

Marvin Lock Status Sensor

Wiring Instructions

ABSTRACT: The following instructions are intended to instruct home automation professionals where various sensors are located in Marvin product. It will also show how to remove and replace window and door components to allow access to sensors and wiring where necessary.

Usage Dates: 12/18/2017 to present.

WARNING!

These products contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

WARNING!

Drilling, sawing sanding, or machining wood products generates wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

WARNING!

Always practice safety! Wear the appropriate eye, ear and hand protection, especially when working with power tools.

IMPORTANT

Marvin recommends that integration occurs within the transmitter pocket or within the frame of the window. Door integration is wireless only, integration should occur only in the factory prepared radio transmitter pocket.

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Table of Contents

General Specifications	3
Frequently Asked Questions	3
Compatibility	3
LSS Product Availability	4
Compatible Third Party Sensors	4
ULTIMATE CASEMENT	5
UCA-Accessing Transmitter Compartments and Wire Leads	5
Sensor Location-UCA	6
UCA-Operation	7
UCA-Mulled Units with Hardwired Integration.....	7
Ultimate Double Hung G2	9
UDHG2-Sensor Location	9
UDHG2-Operation	10
UDHG2-Accessing Transmitter Compartments and Wire Leads	11
UDHG2-Mulled Units with Hardwired Integration.....	11
Ultimate Glider	12
UGL-Sensor Location	12
UGL-Operation.....	12
UGL-Accessing Transmitter Covers and Wire Leads.....	13
UGL-Mulled Units for Hardwired Applications	14
Ultimate Sliding and Swinging Doors.....	15
Doors-Sensor Location	15
Patio Door Hardware	15
Doors Operation.....	16
Ultimate Doors-Accessing Transmitter Covers and Wire Leads	17
Modern Casement and Awning	18
MCA/MAWNMCA/MAWN Sensor Location.....	19
MCA/MAWN-Operation	20
MCA/MAWN-Mulled Units with Hardwired Integration	20
Modern Multi-Slide Doors (MMSD)	22
MMSD Sensor Location	22
MMSD Operation	22
Modern Inswing (MID) and Outswing (MOD) Doors	23
MID/MOD-Sensor Location	23
MID/MOD Operation	23
Modern Doors-Accessing Transmitter Covers and Wire Leads	24

General Specifications

Marvin Lock Status Sensors (LSS) provides a way to integrate the lock status of your windows and doors with a home automation or security system. The LSS is comprised of a sensor and/or magnet integrated into the window or door with little or no visibility to preserve the beauty of your Marvin Windows and Doors. The LSS indicates a "closed and locked" state of the window or door which an automation or security system can then use to inform a user.

*On Marvin windows, the LSS consists of a reed switch and a magnet embedded in the sash that are applied at the factory. When the magnet moves close to the reed switch, the contact in the reed switch closes. That contact closure provides the signal to an automation or security panel (not sold by Marvin). Any movement of the magnet away from the reed switch will open the contact and will be sensed as an open window by the automation or security panel. Marvin includes about 12" of lead wire which can be routed through the LSS pocket, out of the frame and home-run back to a panel. Or, if the automation/security company prefers they can utilize a battery powered transmitter that will fit into the LSS pocket and the reed switch can be wired into the aux input of that transmitter. On some products, the reed switch may be mounted to the locking hardware while other products may have the reed switch and magnet triggered by the movement of a sash. In all cases, the contact will indicate a state of "closed and locked." On some products, the locking aspect may be inferred by an auto locking feature of the hardware when the sash is closed.

On Marvin doors, the LSS may consist of a microswitch embedded into the thumb turn of the lock mechanism or by a reed switch and a magnet. On swinging product and sliding products with a thumb turn, the locking mechanism has a bar which runs through the micro switch, and when rotated to the unlocked position, the switch will open. There are no magnets on the LSS system used on these doors, only the microswitch embedded into the locking mechanism. The "closed and locked" state may be inferred by the mishandling button on the edge of the sash since it must be depressed before the thumb turn can be actuated. On sliding products without a thumb turn lock, a reed switch and magnet are tied to the movement of the locking hardware, and the "closed and locked" state may again be inferred by the mishandling button. Because the panel is moving and is not hardwired to the frame, a wireless transmitter with an aux input must be used to transmit the state of the LSS back to the automation or security panel. This transmitter can be housed into a routing on the panel.

Frequently Asked Questions

Additional questions not covered in this instruction regarding technical aspects and integration with different security systems can be found at our [Lock Status Sensor page](#).

Compatibility

There are size limitations for the transmitter and access to a terminal block within the transmitter is required:

- The LSS is compatible with a wide range of radio transmitters.
- Modifying any third-party transmitters may void the third-party manufacturer's warranty.
- Modifying the factory prepped transmitter compartment will void the Marvin Limited Warranty.

LSS Product Availability

The following Marvin products are applicable with the Marvin Lock Status Sensor. The letter in the last column corresponds to some sensors that are known to be compatible and are listed in the next chart below:

	Product		Max Transmitter Size	Compatibility Lookup
Modern	Windows	Casement, Awning (Crankout, Pushout, Awning)	3.8 x 1.1 x 1.6	A,B,C,D
	Doors	Multi-Slide Door (Pocket and Stacked)	3.6 x 2.1 x 1.3	
		Swinging	3.6 x 1.0 x 1.9	B
Ultimate	Windows	Glider	3.6 x 2.0 x 1.0	A,B,C,D
		Double Hung G2 (Full Frame and Insert)	3.5 x 1.7 x 1.1	
		Casement, Awning (Crankouts only - Full and Narrow Frame)	3.6 x 1.1 x 1.6	
	Doors	Multi-Slide Door (Pocket and Stacked)		
		Sliding and Sliding French G2		
		Bi-fold Door	5.7 x 1.1 x 1.6	
		Swinging Archtop (1.75" and 2.25" Panels)		
	Swinging (French, G2, 2.25")	3.6 x 1.1 x 1.9		
	Windows	Casement Round Top In-sash	LSS can be installed but a pocket for a wireless transmitter CANNOT be routed so the LSS must be hardwired. Contact Marvin for order assistance.	
		Single Hung Round Top G2		
Double Hung Round Top G2				

Compatible Third Party Sensors

The following 3rd party sensors are compatible with Marvin Lock Status Sensor. Compatible sensors are not limited to what is shown below. These models have been verified to fit in our routings and have the necessary Aux input to connect to the integrated sensor.

Any sensor that physically fits within the routing AND with an aux input to which the Marvin LSS can be wired will work. Marvin does not sell these sensors or the panel to which they communicate.

Brand	Model	Transmitter Size*	Compatibility Lookup
Tyco/DSC	PG9945	3.4 x 1.3 x 1.1	A
Honeywell Home/Resideo	5815	3.5 x 1.5 x 0.9	B
Honeywell Home/Resideo	5815WG		
Honeywell Home/Resideo	5816	3.1 x 1.6 x 1.1	C
Honeywell Home/Resideo	5817CBXT	3.5 x 1.6 x 1.1	D
Honeywell Home/Resideo	5817XT		

* Depth shown is without the mounting plate which is not needed when fitting into the Marvin LSS

ATTENTION

Modification of the sensor, sensor housing, sensor wiring and the radio transmitter compartment will void Marvin's Limited Warranty. There may be performance and safety concerns associated with modifying these components and we do not recommend modifying these components.

ULTIMATE CASEMENT

IMPORTANT

WIRELESS INTEGRATION USING A RADIO TRANSMITTER (provided by others): Do not finish or seal (caulking/painting) head jamb cover joints to facilitate future battery replacement.

UCA-Accessing Transmitter Compartments and Wire Leads

1. Unlock and open the sash.
2. Remove the head jamb part stop. Gently pry along the part until the stop is separated from the frame. See Figure 1.

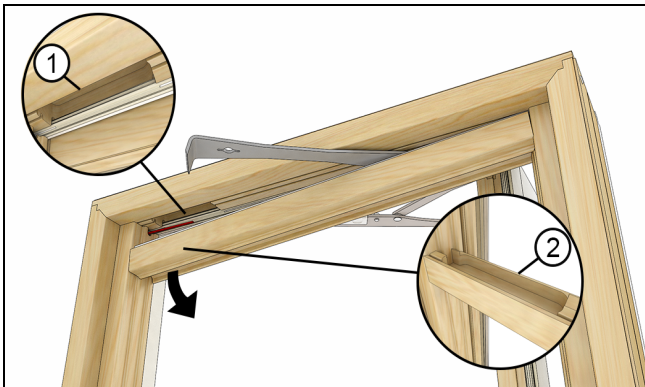


Figure 1

1	Transmitter pocket
2	Recess in part stop to accommodate transmitter.



Hint

The part stops can also be removed by hand. Grasp the stop and gently rock the part toward the interior while pulling firmly down to remove.

3. With the head jamb part stop removed you will have access to the routed transmitter pocket and the wire leads for either hardwired or wireless connections. See Figure 2.

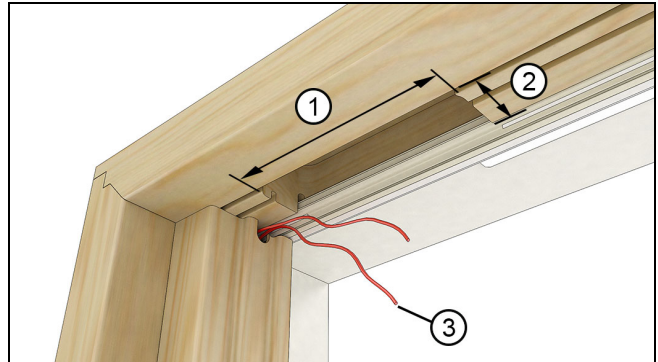


Figure 2

1	3.675" (about 3 5/8")
2	1.14" (about 1 1/8")
3	22 gauge lead wires

4. To replace the part stop, unlock and open the sash. Push the part stop up into the head jamb so the connecting barb seats into the groove completely.

IMPORTANT

When reinstalling head jamb stop, be sure not to pinch the wire leads. See Figure 3.



Figure 3 Make sure not to pinch wire leads between parts.

Sensor Location-UCA

1. One sensor is embedded in the frame, behind the locking jamb cover. It is attached to the top of the tie bar on the locking jamb. On Awnings, the sensor will always be located on the right jamb tie bar (as seen from the interior). See Figure 4.

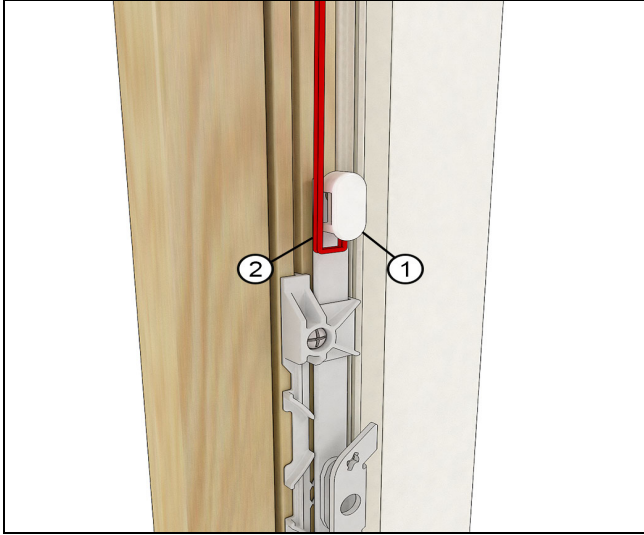


Figure 4 (wood stops removed for illustrative purposes)

1	Sensor (attached to top of tie bar)
2	Leads

2. The sensor is activated by a magnet located in the sash (top of the locking stile). See Figure 5.



Figure 5

1	Magnet
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UCA-Operation

1. Close the sash fully and engage the lock handle. The sensor will align with the magnet and signal a closed and locked status. [See Figure 6.](#)

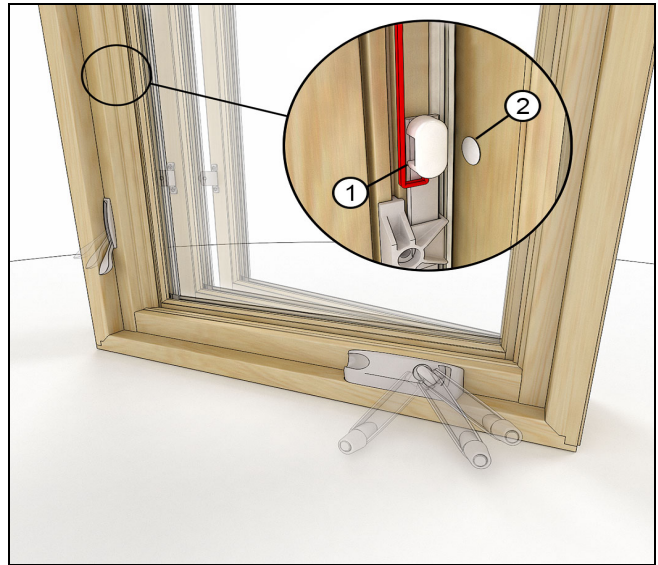


Figure 6

1	Sensor attached to locking rod (stops are cut away for illustration)
2	Magnet

UCA-Mulled Units with Hardwired Integration

IMPORTANT

Splicing Wires: Marvin recommends that splices occur within the factory routed transmitter pocket.

- 1. Vertical Mulls:** first unlock, open the sash and remove the jamb covers on the window that houses the sensor.
- 2. Fish wire** through the factory provided 1/4" hole located in the head jamb. [See Figure 7.](#)

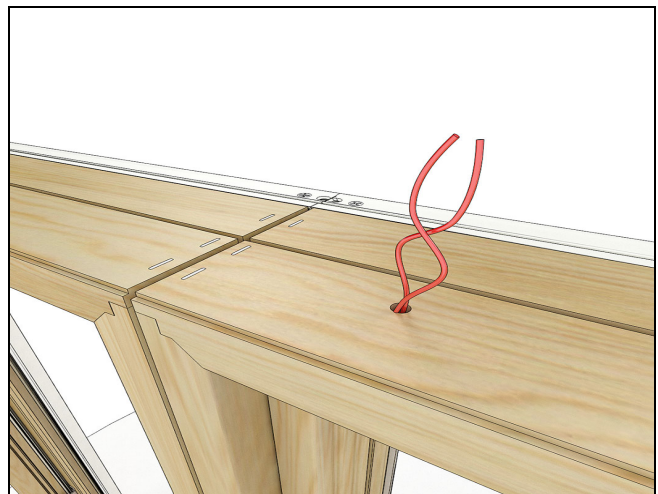


Figure 7

3. Optional through jamb setup: Operate the lock so the tie bar is fully extended. Then use a 1/4" drill bit to bore a hole through the top area of the jamb (above the extended tie bar) into the adjoining unit's jamb until you have access behind the covers. See Figure 8.

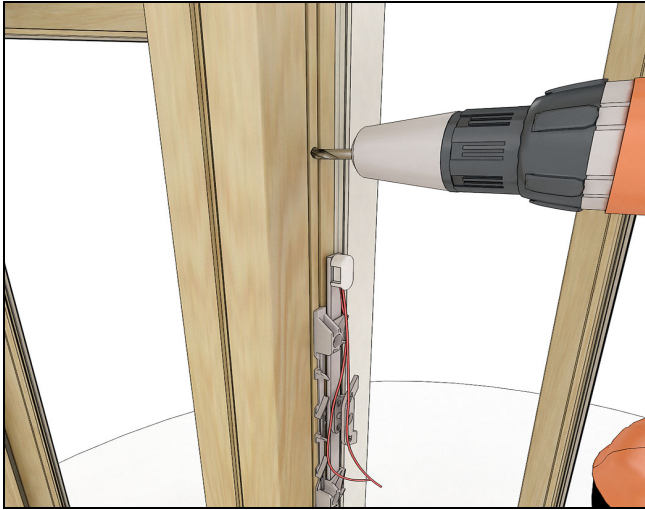


Figure 8

4. **Horizontal Mulls:** first unlock, open the sash and remove the jamb covers on the window that houses the sensor. Operate the lock so the tie bar is fully extended. Then use a 1/4" drill bit to bore a hole through the top area of the jamb (above the extended tie bar) into the R.O. See Figure 9.

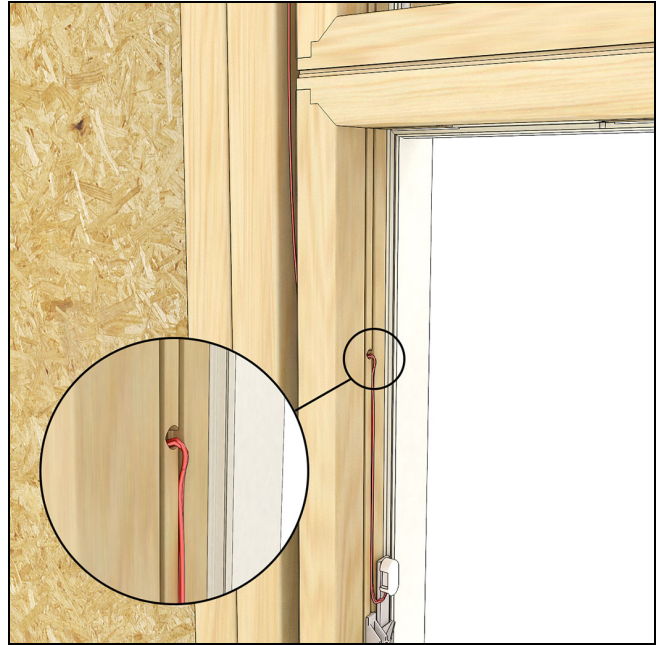


Figure 9

IMPORTANT

Make sure there is enough slack in the wire to accommodate the tie bar's full range of motion.

Ultimate Double Hung G2

UDHG2-Sensor Location

IMPORTANT

WIRELESS INTEGRATION USING A RADIO TRANSMITTER (provided by others): Do not finish or seal (caulking/painting) head jamb cover joints to facilitate future battery replacement.

1. Two sensors are embedded in the frame. One is in the jamb receiver, this indicates the bottom sash is closed. The other is hidden within the head jamb transmitter cover and indicates the top sash is closed. See Figure 10 and Figure 11.

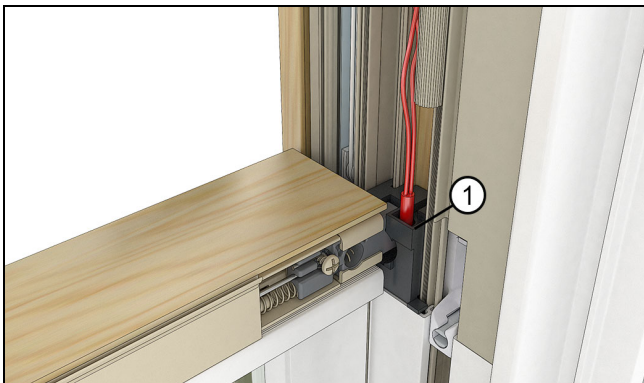


Figure 10

1	Jamb receiver (shown with cover removed)
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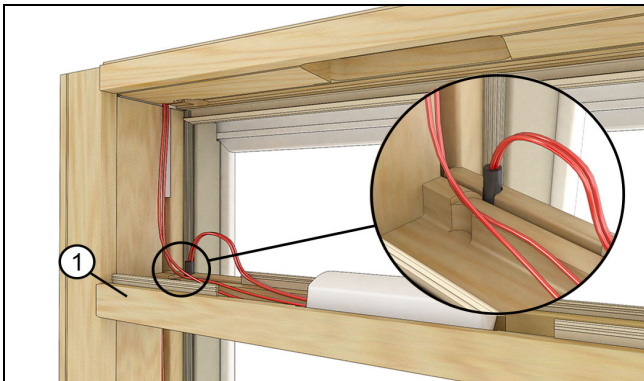


Figure 11

1	Head jamb transmitter cover (shown removed) (transmitter provided by others)
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2. The sensors are activated by magnets located in the latch bolt of the bottom sash and another in the top rail of the top sash. See Figure 12.

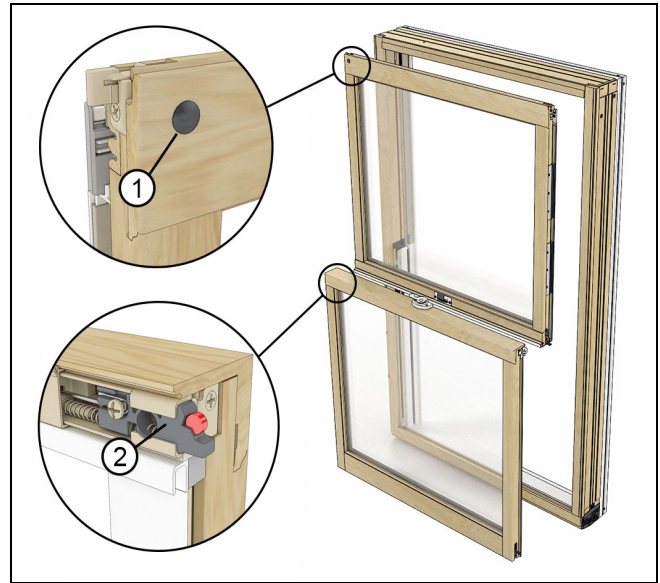


Figure 12

1	Magnet in top rail of top sash
2	Latch bolt of bottom sash (exterior view) with magnet hidden within end of bolt

UDHG2-Operation

1. Close both sash fully. This will activate the auto lock at the check rail. At this point, the magnets will align with the sensors and signal a closed and locked status for both top and bottom sash. See Figure 13.

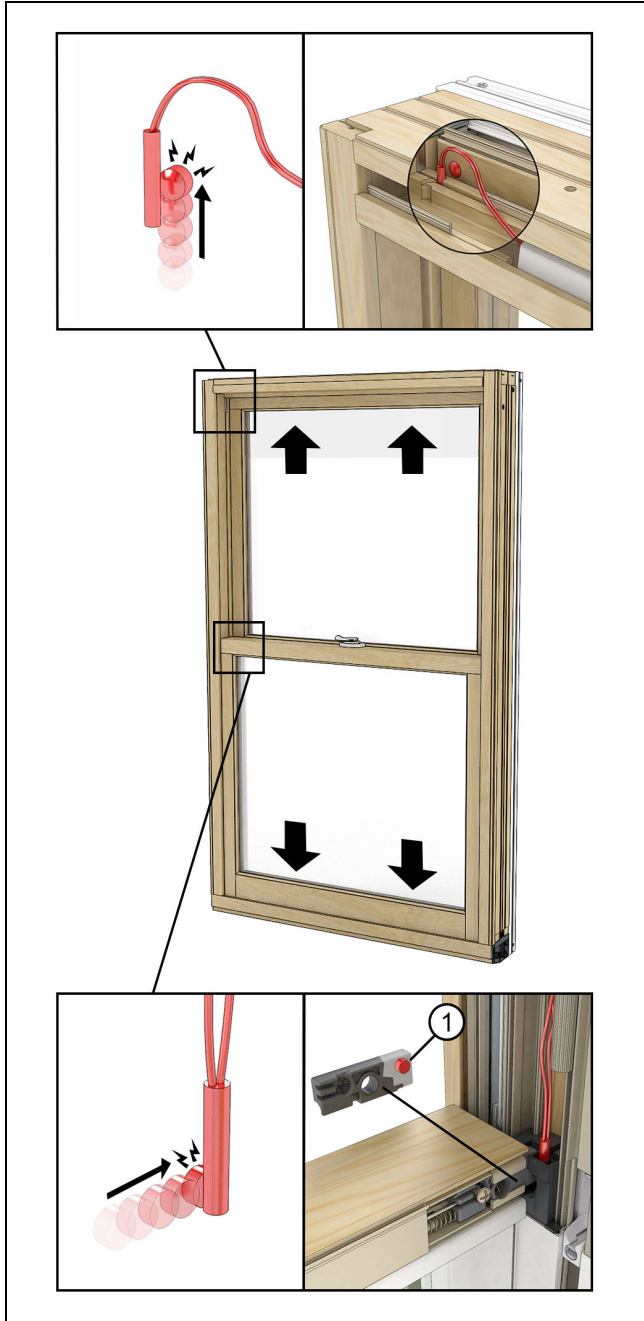


Figure 13

1	Magnet hidden in end of latch bolt
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UDHG2-Accessing Transmitter Compartments and Wire Leads

1. Unlock and open the top sash.
2. To access the transmitter compartment and wire leads, remove the head jamb transmitter cover. Starting at one end grasp and pull straight down. The wiring and top sash sensor are attached to the cover. See Figure 14.



Figure 14 Transmitter shown provided by others.

UDHG2-Mulled Units with Hardwired Integration

1. **Vertical Mulls:** Open and unlock the sash. See Figure 15.

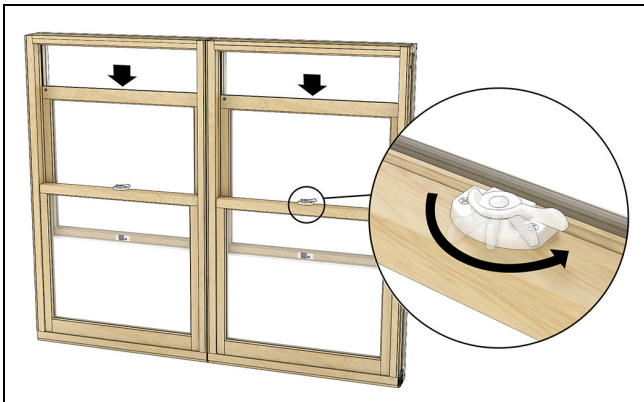


Figure 15

2. Fish wire through the factory provided 1/4" hole located in the transmitter pocket recess in the head jamb. See Figure 16.

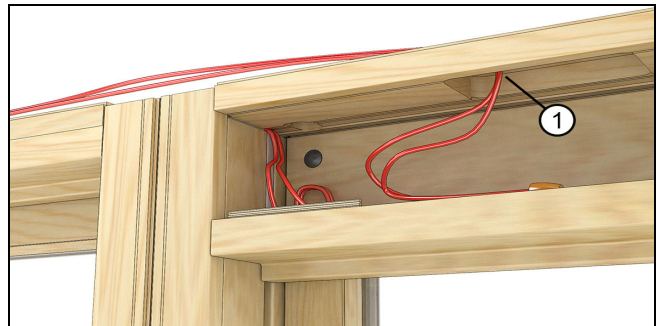


Figure 16

1	Fish wires through hole in head jamb recess
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3. **Horizontal Mulls:** Fish the wire through the 1/4" (6) hole in the head jamb. Route the wire along the mull to the rough opening. See Figure 17.

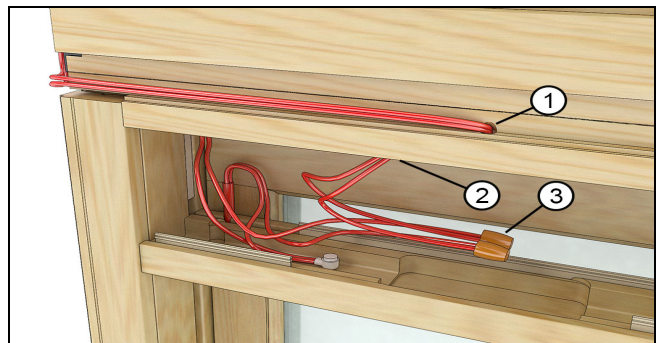


Figure 17

1	Angled hole in sill of transom
2	Hole in transmitter route (provides a path for hole in transom sill)
3	Splice inside transmitter pocket

Ultimate Glider

UGL-Sensor Location

1. The lock status sensor is embedded behind the top keeper hardware on the stationary sash. The magnet that activates the sensor is in the top latch bolt of the operator sash. See Figure 18.

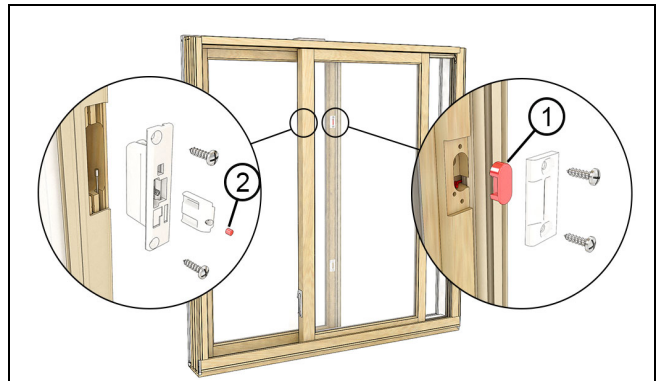


Figure 18

1	Sensor behind keeper on stationary sash
2	Magnet in top bolt of operator sash

UGL-Operation

1. Close the operator sash until the auto-lock activates. The magnet in the latch bolt will align with the lock status sensor once the bolt is locked. The sensor will indicate a closed and locked status. See Figure 19.

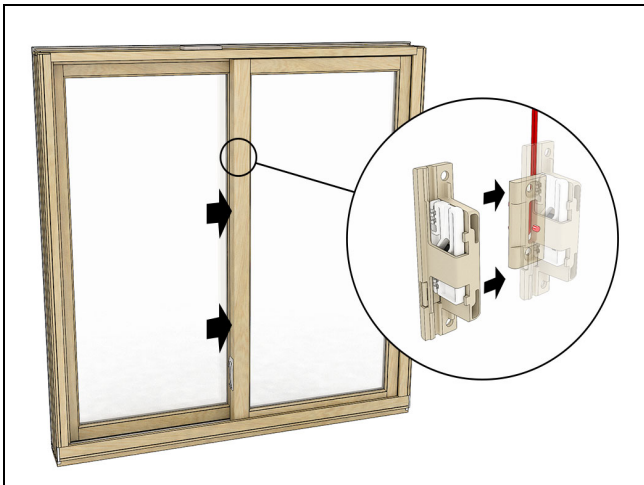


Figure 19

UGL-Accessing Transmitter Covers and Wire Leads

1. Open the interior sash to the fully open position. Depress the sash retainer bar latch and slide the retainer bar completely free of the sash. See Figure 20.



Figure 20

1	Sash retainer bar
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2. Grasp both sides of the sash, tilt the top inward and remove the sash from the frame. See Figure 21. Reverse the procedure to reinstall the sash.



Figure 21

3. Remove the head jamb part stop by inserting a flat head screwdriver in the notch at the end of the part stop. Pry down on the part taking care not to damage the wires routed in that location. See Figure 22.

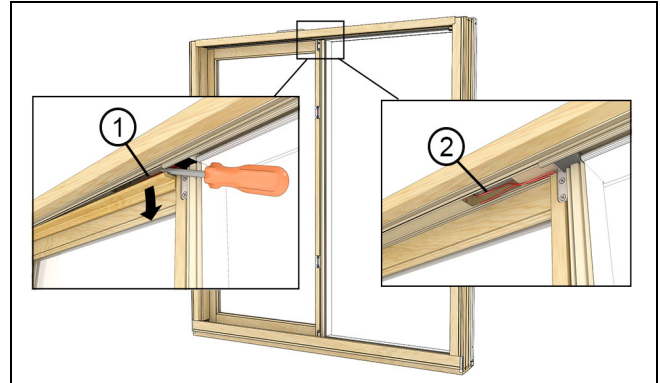


Figure 22

1	Head jamb part stop
2	Transmitter pocket with sensor wires

UGL-Mulled Units for Hardwired Applications

1. Vertical Mulls: Remove the knock-out tab from the plastic transmitter cover at the head jamb to route wires into the rough opening. See [Figure 23](#).

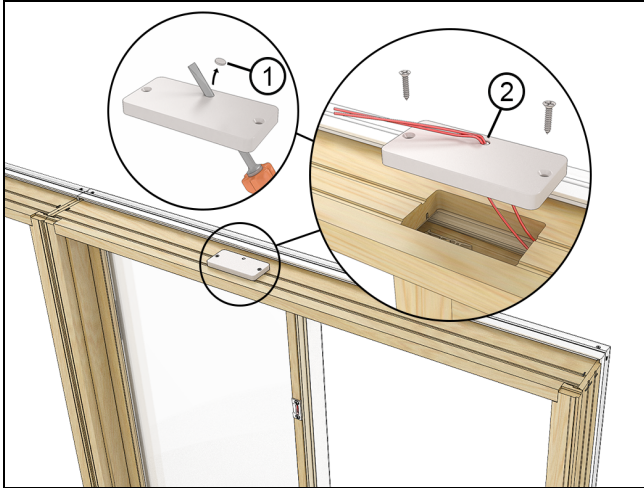


Figure 23 Transmitter cover shown removed for illustrative purposes.

1	Remove knock-out tab (from inside the pocket)
2	Fish the wires through the hole in transmitter cover

NOTE: The transmitter cover is not removable once the window is installed.

IMPORTANT

Horizontal Mulls: Only a wireless sensor installation is compatible for a horizontal mulled CUGL unit.

Ultimate Sliding and Swinging Doors

Doors-Sensor Location

1. There is one sensor in all the door platforms located under the exterior door handle escutcheon. See [Figure 24](#)

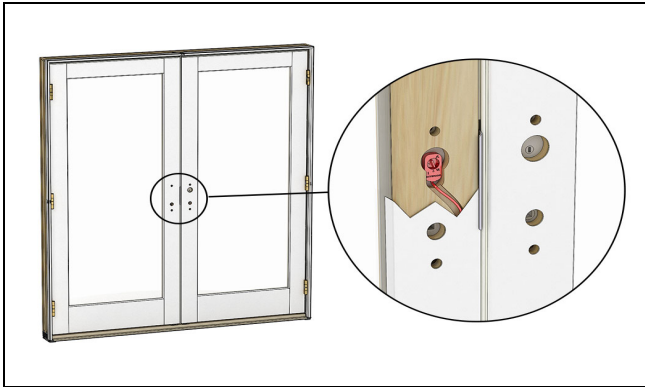


Figure 24 Swinging Door shown with cladding cut away

2. One exception is the Ultimate Multi-Slide door (MMSD). The sensor on this door is located under the interior door handle escutcheon behind the linkage bar. See [Figure 25](#).

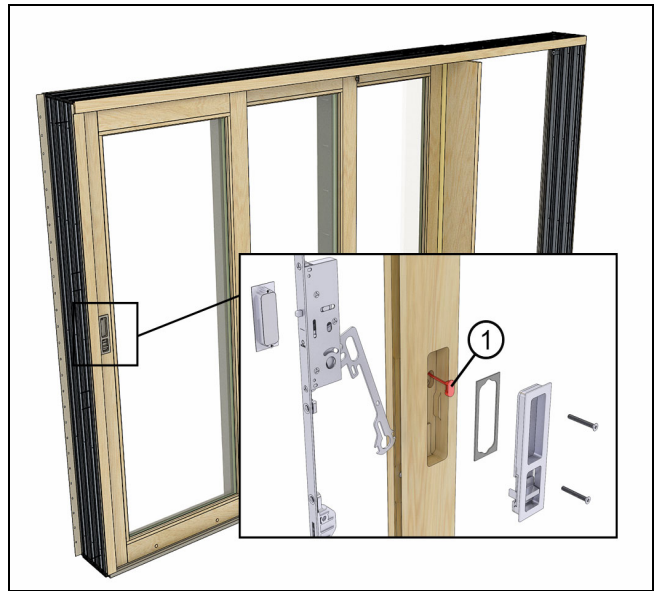


Figure 25

1	Sensor
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Patio Door Hardware

1. When attaching patio door hardware to the panels. Take note of the position of the micro-switch sensor located in the thumb turn area on the panel. The angle of the tail-piece(s) on the hardware and micro-switch should be tilted toward the glass. On keyed handles, remove the extended tail-piece and discard. See [Figure 26](#).

IMPORTANT

If the sensor does not activate when the door is locked, it may mean that the micro-switch is turned 180 degrees. Remove the handle, turn the micro-switch 180 degrees and retest.

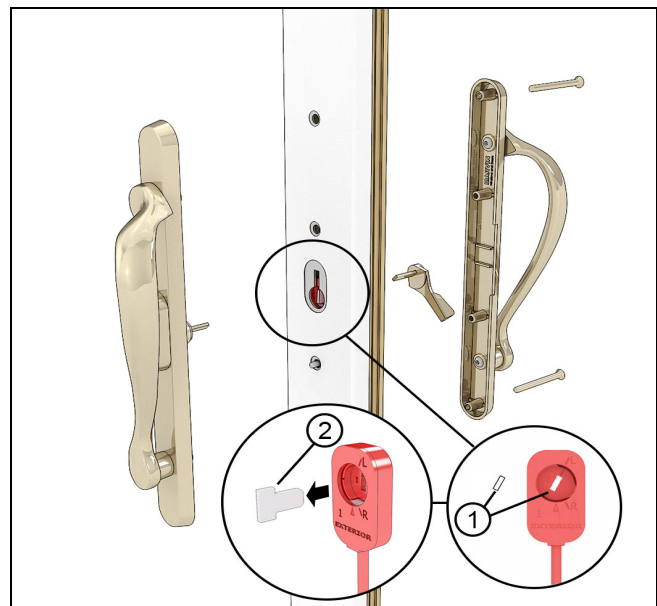


Figure 26

1	Angle of tail-piece and micro-switch should be tilted toward glass
2	Discard extended tail-piece

Doors Operation

IMPORTANT

Integration of the LSS for all door offerings is wireless only.

1. On Swinging Doors: close the door completely until the latch engages the strike. Turn the thumb turn to lock. Once locked, the locking sensor will activate and your door will be considered closed and locked. See [Figure 28](#).



Figure 27

2. On Sliding Doors: close the door completely until the latch engages the strike. Lock handle with lever or thumb-turn (depending on product). Once locked the locking sensor will activate and your door will be considered closed and locked. See [Figure 28](#).

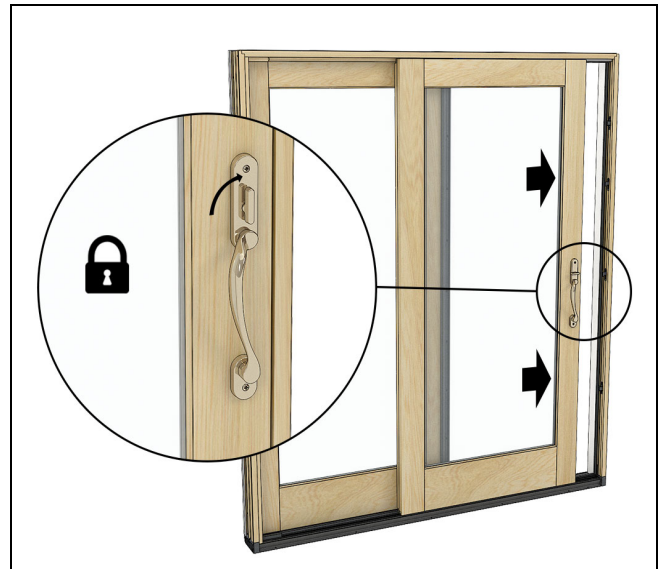


Figure 28 Sliding Patio Door shown.

3. On Multi-Panel Sliding Doors (MPS): close the door completely until the latch engages the strike. Slide the lock handle up to engage the multi-point lock. Once locked the sensor will align with the magnet and signal a closed and locked status. See [Figure 29](#).

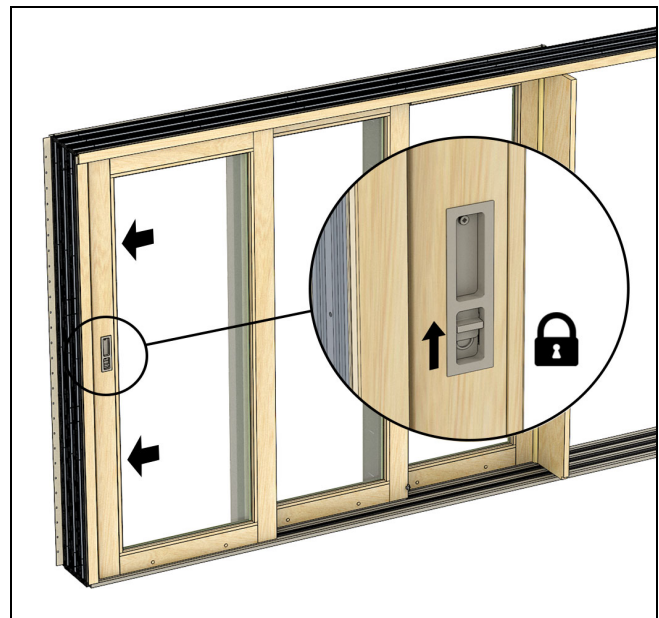


Figure 29

Ultimate Doors-Accessing Transmitter Covers and Wire Leads

1. Unlock and open the door.
2. On the edge of the active panel, remove the transmitter cover plate by removing the screws fastening the plate to the side of the panel. Use the provided hook and loop strip affixed to the inside of the route to position your transmitter (remove backing and adhere to your transmitter). See Figure 30.

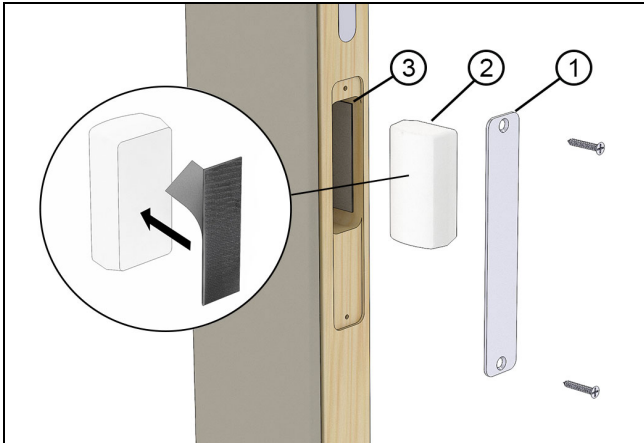


Figure 30 Door stiles

1	Transmitter cover plate
2	Transmitter (provided by others)
3	Hook and loop affixed inside transmitter pocket



Hint

On swinging doors, center your transmitter (provided by others) vertically in the recess, making sure the transmitter does not interfere with the motion of the lock rod when operated. See Figure 31.

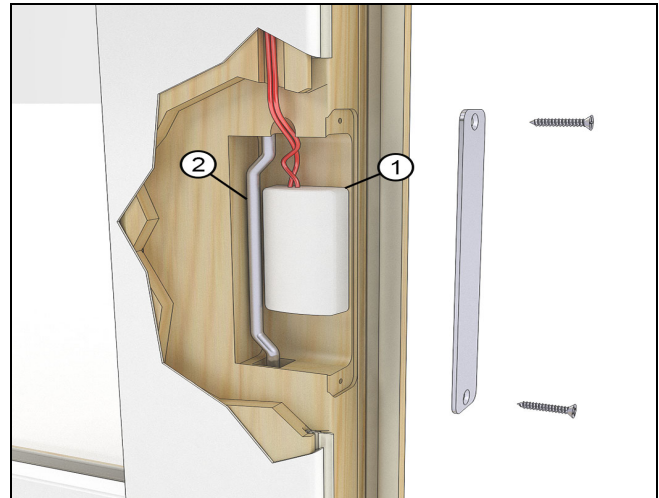


Figure 31 Swinging door stile (cut away)

1	Transmitter centered in pocket (provided by others)
2	Lock rod

3. On all doors with keyed cylinders. Remove the t-shaped adapter from the micro-switch located on the exterior side of the panel. Use a needle nose pliers and discard. See Figure 32.

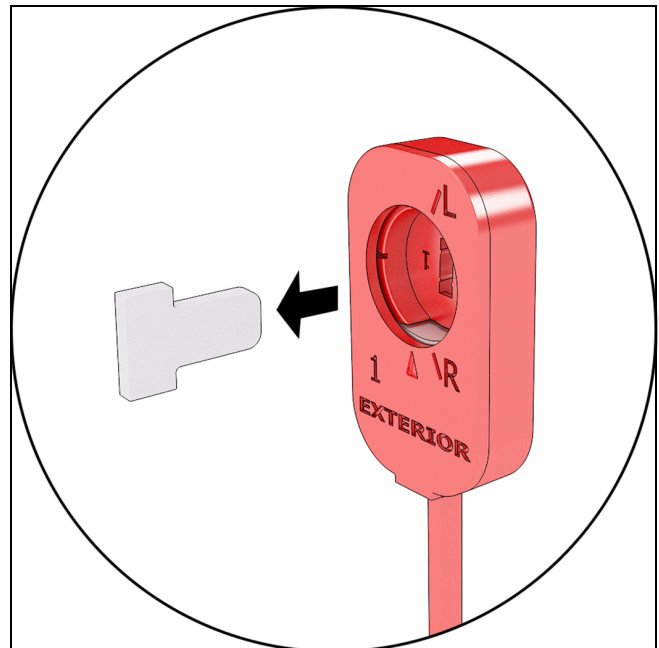


Figure 32

NOTE: On some non-keyed cylinders, the tail-piece will be long enough to push the t-shaped adapter from the micro-switch area.

Modern Casement and Awning

IMPORTANT

WIRELESS INTEGRATION USING A RADIO TRANSMITTER (provided by others): Do not finish or seal (caulking/painting) head jamb cover joints to facilitate future battery replacement.

MCA/MAWN-Accessing Transmitter Compartments and Wire Leads

1. Unlock and open the sash.
2. Remove the head jamb cover. See Figure 33.



Figure 33

1	Head jamb cover
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3. With the head jamb cover removed you will have access to the wire leads, and either the routed transmitter pocket for wireless connections or the head jamb notches for hardwired connections. See Figure 34.

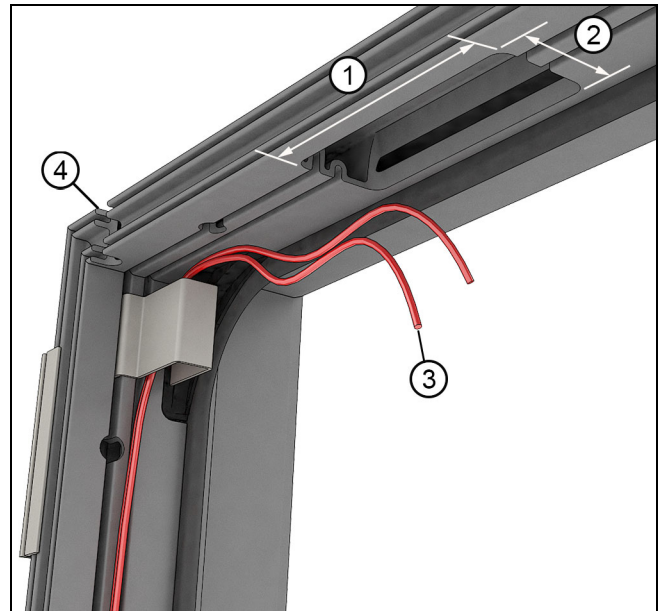


Figure 34 Head jamb transmitter pocket (jamb stop removed for illustrative purposes).

1	3.675" (about 3 5/8")
2	1.14" (about 1 1/8")
3	22 gauge lead wires
4	Notch in head jamb for hardwired connection

4. Replace the cover.

IMPORTANT

When reinstalling head jamb cover, be sure not to pinch the wire leads. See Figure 35.



Figure 35 Make sure not to pinch wire leads between parts.

MCA/MAWNMCA/MAWN Sensor Location

1. One sensor is embedded in the frame, behind the locking jamb cover. It is attached to the top of the tie bar on the locking jamb. On Awning, the sensor will always be located on the right jamb tie bar (as seen from the interior). See Figure 36.

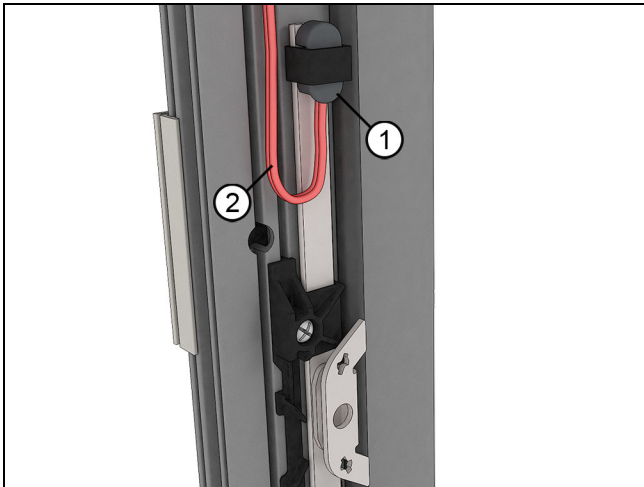


Figure 36

1	Sensor (attached to top of tie bar)
2	Leads

2. The sensor is activated by a magnet located in the sash (top of the locking stile). See Figure 37.

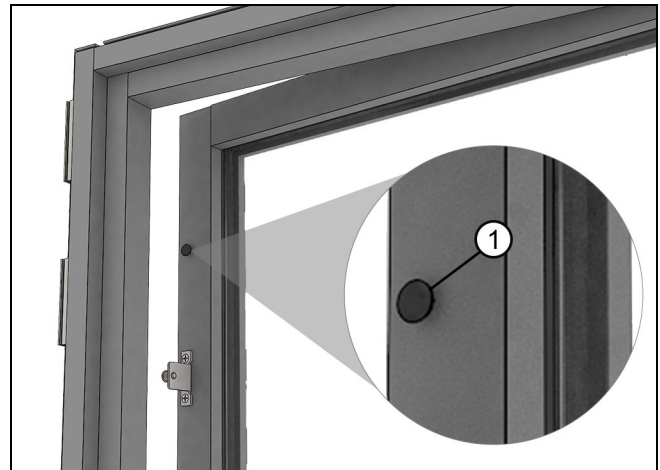


Figure 37

1	Sash magnet
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MCA/MAWN-Operation

1. Close the sash fully and engage the lock handle. The sensor will align with the magnet and signal a closed and locked status. See Figure 38.

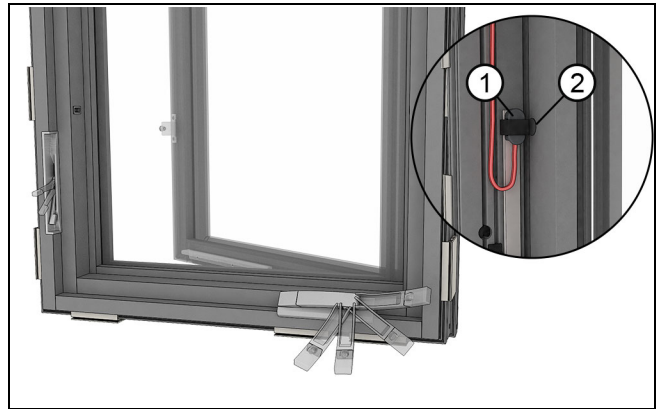


Figure 38

1	Sensor attached to tie bar (stops are cut away for illustration)
2	Magnet

MCA/MAWN-Mulled Units with Hardwired Integration

IMPORTANT

Splicing Wires: Marvin recommends that splices occur within the factory routed transmitter pocket.

- 1. Vertical Mulls:** first unlock the window that houses the sensor.
- Fish wire through the factory provided notch located in the head jamb. See Figure 39.

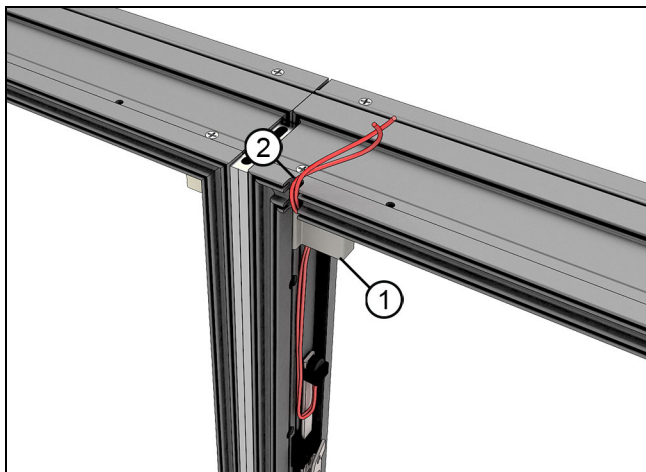


Figure 39 Vertical Standard Mull

1	Interior cover support
2	Notch (factory fabricated)

- 3. Horizontal Mulls:** first unlock the window that houses the sensor. See Figure 40. Fish the wire through the notch in the head jamb. Run the wire down the length of the mull pin being sure not to pinch the wire with the mull cover.



Hint

Tape the wire along the length of the mull pin to avoid interference with the mull cover.

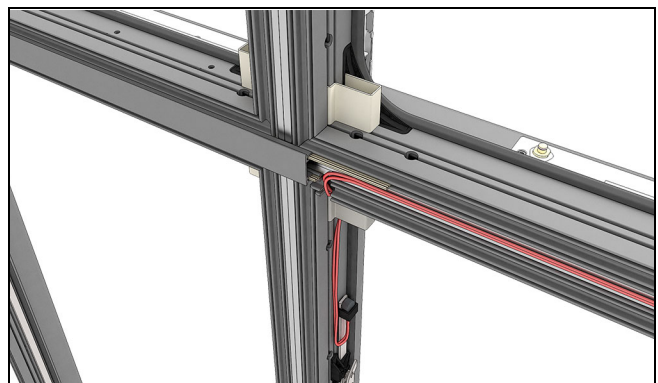


Figure 40 Horizontal Standard Mull

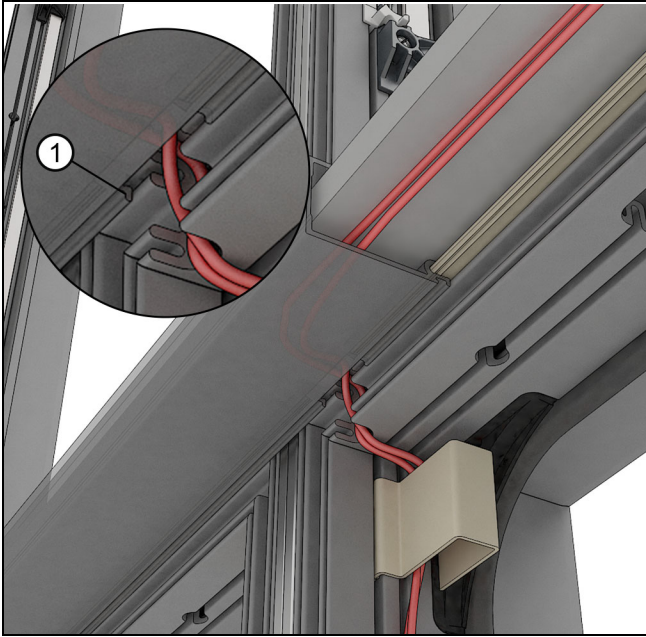


Figure 41 Horizontal 4" Flat Steel Mull

1	Notch in mull cover
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IMPORTANT

Make sure there is enough slack in the wire to accommodate the tie bar's full range of motion.

Modern Multi-Slide Doors (MMSD)

MMSD Sensor Location

1. The sensor on the door is located under the interior behind the cladding. See [Figure 42](#).

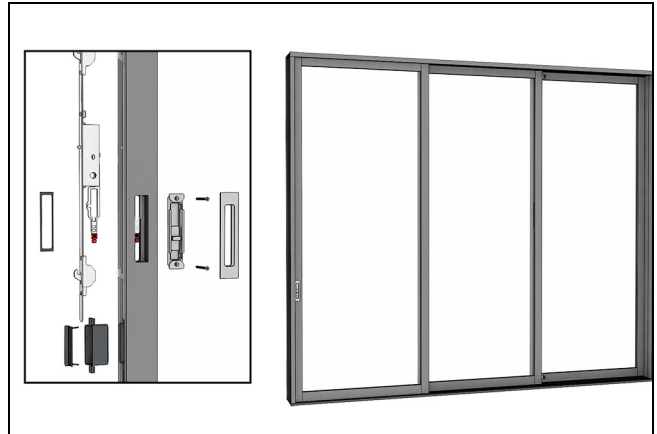


Figure 42

MMSD Operation

IMPORTANT

Integration of the LSS for all door offerings is wireless only.

1. Close the door completely until the latch engages the strike. Slide the lock handle up to engage the multi-point lock. Once locked the sensor will align with the magnet and signal a closed and locked status. See [Figure 43](#).

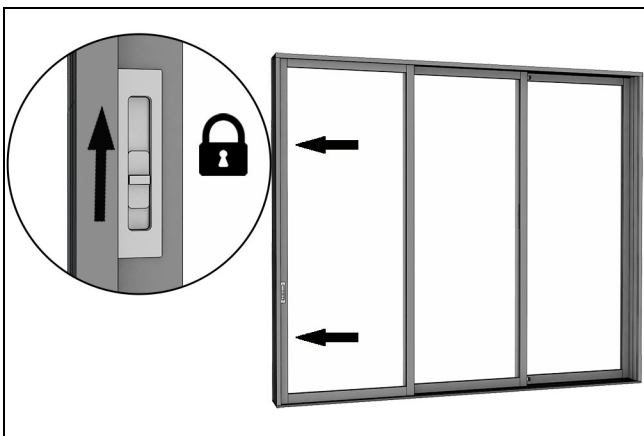


Figure 43

Modern Inswing (MID) and Outswing (MOD) Doors

MID/MOD-Sensor Location

1. There is one sensor in both Inswing and Outswing door platforms located under the exterior door handle escutcheon. [See Figure 44](#)



Figure 44 Swinging Door shown with cladding cut away

MID/MOD Operation

IMPORTANT

Integration of the LSS for all door offerings is wireless only.

1. **On Swinging Doors:** close the door completely until the latch engages the strike. Turn the thumb turn to lock. Once locked, the locking sensor will activate and signal a closed and locked status. [See Figure 45](#).

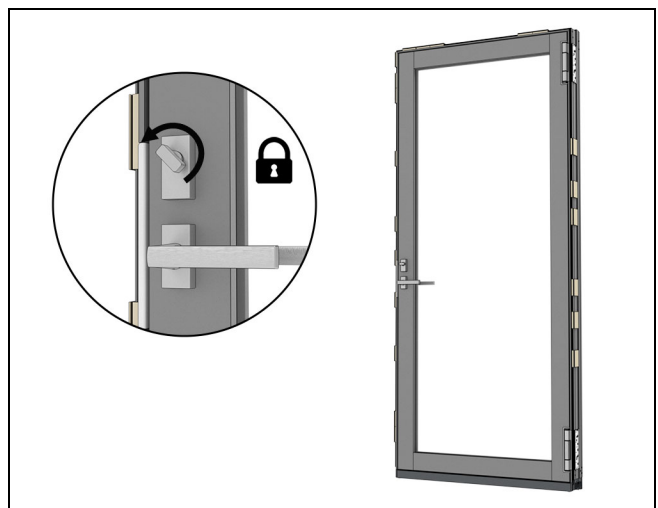


Figure 45

Modern Doors-Accessing Transmitter Covers and Wire Leads

1. Unlock and open the door.
2. **MNMSD:** On the edge of the active panel, pry off the transmitter cover plate. Use the provided hook and loop strip affixed to the inside of the route to position your transmitter (remove backing and adhere to your transmitter). See Figure 46.

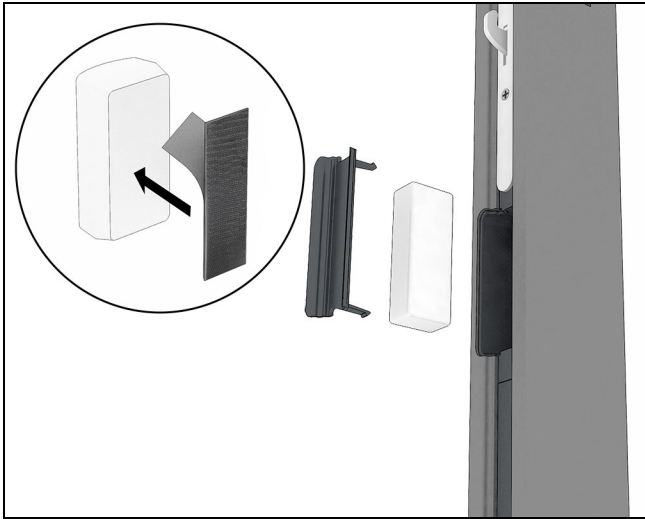


Figure 46

3. **MID:** the transmitter housing is in the hinge stile above the bottom hinge. Remove the vinyl cover to access the transmitter housing. See Figure 47 and Figure 48.



Figure 47



Figure 48

4. **MOD:** The transmitter housing is in the hinge stile above the bottom hinge. Remove the vinyl cover to access the transmitter housing. See Figure 49 and Figure 50.

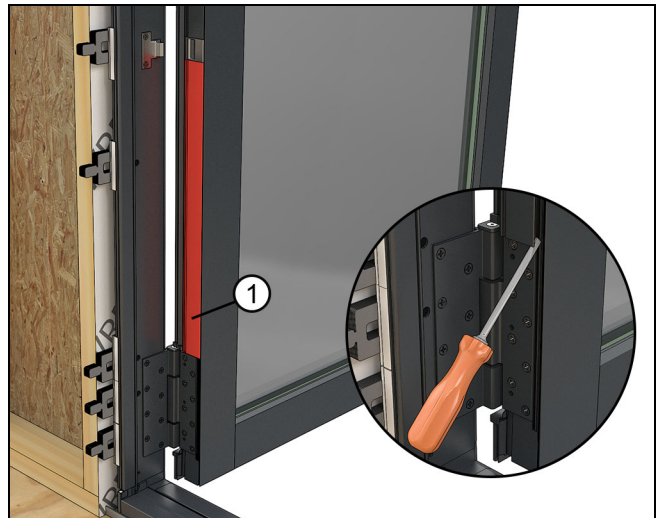


Figure 49

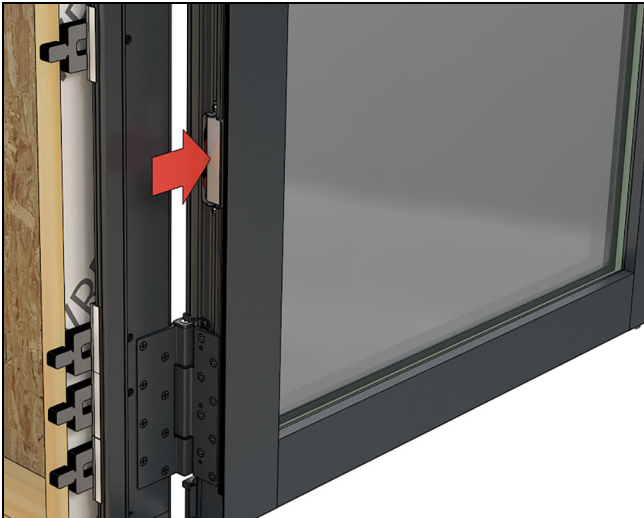


Figure 50

5. On all doors with keyed cylinders. Remove the t-shaped adapter from the micro-switch located on the exterior side of the panel. Use a needle nose pliers and discard. [See Figure 51.](#)

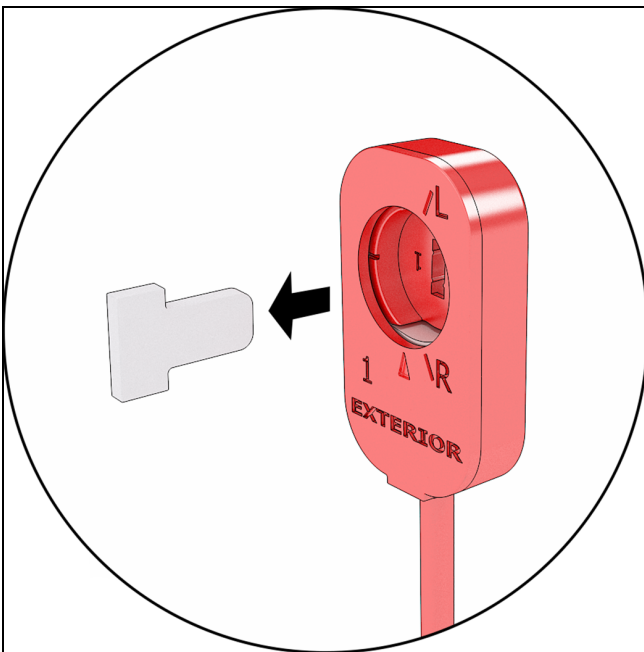


Figure 51