FPX3 Gateway Model 501A1000-1A

1 Product Description

The FPX3 Gateway Bridges data received from deployed hoopoSense sensors via LoRa transmissions to a cloud application. The FPX3 Gateway communicates with the cloud application either via a cellular modem or via wired ethernet. The gateway is powered by external approved PoE connection.
The FPX3 consists: PoE power conversion circuits and associated line protection circuits, power backup batteries and associated charging circuits, a LoRa transceiver, a wideband analog to digital converter and associated accurate clock circuits, a RF chain and receive/transmit switching, a central processing unit (cpu) and an optional cellular modem unit. The gateway is packaged in an IP65 enclosure equipped with coaxial connectors for the external antennas: a LoRa vertical dipole array type, a Cellular and GPS combined antenna. The peak radiated power in the 902.5 to 927.5 band is +8.75 dBm. The device is capable to operate in DTS and Hybrid modes. In the hybrid mode the unit's control software selects the transmit channel in the following process: the transmit frequencies are stored in a table, the order of the table is randomized each cycle and all entries transmitted, then randomized again and transmitted again and so forth. This process insures equal average use of each frequency. Our receiver processes the respective frequency spectrum in a parallel mode, i.e. all frequency channels are monitored concurrently. The message sequences are assembled by means of an unique message sequence number. The gateway is capable to transmit/receiver on any 200 kHz channel in the 902.5 MHz to 927.5 MHz range.