EKM METERING INC.

485Bee Spec Sheet

I. Functions and characteristics

1.) Hardwired RS-485 to Wireless Zigbee mesh node.
2.) Nodes create a mesh network, allowing RS-485 communications to jump from node to node and ultimately to a EKM Push, USB Converter or iSerial device.
3.) Minimum of two 485Bee nodes required per system.

II. Technical specifications

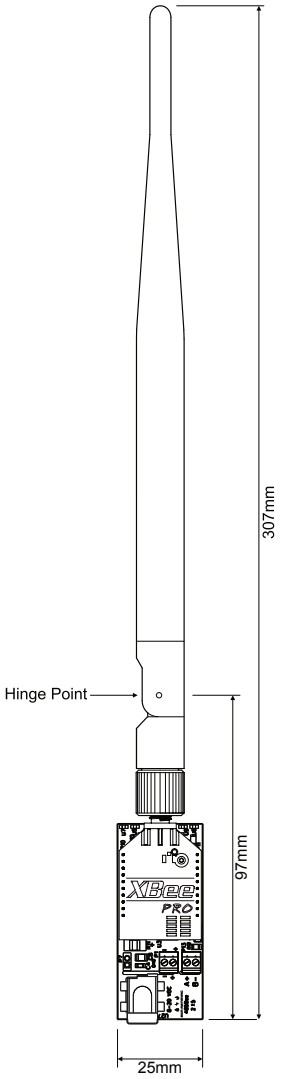
1.) 900 MHz Digimesh RP-SMA Radio
2.) 6-24 Volts DC
3.) Power can be supplied via the center-positive barrel jack or via terminal block connections.
4.) Supports 9600 Baud Comms of v.3, v.4, and v.5 Omnimeters
5.) Up to 256 Omnimeters can be daisy-chain-connected to each 485Bee
6.) 900 MHz antenna included
7.) Range of up to 200m (depending on environmental factors), can be extended up to one mile (line of sight) using high gain antennas.
8.) LED Indication of Power, RSSI, RS-485 In, and RS-485 Out.

III. Operation

These devices are intended to replace the wired connections from the meter to a communication device, when creating a wired connection is difficult or impossible. All 485Bee nodes must be powered with 6-42 volt DC power, and at least two must be hard wired to RS-485, in order to operate. In other words, at least one 485Bee must be RS-485 hardwired to a meter, and another must be RS-485 hardwired to a communication device, but there can be other powered 485Bees used to extend the mesh network that will relay the RS-485 data and do not need to be RS-485 hardwired. For more information on mesh networking, try this link: *http://en.wikipedia.org/wiki/Mesh_networking*

IV. Installation

1.) Connect the two RS-485 wires from your meter(s) to the 485Bee. Connect A+ on the meter to A+ on the 485Bee. Connect B- on the meter to B- on the 485Bee.
2.) Connect a second 485Bee to a communication device (EKM Push, USB Converter, or iSerial). Connect A+ on the communication device to A+ on the 485Bee. Connect B- on the communication device to B- on the 485Bee.
3.) Power the 485Bee nodes using 6-24 volt DC converters. The DC converters can either be connected to the barrel jacks on the 485Bees (see Fig. 1) or directly to the Negative and Positive ports on the terminal block.
4.) The 485Bees should be installed in secure and watertight locations. One good option is to insert the 485Bee, including the antenna, into a 2” x 12” piece of PVC pipe. The pipe can then be capped, with one cap drilled to run the wires through.The pipe should then be mounted vertically with the wires coming out of the bottom. For the best results the 485Bees should be installed in locations that have the least obstructions between them.They will work with some obstructions but their effective range will be diminished. Having a clear line of sight between the 485Bees is best.



(Fig 1)

(Fig 2)

(Fig 3)