

Operating Description of the Kinetek Sports ClubHub device
February 5, 2015

The Kinetek Sports ClubHub is a battery operated device used to measure the motion of a golf club during use. It attaches to the drain hole in a standard golf grip by means of a plastic screw that is integral to the device housing.

When the user inserts a 2032 coin cell battery into the device's battery holder, the microcontroller sets up a sensor system that is used to detect in-play positions of the golf club. When the club is in the "out-of-play" position, the device is put into deep sleep. A sensor detects when the club is in an "in-play" orientation and wakes up the device.

When in use, the device is programmed to recognize the motion signature of a golf swing and ball strike by the club. When this occurs, a connection is made with a smart phone or tablet that was previously paired with the device. This is a Bluetooth 4.0 (Bluetooth Low Energy) compliant connection. Sensor data is transferred from the ClubHub device to the smart phone or tablet in approximately 3 seconds. The Bluetooth radio is not used other than for communicating its in-play/out-of-play state and sensor data to the iPhone.

The ClubHub uses an operational frequency of 2.4 GHz with a range of 2.400 to 2.4835 GHz. The antenna is a ceramic chip antenna (Pulse W3008C). The gain of the antenna is 1.7 dBi.

When a golf club is returned to a golf bag for storage or is otherwise immobile, the ClubHub device returns to deep sleep mode.