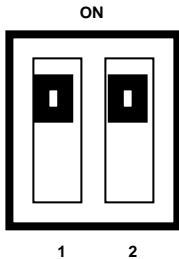


OCCUSMART QUICK START GUIDE

- 1) INSTALL FIXTURE/LAMPS – CONNECT TO POWER AND ENERGIZE – ENSURE PROPER POLARITY
- 2) IMPORTANT – FIXTURE MUST BE GROUNDED FOR PROPER OPERATION
- 3) SET TIME DELAY DIP SWITCH TO DESIRED LENGTH (SEE CHART BELOW) – FACTORY PRESET IS 15 MINUTES WHICH IS RECOMMENDED FOR MOST APPLICATIONS TO ENSURE MAXIMUM LAMP LIFE
- 4) SET SENSITIVITY TRIMPOT TO APPROXIMATELY HALFWAY (MID-RANGE) DO NOT OVERTURN TRIMPOT ADJUSTMENT SCREW OR DAMAGE WILL OCCUR
- 5) ACTIVATE WALK-TEST (SETUP) MODE BY MOMENTARILY PRESSING AND RELEASING THE PROGRAMMING BUTTON JUST BELOW THE RED LED (THIS WILL LAST FOR 5 MINUTES)
- 6) MOVE OUT OF CONTROLLED AREA. LIGHTS SHOULD TURN OFF (OR GO DIM) IN APPROX. 15 SECONDS FROM THE LAST FLASH OF THE LED. IF LED CONTINUES TO FLASH IT IS DETECTING MOTION – REDUCE SENSITIVITY AND REPEAT
- 7) WALK INTO CONTROLLED AREA – LIGHTS SHOULD TURN ON (OR GO TO FULL BRIGHTNESS). IF THEY DO NOT – INCREASE SENSITIVITY SLIGHTLY AND REPEAT
- 8) AFTER APPROX. 5 MINUTES UNIT WILL AUTOMATICALLY RESUME NORMAL OPERATING MODE. IF WALK-TEST (SETUP) IS NOT COMPLETE SIMPLY RE-ACTIVATE (STEP 5).
- 9) UPON COMPLETION OF THE WALK-TEST (SETUP) AND AFTER EVERY LAMP CHANGE, ACTIVATE 100 HR LAMP CONDITIONING CIRCUIT BY PRESSING THE PROGRAMMING BUTTON FOR 5 SECONDS AND RELEASING (LED WILL FLASH SLOW AND STEADY).

Time Delay Adjustment (Dip Switch – front of unit)

POSITION 1	POSITION 2	TIME DELAY
OFF	OFF	5 MINUTES
OFF	ON	10 MINUTES
ON	OFF	15 MINUTES
ON	ON	30 MINUTES



Version "AS" Dip-Switch Settings (inside fixture)

SW 1	SW 2	OUTPUT %	
		Linear FI	CFL
OFF	OFF	RB1 - 40%	RB2 - 75%
ON	OFF	RB1 - 20%	RB2 - 20%
OFF	ON	RB1 - 10%	RB2 - 10%
ON	ON	RB1 - 5%	RB2 - 5%

UNIT IS INTENDED TO BE INSTALLED BY A QUALIFIED ELECTRICIAN

BEFORE CALLING FACTORY CHECK THE FOLLOWING:

- FIXTURE IS PROPERLY EARTH GROUNDED – **USE A METER**
- FIXTURE HAS PROPER POLARITY – IF REVERSED SENSOR WILL APPEAR TO BE WORKING BUT NOTHING WILL HAPPEN
- THERE ARE NO LOOSE CONNECTIONS – CHECK LEADS GOING INTO POWER PACK AND BALLAST DISCONNECT AS WELL
- BALLAST COVERS ARE PROPERLY INSTALLED – IF MISSING LAMPS MAY NOT START
- SOCKET LEADS ARE NOT LOOSE
- LAMPS ARE TURNED INTO SOCKETS PROPERLY AND BOTH ARE INSTALLED (FOR A 2L FIXTURE)
- THERE IS ACTUALLY POWER TO THE FIXTURE
- IF EQUIPPED WITH EMERGENCY BATTERY PACK – CHECK SEPARATE ENCLOSED INSTRUCTIONS

IMPORTANT !!

THESE INSTRUCTIONS MUST BE FOLLOWED FOR PROPER OPERATION OF THIS FIXTURE

THIS FIXTURE MUST BE PROPERLY COMMISSIONED BY THE INSTALLER TO INSURE PROPER OPERATION, ENERGY SAVINGS AND MAXIMUM LAMP LIFE. LAMPS MUST BE CONDITIONED AFTER INSTALLATION BY PUSHING SMALL BLACK BUTTON FOR APPROX. 5 SECONDS UNTIL RED LIGHT PULSES ON AND OFF. IT WILL CONTINUE TO PULSE FOR 100 HRS. THEN RESUME NORMAL OPERATION. THIS MUST BE DONE EACH TIME A LAMP IS REPLACED.

IMPORTANT SAFEGUARDS:

WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED INCLUDING THE FOLLOWING:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

-DO NOT USE OUTDOORS!

-EQUIPMENT SHOULD BE MOUNTED IN LOCATIONS AND AT HEIGHTS WHERE IT WILL NOT BE SUBJECTED TO TAMPERING BY UNAUTHORIZED PERSONNEL.

-THE USE OF ACCESSORY EQUIPMENT NOT RECOMMENDED BY THE MANUFACTURER MAY CAUSE AN UNSAFE CONDITION.

-DO NOT USE THIS EQUIPMENT FOR OTHER THAN ITS INTENDED USE.

-THIS UNIT IS INTENDED TO BE INSTALLED BY A QUALIFIED ELECTRICIAN.

-DISCONNECT ALL POWER SOURCES BEFORE INSTALLATION.

-UNITS **MUST BE GROUNDED** AND INSTALLED IN ACCORDANCE WITH LOCAL ELECTRICAL CODES.

-ALL SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

-DISCONNECT POWER BEFORE SERVICING OR REPLACING LAMPS.

SAVE THESE INSTRUCTIONS

IT IS THE RESPONSIBILITY OF THE INSTALLER TO PROPERLY COMMISSION THESE UNITS

IF THIS UNIT IS EQUIPPED WITH EMERGENCY BATTERY BACKUP, PLEASE SEE ADDITIONAL INSTRUCTIONS ENCLOSED INSIDE UNIT.

UNITS EQUIPPED WITH DIMMING BALLASTS ARE RATED AT 50 DEG. F MIN STARTING TEMP

OCCUSMART FIXTURES EQUIPPED WITH ULTRASONIC SENSORS MAY NOT OPERATE PROPERLY IN AREAS PRONE TO DRAFTS OR EXPOSED TO HVAC EQUIPMENT

BALLAST COVER(S) MUST BE INSTALLED TO INSURE PROPER OPERATION

PROPER POLARITY IS CRITICAL TO THE NORMAL OPERATION OF THESE UNITS

QUICK-START GUIDE – SEE BACK PAGE

THE MOTION SENSOR CIRCUIT BOARD IS A DELICATE INSTRUMENT AND CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION. KEEP ALL TOOLS AND WIRING AWAY FROM CIRCUIT BOARD!

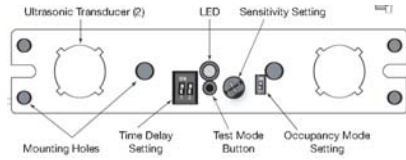
FSL-505 Motion Sensor Board Operating Instructions:

The FSL-505 is an ultrasonic sensor designed to integrate into specially designed lighting fixtures. The Watt Stopper FS sensors are advanced ultrasonic occupancy sensors with a 40 kHz frequency. Utilizing advanced omni-directional, Doppler technology, the sensor detects movement in a controlled area and then switches lighting on through a Watt Stopper Power pack. The sensor uses a power pack to switch all or some of the fixture lamps on or off based upon occupancy. Upon occupancy detection, an adjustable time delay keeps the lights on for a set period of time. If there is no detection of movement during the preset time delay period, the light will turn off (or go dim).

Specifications: (apply to internal sensor circuit board and power pack only)

Voltage:	24VDC	Sensitivity Adjustment:	Trimpot (min to max)
Current Consumption:	50mA	Operating Temperature:	0° C to +40° C
Power Supply:	The Watt Stopper FS-PP	Operating Humidity:	5% to 95% RH non-condensing
Maximum Current Output:	70mA	Time Delay Adjustment:	5 minutes – 30 minutes
Ultrasonic Frequency:	40 kHz		15 mins recommended

Sensor Adjustment: (Trimpot)



Time Delay Adjustment (Dip Switch)

1 2	Minutes
— —	5
• —	10
• •	15
• •	30

• on, — off **Factory Preset to 15 Minutes**

The adjusting screws are delicate! Adjustments must be made carefully. **Do not** turn screw past Min or Max setting.

Note: Facing the sensor with the transducers aimed towards you and LED on top, the Sensitivity trimpot is RIGHT center and the Time delay dip-switch is LEFT center.

LED: The LED flashes every time the sensor detects motion. The LED is also used to indicate other sensor status such as walk-test mode and lamp conditioning.

Time Delay (Dip-Switch): The time delay is the length of time the lights stay on after no motion has been detected. It is set with the dip-switch. Minimum is 5 minutes, maximum is 30 minutes. Refer to chart above for settings.

Note – NEMA recommends a minimum 15 minute time delay for fixtures that are cycled on/off to prolong lamp life.

Sensitivity (Trimpot): The sensitivity trimpot increases or decreases the occupancy detection sensitivity and/or coverage distance. Turn the trimpot counterclockwise for minimum sensitivity and turn the trimpot clockwise for maximum. If the trimpot is set at full clockwise the sensor will be overridden on (the lights will stay on). The sensor LED will indicate the sensor is in override by staying on. To set the sensor at maximum sensitivity turn the trimpot to maximum then turn it counterclockwise slightly. **Do not overturn in either direction or damage will occur (voiding warranty).**

Lamp Conditioning: To ensure maximum lamp life and satisfactory operation, lamps that will be dimmed should be conditioned for 100 hours prior to reduced light operation. **After** all sensitivity and time adjustments are made (walk-test), and **after every lamp change**, the lamp conditioning circuit should be activated. To start the lamp conditioning process, push and hold the programming (black) button for 5 seconds then release. The lamps will stay on for 100 hours continuously regardless of the occupancy status. After 100 hours, the sensor will function normally. To indicate the sensor is in conditioning mode the LED will flash slow and steady for the full 100 hours. To turn off the conditioning mode, simply push the button again.

Adjustments:

- Furnishings, carpeting, or office structures can affect ultrasonic sensitivity and should be installed before adjustment if possible.
 - Ultrasonic sensors should have their sensitivity adjusted when interference from air movement is at its maximum. Override the HVAC and VAV systems to the maximum ON position.
- Set the Sensitivity adjustment to about mid-range.
 - Activate "Walk-Test" mode for this testing procedure – Momentarily press and release programming button above (or below) RED LED.
 - Move out of the controlled area – the lights will turn off in about 15 seconds from the last flash of the LED. If the LED continues to flash, the sensor is detecting some kind of movement. Turn the Sensitivity adjustment trimpot down slightly (counterclockwise) and repeat this step until the LED does not flash and the lights turn off.
 - Now walk into the controlled area. If the lights don't turn on, increase the Sensitivity slightly (clockwise) and try again. Repeat this procedure until the LED does not flash and the lights turn off.
 - If the lights turn off while the room is occupied, it may be necessary to increase the Sensitivity slightly.
 - Set the desired Time Delay – mid-range (approx.15 minutes) works well for normal applications and is recommended.
 - Walk-Test mode will last approx. 5 minutes, at which time it will automatically switch to normal operating mode. If adjustments are not completed within this time, simply re-start Walk-Test mode (Step 2).

Warranties

Occu-Smart® Fixture Warranty

All non-electrical equipment is warranted for a period of one year. A replacement part will be furnished in exchange for any part in a fixture, excluding lamps, which under normal use and service proves defective within one year after purchase. This warranty is null and void if fixtures are installed in a manner other than stated normal conditions. If fixtures have been subjected to abnormal stresses, such as, but not limited to, ambient room temperature or ceiling plenum temperature exceeding 90 degrees F; or if the voltage is more than 5% above the rated line voltage of the ballast; or if "insulating blankets" are installed closer than 1" from recessed fixture sides and tops or if surface units are mounted to low density combustible ceilings, thus causing overheating and ballast failure. Many fixtures are not intended to operate in temperatures below 60 degrees F. Consult factory if application requires low operating temperatures. Units returned to the factory pre-paid will be repaired or replaced at no charge if the defect is due to defects in materials or workmanship. Damage due to negligence, vandalism or other environmental conditions is not covered under this or any other stated warranties. **NO LABOR CHARGES WILL BE BORNE BY LAMAR LIGHTING CO., INC. FOR REMOVAL OR REINSTALLATION OF PRODUCTS WITHOUT PRIOR WRITTEN AUTHORIZATION.**

Certification and Affiliations

All items U.L. Listed and IBEW Union Made

Electronic Ballast Warranty

All ballasts used by LaMar Lighting are those of recognized manufacturers and are warranted by the ballast manufacturer for a period of 60 months from the date of manufacture. Orders calling for specific brand names of ballast will be handled on a quotation basis only. Any defects in ballasts occurring out of normal usage will be replaced on a no-charge basis, provided that such ballast failure is within the warranty period. **No allowance for labor charges involved in replacing ballasts will be borne by Lamar Lighting Co., Inc.** Should there be a ballast failure, advise us immediately and we will notify the ballast manufacturer of the difficulty and they in turn will notify you as to disposition of this problem. **Do not proceed with repairs until authorization is received from the ballast manufacturer.**

Ultrasonic Occupancy Sensor Warranty

The Watt Stopper®, Inc. warrants its products to be free of defects in materials and workmanship for a period of five years. There are no obligations or liabilities on the part of The Watt Stopper, Inc. 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. This warranty covers replacement parts only, no labor. Damage to the sensor components as a result of improper installation or vandalism is specifically excluded.

Emergency Battery Pack Warranty (on units so equipped)

Internal emergency packs are warranted by their respective manufacturer for 1-5 years from date of manufacture, provided that the failure is due to defects in materials or workmanship. Repair or replacement will be made at no charge if testing and inspection show that operating conditions have been within specified limits. **Neither battery pack manufacturer nor Lamar Lighting Co., Inc. will be responsible for any labor or back charges without prior written consent.** This Warranty is for replacement parts only not removal or replacement labor.