



SGH Sentinel Gateway Hub

GreenStar Sentinel Gateway Hub (SGH) provides wireless RF connectivity to the Street Light Sentinel (SLS) nodes and auxiliary sensors in the GreenStar Smart Street Light control ecosystem. The SGH also serves as the bridge from the lighting network to the GreenStar Central Management Software (CMS). The GreenStar SGH communicates with CMS by Ethernet connection or cellular network. The SGH stores the configuration of the energy profiles and event reporting profiles ensuring stable operation in any circumstances. It is equipped with Li-ion battery backup technology with dedicated battery management software. This feature enables the gateway to communicate for a minimum of 24 hours in case of prolonged power outage. The GreenStar Central Management Software (CMS) allows remote control and monitoring of Street Light Sentinel, storing its historical data for live or offline analysis.

Simple Remote Configuration

The gateway (SGH) is easily configured to support input / output performance data mapping, polling rates, GPS coordinates, etc. all from the web-based User Interface.



Robust and Reliable

The gateway (SGH) can easily communicate with 200 SLS nodes spread across a wide area by creating a self-forming and self-healing mesh network.



Multiple Connectivity

The gateway (SGH) is easily configured to connect to the cloud by either local ethernet access or by GSM radio. GreenStar can offer competitive cellular data plans if needed.



Local Intelligence

The gateway (SGH) uses an extremely powerful 32-bit microprocessor which enables local complex logic and intelligence performance.



FEATURES:

- CMS cloud connection to SGH via Ethernet/Cellular
- SGH connection to SLS via RF 902-927 MHz on proven and stable ISM radio bands.
- Light weight and easy streetlight pole installation. Low or No cost data plans.
- Protocol – TCP/IP, MQTT, HTTP, HTTPS, FTP, Mesh
- Cyber Security – AES 128-bit encryption is standard
- Standard functions include; 24v Relay output, Digital input / Digital Output and Analogue output for dimming control
- Up to 24 Hrs. battery back-up for reporting the faults
- Up to 6 months of real time clock operation without external power supply
- Built-in astronomical calendar based on GPS coordinates
- Firmware update over the air (FOTA)
- Near Real-time Alerts for multiple conditions;
 - ◆ Over/Under voltage
 - ◆ High/Low wattage
 - ◆ Power Outage
 - ◆ Low Power Factor Detection
- Flexible dimming energy profiles based on astronomical/ photocell/sensor data
- Configurable Time scheduling from web application
- External antenna available for better broadcast connectivity and mesh development.
- Micro USB 2.0 port for device cellular provider APN reconfiguration
- RS-485 port for easy connectivity with existing energy meter.
- Open source design allows for integration of multiple I2C based sensors such as air, temp, moisture, vibration, noise, etc.
- Provisioned for BLE mesh network – coming soon

TECHNICAL DATA:

DESCRIPTION	DETAILS
Regulatory Compliance	Electrical: FCC / ETSI / UL / ETL
	Manufacturing: ISO9001
Supply Voltage Range	90 – 277 VAC
Gateway Power Consumption	Cellular—max 10 W normal Operation Mode and max 20 W during Battery Charging.
	Ethernet—max 2 W normal Operation Mode and max 20 W during Battery Charging.
Environmental	IP66
	IK08
	-40°C to +70°C
Over Current Protection	5A replaceable fuse
Over Voltage Protection	Equipped with Autonomous Voltage Interrupter for High & Low voltage protection.
Surge (2 levels of protection)	1° - 4kV/2kA On Board
	2° - External Surge Arrester (optional)
Ethernet Port	RJ45 connector
GSM network Connection	900MHz, 1800MHz, 1900MHz GPRS / 3G / LTE_Modem
GSM Max Transmit Power	Class 3 (23 dBm @ LTE)
Bluetooth Connection	Bluetooth module with built-in antenna (coming soon)
SIM Slot	Push-pull micro SIM
Serial Communication	RS-485 (for Energy meter)
RF Band	Global ISM 902 – 927 MHz
RF Sensitivity @ 1.2/100 kbit/sec	-110 / -97 dBm
RF Max Transmit Power	11 dBm
Dimensions	277 x 186 x 130 mm (10.9" x 7.3" x 5.1")
Weight	500 gm (1.1 lbs)
Mounting	Pole or Surface mounting
Enclosure material	UV stabilized Flame retardant (UL94 V0) ABS
Optional Sensor Inputs	Multiple I2C based sensor
Over the Air (OTA) Capability	Firmware can be updated remotely ensuring up to date communications network infrastructure

ORDERING TABLE:

Example: SGHG1G

Model	Communication Mode	Voltage	Frequency	Ext. SPD
SGH	G = GSM E = Ethernet	1 = 90-277V	G = Global	X = None 1 = 10 kV

SITE SURVEY:

Site survey prior to Installation is recommended to ensure optimal performance of mesh network, Survey will ensure the correct positioning gateways with respect to nodes.

WARRANTY:

Standard 3-year limited warranty, extended warranty available. Warranty is subject to proper use of installation and application manuals.

