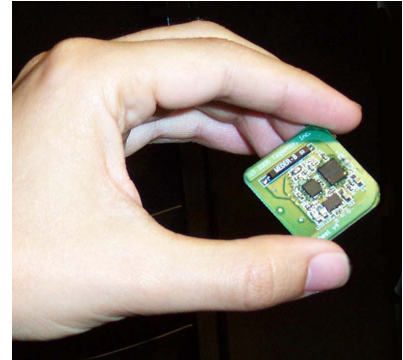


ZT-10 and ZT-100 ACTIVE TAGS

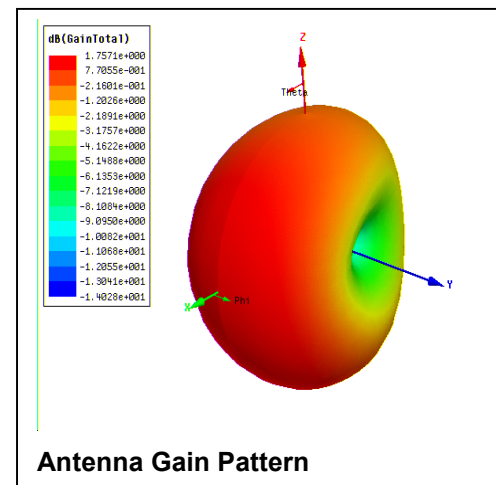
Features:

- Industry standard IEEE 802.15.4 (Zigbee-ready)
- Operating frequency range – from 2.400 to 2.483 GHz (DSS spread spectrum)
- 250 Kbps data rate per tag.
- Can be enhanced to support up to 2 Mbps multi-tag systems using multi-channel communications.
- CSMA for anti-collision
- Can co-exist with WLAN (Wi-Fi) Networks
- Support for 128 bit AES-CCM security suite for high data security
- Symmetric Bi-directional tag \leftrightarrow reader communication
- > 70 meters range (open air)
- Support for external sensors (temperature, vibration, humidity, light)
- Small size – 1.25 x 1.25 x 0.25 in
- Very low current consumption (<20 mA for communications <2 uA in sleep mode)
- Readers available in both PCMCIA and USB form factors for PDA and PC's

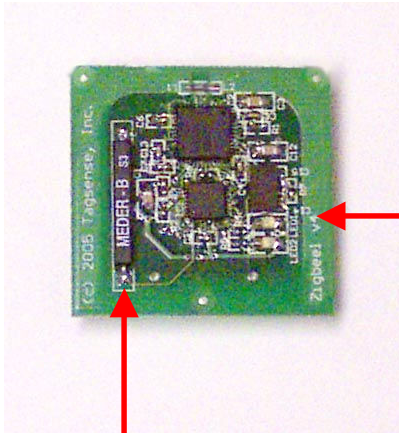


Applications:

- Asset tracking and monitoring
- Remote sensing and monitoring
- Sensor data logging
- Tagging of pallets, vehicles, people, animals, and buildings



ZT-10 and ZT-100 ACTIVE TAGS



Digital
Sensor

Microstrip
Antenna

SPECIFICATIONS

- Frequency:
2.400 - 2.483 GHz
- 250 Kbps data rate (max)
- Operating Voltage: 2 - 5 V
- Current consumption:
 - <2uA when idle
 - < 20 mA when communicating
- Operating Temperature:
-10C – 80C
- Shock and vibration
Resistant
- 10-bit sensor precision

The ZT-100 is an active tag that communicates via the industry standard protocol IEEE 802.15.4.

This tag can be easily mounted on a variety of assets and used for tracking or monitoring of sensors.

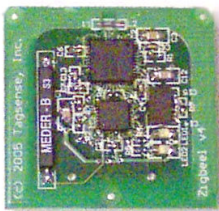
The operating frequency of 2.4 GHz enabled this tag to have a small size antenna and long range (>70 meters).

The 802.15.4 protocol is the most advanced tagging protocol used today and includes bidirectional communication between the tag and other tags or between the tag and the reader. This enables faster and more efficient communications when multiple tags are present (anti-collision) and also extends battery life.

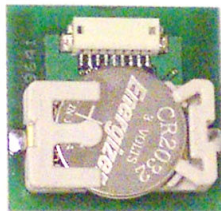
The ZT-100 can support multiple sensor inputs, including battery level, which can be queried remotely or stored in memory.

ZT-10 and ZT-100 ACTIVE TAGS

The ZT-100 is available in 2 sizes: small (ZT-10) and large (ZT-100). The larger size tag contains a larger battery for extended battery life.



TOP



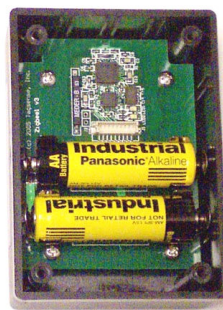
BOTTOM

ZT-10 SPECIFICATIONS

- Battery: CR2032
- Battery Capacity: 220 mAh
- Battery life: 12-15 months
 - Using maximum transmit power of 1 milliwatt (battery life will be longer using lower transmit power)
 - Transmit interval: 15 minutes
 - 128 byte packet
- Transmission distance at full power: >70 meters
- Size: 1.25 x 1.25 x 0.25 in.



TOP



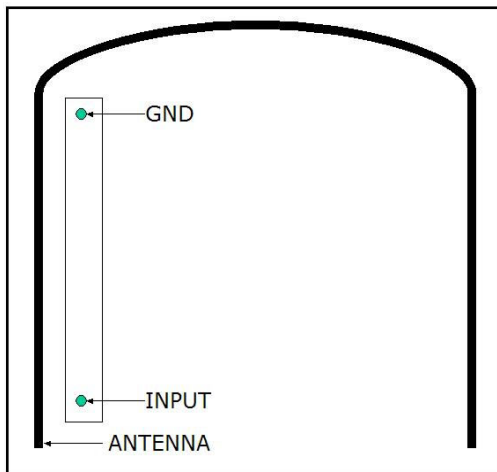
BOTTOM

ZT-100 SPECIFICATIONS

- Battery: 2 X AA
- Battery Capacity: 2800 mAh
- Battery life: 8-10 years
 - Using maximum transmit power of 1 milliwatt (battery life will be longer using lower transmit power)
 - Transmit interval: 15 minutes
 - 128 byte packet
- Transmission distance at full power: >80 meters
- Size: 2.50 x 3.50 x 1.25 in.

Both the ZT-10 and ZT-100 can support multiple sensor inputs, including battery level, which can be queried remotely or stored in memory.

ZT-10 and ZT-100 ACTIVE TAGS



TOP



BOTTOM

DIGITAL SENSOR

- The digital sensor must be connected between the input pin and GND as shown in the figure.

BATTERY

- The CR-2032 coin cell battery can be used to power the tags.
- The battery must be connected with positive side up as shown in the figure below.

ANALOG SENSOR

- The analog sensor must be attached to the connector at the bottom. Relevant pins:
 - PIN 4 - Vcc out (3.3 V)
 - PIN 5 - GND
 - PIN 9 - Analog Input
- The analog input voltage can be between 0 and 1.1 V.
- The analog sensor can be attached using the mating connector Hirose DF13-9S-1.25C (Digikey Part #: H3300-ND).
- The analog input value will be converted to an 8-bit digital value.