



**The Temp \$aver**  
**Wireless DoorMonitor**  
*For Vacation Rental Property*

**The Heating & Cooling  
Control System  
that Saves you money.**

**DMK315 Kit**



**WARNING**

The Heating & Cooling system  
Will automatically shut off  
If this door/window is open for  
More than 90 seconds  
The system will remain off until  
The door/window is closed.

[www.coastalgreenair.com](http://www.coastalgreenair.com)  
251-967-2111



**This notice goes on the doors**

**The Receiver in this kit is pre-programmed for the enclosed Transmitter.**

**The DoorMonitor DMK315 Kit** consists of two separate units, a receiver [ *DMR315* ] and a transmitter [ *DMT315* ] so that a minimal system would consist of one *DMR315* and one *DMT315*. The receiver [ *DMR315* ] is installed in the heating & cooling system closet and is powered from the 24 volt AC transformer that provides power to the thermostat. Only four conductors are required to connect the *DMR315*. Two wires are connected to the 24 volt AC transformer and two wires are connected to the thermostat circuit. All four connections are made in the heating & cooling system closet. No wiring is required to the doors; one receiver will handle up to ten door transmitters. A *DMT315* transmitter is installed on each door that you wish to monitor [up to ten doors]. A small magnet is mounted on the door and a *DMT315* transmitter is mounted on the doorframe. Install the battery in the transmitter and the DoorMonitor is ready to go. The three volt, CR-2, lithium battery is included and has an average life expectancy of four years [depending on use]. See [www.coastalgreenair.com](http://www.coastalgreenair.com) for more info. The receiver is 4 1/4" x 2 1/2" x 1" and the transmitter is 3 1/4" x 7/8" x 1".

**How it works:** If a door is left open for more than 90 Seconds, the DoorMonitor will disable the heating & cooling system, and it will remain disabled until the offending door is closed. A high quality vinyl film sticker is provided for each door being monitored. This sticker has a printed warning alerting the occupant that leaving the door open for a period of 90 seconds will disable the heating & cooling system. **This warning is in English only.**

## Specifications

**Operating Temperatures:** 0 C to 49 C (32 F to 120 F).  
**Dimensions:** 110 x 63 x 25 Mm (4-1/4" x 2-1/2" x 1").  
**Weight:** 80 g (2.8 oz).

### ELECTRICAL DATA:

**Input Voltage:** 24 Volts AC or DC.  
**Current Drain:** 10 mA (standby), 35 mA Receive.  
**Relay Contact Ratings:** 1 Amp at 30 Volts DC or AC.  
**Low battery Output:** 100 mA, open-collector type.  
**Relay type:** Single pole / Double throw.  
Form 1C - Normally Closed (NC) and Normally Open (NO)  
Connections for Heating & Cooling control.

### RF SECTION:

**Front End Module:** Super-regenerative UHF receiver.  
**Operating Frequency:** 315 Megahertz

### DATA PROCESSING SECTION

**Transmitter Total Message Length is 36 bits**  
**Learning Capacity:** Up to 10 different Transmitter codes  
**Compliance with:** FCC Part 15, CE (ETS 300220, ETS 300683)

### Product Limitations:

DoorMonitor wireless systems are very reliable and are tested to high standards. However, due to low transmitter power (required by the FCC), there are certain limitations to consider :

- A.** Receivers may be blocked by radio signals occurring on or near their operating frequency.
- B.** A receiver can only receive one transmitted signal at a time
- C.** Wireless systems should be tested regularly for proper operation .

# DMR315 Receiver Installation Instructions

**Attention: Refer installation and service to qualified personnel only.  
Disconnect power from the heating and cooling system BEFORE you begin work.**

**Do not locate the DMR315 near dense electrical wiring.  
Avoid installing the DMR315 on or near large metallic objects.**

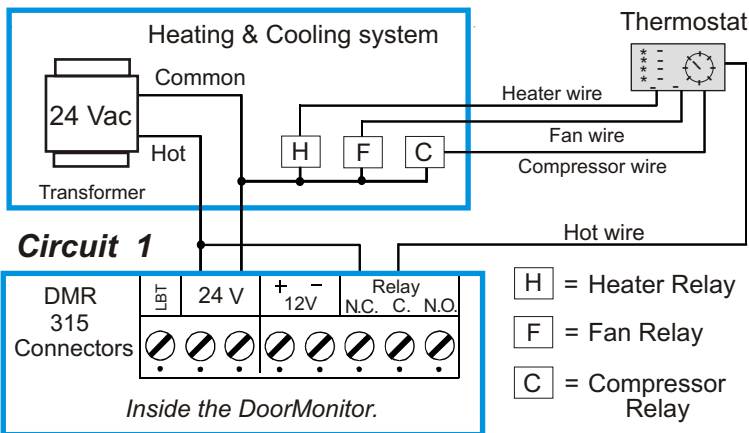
Mount the DMR315 on the wall with 2 screws (and anchors if necessary) or use the double stick tape provided with this kit, or use tape and screws. Maintain the antenna up & vertical; tape it to the wall if required. ALWAYS Use 20 gage solid wire for your connections. Use wire nuts or compression lugs and wrap the connections with electrical tape for safety. Refer to Circuits 1, 2, 3 and 4 for wire connections. The power for the DMR315 comes from the 24 volt transformer in the heating and cooling system. Connect the output of the 24 volt transformer to the "24 V" input terminals in the DMR315. Polarity is not important. AC or DC is acceptable. Some electronic thermostats require uninterrupted power to operate correctly. This does not mean that the thermostat needs power during installation. This means that the thermostat may need uninterrupted power during operation. Wire the DoorMonitor so that power is not interrupted to electronic thermostats while the DoorMonitor has the Heating and Cooling system disabled. The DoorMonitor should only interrupt power to the H,F,C relays (Heating, Fan, Compressor). The H,F,C relay coil current is going to be routed thru the normally closed (NC) relay contacts in the DMR315. The relay in the DMR315 is going to control the H, F, C relays in the heating and cooling system. The DoorMonitor may interrupt power to electronic thermostats that have non-volatile memory and require no batteries.

**Circuit 1:** Locate the "HOT" wire going to the Thermostat. Break this connection between the 24 volt transformer and the Thermostat. Connect the hot wire from the Thermostat to the "C" terminal in the DoorMonitor DMR315. Connect the wire from the transformer to the "NC" terminal in the DMR315. It is acceptable to use this method with the Coastal Green Air Temp Saver thermostat.

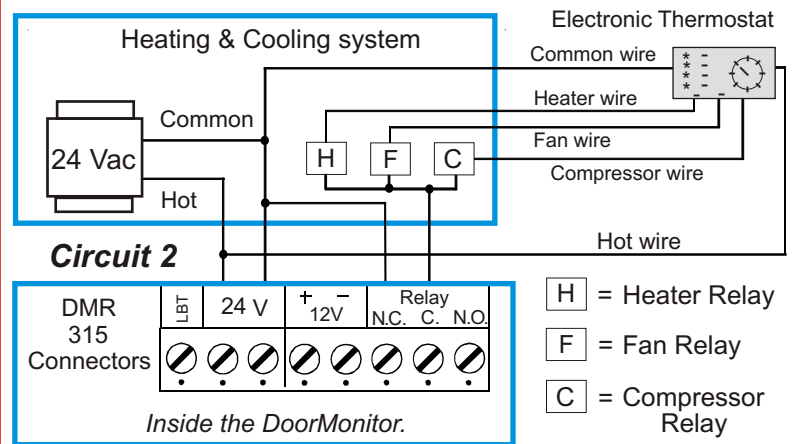
**Circuit 2:** Locate the 24 volt common bus wire in the heating and cooling system. The Heating, Fan & Compressor [H,F,C] relays are energized by this circuit. This wire will come from the 24 volt transformer and go directly to these relays (H,F,C). Break the connection between the 24 volt transformer and the relays. After you separate the 24 volt transformer common wire from the H,F,C relay common bus, connect the "NC" & "C" screw terminals in the DMR315 to the 24 volt transformer common, and the common bus of the H,F,C relays. Connect the "NC" to the common wire of the transformer and the "C" to the common bus of the H,F,C relays.

**Circuit 3:** Locate the terminal Strip marked "Thermostat" on the Furnace Control Unit. The "R" and the "C" screws are the 24 volt transformer connections. Connect these terminals to the "24 V" terminals in the DMR315. NEXT: The "R" terminal should have a RED wire attached to it. Take this RED wire off the terminal screw and attach it to the "NC" terminal in the DMR315. Connect the "R" terminal screw in the Furnace control unit to the "C" terminal in the DMR315. The integrated furnace control unit controls the gas igniter and the fan circuits. Do Not Attempt to Circumvent These Circuits.

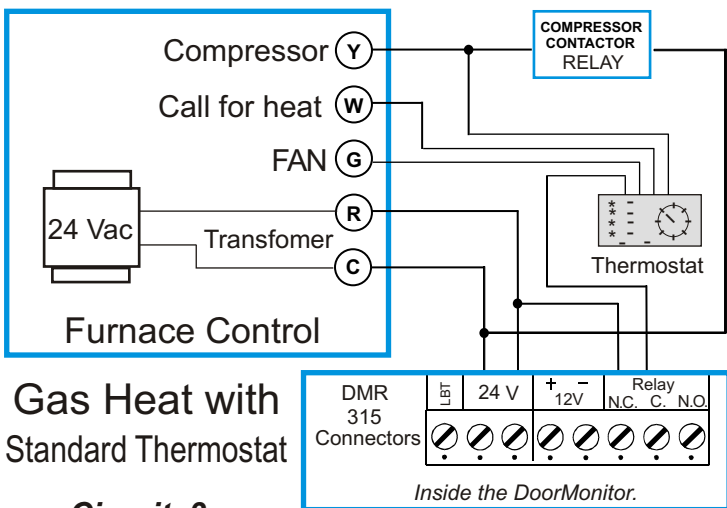
**Circuit 4:** You must order the DoorMonitor kit number 3R24V to install the DMR315 in this type of heating and cooling system. This is the most difficult type of installation. Connect the DoorMonitor in a way that does not interrupt power to the thermostat each time the DoorMonitor disables the heating and cooling system. Electronic thermostats are programmable and have battery backup incase of power failure. Every time the power is removed from the thermostat it reverts to battery power. If this is done often it will soon deplete the thermostat battery. Some electronic thermostats also incorporate a power fail circuit that prevents the compressor from coming back on too soon after an electrical failure. If the DoorMonitor is connected in such a way as to interrupt power to the thermostat then the five minute timer in the thermostat will cause the air conditioning system to be disabled for an additional five minutes. Install the DoorMonitor as in circuit four. Always think about safety. The boxes labeled H, F, and C in this drawing are in the 3R24V install kit that you purchased for this installation. These three relays are used to control the Heating, Fan and Compressor relays in the heating and cooling system. Follow the instructions that came with the 3R24V kit. The DoorMonitor should only interrupt power to the H, F, C relays. The H, F, C relay coil current is routed thru the normally open (N.O.) relay contacts in the DMR315. The relay in the DMR315 is going to control the H,F, and C relays. The H,F, and C relays are going to interrupt the Heating, Fan and Compressor circuits coming from the thermostat. These are usually the White (heat), Green (fan) and Yellow (compressor) wires connected between the thermostat and the "Furnace Control Unit". **WARNING** - These wires may be different colors. The integrated furnace control unit controls the gas igniter and the fan circuits. Do Not Attempt to Circumvent These Circuits.



Typical Standard Thermostat

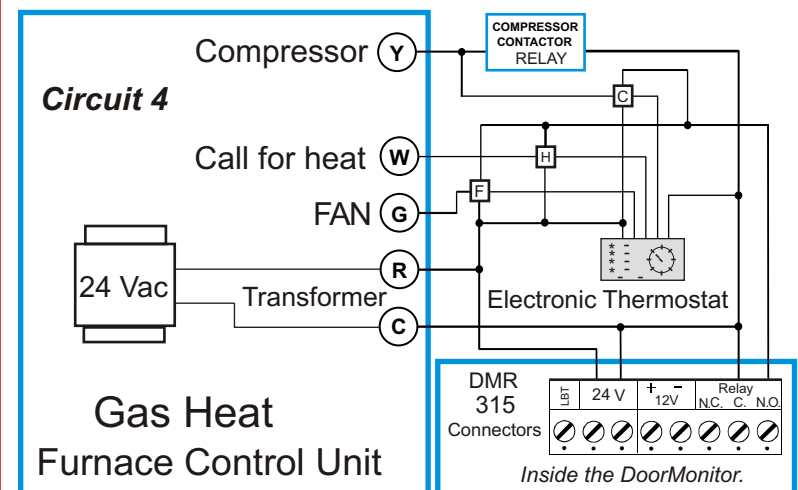


Electronic Thermostat with Electric Heat



Circuit 3

Gas Heat with Standard Thermostat



Gas Heat with Electronic Thermostat

Gas Heat Furnace Control Unit

# DMR315 Programming

The DMK315 kit contains one transmitter and one receiver. The transmitter has already been programmed into the first memory location of the receiver. If you are using additional transmitters then you must enroll (program) those yourself. Each Transmitter has two unique identification codes. One for the built in magnetic switch and one for the wired input. If the wired input is not used, then do not enroll it into the receiver and make sure that there is a jumper wire between the two input screw terminals. if you use just the internal magnetic switch then only enroll that identification code into the receiver. If you use just the external wired input then only enroll that identification code. If you use both, then you must enroll both. With the receiver in the Learn (program) mode and set to an unused memory location, all it takes is a single transmission from the transmitter to enroll one ID code. When you put the jumper in the Learn mode the yellow LED will begin to flash a steady rhythm. Push the memory button once and the red LED will turn on and the yellow LED will begin to flash the code for memory location one. Push the memory button again; the red LED will begin to flash and the yellow LED will flash the code for memory location two. Activate the transmitter by moving the magnet away from it. The red LED turns on (not flashing), continuous light. Put the jumper back in the Operate mode and you are ready to test the system. Please read the following detailed instructions.

## 1. Enrollment Session.

An enrollment session is required to let the DMR315 learn The Transmitter ID codes. Each Transmitter must be enrolled. The quickest way to conduct an enrollment session is on the work bench, with every transmitter within reach, so that you may observe the receiver and transmitter indicator LEDs.

## 2. Initial Steps

A. Remove the screw that secures the cover to the base and remove the cover as shown in Figure 1.

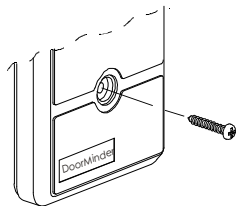


Figure 1. Cover Removal

B. Gather all transmitters to be used in the system and mark each one according to the planned deployment.

C. **Temporarily** power up the DMR315 by connecting a 24 Volt ac or dc power supply to the **24V input terminals**. **Polarity is not a factor.**

**Do not connect to the 2 Terminals marked 12V**

## 3. Selecting Memory Locations

The receiver ID memory is divided into 10 locations, one per Transmitter ID code. Memory locations are selected in ascending order from 1 to 10, by pushing the memory button.

**One Push of the button = one click on the chart below.**

*The memory button has a spring on the top. Push the spring.*

See Figure 2 for location of button.

The yellow LED indicates which memory location is selected. The information is conveyed by flashing sequences as demonstrated in the following chart: **Flashing Sequence of the Yellow LED**

button Clicks	Memory Location	☀ = Flash and ● = Pause
One	1 <sup>st</sup>	☀ ● ☀ ● ☀ .....
Two	2 <sup>nd</sup>	☀☀ ● ☀☀ ● ☀☀ .....
Three	3 <sup>rd</sup>	☀☀☀ ● ☀☀☀ ● ☀☀☀ .....
Four	4 <sup>th</sup>	☀☀☀☀ ● ☀☀☀☀ ● ☀☀☀☀ .....
Five	5 <sup>th</sup>	☀☀☀☀☀ ● ☀☀☀☀☀ ● ☀☀☀☀☀ .....
Up To 10		<b>One push of the button = one Click</b>

## 4. Enrolling Transmitter ID codes.

Follow steps **(A) (B) (C)** to program ID codes.

One transmission is required to enroll each section of each Transmitter. The internal reed switch and the external input have different ID codes. If you are using both then you must enroll both. If you are only using one, then only enroll the one you are using. See the transmitter (DMT315) instructions for more information.

- (A)** Move the **MODE JUMPER** to **LEARN** as demonstrated in the diagram at right. The **YELLOW LED** will start flashing. See Figure 2 for location of jumper.



The memory button is in the middle of the DMR315 See Figure 2 for location

- (B)** Push the DMR315 memory button the correct number of times to select the desired memory location (see Paragraph 3) Each push (click) advances to the next memory location. The **Red LED** shows the status of the selected location as follows:

Status	Red LED Response
Location is available	LED Flashing
Location is occupied	LED ON

To clear an occupied location, refer to Paragraph 5.

- (C)** If the memory location is available, initiate a transmission From the transmitter you wish to enroll in that location. Two kinds of response may be expected:

Red LED Response	Significance
LED ON	Transmitter code enrolled
Continues to flash	Transmitter code <b>Not</b> enrolled

**You can not enroll a transmitter in an occupied location.**

- D. Repeat Steps B and C for additional transmitters.  
E. When done, quit the LEARN mode by setting the **MODE JUMPER** back to **OPERATE**



**CAUTION ! While handling the jumper, take care not to touch the delete button located next to the jumper**

If you leave the jumper in the LEARN position and no further learning activity takes place for 5 minutes, the LEARN mode will be automatically Abandoned.

## 5. Clearing Transmitter codes

- A. Set the **MODE JUMPER** to **LEARN**. The **Yellow LED** will flash at a constant rate.



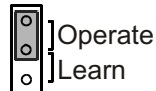
- B. Push the DMR315 memory switch the correct number of times to select the desired memory location (see Paragraph 3) Each push (click) advances to the next memory location. The **Red LED** shows the status of the selected location as follows:

Status	Red LED Responses
Location is available	LED Flashing
Location is occupied	LED ON

- C. Push the **DELETE** button on the DMR315 circuit board once. The **Red LED** will respond as follows:

Red LED Response	Significance
LED Flashing	<b>ID Code deleted</b>
LED ON	still enrolled

- D. When done, quit the LEARN mode by setting the **MODE JUMPER** back to **OPERATE**.



## 6. If the Transmitter did Not Enroll !

Even though the memory location is available (the **Red LED** Continues to flash), try transmitting again. If the second attempt is unsuccessful, the transmitter in question may be faulty.

Try enrolling another Transmitter.

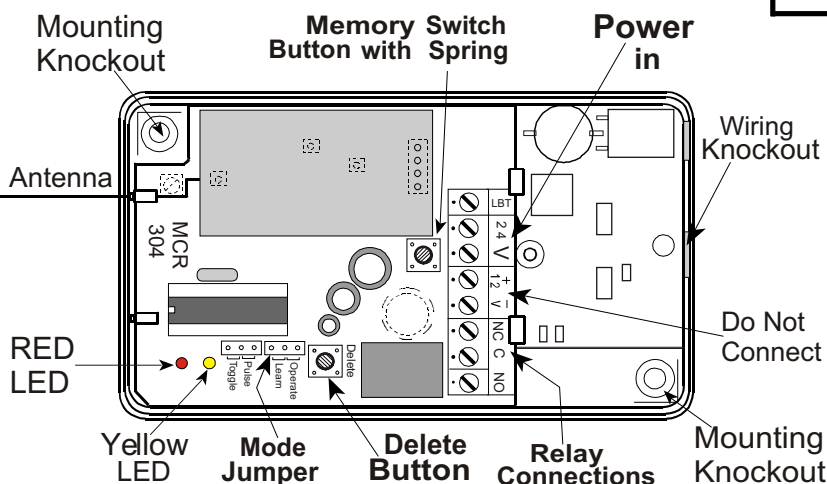


Figure 2. DMR315 with cover removed.

## Mode Jumper and LED's

See Paragraph 4A for details ----->

- 1. Setting Mode Jumper.** Receiver Function Modes:

- OPERATE**- normal position [Stand-by for signals]
- LEARN** - enroll transmitters into Memory.

### 2. LED Functions during Operation:

**Red LED** (visible through a hole in the cover):

The Red LED illuminates when a monitored door is open. The Red LED extinguishes when the offending door is closed. **The Red LED has a different function in the learn mode.** See paragraph 4B for details.

**Yellow LED** (visible only when the cover is removed):

The Yellow LED is off during normal operation. **The Yellow LED is functional only in the Learn Mode.** See paragraph 3 for details.

# Transmitter for the DMK315 Kit

## DoorMonitor Door & Window Transmitter

## DMT315 Installation Instructions

For use with the DMR315 Receiver

The DMT315 is a fully supervised, magnetic contact transmitter. It features a built in magnetic reed switch and an externally wired input for use with normally closed door or window switches. A DIP switch allows the installer to disable the magnetic reed switch if only the external input is needed. The reed switch and the external input behave as separate transmitters, even though they share the same RF module for transmission of signals. When a door or window is opened a digital message is transmitted to the receiver indicating the status of the door or window. When the door or window is closed the transmitter sends the message that the door or window has been closed. These data transmissions only take about one second each. When the cover is removed from the DMT315 it activates the tamper switch, therefore you must always secure the cover before resuming operation of the transmitter. You may test the transmitter with the cover removed. A low battery causes a fault signal to be transmitted.

### Specifications

- Frequency:** 315 Mhz
- Transmitter's ID Code:** 24 bit digital pulse width modulation
- Overall Message Length:** 36 bits
- Two Inputs:** One internal and one external, with a separate 24-bit transmitter ID code for each.
- External Input Circuit Type:** Normally Closed Switch.
- Operating Temperature:** 0 C to 49 C (32 F to 120 F).

- Dimensions:** 81 x 22 x 23.5 mm (3-1/4 x 7/8 x 1 in)
- Weight: DMT315 (excluding battery):** 34 g (1.2 oz)
- Magnet:** 13 g (0.45 oz)
- Power Source:** 3 Volt Lithium battery.
- Battery Life Expectancy:** 3 years (for typical use)

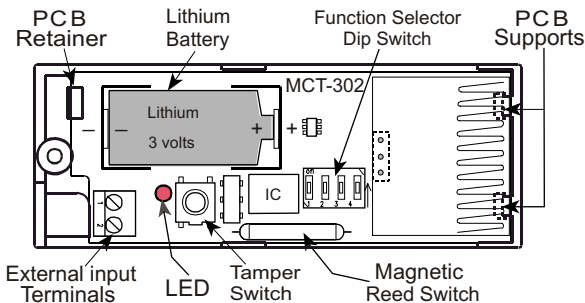


Figure 1: DMT315 with Cover Removed

Standards: Meets FCC Part 15, MPT1349 and Directive 1999/5/EC

This device complies with Part 15 of the FCC Rules and RSS-210 of Industry and Science Canada. 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. GSAMCT3023V

### Mounting

It is highly recommended to attach the transmitter to the fixed frame and the magnet to the movable part (door or window), as shown in Figure 2. Make sure that the magnet is located not more than 6 mm (0.25 in.) from the transmitter's marked side.

- A. Remove the case enclosure screw (Figure 3).
- B. Remove the unit's cover as shown in Figure 4.
- C. Flex out the circuit board retainer (Figures 1 and 5) and detach the circuit board from the base.
- D. Hold the base against the mounting surface and mark the drilling points through the mounting holes (Figure 5).
- E. Drill the holes and fix the base to the wall using the 2 screws with countersunk heads supplied in the package.

**CAUTION!** Screws of another type or size may short circuit the bottom side of the printed circuit board. **WARNING!**

- F. Mount the magnet near the marked side of the DMT315.
- G. Insert the edge of the P.C. board with the RF module into the edge supports, and press the other edge against the flexible retainer until it snaps into place with a click.

### External Input Wiring

**Remember!** If your application does not require the auxiliary input Make sure DIP switch Sw2 is OFF and the input terminals are Shorted together with a jumper wire. **ATTENTION!**

The DMT315 is normally shipped with Sw2 off (see figure 6) and a jumper installed. You should always make sure that this is done. If you are using the external input then connect a normally closed switch across the input terminals so that an open door will break the connection. A common magnetic door switch may be used.

### The Function Switches

**A. DIP Switch Operation:** See Figure 1 for Location of DIP switch. You can configure the DMT315 to accommodate certain situations. Each switch lever allows you to select one of two options. The default settings are adequate for most installations. If you are not using the built in reed switch you must disable it by setting DIP switch number one to the OFF position.

#### B. Setting the Switches

Set the function switches as desired prior to applying power. Use a ballpoint pen or tooth pick or other tool to shift the switch Levers.

The ON position is indicated by the arrow on the switch body.

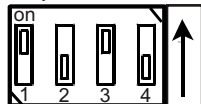


Figure 6. Function Selector Switch

This chart defines the function of each switch lever.

Sw-	Function	Pos	Selected Option	default
SW1	Reed switch input Enable / disable	ON	Reed switch input is enabled	ON
		OFF	Reed switch input is disabled	
SW2	External input Type selector	ON	External input is E.O.L.	OFF
		OFF	External input is N.C.	
SW3	Restore reports enable/disable	ON	Restore events reported	ON
		OFF	Restore events not reported	
SW4	Transmit mode selector	ON	Events reported every 3 min.	OFF
		OFF	Events reported only once	

- SWITCH SW1:** Determines if the reed switch is active or inactive.
- SWITCH SW2:** Determines whether the auxiliary input will behave as a 47k ohm end-of-line (EOL) input or as a normally closed (NC) input.
- SWITCH SW3:** Determines whether the transmitter will report a restore event when an input is returned to the normally closed state. **Note:** Selecting the ON position enables the receiver to know if the door or window being monitored is open or closed.
- SWITCH SW4:** Switch 4 must be in the OFF position!

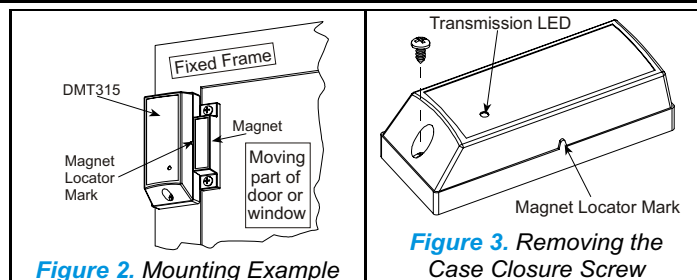


Figure 2. Mounting Example

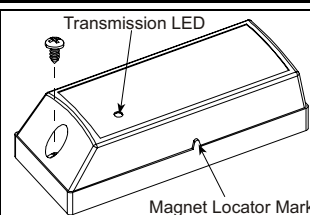


Figure 3. Removing the Case Closure Screw

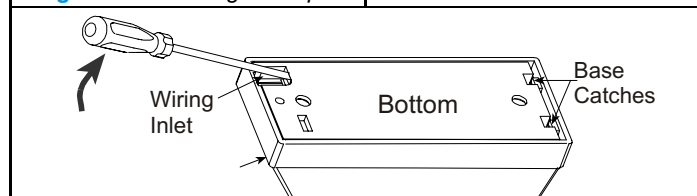


Figure 4. Separating the Cover from the Base

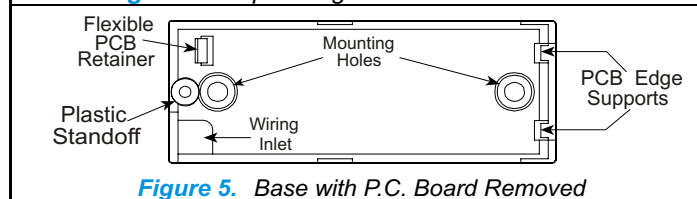


Figure 5. Base with P.C. Board Removed

### Testing the Unit

Before testing, make sure that the Transmitter has been enrolled (programed) into the receiver's memory. Refer to page 3, section 4. Let the receiver learn the ID codes for each transmitter reed switch (if used) and external input (if used).

**ATTENTION!** Each input of the DMT315 has a different ID code. You must enroll only the inputs that you are using. If using the internal reed switch, activate the reed switch. If you are using the external input, activate that input. If you are using both, first activate the reed switch and then the external input (or vice versa) With the receiver in the LEARN mode, one single transmission from each input will enroll it into the receiver's memory. **NOTICE!**

- A. Insert the 3 volt battery between the battery clips, use correct polarity. **For proper operation, only Lithium Thionyl Chloride battery (Panasonic CR-2 or equivalent) should be used.**
- B. Momentarily open the door or window and verify that the transmitter LED lights, indicating that transmission is in progress.
- C. Close the door or window. If Sw-3 is set to ON a "restore" Transmission will take place and the LED will illuminate.
- D. If the external input is used, momentarily activate the switch connected to it and check for a response similar to that described in B above. Then restore the input loop to its closed state. The response should be as in C above.

DoorMonitor wireless systems are very reliable and are tested To high standards. However, due to low transmitter power (Required by the FCC), there are certain limitations to consider:

1. Receivers may be blocked by radio signals occurring on or near their operating frequency.
2. A receiver can only receive one transmitted signal at a time.
3. Wireless systems should be tested regularly for proper operation.

[info@coastalgreenair.com](mailto:info@coastalgreenair.com)