

# Commercial e-loop Presence Mode

## EL00C-RAD

The Commercial Wireless Vehicle Detection System uses magnetometer sensors to detect the presence of oncoming vehicles. These detections are transmitted to a nearby transceiver for gate activation. After the vehicle is detected, the e-loop will switch to radar mode. The sensors are installed on the surface of entry or exit passages using dynabolts, contain four replaceable Lithium batteries, and can withstand almost any vehicle.

Note: Gate or door controller must have a dedicated open input and auto close function enabled.

### Functions / Features

#### Lower power consumption

#### 3-axis magnetometer for vehicle detection

- 8 Hz sampling rate
- Auto-calibration
- Exit/Entry detection mode

#### Fast and simple installation

- Quick non-permanent installation

#### Up to 6 year battery life

- Compact design
- Compatible with various gates

#### Reliable radio communications with transceiver

- Reliable radio communication
- High security 128-Bit AES Encryption



**The Radar sensors can detect vehicles that are stopped above the e-loop. The added radar utilises two-way radio communication protocol for reliable operation. Once the magnetometer sensor detects an oncoming vehicle, the transceiver relay will be latched and confirmation will be sent back to the e-loop. If the magnetic field drops below the set threshold, the radar will check if a vehicle is present. If no vehicle is detected, an unlatch command is sent to the relay, and the transceiver will send a confirmation to the e-loop. If the confirmation is missed, multiple attempts will be made to ensure A safe operation. Radar settings can be adjusted using the e-diagnostics remote. Settings that can be changed include; Dead zone, sensor distance, sensitivity, magnetic field release level, confirmation mode.**

DISCLAIMER: UNITS WITH THE PRESENCE FEATURE IS NOT TO BE USED AS A SOLE SAFETY DEVICE & SHOULD BE USED IN CONJUNCTION WITH STANDARD GATE SAFETY PRACTICES.

## Radio Specifications

<b>Frequency</b>	433.39 MHz
<b>Modulation</b>	FSK
<b>Bitrate</b>	9.6 kbps
<b>Bandwidth</b>	250 kHz
<b>Antenna Type</b>	PCB
<b>Nominal Output Power</b>	10 dBm
<b>Receive Sensitivity</b>	-126.2 dBm
<b>Security</b>	128-Bit AES Encryption
<b>Spurious Emissions</b>	<ul style="list-style-type: none"> <li>• 30 - 1000 MHz: &lt; -56 dBm</li> <li>• 1 - 12.75 GHz: &lt; -44 dBm</li> <li>• 1.8 - 1.9 GHz: &lt; -56 dBm</li> <li>• 5.15 - 5.3 GHz: &lt; -51 dBm</li> </ul>

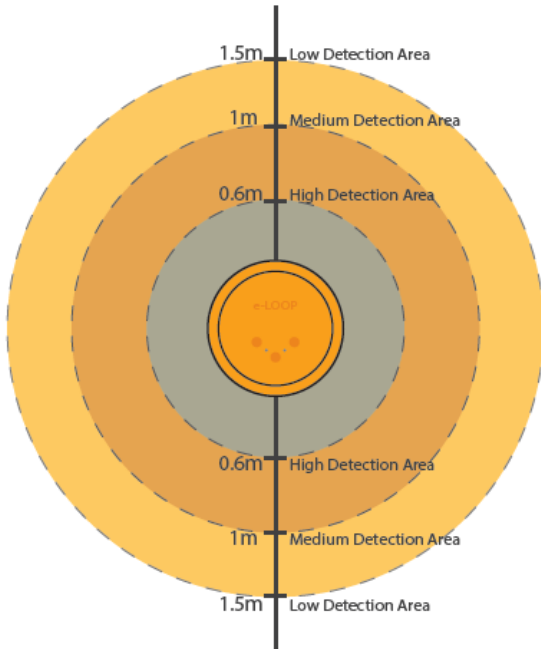
## Power, Physical and Environment

<b>Power</b>	4 * 3.6 V 2700ma
<b>Dimensions</b>	8.6*8.6*1 inches
<b>Weight</b>	2.2 pounds
<b>Environment</b>	<ul style="list-style-type: none"> <li>• designed for above ground mounting</li> <li>• IP68 ingress protection</li> </ul>
<b>Operating Temp</b>	-4°F to 176°F
<b>Standby Power</b>	14μA
<b>Activation Power</b>	50mA

## Compliance

<b>Safety</b>	Tested to CE Approval
<b>EMC</b>	<p>FSK Tested to:</p> <p>EN 301 489-1 V2.2. "ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for Electro Magnetic Compatibility" Including.</p> <p>a)_ Emissions to EN 55032 "Electromagnetic compatibility of multimedia equipment".</p> <p>b)_ Transmitter and receiver test to EN 300 220-1 V3.1.1 'Short Range Devices (SRD) operating in the frequency range 25MHz. to 1000MHz; Part 1: Technical Characteristics and methods of measurement."</p> <p>c)_ Immunity Tests to EN 301 489-1</p>

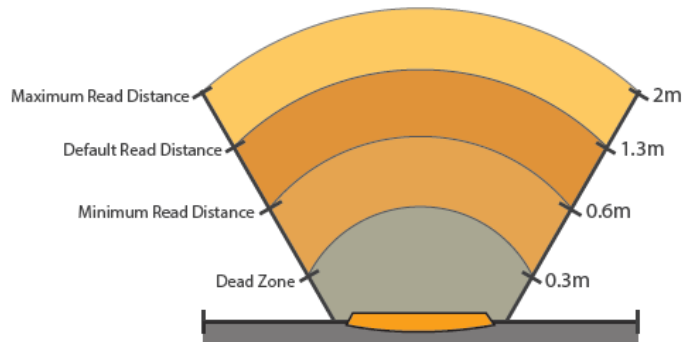
### Magnetometer Detection Areas



- 1.6 yards = Low Detection Area.**
- 1 yard = Medium Detection Area.**
- 0.6 yard = High Detection Area.**

Varying magnetic field detection zones. The grey area depicts a 0.6 yards high sensitivity detection area surrounding the e-loop, suitable for the majority of vehicles. The dark colour area depicts a 1-yard medium sensitivity detection area surrounding the e-loop, suitable for most vehicles. The light colour depicts a 1.6 yards low sensitivity detection area surrounding the e-loop, which is only suitable for some vehicles.

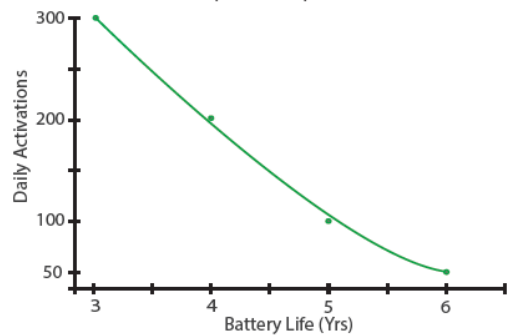
### Radar Read Distances



- 2.1 yards = Maximum Read Distance.**
- 1.4 yards = Default Read Distance.**
- 0.6 yards = Minimum Read Distance.**
- 0.3 yards = Dead Zone.**

Radar detection range. Spanning from a 60° FOV from the e-loop, these are the range zones. The Gray area depicts the dead zone, in which objects cannot be detected. The Minimum read distance is 0.6 yards. The default read distance is 1.4 yards, and the Maximum read distance spans up to 2.1 yards.

### Battery Life vs Daily Activations



**Note:** Battery life is dependent on many factors, including daily activations, time used per activation, radar range and external conditions.