

## Installation Guide

This guide covers model numbers MC/MT/MCT-17 and MC/MT/MCT-17C

The model MC/MT/MCT-17C is equipped with EnOcean 315MHz radios and the MC/MT/MCT-17 models have the EnOcean 868MHz radio.

- ⇒ The MC-17 is a magnetic switch mounted to door or window frames and communicates with Echoflex controls indicating that the window or door is ajar. Depending on the controller and application, this may trigger a heating controller to de-activate heating loads or may activate an electrical load such as a light. In some door applications and when used with an occupancy sensor; the switch triggers a change in vacancy and the occupancy sensor detects state. Consult the controller's documentation for further information.
- ⇒ The MT-17 is a temperature sensor and has an optional set point adjustment knob. The MT-17 communicates the temperature in an interior space to the Echoflex thermostat or the base board controller. When more than one MT-17 is assigned to one of these controllers, the temperature values are averaged, consult the controller documentation for further information.
- ⇒ The MCT-17 is a magnetic switch and temperature sensor with optional set point adjustment.

This installation guide refers to all models as the Mx-17.

### Starting Out

NOTE: The Mx-17 is a solar powered device that absorbs solar energy and stores it for use during low light periods. Before assigning the Mx-17 device to a receiver/controller, the device must be exposed to a good light source for a minimum of 2 hours.

Please refer to the range planning guide which defines the parameters of laying out the switch and sensor devices that will transmit to the receiving controllers.

[http://www.echoflexsolutions.com/files/Reliablerangeplanning\\_0308.pdf](http://www.echoflexsolutions.com/files/Reliablerangeplanning_0308.pdf)

The MC-17 switch should be mounted with the switch housing on the door/window trim and the magnet on the door or window. Some applications will require the switch to be mounted on the door or window. It is preferable to install the switch closer to the hinged edge in these applications and always perform a thorough check to insure normal use will not damage the switch.

Some door/window trim is beveled causing the switch to be at a slight angle to the magnet; this is not a problem so long as the orienting of the magnet directions are followed.

On some commercial applications with deep trim, the switch may have to be located with the solar cell facing downwards. This method is not ideal, but is acceptable with some ambient light to charge the solar cells.



**Installation example on a deep trim door**

The MT-17 temperature sensor device should be located on a vertical surface approximately 6' from the floor and not in direct sun light to avoid thermal radiation.

### Mounting the Mx -17

Even with a brief exposure to light the Mx-17 will operate for several days however for best results, the sensor should be mounted in a location that has some exposure to light on a daily basis. The Mx-17 can be mounted on any surface; wall, desk, cubicle wall, etc.

The magnet provided with the window/door switch models should be mounted on the door or window. Refer to the magnet orientation section of the guide before installing. Remove the decorative cover revealing the two mounting holes and mount using screws (#6, not provided). Replace the cover.

The Mx-17 sensor can be mounted using screws (not supplied) through the back plate, using double sided tape or Velcro™.

The first and simplest method is to mount the Mx-17 using double sided tape or Velcro™ (not supplied).

1. Attach the tape or Velcro to the back surface, about 4cm. (1.5in.) in length. Insure none of the tape will hang outside the switches edges once mounted
2. If you're using tape, remove the protective film to reveal the sticky surface. If you are using Velcro, remove the backing tape from the mating strip but do not separate the Velcro strips
3. Hold the sensor over the mounting location and gently press to adhere.

The alternative method is to secure the Mx-17 with screws and anchors (not supplied).

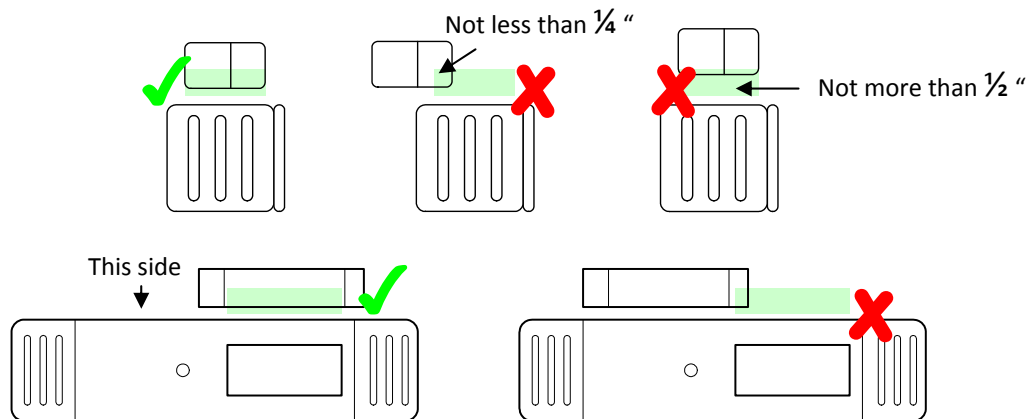
1. Using a fingernail or small flat head screwdriver, pop the rear mounting plate off the Mx-17.
2. Using a drill suited to the wall anchor size ( #6 screw ), bore the holes in the surface
3. Insert the wall anchors as per package recommendations, mount the back plate with the screws
4. Snap on the Mx-17 body to the mounting plate

**Orienting the magnet to the switch – MT and MCT models only**

The magnet placement is critical for the switch to operate properly.

The switch has a label on the side face indicating which side the magnet should be mounted adjacent to plus the ideal location of the magnet.

The gap between the switch housing and magnet should not exceed 1/2", nor should it be so close as to cause damage during the opening and closing of the door, leave a minimum 1/8" gap. The ideal planar orientation of the magnet to the switch should include the entire magnet profile; for reliable operation do not mount with less then 1/4" profile.



**Learning a Mx-17 to an Echoflex controller**

This process requires the controller to be mounted and powered and within range of the switch or sensor to be learnt.

The controller has 4 labeled holes on the face plate.

LEARN button – The LEARN button can be used to learn a switch or sensor to the ERDRC controller

CLEAR button - The CLEAR button erases all switches and sensors learned to the ERDRC controller

LEARN and POWER LEDs – Diagnostic led’s

1. Insert a small flat-head screwdriver or pen into the LEARN hole on the controller depressing the button for a half second. In LEARN mode the Learn led will stay ON and the Power led will toggle every 2 seconds.
2. Insert a small flat-head screwdriver or pen into the TEACH hole of the Mx-17. The power led on the controller will remain lit for 4 seconds while it LEARNS the new device. It will resume toggling allowing you to TEACH another device up to a total of 30 devices. Activating LEARN mode from a switch or sensor that is already learned to a controller, will remove or un-learn it from the controller.
3. To exit LEARN mode, depress the LEARN button on the controller again for a half second. LEARN mode will time out after no activity in 30 seconds.



**Clearing a controller of all sensors or switches**

Insert a small flat-head screwdriver or pen into the CLEAR hole depressing the button for 5 seconds. The Learn led will flash ON for 1 second and then OFF to complete the step

**Troubleshooting Guide**

Problem	Solution
The controller does not respond to the switch/sensor	<ol style="list-style-type: none"> <li>1. Clear the controller and then follow the process of learning the sensor to the controller</li> <li>2. Insure the solar cells have had time to charge</li> <li>3. Insure the magnet is oriented to the switch properly</li> <li>4. Check for metal obstacles between the controller and sensor; beware of signal deflection down a long section of wall. Total range should be about 30m. For more information, download the range planning guide at <a href="http://www.echoflexsolutions.com/files/Reliablerangeplanning_0308.pdf">http://www.echoflexsolutions.com/files/Reliablerangeplanning_0308.pdf</a></li> </ol>

FCC and IC Licensing

For 315MHz radio equipped - Contains FCC ID: XMG-STM112C

For 868MHz radio equipped - Contains FCC ID: SZV-STM110

The enclosed device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(I.) this device may not cause harmful interference and

(ii.) this device must accept any interference received, including interference that may cause undesired operation.

For 315MHz radio equipped - Contains IC: 7256A-STM112C

For 868MHz radio equipped - Contains IC: 5713A-STM110