

NOTE: Read this manual in its entirety before installing any Larco transmitter or receiver. It is important to complete the programming procedure before installing the receiver in its final location. The installer must have access to the receiver's programming button and must be able to view the receiver's LED (Light Emitting Diode) during the programming process.

System

The Larco Ultra-Small Transmitters and Receivers operate at 433.92 MHz (acceptable in the United States, Canada and any European Union member state) and employ code-hopping technology, to reduce false activations. The receiver only operates after learning a transmitter's signal through the simple procedure outlined on the next page. This programming procedure eliminates the need to set dip switches and involves a simple press of the programming button located on the top cover of the receiver (see drawings below for details).

Installation

NOTE: Complete the programming procedure on the next page before placing the receiver in its final location.

1. Mount the receiver in a location so that the antenna is not surrounded by metal. Metal attenuates RF signals causing a reduction in range and inconsistency of signal reception. Door operator motors and controls may also cause radio frequency interference. Locate the receiver away from the door control's motor(s) and power supply(s). If the receiver is mounted in a metal enclosure, drill a hole in the enclosure and thread as much of the antenna as possible through the hole. This reduces the effects the metal enclosure will have on the receiver's reception.

2. The receiver comes equipped with a wiring harness for easy installation. Follow the color-coding diagram at right.

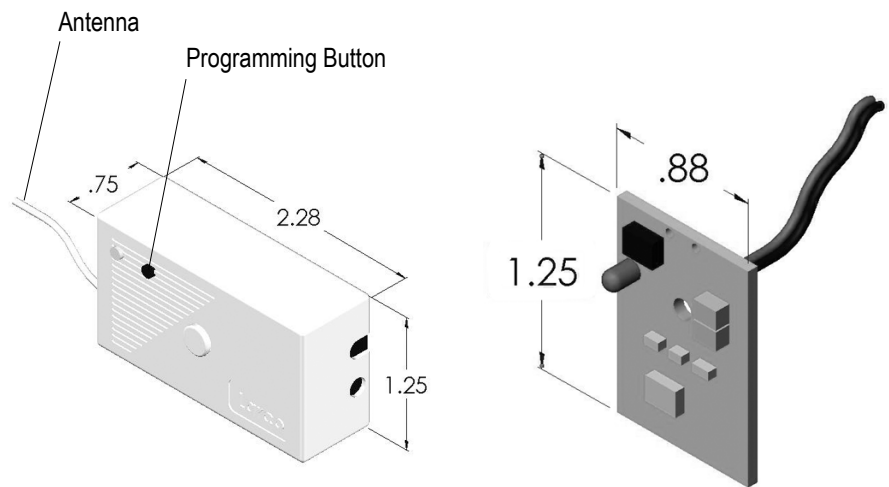


Diagram 1: Receiver (left) and Transmitter (right) Dimensional Diagrams

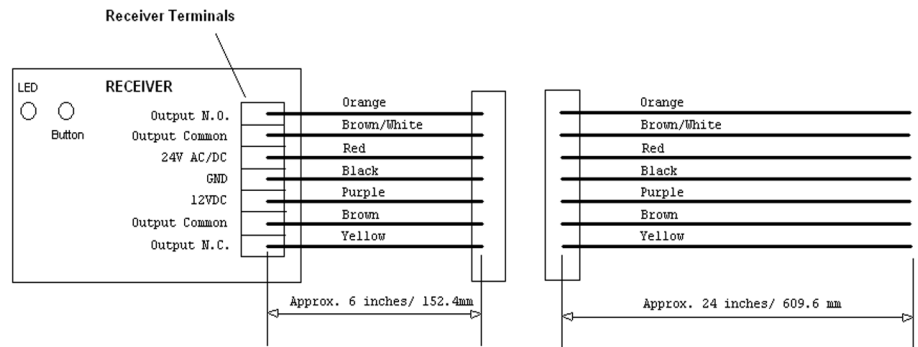


Diagram 2: Receiver Wiring Harness.

Orange Wire: Normally Open Relay Output

Brown wire with White Stripe: Normally Open Relay Output Common Connection

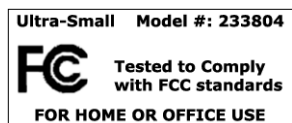
Red Wire: 24VAC/24VDC Power

Black Wire: Ground

Purple Wire: 12 VDC Power (CAUTION: DO NOT connect 12 VAC Power)

Brown Wire: Normally Closed Relay Output Common Connection

Yellow Wire: Normally Closed Relay Output



Ultra-Small Receiver Installation, Cont'd

Programming Procedures

NOTE: Prior to programming, make sure the receiver's LED blinks red when power is applied. If the receiver's LED is not blinking red, disconnect then reconnect the power.

Programming transmitter(s) into the receiver's memory:

The receiver can learn up to 12 transmitters. Follow the steps below to program your receiver. Repeat steps 1-3 for each transmitter.

1. Press the receiver's programming button for less than 2 seconds and release. The LED should change from blinking red to solid green, indicating the receiver has entered its programming mode.
2. Activate and release the transmitter once and confirm that the receiver's LED changes to solid red. This indicates the receiver is learning the transmitter's code.
3. Wait a few seconds and then activate the transmitter a second time. The receiver's LED should now blink green several times indicating that it is ending its learning procedure. When the procedure has ended, the LED should be blinking red.

Programming the receiver's output activation time:

When the receiver is activated, its outputs will stay in the minimum activation state for approximately 1.5 seconds (default). This time can be

adjusted to stay in the activation state for up to 4 hours. Follow the steps below to adjust the receiver's output activation time.

1. Press the receiver's programming button for 4 seconds and release. The LED should be solid red. This indicates the receiver is in the activation time programming mode.
2. Activate and release the transmitter.
3. When the desired time has elapsed (up to 4 hours) activate the transmitter again. The receiver's LED should blink green several times indicating it is ending the procedure. When the procedure has ended, the LED should be blinking red.

Deleting all transmitters from the receiver's memory:

You can clear the receiver's memory of all previously learned transmitters by following the steps below. NOTE: Deleting previously learned transmitters does not change the receiver's output activation time.

1. Press the receiver's programming button for more than 8 seconds until the receiver's LED starts blinking green. Release the programming button. The LED should now be blinking red.
2. The receiver's memory is now cleared. To learn new transmitters, follow the steps for programming transmitters into the receiver's memory.

Specifications

Transmitter

Frequency:
433.92 MHz
Dimensions:
1.25" x 0.875" x 0.25"
Security Code Method:
Code Hopping
Battery Life:
60,000 cycles
Certifications:
FCC, Industry Canada, CE
Operating Temperature Range:
-4°F to 122°F (-20°C to 55°C)

Receiver

Frequency:
433.92 MHz

Dimensions:
2.25" x 1.25" x 0.75"
Security Code Method
Code Hopping
Can learn up to 12 different transmitters
Operating Temperature Range:
-4°F to 122°F (-20°C to 55°C)
Electrical Rating:
100,000 cycles at 2 Amps at either 24 VDC or 120 VAC
Input Power:
24 VAC, 24VDC or 12 VDC
Output:
Two Relay Outputs: 1 NO 1 NC
Certifications:
FCC, Industry Canada, CE

The receiver and transmitter comply with FCC part 15/15.231-2001, Industry Canada RSS-210-2003, EN55022A-2000, EN55024-2001, EN300-220-3 V1.1.1-2000, and EN301-489-1 V1.2.1-2000. 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. This product may be susceptible to local transmissions being generated near the transmitter's fundamental frequency. Testing has shown some susceptibility in a frequency range of 416-440 MHz.

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 interference by one or more of the following measures: (a) Reorient or relocate the receiving antenna. (b) Increase the separation between the equipment and receiver. (c) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected (d) Consult the dealer or an experienced radio/TV technician for help.

The user is cautioned that any internal modifications, either replacement of or modification of any component, of the transmitter or receiver could violate the rules of compliance and authority to operate the equipment.