



Billion SG6300NZL

4G LTE SIM Embedded Smart Universal IoT Gateway

The Billion SG6300NZL, 4G LTE SIM Embedded 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 SG6300NZL 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 SG6300NZL embedded the latest high speed 4G/LTE module, ZigBee module, RS485, 802.11n Wi-Fi enabling support of multiple applications. The Billion SG6300NZL 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 SG6300NZL 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 & 4G LTE Mobility



The Billion SG6300NZL supports either gigabit Ethernet WAN or 4G/LTE as the main WAN interface or backup WAN interface. Automatic failover between gigabit Ethernet WAN and/or 4G/LTE is implemented to assure the always on internet connectivity.

With 4G LTE-based Internet connection (4G LTE embedded module, requires an additional SIM card), you can access to the Internet through 4G LTE whether your location does not have any fixed line available.

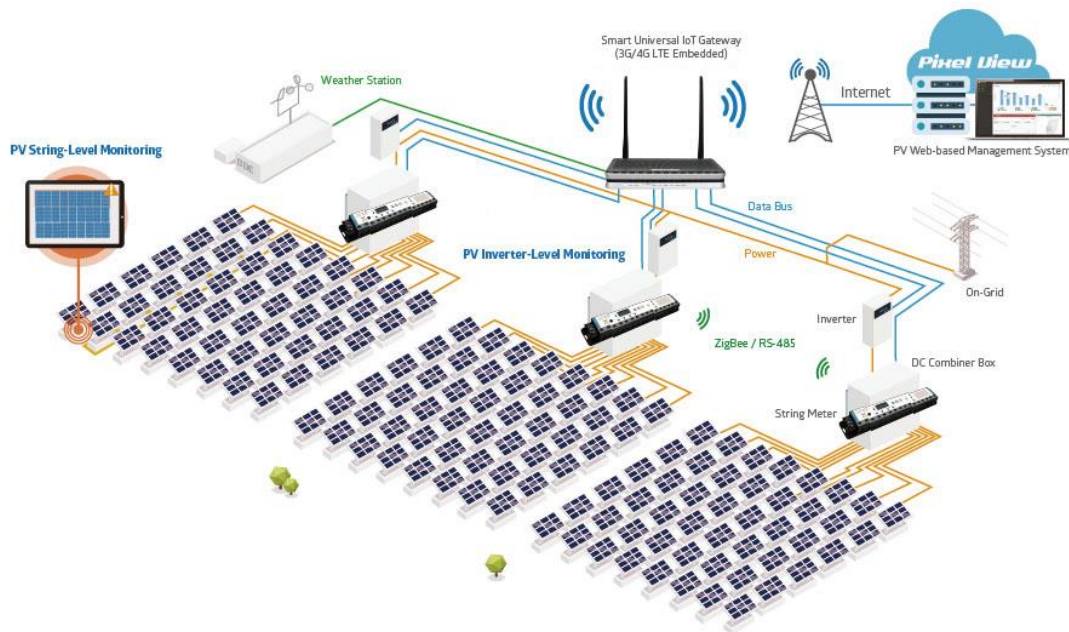
Open API Development Platform Connects all ZigBee-enabled Devices



The Billion SG6300NZL 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.
- Build-in 3G/4G LTE module for 3G/4G LTE connection.
- 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 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



Features & Specifications

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

Availability and Resilience

- Dual-WAN ports (4G LTE / 3G & Ethernet WAN)
- Auto fail-over/fail-back^{*4}
- Dual image for firmware backup
- Embedded 4G LTE module
- Supported frequency bands: FDD and TDD (Bands depend on module configuration).
- Peak Downlink/Uplink Rate^{*1}: 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^{*2}
- 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

Hardware Specifications

Physical Interface

- USB: USB 2.0 port x 1
- WLAN: 2T2R Internal antenna x 2
- ZigBee: Internal 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 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°

* Notes:

1. The 4G LTE data rate is dependent on your local service provider.
2. Future release and only upon request for Telco/ISP tender projects.
3. Specifications in this datasheet are subject to change without prior notice.
4. Future release feature.

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