REV	DESCRIPTION	INT:	REV. DATE	APPROVED
1	ECO# CO2557	MJS		

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

MATERIAL: White 16lb (60g/m sq) uncoated, prefer recycled stock

Ink: Black

Print Two Sides, one sheet

Final Trim Size: 8.5" (Wide) x 11" (High)

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

Phone: 408-486-7511

Email: maryjo.sowinski@wattstopper.com

DRAWN BY	SOWINSKI	WattStopper / legrand® SANTA CLARA, CALIFORNIA		
PLM				
MARCOM				
ENGINEERING		Title: FM-105Installation Instructions		
QA				
		Drawing #:	**Orig. Drawing Date: 27 MAR 08**	**REV. #:**
TITLE BOX PG	SCALE 1:1	08745	**Revision Date:**	1

FM-105

Line Voltage • Microwave Occupancy Sensor

Installation Instructions

DESCRIPTION AND OPERATION

The FM-105 microwave occupancy sensor uses ultra-high-frequency radio waves, also known as "microwaves" and the principle of the Doppler Effect to detect motion. The sensor sends out radio waves that bounce off of nearby surfaces and return to the sensor. Motion in the area changes the speed of the waves returning to the sensor. The sensor detects the change and interprets it as occupancy. This causes the sensor to turn ON the load.

Microwaves can penetrate certain materials, therefore, the FM-105 can be installed behind a luminaries' plastic or glass lens.

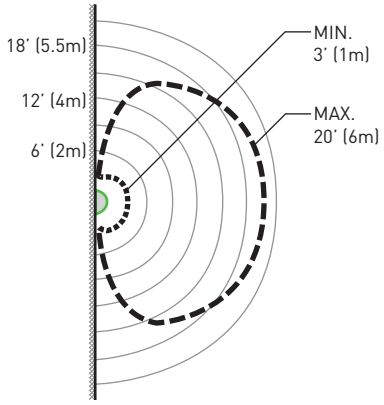
The FM-105 can be used in a water-tight non-metallic box or water-tight luminaire for wet location applications.

Daylighting Control

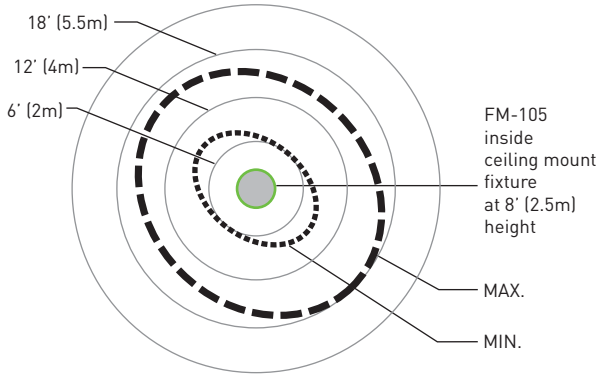
The FM-105 also has daylighting control capability. The daylight control on the FM-105 is a "HOLD-OFF" type. The sensor stops the load from turning ON if the ambient light is greater than the daylighting setpoint. If the load is already ON, the sensor will not turn OFF the load due to high ambient daylight.

SENSOR COVERAGE AREA

Wall Mount



Ceiling Mount



FM-105 with shield and mounting foot

SPECIFICATIONS

Voltages	120/277VAC, 50/60Hz
Load Requirements	
@ 120VAC, 60Hz	0-800W ballast or tungsten
@ 277VAC, 60Hz	0-1200W ballast
Trimpot Adjustments	
Light Level	2-200fc
Range/Sensitivity	3' to 20' (1m to 6m)
Time Delay	10 seconds to 30 minutes
Power Output	1 mW (similar or less than a cell phone)
Frequency	5.8GHz

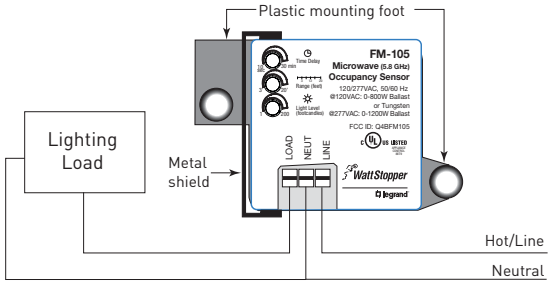
INSTALLATION

CAUTION

TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE INSTALLING THE SENSOR.

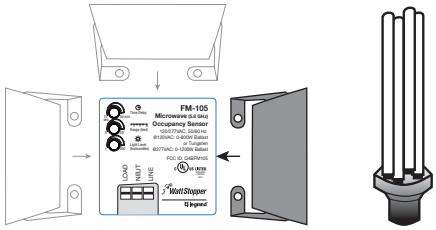
1. Determine the mounting location inside the luminaire or other suitable enclosure. If the daylight feature will be used, be sure to locate the sensor where daylight is not completely obscured from the sensor.
2. Attach the metal shield to the FM-105 so that the shield is located between the FM-105 and the lamp. Make sure that the wiring terminals on the FM-105 are accessible.
3. Put the plastic mounting foot onto the base of the FM-105 to secure the metal shield in place.
4. Secure the FM-105 assembly in place using screws through the plastic mounting foot.
5. Connect the line voltage and load wires to the FM-105 terminals as shown in the wiring diagram.
   - Do not allow bare wire to show.
   - Make sure all connections are secure.
6. Restore power from the circuit breaker.

WIRING



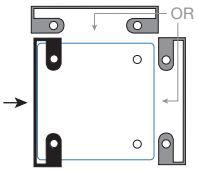
MOUNTING OPTIONS

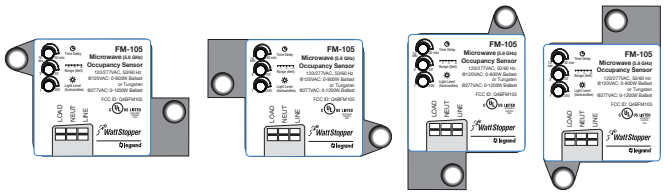
Position metal shield between the FM-105 and lamp.



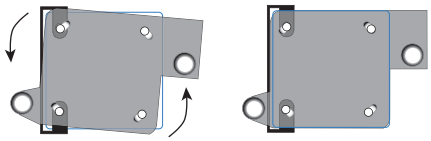
Bottom of FM-105: Align studs on the bottom of the FM-105 with the holes on the metal shield flanges. Do not block wiring terminals on the FM-105 with the shield.

The mounting foot provides 4 different mounting positions.



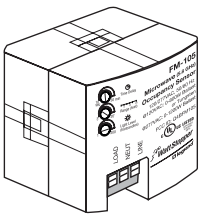


Mounting foot: Align 4 corner studs on the bottom of the FM-105 with 4 corner slots on mounting foot. Twist to secure.



ADJUSTMENTS

Three trimpots on the FM-105 allow you to adjust the time delay, sensitivity/range, and light level setpoint. To reduce a setting, turn the associated trimpot counter-clockwise toward the minimum setting. To increase a setting, turn the trimpot clockwise toward the maximum setting.



Warning: Do not overturn the adjustment trimpots!

Time Delay

The FM-105 automatically turns OFF the load after the coverage area has been vacant for the amount of time set in the time delay. The minimum setting is 10 seconds, maximum is 30 minutes.

Range/Sensitivity

3 12 20

It is possible for a microwave sensor to "see" through solid objects and detect motion if the sensitivity is set too high. If you are getting detections and the load will not turn OFF, reduce the sensitivity slightly and see if that corrects the situation.

Light Level

Adjust the daylighting setpoint when ambient light is sufficient to keep the lights OFF. Set the time delay to minimum. Adjust the light level trimpot in small increments. Wait 1 to 2 minutes between adjustments. After the time delay expires and the load turns OFF, move within the detection area of the sensor. If the load comes back ON, you need to repeat the procedure.

IMPORTANT START-UP INFORMATION

The first time the sensor is powered-up the load will flash ON then OFF once, then there will be 10 seconds while the sensor warms-up. After that time the sensor will work normally.

TROUBLESHOOTING

To quickly test the unit, turn the time delay to minimum. Move out of the sensor's view. Lights should turn OFF after 10 seconds. Move into the sensor's view. The lights should turn ON.

Lights do not turn ON:

1. Cover the sensor to simulate darkness then move in the coverage area. If the load turns ON, adjust the light level.
2. Check all wire connections. Verify all wires are secure.

Lights do not turn OFF:

1. If there is no motion in the desired coverage area, the sensor may be picking up movement on the other side of a wall, partition, window or door. Reduce the sensitivity.
2. Verify time delay and that there is no movement within the sensor's view for that time period.

FCC NOTICE FCC ID: Q4BFM105

This device complies with part 15 of the FCC Rules. 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.

Caution: Any changes or modifications to this device not explicitly approved by Watt Stopper/Legrand could void your authority to operate this equipment.

WARRANTY INFORMATION

Watt Stopper/Legrand 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 Watt Stopper/Legrand 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.

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