

## Billion SG6300NXL Smart Universal IoT Gateway



The Billion SG6300NXL, Smart Universal IoT 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.

### Hybrid Communication Fulfill Various Environment Requirement



The Billion SG6300NXL embedded the ZigBee module, RS485, 802.11n Wi-Fi enabling support of multiple applications. 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.

### High Reliability for Commercial & Industrial Applications



The Billion SG6300NXL support internal real time clock and data storage for long term history data log. Come with wide-temperature, dual firmware image, software and hardware watchdog design provides the highest level of device stability in any rugged environment.

### High Availability



The Billion SG6300NXL supports gigabit Ethernet WAN to connect to the DSL modem, cable modem, fiber modem or LTE modem. The other model, **SG6300NXL** has LTE embedded functionality to support dual-WAN interface with failover/fallback feature to ensure the connection is always on.

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

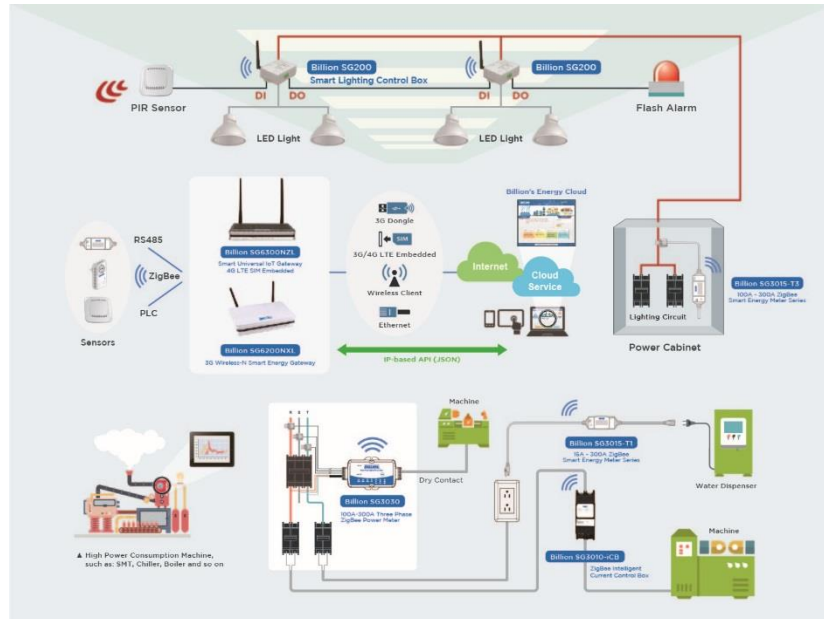


The Billion SG6300NXL provides flexible and secure development platform via a well-defined API (Application Program Interface) for system integrator and software partner to integrate their back-end solution and application software, and further to come out their cloud services and Apps. Integrated with ZigBee wireless technology, the Smart Universal Gateway can communicate wirelessly with ZigBee & RS485 enabled smart sensors such as AC meters, DC meters, temperature sensor etc.

- Fully IEEE 802.15.4 and ZigBee PRO compliant
- Build-in RS485 for communicates to RS485 end devices.
- Supports wireless AP mode and client mode
- Wireless bridge to connect with existing wireless gateway
- 1 x SD card interface for data storage
- Support internal storage for history data log.
- Support Real Time Clock (RTC).
- Compliant with ZigBee HA (Home Automation) profile
- Provides Billion's API for vendors to develop their App and cloud service
- Ideal for:
  - Solar management solution
  - 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 and 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 and RS485 end devices through the ZigBee wireless and RS485 wired 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

- Giga Ethernet WAN port
- Dual image for firmware backup

### 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<sup>\*1</sup>
- 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
- MQTT support

#### \* Notes:

1. Future release and only upon request for Telco/ISP tender projects.
2. Specifications in this datasheet are subject to change without prior notice

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### 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  
External antenna x 1  
Internal antenna x 1
- ZigBee: External antenna x 1
- Micro SD card socket x 1
- RS485: Master x 1
- Ethernet LAN: 10/100/1000Mbps RJ-45 Ethernet port x 1
- Ethernet WAN: 10/100/1000Mbps RJ-45 Ethernet port x 1
- Reset button
- WPS/ZigBee push button
- Power jack
- Power switch

#### Physical Specifications

Dimensions: 7.28" x 4.86" x 1.38"  
(185mm x 123.5mm x 35mm)

#### Power Requirements

Adapter Input: 12V DC, 1.5A

#### ZigBee Specifications

- Fully IEEE 802.15.4 / ZigBee PRO compliant
- Operating Band: 2.405 - 2.480GHz
- 16 channels in the 2.4GHz ISM band
- AES-128 hardware supported encryption

#### Operating Environment

- Operating temperature: 0°C – 65°C
- Storage temperature: -20°C – 70°