ECONOLITE CANADA

Wireless Sensors for Traffic Detection

AccuSense Repeat

What, exactly, is AccuSense Repeat?

The AccuSense Repeat is a battery-operated antenna unit that allows AccuSense sensors to be placed much farther away from the intersection stop bar, enabling stop bar and advance detection applications. The AccuSense Repeat can be placed up to 1,000 feet from the stop bar, greatly expanding the flexibility of the AccuSense wireless detection system.

Why do agencies use AccuSense?

As the complexities of traffic management increase, ITS strategies are valuing more and more the multi-tasking capabilities of intelligent detection sensors to not only accurately detect traffic at the stop bar to trigger a signal change, but to count, classify, track, and even provide advanced detection for traffic adaptive systems and dilemma zone safety applications. Today's multi-modal intersections and roadways require the multi-modal capabilities of leading-edge detection sensors to provide capabilities such as bicycle detection and differentiation.

How does AccuSense benefit the driving public?

Econolite's vehicle detection solutions continue to play a critical role in helping ITS deliver on the promise of enhanced public safety, reduced congestion, shorter travel times, lowered environmental impacts, and increased cost savings for all roadway users.

Funtional Specifications - ASENSE-RPT

Interfaces	• To/from sensors via 802.15.4 PHY radio • To/from repeaters via 802.15.4 PHY radio • To/from access point via 802.15.4 PHY radio
Over-the-air protocol	Sensys Networks NanoPower (SNP) protocol (TDMA)
Physical layer protocol	IEEE 802.15.4 PHY
Modulation	Direct Sequence Spread Spectrum Offset Quadrature Phase-Shift Keying (DSSS O-QPSK)
Transmit/receive bit rate	250 kbps
Frequency band	2400 to 2483.5 MHz (ISM unlicensed band)
Frequency channels	16
Channel bandwidth	2 MHz
Internal antenna type	Microstrip patch antenna (behind front face panel)
Antenna field of view	±60° (azimuth & elevation)
Nominal output power	0 dBm
Spurious emissions	• 30 - 1000 MHz: < -56 dBm • 1 - 12.75 GHz: < -44 dBm • 1.8 - 1.9 GHz: < -56 dBm • 5.15 - 5.3 GHz: < -51 dBm
Typical receive sensitivity	-95 dBm (PER ≤ 1%)
Saturation (max input level)	≥ 10 dBm

Power, Physical, & Environmental

Power supply	• Li-SOCl2 3.6V battery pack • Nominal capacity: 171 Ah
Recommended battery/ unit replacement	• unit replacement every 7 years
Dimensions	• 7.75" x 6.5" x 5.37" (19.68cm x 16.51cm x 13.65cm)
Weight	• • 3.87 lbs (1.75kg) Mounting kit: add'l 1.2 lbs (0.5kg)
Environmental	• Designed for weatherproof, outdoor operation • NEMA Type 4x enclosure • IP65 ingress protection
Operating temp	-40ºF to 176ºF / -40ºC to +80ºC

Available Products

Products	Descriptions
ASENSE-RPT	AccuSense Repeater with long-life battery pack

Compliance

Safety	2006/95/EC
EMC	• FCC: This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation • 2004/108/EC

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