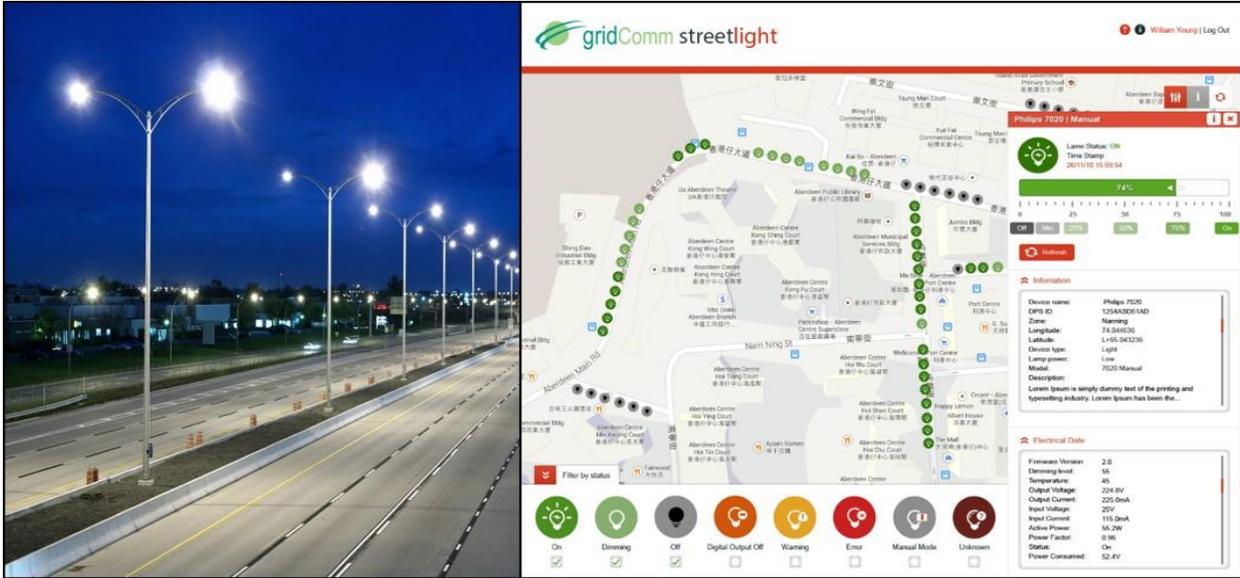


## Street Light Management Software



**gridComm Street Light Management Software**

### Overview

gridComm Intelligent Power Line Communication (PLC) Street Lighting Management System transforms street lighting into energy-aware, remotely managed monitored networks. The core elements in the design are gridComm's next generation OFDMA (Orthogonal Frequency Division Multiple Access) GC2200 PLC IC transceiver-enabled Digital Power Supply (DPS), the Master Light Controller (MLC) and the Street Light Management Software (SLMS) as shown in Figure 1. Field proven for its acclaimed robustness and reliability, gridComm's PLC Street Lighting solution serves as the cornerstone in the building of a Smart City with a reduced carbon footprint.

gridComm Street Light Management Software, is the brain of the infrastructure, provides a platform to conveniently present critical information of a street light such as its operational status (on, off, dimming level, fault detection etc), its power consumption (eg. KWh, Voltage and Current) and its locality on a map etc. It also enables the user to set thresholds, alerts and schedule profiles based on the time of the day, season and local weather conditions. gridComm Street Light

Management Software operates in a cloud-based environment easily accessible from any PC or tablet.

### Architectural Overview



**Figure 1 gridComm SLMS System Architecture**

The gridComm Street Lighting Management System performs management, monitoring,

real-time scheduling, and real-time control of street lights. The SLMS acts as a web gateway and back-end server to front-end web clients. Control and monitoring is distributed among multiple MLCs.

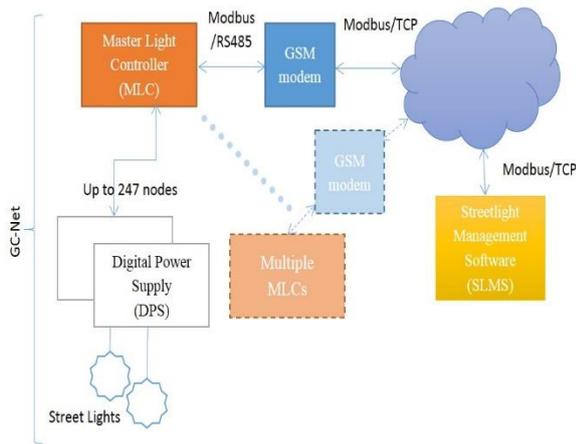


Figure 2 SLMS System Block Diagram

The SLMS is a Modbus/TCP Master that makes requests over TCP/IP to the MLC, which is a Modbus/TCP Slave. The MLC, in turn, makes requests to DPS, each having direct control of individual streetlights. The MLC and the DPS are in a Power Line Communications network. They are individually addressable and are able to be queried by the SLMS using Modbus IDs. From the point of view of the SLMS, the DPSs are in a Modbus network, though within the PLC network where a proprietary protocol is used. Figure 2 shows the SLMS system in block diagram.

Modbus was chosen to be the standard protocol as it is simple, and is commonly used in Industrial and Lighting control.

## Functions of SLMS

- Performing real-time control of each street light or in zones, switching on or off or dimming.
- Managing data collection such as the energy consumption and operational status of each street light.
- Assigning Modbus IDs for each DPS.
- Configuring lighting zone membership, dimming profiles, and zone dimming

schedules for the DPS's under the control of the MLC being configured.

- Configuring the inputs that are connected to the MLC. These inputs may be individually configured as level or edge-triggered in order to be used individually or in combinational logic with other inputs for conditional scheduling.
- Configuring digital output and “No Polling” schedules.
- Updating current clock time and the sunrise and sunset times for that day.
- Configuring MLC reporting schedules including alarm management
- A single installation of SLMS can support up to 500 MLCs. Each MLC can support up to 247 street light nodes although we recommend up to 100 nodes (hence, the maximum number of lighting nodes each installation of SLMS could support is up to 123,500 lights).

#	Name	ID	Status	Zone	MLC	Lat	Long	Action
01	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
02	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
03	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
04	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
05	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
06	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
07	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
08	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
09	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
10	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
11	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
12	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
13	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
14	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
15	BK1055CT845	BK1055CT845	On	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]
16	BK1055CT845	BK1055CT845	Off	Nearwng	BK1055CT845	+41.069300	-74.044030	[Edit] [Delete]

Figure 3 – Street Light Network Status Report

## Contact Information

For more information regarding the SLMS including reference design, pricing, and ordering please contact GridComm Pte Ltd at:

[www.gridComm-plc.com](http://www.gridComm-plc.com)

[sales@gridComm-plc.com](mailto:sales@gridComm-plc.com)