KINEXON

precision technologies

Fact Sheet

KINEXON LOCALIZATION SYSTEM

Operational Description – Asset Tag Indoor

Version 1.1

Kinexon System

The Kinexon System is a Real-Time Location System (RTLS) based on Ultra-Wideband (UWB) technology. Its primary use is for the tracking of people or objects. The system operates using active Tags, a network of Anchors, and a Kinexon Sensor Network Application.

Anchors: The Kinexon Anchors are devices that are mounted in the area of coverage. The Anchors serve as reference points for the localization and communicate with associated Asset Tags.

Kinexon Sensor Network Application: The Kinexon Sensor Network Application (SNA) coordinates multiple Anchors within the Kinexon Network. The SNA is also collecting the data via Wifi or Ethernet from the Anchors and passes this data to other application (e.g., Kinexon Server Application).

Tag: The Tag is a small, transceiving device with an integrated antenna. It senses different data (e.g., accelerations, temperature) and transmits the data to the KINEXON Anchors. The duty cycle can be set in the KINEXON Server Application or triggered by movement with an onboard accelerometer.

The KINEXON Asset Tag Indoor is powered via a small included battery, which can - depending on system settings - guarantee operation for up to several years. The data is modulated using a variable pulse position modulation combined with binary phase shift keying. An integrated chip antenna emits the RF signals. The KINEXON Asset Tag Indoor will communicate on UWB Channel 3 (Center Frequency 4.5 GHz) with a bandwidth of 500 MHz (4.25 GHz to 4.75 GHz).

To ensure indoor communication only, the tag will stop transmitting once it loses connection to the KINEXON Anchors mounted indoors and start transmitting only when a connection is re-established by the anchors.

Anchor

Tag