

## gridComm



**gridComm is a growing manufacturer of Power Line Communication Modules, founded in 2012 with an experienced team who are based in Singapore.**

**The robust communications products are ideally suited for the Industrial sector and in particular Smart Grid, Smart home lighting, street lighting alternative energy and sensor data communications for in-building applications, such as Fire sensors and alarms. These modules are ready for the anticipated growth for AMI transition driven by low cost, easy to install, highly reliable over distances to 3km.**

### Smart Street Light Deployment

#### Street Lighting System

gridComm creates a network across a city's existing power lines and use this network to connect street lights and sensors.

In combination with gridComm's partners, they securely connect street lights, and smart city sensors.

- Street light and sensor connectivity with gridComm
- Secure network gateways for cloud connectivity
- Street installation partners
- Analytics for optimized diming and predictive maintenance
- Sensors for smart city implementations



#### Street Light Management Software

The gridComm Street Light Management Software serves as the brain of the smart street light management system, providing a platform to conveniently present critical information of a street light such as its operational status (on, off, dimming levels etc), its power consumption (eg. KWh, Voltage and Current) and its locality on a GPS map etc. It also enables the user to issue commands to turn on/off/dim, set thresholds, alerts and schedule profiles based on the time of the day, season and weather conditions. gridComm Street Light Management Software operates in a cloud-based environment easily accessible from any PC terminal or tablet.

#### Partner Ecosystem



**Product Range**

**GC9200/GC9301 – Intelligent Single and Three Phase DIN Rail OFDMA Power line Communication modem**



The gridComm GC9200 & GC9301 are single and three phase DIN Rail Power Line Communication (PLC) modem. They automatically configure and self-adapt to the varying conditions on power lines, resulting in extremely reliable and robust communications in a Low-Voltage power network. The DIN Rail PLC modems utilize the industry-leading gridComm GC2200, an OFDMA (Orthogonal Frequency Division Multiple Access) Power Line Communication Transceiver.

**GC8800 – PLC Module**



The intelligent small form-factor GridComm Power Line Communication (PLC) module, GC8800, is a complete hardware and software networking solution. The module works with an external coupling circuitry installed on the base board and when powered with a DC15~18V@300mA power supply, it functions as a full system-level PLC modem.

The GC8800 module supports PWM and Digital Outputs that are controllable remotely, and ADC values and Digital Inputs that may be read remotely from the Master Node. These control and monitoring packets uses gridComm Network Management commands that are communicated through the UART/RS-485/RS-232 of the Master



**GC9818 – Hybrid DIN Rail PLC**

The gridComm GC9818 is a next generation hybrid DIN Rail Power Line Communication - Radio Frequency modem providing complete hardware and software networking solution. It automatically configures the PLC and RF real-time and self-adapts to the varying conditions in the communication links with the most optimal data routing paths, resulting in extremely reliable and robust communications in a Low-Voltage power network. This new generation GC9818 DIN Rail hybrid PLC-RF modem utilizes the industry-leading gridComm GC2200 Integrated circuit, an OFDMA (Orthogonal Frequency Division Multiple Access) Power Line Communication Transceiver and an in-built LoRa-based wireless connectivity to allow adaptive networking over different media.

**Product Range Continued**

**PLC-Enabled Digital Power Supply for Street Lights**

The PLC-enabled Digital Power Supply (DPS) is a state-of-the-art module consisting of a power driver integrated with gridComm's GC8800 module, which is based on gridComm GC2200, a proven robust OFDMA (Orthogonal Frequency Division Multiple Access) PLC transceiver chip. The DPS along with gridComm Master Light Controller GC1310 and gridComm Street Light Management Software (SLMS), together form a complete Smart Street Light control and management system and it enables real-time control and automatic scheduling of switching on and off, and dimming levels of individual lights from a central location. The DPS also provides metering functions for real-time monitoring of operational status, power consumption, current, voltage, and power factor of individual street lights. Different luminary DPS options, such as LED, Sodium Vapor and Metal Halide, are available.



**PLC Smart Light Controller**



gridComm offers a state-of-the-art Power Line Communications Smart Light controller module, which is ideal and most suitable for transforming traditional street light installations into smart street light systems that are energy-aware and remotely managed and monitored over cloud-based management networks without replacing existing installed driver. Attaching the Smart Light Controller (SLC) module behind the existing light driver already installed is all that is required to make it "smart". The SLC is capable of controlling different luminaries eg. LED, Sodium Vapor and HID lamps up to 500W.

**GPC-300-P 3-phase coupler**

The gridComm 3-phase coupler PC-300-P is a passive module that couples Power Line Communication (PLC) signal over different phases of the power grid. It can be used to couple street light nodes, smart meters or other PLC nodes on a 3-phase network. It can also enable a gridComm PLC Module (without coupling circuitry) to directly communicate with other nodes on the three phase power line network.



**GC8808 - Next generation hybrid PLC**



The gridComm GC8808 is a next generation hybrid Power Line Communication - Radio Frequency module providing complete hardware and software networking solution. It automatically configures the PLC and RF real-time and self-adapts to the varying conditions in the different communication mediums with the most optimal data routing paths, resulting in extremely reliable and robust communications in a Low-Voltage power network. This new generation GC8808 hybrid PLC-RF module utilizes the industry-leading gridComm GC2200 integrated circuit, an OFDMA (Orthogonal Frequency Division Multiple Access) Power Line Communication Transceiver and a built-in LoRa-based wireless connectivity to allow adaptive networking over different medium. When powered with a DC12V@300mA power supply, it functions as a full system-level PLC modem.

**GC1310 Master Light Controller**

The gridComm GC1310 is a 3-Phase DIN Rail Power Line Communication (PLC) Master Light Controller designed for Street Light Control operations. The GC1318 has additional LoRa Radio Frequency (RF) capability as an option. The GC1310 serves as a powerful concentrator and gateway connecting a network of streetlights to the cloud-based Street Light Management Software via a built-in GPRS/3G modem, controlling and monitoring the operations of turning on/off, dimming, scheduling, alarm events and data-logging functions of an individual light or a group of street lights. It also integrates Digital I/Os that could be connected to an external anti-tamper or overload sensor for fail-safe measures and motion sensors or other sensors based on trigger events. With LoRa RF option available in GC1318, the MLC can be extended to communicate with plug-and-play RF battery-operated IoT sensor nodes, such as weather, light, pollution, flood, seismic sensors, which leverage on GC-Net networking firmware using power line network as the backbone network infrastructure.



Broadband Technology 2000 Ltd				
Product Areas				
<p><b>Semiconductors</b></p> <ul style="list-style-type: none"> <li>Mixed Signal IC's</li> <li>Powerline Communications</li> <li>RF Interface</li> <li>Mixed Signal Active Filter</li> </ul>	<p><b>Wireless/M2M</b></p> <ul style="list-style-type: none"> <li>Antennae</li> <li>GSM, GPRS &amp; 3G Modems</li> <li>3G Routers</li> <li>3G &amp; GPRS Gateways</li> <li>4G/LTE</li> <li>GPS Tracking Units</li> <li>RF Cables</li> <li>Connectors</li> </ul>	<p><b>Sensors</b></p> <ul style="list-style-type: none"> <li>MEMS Accelerometers</li> <li>MEMS Magnetic Sensors</li> <li>MEMS Gyroscopes</li> <li>MEMS Pressure Sensors</li> </ul> <p><b>RF Microwave</b></p> <ul style="list-style-type: none"> <li>Amplifiers</li> <li>Attenuators</li> <li>Switches</li> </ul>	<p><b>Power</b></p> <ul style="list-style-type: none"> <li>Super Capacitors</li> <li>Power Modules</li> <li>Solid State Batteries</li> </ul> <p><b>Interconnect</b></p> <ul style="list-style-type: none"> <li>Magnetics</li> <li>Cable Assembly</li> <li>Connectors</li> </ul>	<p><b>Internet of Things</b></p> <ul style="list-style-type: none"> <li>Powerline Communications -Narrow &amp; Broadband</li> </ul>

Rev.3.17

