REV	DESCRIPTION	INT:	REV. DATE	APPROVED
1	ECO# CO1791	MJS	7/2/2007	CG
2	ECO# C02285	MJS		

TITLE BOX PAGE ONLY.
DO NOT MAKE FILM • DO NOT PRINT

MATERIAL: White 16lb (60g/m sq)
Uncoated, recycled stock preferred
Flat Sheet Size: **17" (Wide) x 11" (High)**
Ink: Black
Print: Two Sides
Pages: 4
Sheets: 1
Fold: to 8.5" x 11" booklet

IF YOU HAVE ANY QUESTIONS REGARDING SPECIFICATIONS OR REQUIRE ADDITIONAL FILE FORMATTING, PLEASE CONTACT Mary Jo Sowinski.

Phone: 408-486-7511

Email: marjo.sowinski@wattstopper.com

All information in this drawing is the property of Watt Stopper/Legrand and cannot be copied or used without the written approval of Watt Stopper/Legrand.

DRAWN BY	SOWINSKI
PLM	
MARCOM	
ENGINEERING	
QA	
TITLE BOX PG	SCALE 1:1

Watt Stopper | legrand®
SANTA CLARA, CALIFORNIA

Title: MKFOB v2 Installation Instructions

Drawing #:	**Orig. Drawing Date:** 22 JUN 07	**REV. #:**
07071	**Revision Date: 31 JAN 08**	2

TITLE BOX PAGE ONLY.
DO NOT MAKE FILM • DO NOT PRINT

MKFOB v2

Key Fob Remote Control

Installation Instructions

SPECIFICATIONS

Power Supply.....Lithium 3V coin cell CR2450
Operating Temperature..... 32° to 104°F (0° to 40° C)
Output..... TopDog RF commands

DESCRIPTION

The Miro Key Fob (MKFOB) is a battery powered, Top Dog™ enabled remote device, which allows the user to recall and record scenes in a Miro wireless network. The key fob can be placed on a key-chain or in the included visor clip and attached to a car visor or similar surface.

The unit has three operating modes. The operating mode determines which scenes the MKFOB will execute. It is equipped with three buttons so it can execute up to three scenes that are recorded using the key fob itself or a Miro wireless room or house scene controller.

The open field operating range between the key fob and other Miro wireless devices is 100 feet. The actual range will vary according to the type of construction being used and whether there are objects between the user and the devices on which the scenes will execute. Since the key fob uses radio transmission (as opposed to infrared), line-of-sight is not required.

A typical key fob application is to control house level scenes using operating Mode-1. For example:

- Button **1** turns on a pathway of light in the house
- Button **2** turns off all except for selected night-lights
- Button **3** turns off all lights

Another common application is to control house level scenes including a "panic" scene using Mode-2. For example:

- Button **1** turns on a pathway of lights in the house
- Button **2** turns off all lights in the house
- Button **3** evokes the panic feature (lights on dimmers flash and those on switches come on to full bright)

A less common, but possible application is to control room level and house level scenes using Mode-3. For example:

- Button **1** recalls the lights in a particular room, such as the great room
- Button **2** turns off all, or selected lights in the room
- Button **3** turns off all, or selected house lights

These three applications are typical, however the user can record scenes in any number of ways. For example, Mode-1 could be used to have three different arrival scenes (lights on) or leaving/night scenes (lights off). Just remember that each button can only recall one specific scene as described in the Operating Mode sections on the next page. For example, house scenes 1, 5, and 11 are the only scenes that can be recalled in Mode-1.

MKFOB **Visor Clip**

Top Dog™ Wireless Communication

Wireless devices use radio signals to communicate with each other to control lighting and other types of electric loads in selected areas. These wireless devices use the 900MHz band for high-speed control communication. Using "frequency-agile" Top Dog™ technology, these wireless devices avoid interference with other 900MHz devices, such as cordless phones and baby monitors.

APPLICATION ASSISTANCE

The MKFOB functions as part of a network that contains Top Dog enabled wireless devices that may include Miro architectural or decorator-style in-wall devices as well as portable remote controls and other accessories. Prior to using the key fob the other devices should be installed and programmed.

A MKFOB may be added to a Miro or Miro decorator wireless installation at any time and there is not any limit to the number that can be used.

Normally, at least one room or house scene controller is installed in a Miro system. To operate the key fob in a Miro system without a scene controller, contact technical support or look for the Application Note on our website.

Instructions for other Miro devices, including binding operations and use are included with the devices. Application support information and installation guides are available on our website.

* Throughout this instruction, we use "yellow" to represent the yellow/amber color of the LED, which is a combination of green and red.

KEY FOB SET-UP INSTRUCTIONS:

Prior to setting up the key fob:

- Install your Top Dog enabled wireless devices (dimmers, switches, plug-in modules, scene controllers, etc.).
- Configure your Top Dog enabled wireless system (including scene setting if you have scene controllers in the system) following the directions provided with each device.
- We recommended that you also read the Miro Installation Manual, which is available online.

Now you can set up the key fob to work within the wireless system by simply setting the House ID and Setting the Operating Mode. If your system does NOT include a scene controller, see the Application Note titled "Easy Setup Without a House Scene Controller," which is available online.

Set House ID

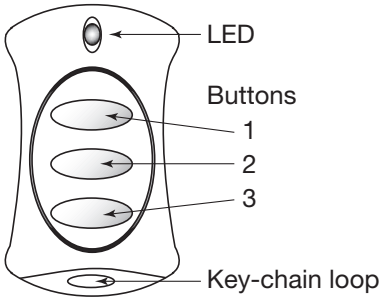
All Top Dog enabled wireless devices installed in the same home must acquire the same unique House ID before use. This process is called house binding. Each device is bound to all other Top Dog enabled wireless devices in the house. The following sequence assumes that the other devices in the house have already received the House ID.

1. Momentarily press any button on the MKFOB. The LED should be solid yellow/amber (a combination of green and red) and should remain lit for about one minute. This indicates that it has not yet acquired a House ID; proceed to step 2. If the LED is a color other than yellow* see Troubleshooting.
2. Go to any device already bound to the house (identified by a solid green LED) and initiate binding by pressing the binding activation keys until its LED flashes yellow (about 2 seconds). Binding is typically initiated by simultaneously pressing and holding the top and bottom of a paddle-operated device.
3. If the LED on the MKFOB is still lit when you complete the previous step, it turns green when it receives the House ID, then it begins flashing green.

   If the LED on the MKFOB is not lit, press and hold any button until the LED turns green indicating that it received the House ID.
4. Return to the same device used to initiate the binding and end the binding by pressing the binding activation keys until the device LED changes to solid green (about 2 seconds). All device LEDs should now be solid green.

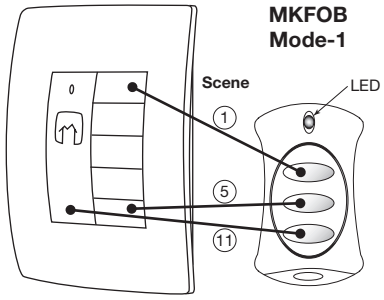
Set the MKFOB Operating Mode

Review the following sections that describe Operating Mode-1, Operating Mode-2 and Operating Mode-3. Choose the operating mode that you wish to use. Note that each operating mode recalls specific scenes. For example, Operating Mode-1 (default) recalls house scenes 1, 5, and 11 from buttons **1**, **2**, and **3**.



Operating Mode-1 (Default)

In Mode-1, the MKFOB is bound to the house. Mode-1 is used to recall and record House scenes 1, 5, and 11. Scene 11 is the scene that executes when you press the bottom of the ON/OFF paddle on a house level controller, which has a default operation of turning off all devices bound to the house.



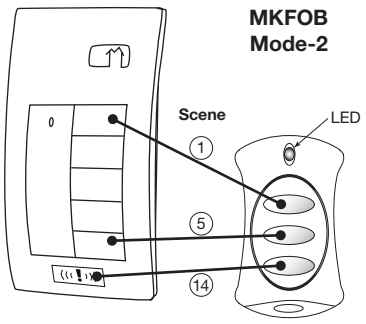
MODE-1 Button	Recall
1	House Scene 1
2	House Scene 5
3	House Scene 11 (bottom of house controller paddle)

Use the procedure below to set the MKFOB to Mode-1.

1. Start binding from the MKFOB: Simultaneously press and hold button **1** and **2** until the LED starts flashing yellow (approximately 2 seconds).
2. Press and hold MKFOB button **1** until the LED changes to green then starts flashing yellow again (approximately 2 seconds).
3. End the binding from the MKFOB: Simultaneously press and hold button **1** and **2** until the LED stops flashing yellow and turns green (approximately 2 seconds).

Operating Mode-2

In Mode-2 the MKFOB is bound to the house. Buttons **1** and **2** are the same as Mode-1 but button **3** is used to toggle PANIC mode (scene 14). In other words, a press of button **3** toggles the command that is issued by the device from Over-Ride to Scene 14 (Panic) to Revert Over-Ride in order to restore the home to the previous state.



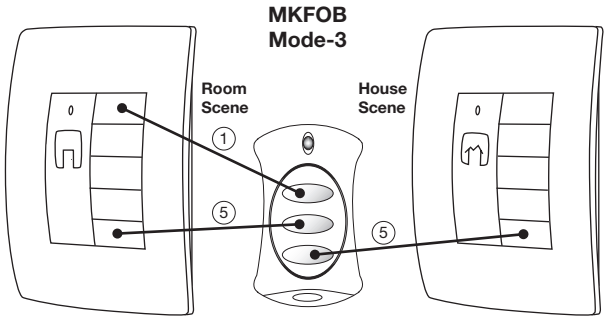
MODE-2 Button	Recall
1	House Scene 1
2	House Scene 5
3	Panic/Cancel Panic (Toggle house scene 14)

Use the procedure below to set the MKFOB to Mode-2.

1. Start binding from the MKFOB: Simultaneously press and hold button **1** and **2** until the LED starts flashing yellow (approximately 2 seconds).
2. Press and hold MKFOB button **2** until the LED changes to green then starts flashing yellow again (approximately 2 seconds).
3. End the binding from the MKFOB: Simultaneously press and hold button **1** and **2** until the LED stops flashing yellow and turns green (approximately 2 seconds).

Operating Mode-3

In Mode-3, the MKF0B is bound to an individual room to allow the device to record and recall both Room and House scenes. This is done so that multiple key fobs can be used in the wireless system to control different areas within the home to perform localized tasks.



MODE-3 Button	Recall
1	Room Scene 1
2	Room Scene 5
3	House Scene 5

First, set the MKF0B to Mode-3.

1. Start binding from the MKF0B: Simultaneously press and hold button **1** and **2** until the LED starts flashing yellow (approximately 2 seconds).
2. Press and hold MKF0B button **3** until the LED changes to green then starts flashing yellow again (approximately 2 seconds).
3. End the binding from the MKF0B: Simultaneously press and hold button **1** and **2** until the LED stops flashing yellow and turns green (approximately 2 seconds).

Next, bind the MKF0B to the desired Room.

1. Go to the room controller device and initiate binding by pressing the binding activation keys until its LED flashes yellow (about 2 seconds). Binding is typically initiated by simultaneously pressing and holding the top and bottom of a paddle-operated device.
2. Press and release any button on the MKF0B to wake it up and lock onto the binding operation.

   If its LED flashes yellow, it is already bound to the room. You can skip to step 3.

   If it flashes green, it is not yet bound to the room. Simultaneously press MKF0B buttons **1** and **2** until the LED turns yellow (about 2 seconds) indicating that the MKF0B is bound to the room.
3. Return to the same device used to initiate the binding and end the binding by pressing the binding activation keys until the device LED changes to solid green (about 2 seconds).

   When the MKF0B receives a close binding message (or no binding message is heard for 4.5 seconds) the MKF0B goes to sleep mode and the LED turns off.

OPERATION

When a MKF0B is added to a system its scene buttons execute the same scenes as other house or room level scene controllers to which it is bound. (Refer to the Operating Mode charts for specific scenes recalled depending upon mode selected). To revise a scene, record the scene from the room or house level device to which the MKF0B is bound.

Lock Key Fob

Locking the MKF0B prevents it from being inadvertently reset to factory defaults. Lock the key fob after scene configuration.

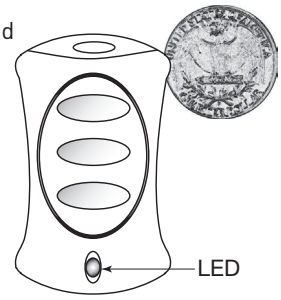
To Lock: Start a binding from the MKF0B (simultaneously press and hold button **1** and **2** until the LED starts flashing yellow). Press and hold buttons **1** and **3** until the LED blinks red. Press and hold button **1** and **2** to terminate the process.

To Unlock: Start a binding from the MKF0B (simultaneously press and hold button **1** and **2** until the LED starts flashing yellow). Press and hold buttons **2** and **3** until the LED blinks green. Press and hold button **1** and **2** to terminate the process.

To prevent inadvertent scene reprogramming due to accidental pressing of a MKF0B button, lock the house configuration from a house level scene controller.

Battery Usage

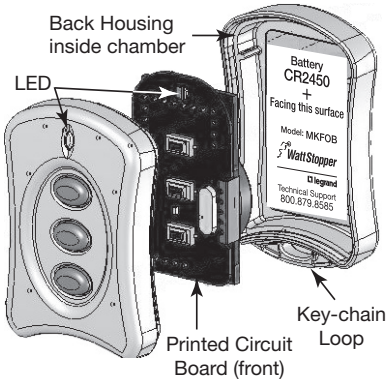
To ensure that the battery is not unnecessarily discharged, the MKF0B goes to sleep when it is not sending messages. When it wakes to send a message, it immediately goes back into the sleep mode once the message transmission has been confirmed and no other button activity is present.



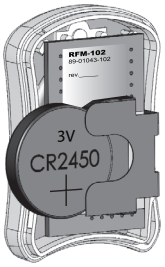
Installing a New Battery

To install the battery, you must open the MKF0B housing. While the unit is designed to withstand handling, there is a circuit board inside, so you should avoid opening the housing in areas prone to excessive static electricity. Touch a grounded surface to discharge excessive static electricity from your body before touching the printed circuit board.

1. Open the MKF0B housing by inserting the edge of a coin into the notch on the corner of the unit, near the key-chain loop. Twist the coin to pop open the housing.
2. Remove the back housing; on it is the product identification label with battery instructions. The circuit board and battery remains in the front housing.



3. Remove the old battery by pushing it out of the metal clip that holds it in place.
4. Install the new CR2450 3Volt battery with the positive (+) plane against the metal clip.
5. Reassemble the unit then snap the housing together. Test the buttons. Make sure you get the appropriate soft click when you press each button.



TESTING

After completing the MKFOB setup, you can test scene recall by pressing a button. You should hear a soft click when you press each button. Scene recall works best with an immediate release of the button. The LED should come on and be green then turn off a second or two after you release the button.

TROUBLESHOOTING

During Set House ID, the LED is not flashing on some Wireless devices.

- If an LED is solid green before initiating house ID binding:

  The device already has another house ID. Reset it to the factory default so that it can be bound to the desired house ID. Resetting to factory defaults is described in the "I need to start over" issue.

- If LED is solid yellow after initiating house ID binding:

  The device may be out of range of the initiating device. Move the MKFOB closer to the initiating device. It may be necessary to add a MRR2 Repeater if reception to a particular area of the house is blocked.

The LED does not light when I press a button.

The battery may be out of position or may need replacement. See Battery Usage/Installing a New Battery.

The MKFOB won't accept the House ID binding and it will not initiate a binding.

See "There is no click ..." below.

There is no click when I press a button.

The key membrane inside the MKFOB housing may be out of position. Contact technical support for assistance.

A device that is included in a scene does not respond appropriately when I invoke the scene from the MKFOB.

The non-responsive device may be out of range of the MKFOB. Move the MKFOB closer to the device and invoke the scene from the MKFOB. If the device responds appropriately from this distance, it may be necessary to install an MRR2 Repeater at a location that is within range of the location from which the MKFOB is typically operated.

I need to start over.

You can reset any wireless device to factory default settings by pressing and holding its binding activation buttons until its LED changes to solid yellow (approximately 10 seconds).

For the MKFOB, the binding activation buttons are 1 and 2. During the process, the LED flashes yellow and when the reset is complete, it changes to solid yellow. The yellow LED stays lit for approximately one minute as it waits to hear a binding message. The device can then be reconfigured, exactly like any new device. To set the House ID in the MKFOB, initiate a binding from any previously bound device in the house.

FCC Notice

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 to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by the manufacturer could void your authority to operate this equipment.

WARRANTY INFORMATION

Manufacturer warranties its products to be free of defects in materials and workmanship for a period of five (5) years. There are no obligations or liabilities on the part of manufacturer for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.

Legrand Customers contact:

legrand®

301 Fulling Mill Road Suite G
Middletown, PA 17057
Phone: 800.321-2343
www.legrand.us/onq

Vantage Customers contact:

VANTAGE

1061 South 800 East
Orem, UT 84097
Phone: 800.555.9891
www.vantagecontrols.com

Please Recycle

07071r2 1/2008