



CW-SYS WIRELESS DRIVEWAY SYSTEM INSTRUCTIONS

VERSION 1

1. WHAT'S IN THE BOX

- 1. SENSOR "PUCK"
- 2. INTEGRATOR
- 3. AUGER SCREWS (2)
- 4. CR123A BATTERIES WITH BATTERY CLIPS (2)
- 5. 3' (1 m.) COAXIAL CABLE
- 6. TERMINAL BLOCK
- SCREWDRIVER

OPTIONAL

- 12VDC power supply

(Part #CW-PSU)



2. SERIAL NUMBER

There is a barcode serial number on the back of Integrator, bottom of puck, and on product box. When calling to talk about your product, please have one of these numbers handy.



3. INSTALLING BATTERIES/LOW BATTERY

- 1. Use **CR123A** batteries and match polarity with battery terminal in puck.
- 2. If batteries are put in backwards, they will not make contact.
- 3. Push batteries in place fully to make contact.
- 4. Snap plastic battery holder over each battery and onto battery terminal.
- 5. Sensor will power up automatically when batteries are installed.



LOW BATTERY

When batteries need replacing in sensor, Integrator will "chirp" and its LED will blink RED.

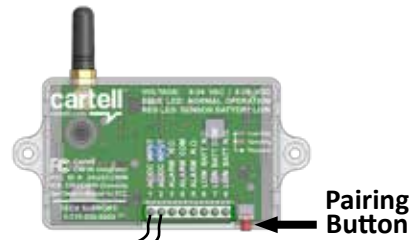
When hooked to external system's zone inputs (see #10 below), program what you desire in order to indicate low battery.

REPLACE BOTH BATTERIES. DO NOT USE RECHARGEABLES.

4. PAIRING

YOUR SYSTEM HAS BEEN PAIRED AT FACTORY. THESE DIRECTIONS APPLY WHEN PAIRING ADDITIONAL UNITS

You can pair up to 10 pucks with unlimited number of Integrators



- 1. Bring sensor close to Integrator and power up Integrator (see #10 below).
- 2. Push pairing button on Integrator (will stay in pairing mode 30 minutes).

- 3. Power down & power up sensor by un-installing and re-installing one battery (see #3 above).



- 4. Integrator will beep 3 times when paired and exit pairing mode automatically.

5. TEST MODE FOR SENSOR PUCK

Test mode allows the sensor puck to automatically transmit the radio signal without having to trip the sensor with a vehicle. This is useful when testing radio signal range (see #6 below).

- 1. Press and HOLD button on sensor puck for 2 seconds
- 2. The red LED will blink every second when in test mode
- 3. There will be an immediate transmission
- 4. Additional transmissions will occur every 10 seconds
- 5. Test mode will be exited when button is pressed again for 2 seconds
- 6. Test mode will automatically be exited after 30 minutes



6. TESTING RANGE

Your system has a radio range of at least 350 feet or over 1000' line-of- sight. To determine range in your application, test before final installation.

Radio range depends on several variables:

- How the puck is installed (in ground or above ground on post)
- Obstacles blocking radio signal, such as soil, trees, foilage, buildings, concrete, etc.

To test range:

- 1. Put Integrator near its final installation place in the home or gate.
- 2. You will need to confirm the Integrator is sounding (see #9 below).
- 3. Put sensor in test range mode (see #5 above).
- 4. Listen for Integrator to trigger. If it doesn't, move sensor closer to Integrator.
- 5. Be sure to test again with puck installed in ground (see #8 below).
- 6. You may need to add a repeater inside the home (see #9 below).

7. SETTING SENSITIVITY

ONLY ADJUST (LOWER) SENSITIVITY IF PUTTING IN MIDDLE OF DRIVEWAY (see #8 below). IN ALL OTHER CASES USE DEFAULT.

SENSITIVITY ADJUSTMENT	
HIGH (Default) Detects vehicle going 5 MPH 12-14' away 1 & 2 in OFF position	
MEDIUM Detects vehicle going 5 MPH 6-8' away 1 ON & 2 OFF position	
LOW Detects vehicle going 5 MPH 2-4' away 1 & 2 in ON position	

NOTE: HIGHEST SENSITIVITY IS WITH DIP SWITCHES IN THE OFF POSITION



NOTE: DIP SWITCH COLOR MAY VARY

8. INSTALLING SENSOR PUCK

WARNING: SCREW HOLES IN PUCK WILL STRIP. DO NOT OVERTIGHTEN WITH SCREW GUN OR TAKE IN & OUT REPEATEDLY. IF SCREWS ARE STRIPPED, PURCHASE LONGER STAINLESS STEEL SCREWS, SUITABLE FOR PLASTIC.

The sensor puck can be installed in the driveway, in the ground or on an immovable object (post, tree, etc.).

ON AN OBJECT (see illustration bottom left)

- 1. When range has been tested (see #6 above), seat lid securely on puck with screws provided. There should be no gap between lid and puck. Be careful not to strip screws with screw gun. Finish tightening by hand.
- 2. Find a tree, post, or other object directly beside the driveway.
- 3. Make sure the object is **IMMOVABLE** or false alarms will occur.
- 4. Use the holes on the bottom tabs to screw puck to the object.

IN THE GROUND (see illustration bottom left)

- 1. When range has been tested (see #6 above), seat lid securely on puck with screws provided. There should be no gap between lid and puck. Be careful not to strip screws with screw gun. Finish tightening by hand.
- 2. Find a spot directly beside driveway.
- 3. Dig a hole big enough for puck and auger screws, allowing puck's lid to be level with surface of dirt.
- 4. Secure puck in ground with auger screws, overlapping bottom tabs of puck.
- 5. Pack and tamp dirt around puck, ensuring lid is clean of dirt and all debris.

IN FREE EXIT INSTALLATIONS, IF ANIMALS OR PEOPLE STEP ON SENSOR PUCK INSTALLED IN THE GROUND, IT MAY TRIGGER THE GATE TO OPEN. CONSIDER INSTALLING ON POST OR IN DRIVEWAY INSTEAD.

IN THE DRIVEWAY (see illustration bottom left)

- 1. When range has been tested (see #6 above), seat lid securely on puck with screws provided. There should be no gap between lid and puck. Be careful not to strip screws with screw gun. Finish tightening by hand.
- Note: If close to cross traffic, consider turning sensitivity down (see #7 above)**
- 2. Use a 4.5" diameter masonry hole saw to bore a hole for puck. Bore at least 2.75" deep so puck lid will be 1/4" below driveway surface (so it can't be pulled up by snow plows, graters, etc.).
- 3. Pour loop sealant in hole, careful not to overfill, and put puck in hole.
- 4. Hold puck down with weight until sealant becomes firm.
- 5. DO NOT pour sealant over puck lid or bosses to gain access to batteries.



WARNING: KEEP LID FREE OF DIRT, GRASS, SNOW, & ALL DEBRIS AT ALL TIMES TO ALLOW RADIO SIGNAL TO TRANSMIT!

9. INTEGRATOR DIP SWITCHES

Dip switches control sounder and repeater mode on Integrator.

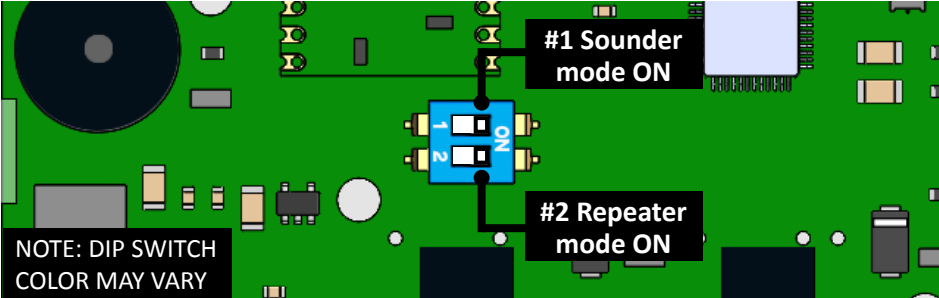
SOUNDER

Turn dip switch 1 ON to turn sounder on.

Sounder will beep 3 times when vehicle is detected. It will also “chirp” when sensor puck batteries are low and need replacing.

REPEATER MODE

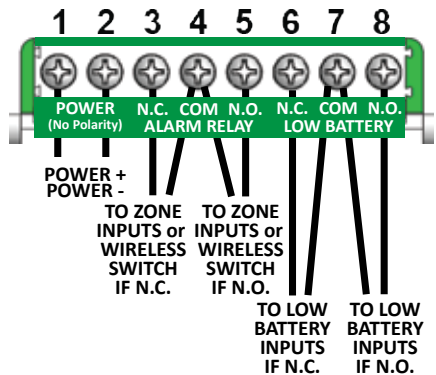
Turn dip switch 2 ON to turn Integrator into a repeater. In repeater mode, the unit will continually receive and repeat any signal from the sensor to the Integrator installed in the home (see #11 below). Red and blue LED will alternately and continuously blink in repeater mode.



10. INSTALLING INTEGRATOR

Your system integrates seamlessly with any security/H.A. system or electric gate operator. To integrate, use the following wiring schematics as guides:

SECURITY/HOME AUTO SYSTEMS

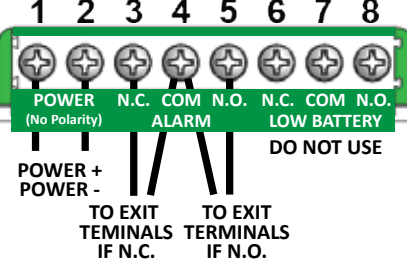


Integrator uses 8-24 VAC or 8-30 VDC. Use security/H.A. system or gate operator to power or use any 12VDC power supply. Cartell sells optional power supply (Part #CW-PS).

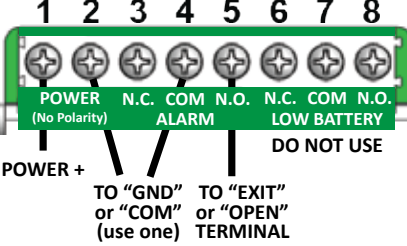
YOU MUST ADD A SAFETY TO GATE WHEN USING CW-SYS FOR FREE EXIT.

AUTOMATIC GATE OPERATORS

DUAL EXIT TERMINAL



SINGLE EXIT TERMINAL



11. REPEATER MODE

To increase radio range, it may be necessary to make the Integrator a repeater.

If the signal from sensor puck is not reaching the Integrator:

1. Move the sensor closer to the Integrator, and/or
2. Install a repeater in the home between the sensor puck and Integrator connected to the security/home automation system. Do the following:
 1. Purchase an optional Integrator and power supply (Product CW-REP).
 2. Remove enclosure cover by carefully pushing side tabs in.
 3. Connect power supply to terminals 1 & 2 (no polarity).
 4. Turn dip switch 2 ON (see #9 above). This puts the unit in repeater mode. The red and blue LEDs will alternately blink to indicate repeater mode. It will continually receive every signal from the sensor and transmit (repeat) it to the Integrator installed beside the main system.
 5. Install repeater in a window closest to the sensor puck.
 6. Turn dip switch 1 OFF to turn sounder off.

NOTE: To order repeater kit, use product code CW-REP.

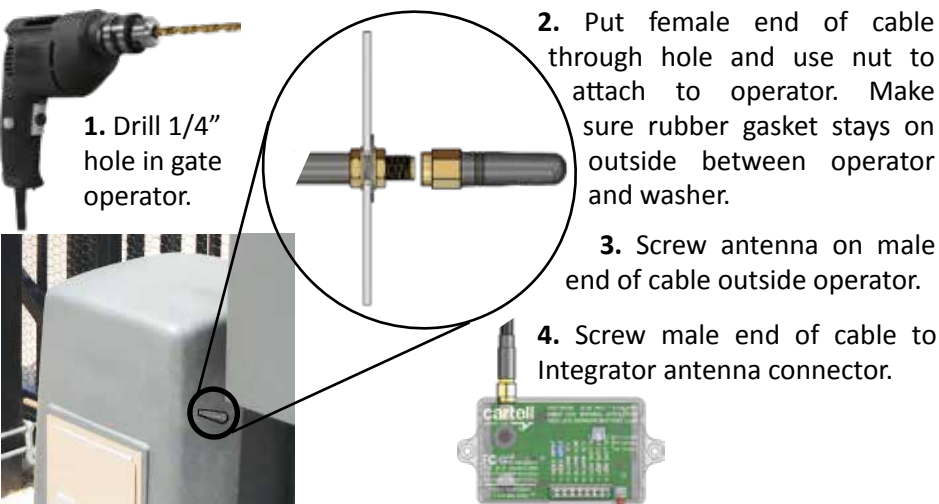
Technical Specifications		
	Sensor “Puck”	Integrator
Power Required	2 - CR123A batteries (6 V)	8-24VAC; 8-28VDC
Stand-By Current	22 Microamps (µA)	25 Milliamps (mA)
Alarm Current	130 Milliamps (mA)	40-80 Milliamps (mA)
Relay Time	–	2 seconds
Relay Contacts	–	SPDT, N.O. or N.C. (Form C)
Relay Contact Rating	–	2 amp/24 VDC (1 mA at 5 VDC min. load)
Radio Range	Tested above ground, no obstructions, up to 2,500 ft.* Tested flush with ground, no obstructions, up to 1,000 ft.* Use optional Repeater (CW-REP) to increase radio range	
Battery Life	1-3 years*	–
Enclosure Rating	IP68	–
Strength Rating	9.39 ton-force (8514 kgf)	–
Temperature Range	-25° F. – +140° F. (-32° C. – 60° C.)	
Dimensions	4.5" dia. x 2.5" H (11.43 cm x 6.35 cm)	3.25" L x 2" H x .875" D (8.25 cm x 5.08 cm x 2.22 cm)
Weight	2 lbs. (.90 kg)	1 lb. (.45 kg)

* Estimate only. Radio range & battery life depend on many variables. No guarantees.



12. OPTIONAL EXTERNAL GATE ANTENNA

In gate operator installations, antenna attached directly to Integrator will work in most cases. The only time it may not work is in a *sealed* metal gate operator that blocks the RF signal. If that is the case, use the included coaxial cable and install antenna externally, per the following:



13. RETURNING MERCHANDISE

CONSUMER: Contact your installer.

INSTALLER: CALL BEFORE DIGGING UP OR UNINSTALLING

Call (800) 878-7829, option 1 to troubleshoot and receive a Return Merchandise Authorization (R.M.A.) number. Write R.M.A. number on shipping box and any correspondence included with defective product.

WARNING: DO NOT SHIP BATTERIES WHEN RETURNING PRODUCT TO CARTELL.

14. FIVE YEAR WARRANTY

All Cartell products are warranted against defects in material and workmanship for five years. This warranty does not cover defects caused by, but not limited to: acts of God, improper installation, abuse, fire damage, electrical surges, integrated system failures, improper lid/gasket/battery installation, overtightening screws, and stripping screw holes.



15. FCC WARNING

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. Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC’s RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

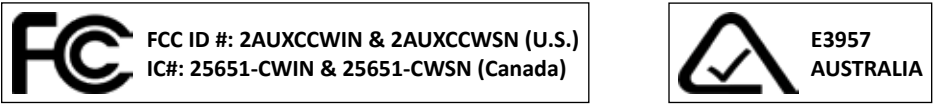
IC Caution (Canada): This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference; (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class [B] digital apparatus complies with Canadian ICE-003.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes: (1) l’appareil ne doit pas produire de brouillage, et; (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada. L’appareil a été évalué pour répondre aux exigences générales d’exposition RF. L’appareil peut être utilisé dans des conditions d’exposition fixes / mobiles. La distance de séparation minimale est de 20 cm.

The device has been evaluated portable device RF exposure requirements. The device is kept at least 5 mm away from the user’s body.



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