Wattstopper®

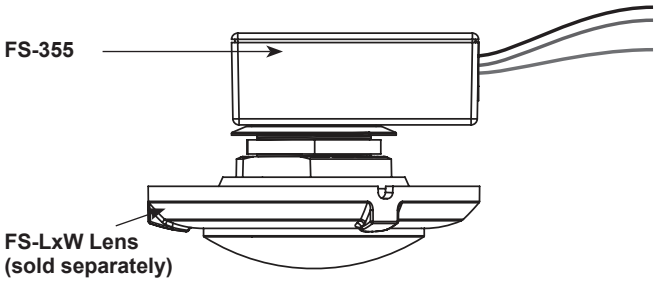
Occupancy and Light Level Sensor for Indoor/Outdoor Use
Line Voltage • Fixture Mount

No: 24044 – 02/18 rev. 1

Installation Instructions • Instructions d'Installation • Instrucciones de Instalación

Catalog Numbers • Les Numéros de Catalogue • Números de Catálogo: FS-355

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China



SPECIFICATIONS

Voltage 120-277VAC, 60Hz
Load Requirements
@120VAC, 60Hz ..... 0-800W ballast or incandescent
@277VAC, 60Hz ..... 0-1200W ballast
Adjustments
Time Delay ..... 30 seconds — 30 minutes
Factory Setting ..... 15 minutes
Light Level, Hold OFF ..... minimum <10fc, maximum >120fc
Factory Setting ..... maximum (never hold)
Wiring Terminals ..... Hot, neutral, load
Use Copper Conductor Only 18AWG-14AWG
Torque Rating ..... 4.428 inch-pound. (0.5Nm)
Coverage
FS-L2W Lens @ 8' height ..... 48' diameter
FS-L3W Lens @ 20' height ..... 40' diameter
FS-L6 Lens @ 8' height ..... 60' diameter
FS-L7W Lens @ 40' height ..... 100' diameter
Operating Temperature ..... -40°F (-40°C) to 131°F (55°C)
Dimensions
Threaded Neck Diameter ..... 1.14" diameter (28.8mm)
Threaded Neck Length ..... 0.38" (9.6mm)
Tightening Ring outer ..... 1.28" diameter (32.6mm)
Body ..... 1.38" x 2.35" x 0.88" (35mm x 59.5mm x 22.7mm)

DESCRIPTION AND OPERATION

The FS-355 occupancy sensor turns lighting ON and OFF based on occupancy and ambient light levels. The light level feature (can be used to keep lights from turning ON and turn them OFF if the ambient light level is sufficient. This slim, low-profile sensor is designed for installation inside the bottom of a light fixture body. The PIR lens connects to the FS-355 through a 11/8" diameter hole in the bottom of the fixture.

The sensors use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Once the space is vacant and the time delay elapses, lights will turn OFF. Sensors must directly "see" motion of an occupant to detect them, so careful consideration must be given to sensor placement. Avoid placing the sensor where shelving or other obstructions may block the sensor's line of sight.

The FS-355 operates between 120-277VAC. It is designed for installation in a light fixture.

NOTE: Important, there is an initial warm-up period: It may take up to a minute before the lights turn ON due to a sensor warm-up period required during initial power-up. This occurs during installation or after a lengthy power failure only.

COVERAGE PATTERN

Density and range of the coverage pattern is determined by the type of lens and mounting height. The FS-355 is compatible with multi-cell, multi-tier Fresnel lenses.

See the FS-LxW Lens Module Coverage Guide for a description of the available coverage patterns.

INSTALLATION

WARNING:
TURN THE POWER OFF AT THE CIRCUIT BREAKER BEFORE WIRING.

NOTE: OPEN DEVICE for installation in a Listed Enclosure per Installation Instructions.

1. Determine an appropriate mounting location inside the light fixture. Allow a minimum distance of 1.3” (33mm) from the center of the sensor collar to the edge of the fixture.
2. Use a 11/8” (29mm) bit to drill a hole through the sheet metal in the bottom of the fixture.
3. From the inside of the fixture, insert the FS-355 lens pipe through the hole in the bottom of the fixture. Install the sensor face down, parallel to the mounting surface. Hand tighten the Lens securely against the outside of the fixture. If necessary, use the Tightening Ring.
4. Connect load and supply wires as shown in Figure 2.
5. Restore power from the circuit breaker.

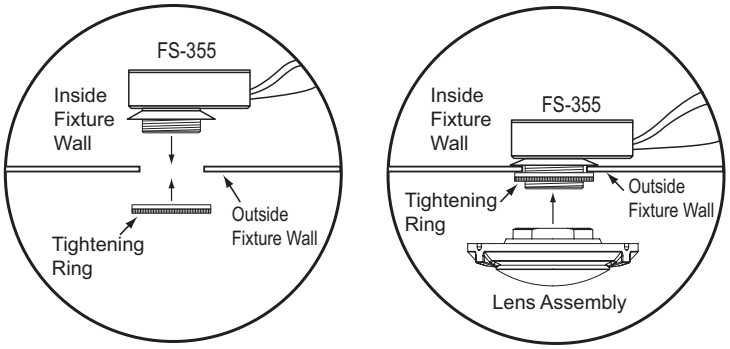


Fig 1: FS-355 mounting in light fixture

NOTE: The Outside Fixture Wall thickness should be between 0.032” and 0.10” (0.82mm and 2.54mm) for optimal sensor mounting and security.

Outdoor Use at the Sensor Collar part only when (Sensor Collar part exposed and) installed at the specific location per Installation Instructions with a Listed Outdoor Enclosure.

WIRING A SINGLE SENSOR

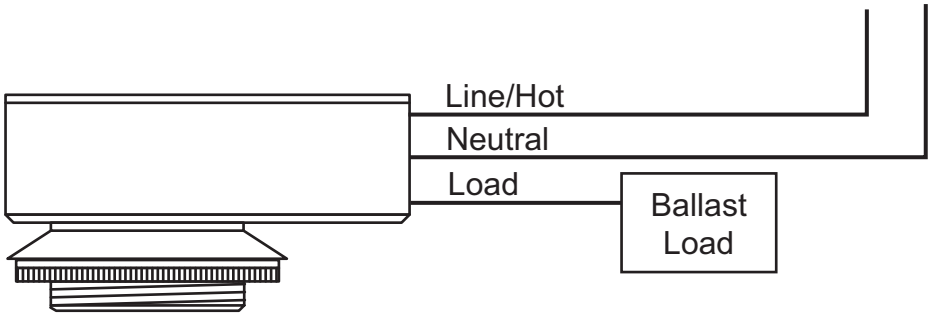
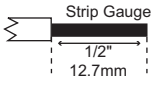


Fig 2: FS-355 wiring

#14 — #18 AWG



Cu Wire Only

LIGHT LEVEL FEATURE

The Light Level feature holds OFF and turns OFF lights when the space is occupied and adequate ambient light exists. When the light level drops below the set level it will turn the lights ON when the space is occupied. A sticker covers the photosensor and must be removed before this feature will function. The factory setting is for maximum, meaning that even bright ambient light will not cause the sensor to hold the lights OFF if it detects occupancy in the controlled area.

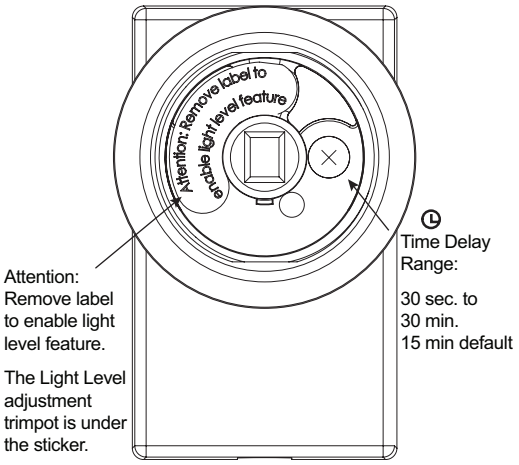
CAUTION
DO NOT OVERTURN TRIMPOT WHEN ADJUSTING THE SENSOR.
DO NOT TOUCH THE SQUARE INFRARED DETECTORUNDER THE LENS ASSEMBLY.

SENSOR ADJUSTMENT

The Light Level and Time Delay adjustment trimpots are located under the lens assembly. (Remove the sticker to see the Light Level trimpot.) The trimpots are accessed easily after the sensor is mounted in the fixture. Gently unscrew the lens assembly. Do not remove the thumbscrew collar; it holds the sensor in place on the fixture. Identify each trimpot.

Set the light level when the controlled light would normally be turned OFF due to the presence of sufficient daylight or other electric light. (If this feature is not needed, leave the sticker in place.

* At the maximum setting, the light level entering the photosensor must exceed 120fc, which only happens in rare applications or when the lens is removed.

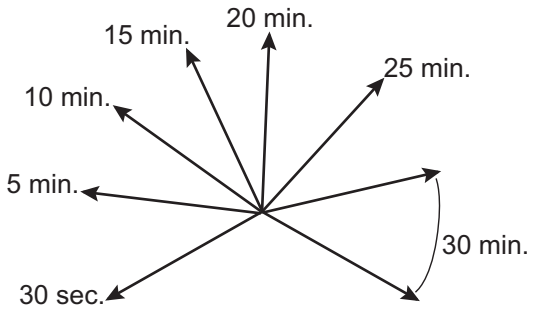


Test Occupancy Sensor

1. If sticker has been removed, set Light Level to maximum (fully clockwise, factory setting). Set Time Delay to minimum (fully counterclockwise). Put the lens assembly back onto the sensor.
2. Move out of the sensor's view. Lights turn OFF after 30 seconds.
3. Move into the controlled area. The red LED in the sensor lens should illuminate and the lights should turn ON.

Test and Adjust Light Level Sensor and Time Delay

1. Remove the lens assembly and sticker. Adjust the light level and the time delay to minimum. Put the lens assembly back onto the sensor. Leave the controlled area and let the sensor time out so lights are OFF.
2. Enter the controlled area and lights should remain OFF. Make sure your body does not cast a shadow on the sensor.
3. Turn the light level trimpot clockwise in small increments. After each adjustment, put the lens back on the sensor then move about the controlled area. Wait 5-10 seconds to see if the lights turn ON.
4. Continue this procedure until the lights turn ON. At this setting the lights will not turn ON with occupancy if the light level is above the current level.
5. Set the time delay to the desired setting. The time delay can be set from 30 seconds (fully counterclockwise) to 30 minutes (fully clockwise).



TROUBLESHOOTING

Lights will not turn ON:

- LED does not flash:
  - Check all wire connections.
- LED does flash:
  - Check all wire connections and verify the load wire is tightly secured.
  - Check light level setting. Cover the sensor lens to simulate darkness in the room. If the lights come **ON**, the light level needs to be adjusted. If set for minimum, more than 10fc of ambient light will cause the lights to be held **OFF**. See Sensor Adjustment section for instructions.
- If lights still do not turn **ON**, call 800.879.8585 for technical support.

Lights will not turn OFF:

The time delay can be set from a minimum of 30 seconds (fully counter-clockwise) to a maximum of 30 minutes (fully clockwise). Ensure that the time delay is set to the desired delay and that there is no movement within the sensor's view for that time period.

- To quickly test the unit for proper operation, turn the time delay to minimum and move out of the sensor's view. Lights should turn **OFF** after 30 seconds.
- If lights still do not turn **OFF**, call 800.879.8585 for technical support.

Operation during Power-Up

During the sensor warm-up period, which can last up to a minute after initial power-up (or after a lengthy power outage), the load can be either **ON** or **OFF**, depending on the status of the relay before the sensor was powered down. After warm-up, the sensor will open or close the relay to correspond to the occupancy status of the room.

ORDERING INFORMATION

Catalog #	Description
FS-355	Fixture mount, line voltage occupancy sensor, 120-277VAC, 60Hz, with Light Level feature
FS-L2W	360° lens, maximum coverage 48' diameter at 8' height
FS-L3W	360° lens, maximum coverage 40' diameter at 20' height
FS-L6	360° lens, maximum coverage 20' diameter at 8' height
FS-L7W	360° lens, maximum coverage 100' diameter at 40' height

Sensor and Lenses are White. The FS-L7W is also available in gray (FS-L7-G).

WARRANTY INFORMATION

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No. 24044 – 02/18 rev. 1

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