

# Billion SG7510

Broadband Powerline  
Smart Lighting Segment Controller



Billion's Broadband Powerline Smart Lighting Segment Controller (SG7510) serves as a central controller in BPLC (Broadband Powerline Communication) and smart lighting applications. It controls every light in the segment and collects the information from Broadband Powerline Smart Lighting Controller (SG7500) by using broadband AC powerline communication technology. With the versatile profile and advanced settings inside the segment controller, the administrator can schedule switch on/off/dimming control to reduce energy consumption or set alarms notifying whenever power outage happens. It is equipped with 3G module to obtain fast Internet connectivity and real-time update for lighting information.

## Application Scenarios

The diagram indicates the system architecture of Billion LCMS using BPLC technology. The SG7510 can communicate with control boxes installed underneath each streetlight, allowing users to control a wide range of streetlights using Billion's LCMS (Lighting Control Management System) via the Internet. Typically, a segment controller only controls streetlights which are located in the same segment. Users can largely reduce backhaul communication cost through centrally managing scattered streetlights.

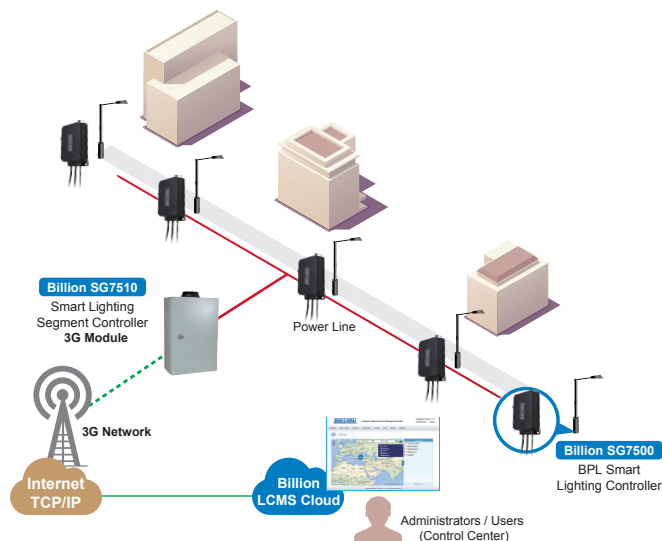


Diagram 1: Smart Lighting BPLC System Architecture (Single Segment)

In special cases, Smart Lighting Wireless Bridge (SG7530) can be optionally mounted on streetlight fixtures, bridging multiple segments to one Smart Lighting Segment Controller (SG7510) to reduce hardware and WAN network operational costs.

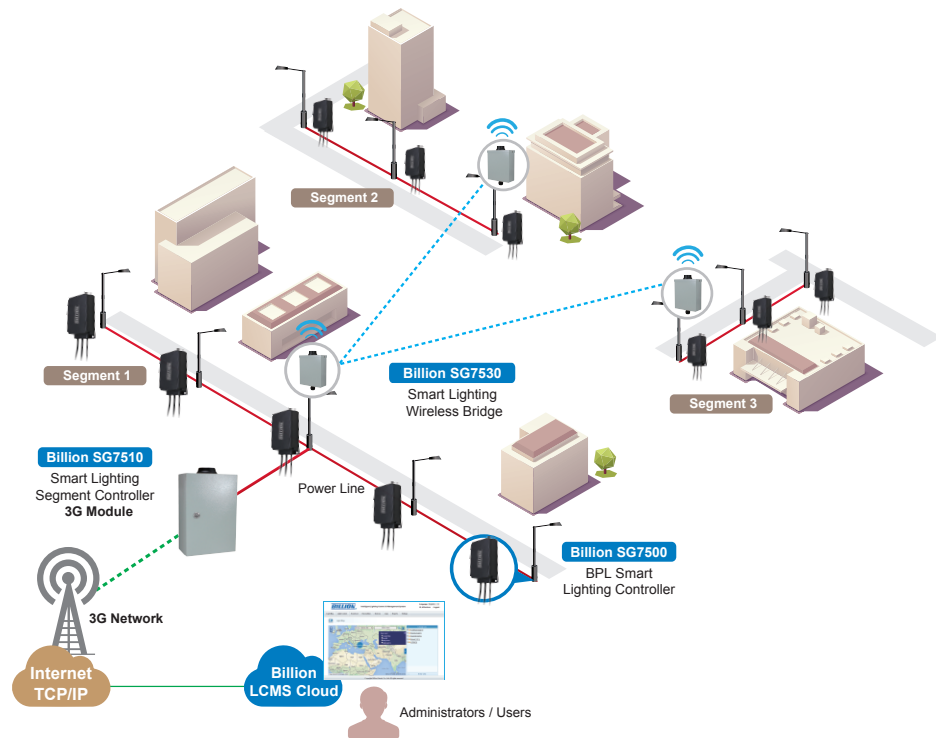


Diagram 2: Smart Lighting BPLC System Architecture (Multiple Segments)



## Features & Specifications

Standard	Broadband over powerline
Carrier Frequencies	2MHz ~ 30MHz
Communication Technique	OFDM
Security	DES, 3DES data encryption
AC Input Voltage	Voltage: AC 100V ~ 277V , 50/60Hz
Network Protocols	NAT, static routing and RIP-1 / 2 NAT supports PAT and multimedia applications Transparent bridging Virtual server and DMZ SNTP, DNS relay and DDNS IGMP snooping and IGMP proxy
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 IP, MAC, and URL filtering Password protection for system management VPN pass-through
Quality of Service Control	Supports the DiffServ approach Traffic prioritization based on IP protocol, port number and address
Management	Web-based for remote and local management Firmware upgrades and configuration data upload / download via web-based interface System Log monitoring
Power Consumption	12 Watt (Max)
Operating Temperature	-40 °C ~ 60 °C
Humidity	10 % ~ 95 %
Dimensions (L x W x H)	36.0 cm x 20.0 cm x 11.85 cm (with Mounting Flange)

\*Notes: All the specifications are subject to change without prior notice.

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