: 100Mbps+/50Mbps (Depends on module and carrier network support)

### Network Protocols and Features

- NAT, static routing and RIP-1 / 2
- Transparent bridging
- Virtual server and DMZ
- SNTP, DNS relay and DDNS
- IGMP snooping and IGMP proxy

### Management

- Quick installation wizard
- Web-based for remote and local management TR-069
- Firmware upgrades and configuration data upload/download via web-based interface
- SNMP v1 / v2 / v3, MIB-I and MIB-II support
- Syslog monitoring
- Supports DHCP server/client/relay
- Mail Alert
- Multiple language support

### Firewall Management

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Remote access control for web base access
- Packet and URL filtering
- Password protection for system management
- VPN pass-through

### Quality of Service Control

- Traffic prioritization based on Protocol, Port number and IP address

### Wireless LAN

- Compliant with IEEE 802.11n, 802.11g and 802.11b standards
- 2.412GHz - 2.484GHz frequency range
- 64 / 128 bits WEP supported for encryption
- WPS (Wi-Fi Protected Setup) for easy setup
- Wireless Security with WPA-PSK / WPA2-PSK
- Support WDS repeater function support
- Multiple SSID
- Wireless bridge to connect with existing wireless gateway

### Hardware Specifications

#### Physical Interface

- USB: USB 2.0 port x 1
- WLAN: 2T2R antenna x 2
- ZigBee: External antenna x 1
- 3G/4G: External antenna x 2
- SIM card socket x 1
- Micro SD card socket x 1
- RS485: Master x 1
- Ethernet LAN: 10/100/1000Mbps RJ-45
- Ethernet port x 2
- Ethernet WAN: 10/100/1000Mbps RJ-45
- Ethernet port x 1
- Reset button
- WPS/ZigBee push button
- Power jack
- Power switch

#### Physical Specifications

- Dimensions: 9.04" x 6.10" x 1.46" (229.5mm x 155mm x 37mm)

#### Power Requirements

- Standard Model: Input 12V DC, 1.2A
- Wide Temp. Model: Input 15V DC, 1.6A

#### ZigBee Specifications

- Fully IEEE 802.15.4 / ZigBee PRO compliant
- Operating Band: 2.405 - 2.480GHz
- 16 channels in the 2.4GHz ISM band

#### Operating Environment

- Operating temperature: Standard Model 0°C – 50°C, Wide Temp. Model -40°C – 65°C
- Humidity: 20% – 95% non-condensing

#### \* Notes:

- The 4G LTE data rate is dependent on your local service provider.
- Dual APN is not supported on some specific SKU, please confirm it with our sales.
- Future release and only upon request for Telco/ISP tender projects.
- Specifications in this datasheet are subject to change without prior notice.

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