INTELLIGENT DIN RAIL OFDMA PLC MODEM

Frequency Division Multiple Access) Power Line Communication Transceiver.

Benefits of GC2200

The GC2200 has 18 independent channels capable of operating with up to 54 carrier frequencies over a wide frequency range of 5KHz to 500KHz. The modem is ideal for use in noisy environments where it is effective in tackling signal variations that are commonly present in power line applications due to signal attenuation, impulsive noise, and changes in line impedance. The DIN Rail PLC modem is ideal for applications such as Industrial Automation, Alternative Energy, M2M and other applications that require highly reliable power line communications.

Auto Network Applications

The GC9200 is optimized for network topologies such as star or tree configurations.
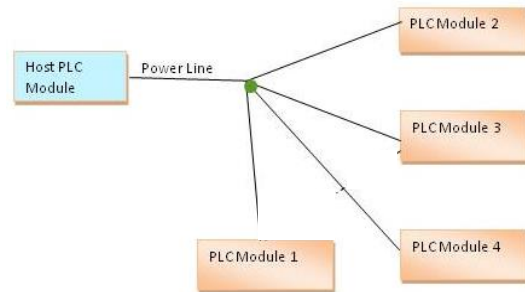

Figure 1 - "Star"-Shaped Network

Figure 1 shows a simple PLC network system connected with five modems installed in a "Star" configuration on the same power line. Figure 2 shows a "Tree" network.
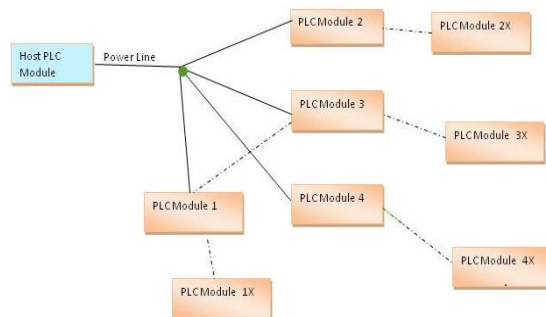

Figure 2 - "Tree" Structure

Overview

The Gridcomm GC9200 is a DIN Rail Power Line Communication (PLC) modem. It automatically configures and self-adapts to the varying conditions on power lines, resulting in extremely reliable and robust communications in a Low-Voltage power network. The DIN Rail PLC modem utilizes the industry-leading GridComm GC2200, an OFDMA (Orthogonal

Point-to-Point Application

GC9200 also works in Point-to-Point applications where the user wishes to create a data communications path between two points without the need for a communications cable. Two PLC nodes are connected on the same power line as in Figure 3.
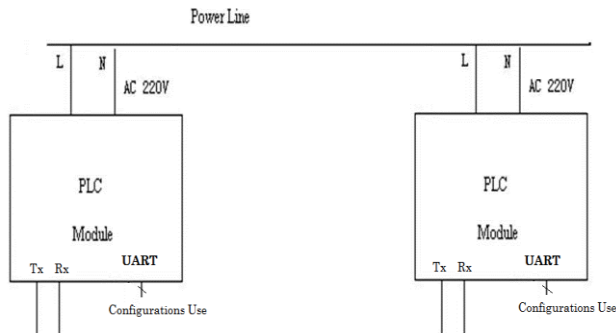

Figure 3 - Point-to-Point Communications

Specifications

- 18 independent channels operating with up to 54 out of 100 pre-installed carrier frequencies between 5 kHz to 500 kHz.

- 3QPSK, 3BPSK, or 1BPSK modulation schemes with up to 18 levels of redundancy

- Raw data rates between 1.22 Kbps to 7.32 Kbps depending on power line conditions

- Supports RS485 via a transparent protocol.

- 32-bit addressing scheme

- Four operation modes: Point-to-Point, Simple Broadcast, Auto-Routing, and Broadcast-Routing

- One master node supports up to 254 slave nodes in Auto-Routing and Broadcast-Routing modes

- Options for operation on CENELEC A, CENELEC B, CENELEC C, CENELEC D, FCC or ARIB bands.

- Maximum 64 bytes standard data packet size. Packets > 64 bytes will be broken down by modem into multiple packets automatically

- Distance: Up to 2km- the actual distance depends on power line conditions

- Connects directly to Low-Voltage AC power line

- Interface: RS485, no external interface converter needed

- Input power supply: 220~240V, 50/60 Hz, 100mA

- Preset Serial COM Port settings: 115200 Baud rate, No Parity Bit, 8 Data Bit and 1 Stop Bit

- Rx Sensitivity: -75 dBm

- Operating Temperature -40°C to +85°C

- Standards: CE , FCC
  o EMC: test as per EN 50065-1, EN 55022, EN 55024, EN 61000-3-2, EN 610000-3-3, EN 61000-6-2 & EN 61000-6-4   FCC Part 15B
  o Safety: EN 60950
  o Euro RoHS
  o IP 40

- Size in mm: 71 L x 54.5 W x 75 H Weight: 310 g

- Mounting DIN Rail

Contact Information

For more information regarding the *GC9200 DIN Rail PLC Module* including pricing and ordering, please contact: GridComm Pte Ltd

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Revision

Version	Description	Date
1.01	Initial Release	15/11/2012
1.02	Updated features and pictures	19/02/2013
1.03	Rewording	2/07/2013