

Wireless Drive-Alert Sensor/Transmitter Installation Guide

DA-610TO



Mier Products' Wireless Drive-Alert Sensor/Transmitters detect changes in the magnetic field (movement of metal) within 14' in every direction, based on a sedan traveling 5mph. Therefore, they will not false-alarm from animals, wind, rain, etc. The Transmitter electrical boards are epoxied and also encased in a durable, weather-sealed, NEMA 4X box for worry free weather and corrosion protection. They are able to detect through standard building materials such as brick, stone, vinyl siding, etc. so in many drive-up window applications they may be installed inside the wall next to the drive. They are powered by two AA batteries, Lithium are recommended, and include circuitry to transmit a low-battery condition to Mier's Drive-Alert Control Panel/Receivers when batteries begin to run low.

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The Sensor (aka: probe or wand) portion of any of these Sensor/Transmitters should be placed next to the drive or area to be monitored, and at least 50 feet from any road traffic to prevent false alarms (see next page). The Sensor should be parallel to the drive. Any movement of the Sensor will cause an alarm for asset protection (ex. a tractor, a trailer, gas pump, etc).

The range from the Transmitter to the Control Panel/Receiver is 500 feet if placed on the ground, up to 1000' if mounted 2-4' high on a wood or concrete post (never metal posts) or a convenient building, and up to 3/4-mile if a DA-660 Reception Booster Antenna is used. (See the Long Range Options page to learn more about the booster antenna, adding repeaters, or adding additional control panels)

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If occasional false alarms occur, or you are not detecting some vehicles, you can try re-locating the Sensor, or you can reduce sensor sensitivity. There is a small blue sensitivity pot on the electrical board. Maximum sensitivity adjustment is clockwise and minimum is counter-clockwise (note arrow direction). Reducing sensitivity would reduce detection of road traffic, but would also reduce the detection sensitivity in the driveway. (See next two pages for directions)

Lightning strikes cause a large disturbance in the magnetic field, so nearby strikes will cause an alarm. It is also possible for electrical current variations in nearby power lines to cause an alarm.

The address codes for these Sensor/Transmitters, as well as the Control Panel/Receivers are pre-set at the factory. However, if a unique address code is needed (e.g. interference from a neighbor's Mier wireless Drive-Alert) you can change the address codes making sure you do so in both the Sensor/Transmitter AND the Control Panel/Receiver so they are different than factory spec, but still match one another. (See next page for directions)

The Differences between Mier's three Sensor/Transmitter Choices:

- * DA-610TO Sensor/Transmitter: Both the Sensor and the Transmitter are contained in the same NEMA 4X enclosure. (See photo at the top left) This unit is standard with complete systems.
- * The DA-611TO Remote-Sensor/Transmitter: The Sensor is outside the Transmitter Box, and attached to the Transmitter by a 50' cable (cable lengths up to 2500 feet are available). This allows the sensor probe to be buried under or next to the driveway or area to be monitored, and the transmitter box to be hidden up to 50' away or placed high above ground for a better range. The sensor should be buried 6-12 inches below ground and the cable 3-6 inches below ground. Mier HIGHLY RECOMMENDS burying the cable in 1/2-inch PVC pipe to protect it. Try the Sensor and Transmitter locations above ground for a week, before burying the Sensor and cable.
- * The DA-612TO Dual Remote-Sensor/Transmitter: Just like the DA-611TO, but with 2 external sensors.



DA-610TO installation with the Sensor/Transmitter hidden under landscaping next to the driveway.



DA-611TO installation with the Sensor buried under the drive and the Transmitter hidden/mounted on a nearby tree.

Detection-distance from the sensor for a standard-size modern sedan moving 5MPH

	DA-610TO	DA-611TO/DA-612TO
Maximum sensitivity	14 feet	17 feet
Factory set sensitivity	13 feet	16 feet
75% sensitivity	11 feet	14 feet
50% sensitivity	9 feet	12 feet
Minimum sensitivity	7 feet	10 feet

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The Sensor/Probe portion of a DA-610TO, DA-611TO or DA-612TO senses the vehicle and should be placed less than 3 feet of Zone/area you wish to monitor moving vehicles or assets (the closer the better). The Transmitter portion contains the electronics inside the black box.

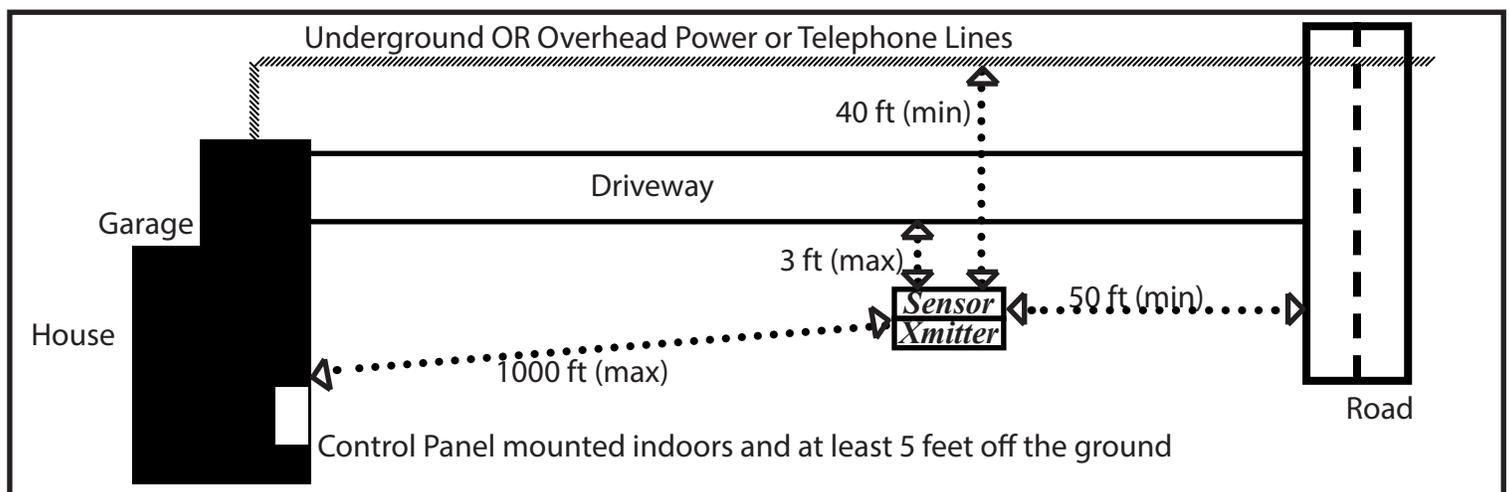
The Sensor and Transmitter operates on 2 - AA batteries providing 3.0 volts DC to the electronics. We highly recommend Lithium batteries for longer use and better reliability in cold conditions. Please observe polarity when installing (see next page). Typical battery life is 1-2 years in a residential installation. The Transmitter sends a continuous signal for about 1 minute after the power switch is turned on, and then is ready to act on Sensor inputs. When the battery voltage reaches 2.7 volts, a low battery signal is sent to the Control Panel/Receiver in the home/business and the LO BATT LED on the Control Panel/Receiver will be lit to indicate the batteries should be replaced soon. After installing batteries and confirming operation, the top cover can be put back on the enclosure with careful attention to keeping the gasket in place and not over-tightening the screws on the cover which would cause the case to crack, and also NOT wiping off the thin layer of silicone oil on the underside of the cover. Failing to do either will result in moisture entering the enclosure. The Sensor/Transmitter can now be placed in position.

For maximum range, the black box Transmitter portion of the DA-610TO, DA-611TO or DA-612TO should be placed 3 to 4 feet above ground on a post, tree, etc.. The front of the Transmitter Box should also face the Control Panel/Receiver in the home/business for best range. If the black box transmitter is on the ground the range will be 500 feet, but if it's 3 to 4 feet off the ground the range jumps to 1000'.

Make sure the Sensor and Transmitter Box are at least 50 feet from streets or roads, and 40 feet from power lines.

Test the system using a vehicle to pass by the Sensor at 5 to 10 MPH, or by swinging a steel object along the long side of the Sensor. Either should set off the audible alert.

Once testing is successful, choose the final mounting locations and perform vehicle pass or waving metal near the sensor tests repetitively for consistent detection before finalizing installation (and burying any cable if needed).



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If occasional false alarms occur, or you are not detecting some vehicles, you can try re-locating the Sensor, or you can reduce the Sensor Sensitivity. There is a small blue sensitivity pot on the electrical board. Maximum sensitivity adjustment is clockwise and minimum is counter-clockwise (note arrow direction). Reducing sensitivity would reduce detection of road traffic, but would also reduce the detection sensitivity in the driveway. See photo below.

The Transmitter Address Code Switches must be set to match those inside the Control Panel/Receiver. These switches are preset at the factory for code 000 (no jumpers). They should only be changed if the Control Panel/Receiver code is also changed. An example of when you would want to switch these codes is when two neighbors, living right next to each other, both have Drive-Alerts: one neighbor should switch codes so both their Drive-Alerts remain exclusive to their own driveway.

The Transmitter Zone Code Switches are preset at the factory for code 000 (no jumpers) for just one Zone/driveway/area to monitor. If more than one Zone is to be monitored, place jumpers on the Zone Pins on the electrical board in the black box to active them, AND pull the jumper off of the JP3 Jumper Pin inside the white DA-700 or DA-100 Control Panel. The Drive-Alert will give a different Chime tone for each Zone monitored.

This photo of the Transmitter board inside the black box shows where to place the batteries, turn it On, see the Valid Transmit light, change the Detection Sensitivity (if needed), change Addressing (if needed), set for Zoning (if needed).



Sensor/Transmitter Installation Examples



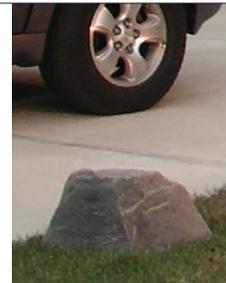
At the base of a pole



3-foot high for greater range



Under landscape next to the drive



Under a DA-ROCK1 fake rock next to the drive



DA-611TO transmitter box 4 foot high in a tree for greater range
Note: DO NOT mount a DA-610 on a tree.

Four Options for Long Range Drive-Alert Installations



The DA-660 Reception Booster Antenna is perfect when monitoring remote buildings or equipment:

This antenna is used to increase the standard reception distance of 1000-feet, to up to 3/4-mile from the Sensor/Transmitter to the Control Panel/Receiver. Simply unscrew the standard antenna on the DA-700 Control Panel or DA-100 Control Panel and 75ohm coaxial cable, RG6, to the F Connectors on the Control Panel and the DA-660 Reception Booster Antenna.

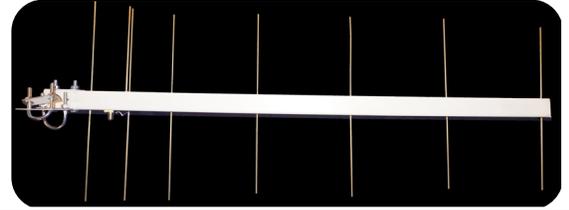
* 34" Long, 13" Wide, 1" High and weighs approximately 1 pound

* Frequency = 433.92 mHz

* Impedance = 75 Ohms

* Gain = 10.6 dB

* Type = 7 Element Yagi



The DA-611TO and DA-612TO Sensor/Transmitters increase transmission distance:

The Sensor(s) is/are outside the Transmitter Box, and attached to the Transmitter by a 50-foot cable (cable lengths up to 1000 feet are available). This allows the sensor probe to be buried under or next to the driveway or area to be monitored, and the transmitter box to be hidden up to 50' away or placed high above ground for an increased transmitting range. The sensor should be buried 6-12 inches below ground and the cable 3-6 inches below ground. Mier HIGHLY RECOMMENDS burying the cable in 1/2-inch PVC pipe to protect it. Try the Sensor and Transmitter above ground for a week, before burying the Sensor, to assure conditions and product operate satisfactorily. Note: installation instructions come with these Sensor/Transmitters when ordered, or are available for download on our website.

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The DA-REPEATER is perfect for providing additional alerts in remote buildings

This Drive-Alert Signal Repeater can be attached to any DA-700 or DA-500 Drive-Alert Control Panel/Receiver. It will repeat the alert signal to other wireless Control Panel/Receivers (DA-100CP, DA-700CP,) up to an additional 1000 feet away, or another 3/4-mile if DA-660s are used with them. If a site has multiple buildings and/or locations where an alert is desired, add a DA-REPEATER to a DA-700 Control Panel/Receiver, and then add DA-100CP Chimes with Volume Control (shown below) in those other buildings.



The DA-100CP Long Distance Remote Chime for adding chimes to remote buildings:

The DA-100CP is actually a self-contained Control Panel/Receiver on its own, and receives a signal from up to 1000-feet of any of Mier's wireless Sensor/Transmitters, OR a DA-REPEATER (shown above), and provides a pleasant tone as an alert. It also includes volume control.



Please contact our Tech Support Team and we will be happy to "Google™earth" your installation site, and provide you with information on the products needed, and locations for each piece to meet your installation/application goals. Don't forget to check out our website for cut-sheets, installation manuals, installation examples, and information on more products!

Mier Products' Drive-Alert Technical Support

Mier Products, Inc. provides free telephone and email lifetime technical support for all of our Drive-Alert vehicle detection systems. Call us between the hours of 8:00 am and 5:00 pm EST, send an email, or download our Cut-Sheets, Instruction Manuals, or FAQs from our website. 800-473-0213 ~ info@mierproducts.com ~ www.mierproducts.com

Mier Products' Drive-Alert Warranty

Limited Warranty for Drive-Alert Models and Accessories Manufactured by Mier Products, Inc.

Mier Products, Inc.'s Limited Warranty Program for Drive-Alert Series of Vehicle Detection Systems and Drive-Alert Accessories protects the original owner for one year from the date of purchase against defects in original parts or workmanship. Mier Products, Inc. agrees to repair or replace parts (Mier's option) that are deemed defective by our Quality Control Team, without charge for parts or labor, if the defective unit is returned prepaid to Mier Products, Inc., Kokomo, IN, within the one-year period.

Close inspection and testing, at the time of receipt by the customer, will quickly determine product quality. Thus, Mier Products, Inc. recommends inspection of, and testing, the Drive-Alert models, direct burial cable, and accessories immediately upon receipt, before installation or driving to an installation site, and contacting Mier Products, Inc. if quality issues arise.

NOTE: Sensors and cables that have been buried are not covered. Wireless sensors that have been sitting in flooded areas or standing water are not covered.

Mier Products, Inc. does not assume responsibility for claims or damages caused by improper installation or use of these products, accessories, and/or products connected to or stored within them. Mier Products, Inc. does not assume responsibility for damages to these products or their accessories due to shipping damage or damage occurring while in a customer's warehouse and/or possession. Mier Products, Inc. does not assume responsibility for damage due to accident, faulty wiring, overload of Drive-Alert System or Drive-Alert accessory output, or components attached to the Drive-Alert parts. Drive-Alert models and accessories must be shipped, handled, stored, and installed with strict adherence to OEM installation instructions.

Drive-Alert accessories and parts built by other OEMs (including but not limited to chimes, lamp modules, light switches, bells, splice kits) are covered under their respective OEM warranties.

This warranty constitutes the entire warranty with respect to Mier's Drive-Alert Models and Accessories and IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND IN NO EVENT IS MIER PRODUCTS, INC., OR IT'S DISTRIBUTOR, DEALER, OR OEM PARTNERS, RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

Any warranty OR sales questions should be directed to Mier Products at 800-473-0213, or via e-mail to info@mierproducts.com

Any repair work not covered by this Warranty is available for a nominal charge.

Products which customers wish to return for reasons other than Warranty must first call Mier Products, Inc. to receive a Return Material Authorization Number (RMA#). Returns are subject to a 15%-20% re-stocking fee as well as return shipping. NOTE: Special Order products, such as Mier's Temperature Controlled Enclosure line, are non-cancellable and non-returnable.

DA-610TO Sensor/Transmitter:

1.	Power Requirements:	Two (2) AA Batteries 3.0 VOLTS DC - Lithium Recommended
2.	Operating Frequency:	433.92 MHZ Fixed
3.	Antenna:	6.5" Wire inside outdoor rated transmitter box
4.	Transmitter Output:	2 Milliwatts
5.	Transmitter:	Linx Technologies Model KH Encoder/Transmitter
6.	Encoder Modulation:	Amplitude ON-OFF Keying (OOK) at 1200 BPS.
7.	Address Codes:	Jumper Plugs elected for the encoder (3 positions)
8.	Data:	One Data BIT encoded when battery is low
9.	Transmitter ON time:	Less than 5 seconds for any single alarm
10.	Enclosure:	Outdoor, NEMA 4X, Non-Metallic, Weather Sealed enclosure houses the Transmitter
11.	Quiescent Current :	60 Microamp
12.	Active Current:	3 Milliamp
13.	Battery Life:	One Year in residential installation, but up to 5 years if using lithium batteries
14.	Operating Temperature:	-40 DEGREES F TO + 125 DEGREES F
15.	Weight:	3 Pounds
16.	Detection of Vehicles:	Distance from Sensor/Transmitter for a standard sedan moving at 5mph+ is 14 feet max, 9 feet min, 7 feet, min

DA-611TO Sensor/Transmitter:

ALL SPECIFICATIONS ARE THE SAME AS THOSE LISTED FOR THE DA-610TO ABOVE, EXCEPT THE FOLLOWING:

- A. The sensor is not inside the transmitter enclosure; it is an external sensor attached to the transmitter enclosure with 50' of cable (see sensor options page)
- B. Detection of Vehicles: Distance from Sensor for a standard sedan moving at 5mph+ is 17 feet max, 12 feet min, 10 feet min

FCC ID: SGXMPIDA066

This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes not expressly authorized by Mier Products, Inc. may void the user's authority to operate this equipment.

IC ID: 5583ADA-066MP

Cet appareil est conforme a des reglements d'industrie Canada exempts de license standard RSS (s). Son fonctionnement est soumis aux deux conditions:

- (1) Ce dispositif ne doit pas causer d'interferences nuisibles
- (2) Cel appareil doit accepter toute interference recue, y compris les interferences pouvant entrainer un fonctionnement indesirable.