

INTEGRATED FIXTURE SENSOR AND CONTROLLER

LMFS-601

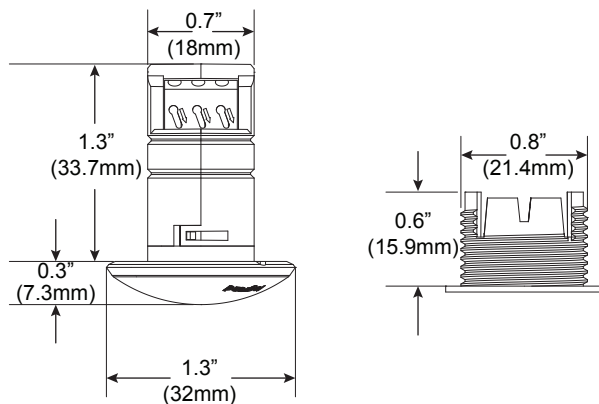


PRODUCT OVERVIEW

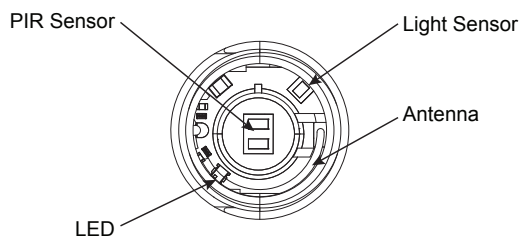
The LMFS-601 is a wireless fixture sensor and controller that is compatible with all Wattstopper IPv6/Bluetooth low energy technology wireless DLM devices. The LMFS-601 includes a PIR occupancy sensor and a closed loop photo sensor. It measures both motion and daylight contribution in order to automatically switch or dim lighting. It also provides the ability to communicate to other fixtures in the space without any front-end devices.

The LMFS-601 can be commissioned to operate as independent fixture sensors & controllers or create stand-alone networks incorporating other DLM Wireless devices.

LMFS-601 Dimensions



LMFS-601 Components



SPECIFICATIONS & FEATURES

Input Voltage: 12-20V
Power Consumption from DALI Bus: 16mA
Power Supply: DALI Driver with Integrated Self Powered DALI Link Or A Wattstopper Fixture Interface (LMFI-111)
Wiring: 18-20 AWG
Terminal Connection: DA+, DA-
Adjustable Time Delay: 5-30 Min
High Trim: 1-100% Low Trim: 1-99%
Sensor Mode: Auto ON or Manual ON
Daylight Harvesting: Disable/Enable)
Daylight Sensor: Closed Loop
PIR Sensitivity: 10-100%
Partial ON: 1-100% Partial OFF: 1-100%
Dimming: 0-10V (Dimming performance dependent on LED Driver)
L8 Lens for Mounting 8' to 12'
Operating Temperature: 32-149°F (0-65°C) Relative Humidity: 0 to 90% (non-condensing)
Enclosure impact rating: IK05 Indoor Use Only IP20 rated
UL and cUL listed (E101196) UL2043 Plenum Approved – Suitable for Use in Air Handling Spaces UL/CUL listed under UL60730: Type 1, Independently Mounted, Sensor Pollution Degree 2, Impulse Voltage Rated – 330V

MATERIALS

Polycarbonate
Flame retardant
Impact resistant
UV grade
Meets materials restrictions of RoHS

FACTORY DEFAULTS

PIR Sensitivity: 100%
Daylight Harvesting: Disabled (Calibration Required at Commissioning)
Time Delay: 20 min
High Trim: 100%
Sensor Mode: Auto On
Fade Time: 2 Seconds

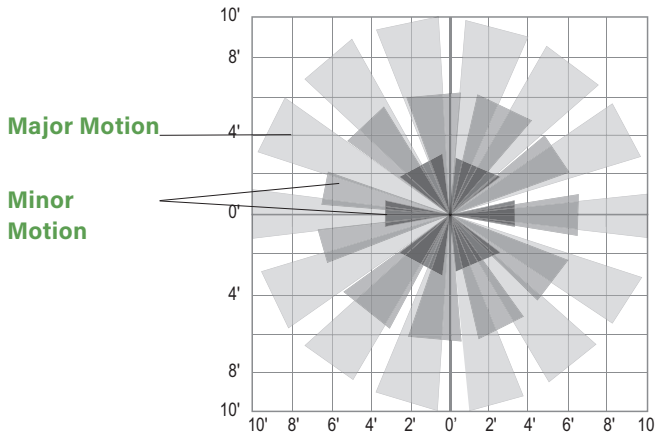
WIRELES STANDARDS SUPPORTED

IPv6 Mesh (6LoWPAN / 802.15.4 / 2.4GHz), range up to 100 ft.
Bluetooth low energy (802.15.4 / 2.4GHz), range up to 30 ft.

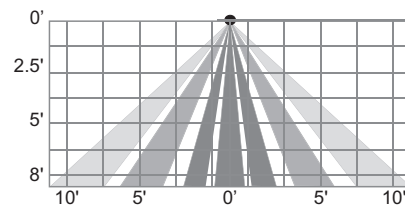
COVERAGE

The LMFS-601 provides a 360° coverage pattern. The coverage shown represents maximum coverage for walking motion at a mounting height of 8 feet. The lens is designed for mounting heights ranging 8'-12' and covers up to 300 sq/ft of space.

Top coverage pattern @8ft.



Side coverage pattern



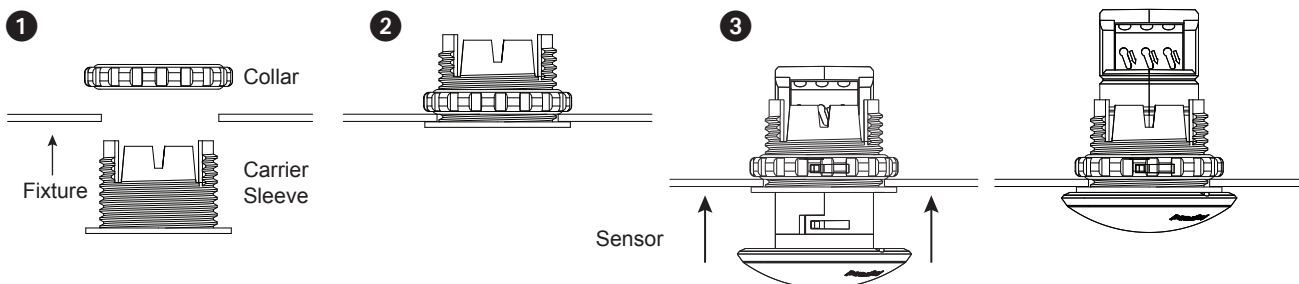
INSTALLING THE LMFS-601 SENSOR IN A LIGHT FIXTURE

Materials Required:

- Solid core wire (18-20 AWG)
- A DALI Driver with Integrated Self Powered DALI Link Or A Wattstopper Fixture Interface (LMFI-111)

Installation

1. The LMFS-601 comes equipped with a carrier sleeve and collar in which it snaps into during installation into the fixture.
2. The carrier sleeve fits into industry standard 1/2" knockouts and/or a 7/8" hole. The carrier sleeve is intended to be mounted into lighting fixtures.
3. To install the carrier sleeve into the desired knockout, apply pressure and turn counterclockwise until the carrier sleeve is flush with the mounting application.
4. Screw the collar onto the inside of the carrier sleeve threading.
5. Slide the sensor into the carrier sleeve until it securely snaps into place.

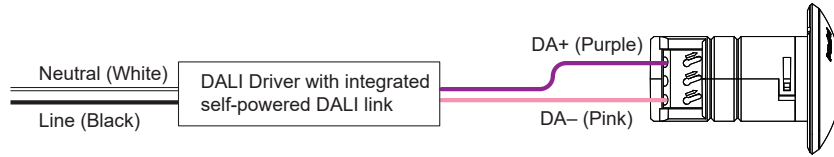


WIRING

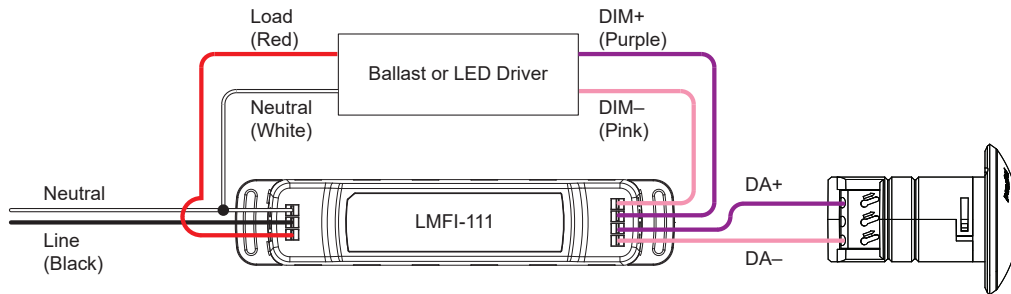
When wiring the LMFS-601 to either a DALI driver or LMFI-111 Fixture Interface, use only solid core wire (18-20 AWG).

NOTE: The middle connector is unused on the sensor.

LMFS-601 with DALI Driver (Only one DALI driver can be connected to an individual LMFS-601)

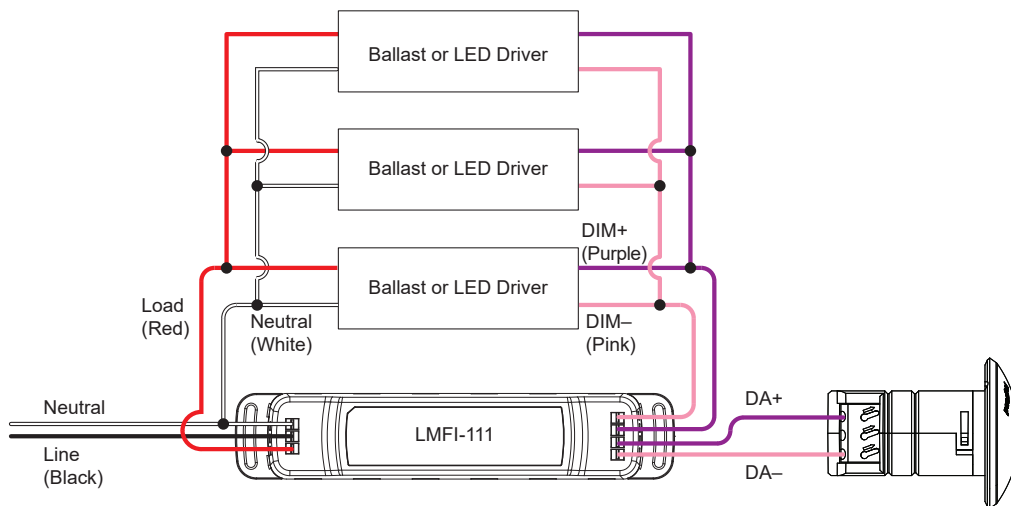


LMFS-601 with 0-10V LED Driver and LMFI-111 Fixture Interface



LMFS-601 with Multiple 0-10V LED Drivers and LMFI-111 Fixture Interface

Up To Eight Ballasts/Drivers May Be Connected



NOTE: Do not mix drivers from different manufacturers in the same fixture.

LMFS-601 END OF LINE TESTING

To facilitate OEMs to conduct system operation at the end of the manufacturing line, an end-of-line testing routine is pre-programmed into the device that confirms the wiring and the wireless readiness of the device.

Wattstopper tests the performance of the occupancy and daylight sensors in this product and does NOT expect the OEM to test those features.

When the luminaire is powered, the fixture turns ON and reaches its full output. The sensor module then cycles through the entire dimming range starting from 100% output level to OFF* two times. After the power cycle, the light level will return to 50%. OEMs can expect the test to last 10-15 seconds total.

This confirms that the module is receiving power and can communicate the 0-10V dimming signals to the power supply. The end-of-line testing routine repeats at each power cycle until the device has been commissioned using the DLM Config App.

Before commissioning, this routine can be used to determine if a device has been paired to a network.

LMFS-601 STARTUP AND COMMISSIONING

NOTE: When the fixture and LMFS-601 are powered, the fixture turns ON and reaches its full output. The sensor module then cycles through the entire dimming range starting from 100% output level to OFF* two times. After the power cycle, the light level will return to 50%. This sequence of operation will take place after every power cycle until the sensor is commissioned using the DLM Config App. The DLM Config App **must** be used to startup and commission the LMFS-601.

The DLM Config App is available for both iOS® and Android® devices. Search “DLM Config” on your device to download. The app provides the ability to pair various devices in a room. Additionally, you can modify load binding and edit various DLM parameters for each device, and update the firmware in each device. For details on the features and operation, download the DLM Config App User Guide from the Wattstopper web site at: <https://www.legrand.us/wattstopper.aspx>



IMPORTANT: In an effort to streamline startup time of the LMFS-601 and to reduce the number of wireless devices showing up during Device Discovery, the LMFS-601 has the following feature set:

The LMFS-601 suppresses Bluetooth low energy communication until motion is detected. When occupancy is triggered the Bluetooth radio turns on and the LMFS-601 device will appear in the App during device discovery. Devices in the app can be filtered by device type and/or signal strength.

Note that once the LMFS-601 has been selected in the app, the Bluetooth low energy radio stays ON so users do not have to retrigger motion.

After device discovery using the DLM Configuration App, users can follow the on-screen prompts to complete the startup and configuration of the LMFS-601 devices. Users **must** create a site and have the sensor assigned to that site to complete the commissioning process.

Startup and commissioning of the LMFS-601 with the DLM Configuration App gives users the ability to create Groups to meet occupancy-based code requirements and streamline setting device parameters. Users can also create Daylight Zones utilizing one LMFS-601 as a daylight sensor for each zone created.

Please refer to the DLM Configuration App User Guide for more details.

Creating Groups with the LMFS-601

Grouping is intended to enable the user to meet advanced energy codes where Occupancy-based zones and sequences of operation are required. Groups set up within a DLM Room are meant to identify devices that should follow an identical rule set and functional behavior. Grouping devices also streamlines startup as it allows users to set group-level parameters, thus reducing individual device touch time.

- When a LMFS-601 device is selected as the Master Device in the Room, then all load devices will automatically become 1 Group after room creation.
- A load device can be in 1 group.
- A user can create up to 32 groups per DLM Room.
- Any wireless switch not added to a specific Group, becomes a master switch and controls all Groups.
- Any LMFS-601 added to a DLM Room, but not assigned to a Group will operate independently of any other LMFS-601 devices in the DLM Room.

OEM Assist Feature for End of Line Testing

To facilitate OEMs to conduct system operation at the end of the manufacturing line, an end-of-line testing routine is pre-programmed into the device that confirms the wiring and the wireless readiness of the device.

Wattstopper tests the performance of the occupancy and daylight sensors in this product and does NOT expect the OEM to test those features.

When the fixture is powered, the fixture turns ON and reaches its full output. The sensor module then cycles through the entire dimming range starting from 100% output level to OFF two times. After the power cycle, the light level will return to 50%. OEMs can expect the test to last 10-15 seconds total.

The end-of-line testing routine repeats at each power cycle until the device has been commissioned using the DLM Config App. Before commissioning, this routine can be used to determine if a device has been paired to a network.

ORDERING INFORMATION

Catalog #	Master Pack Details					Inner Pack Details				
	Master Pack Quantity	Case dimensions (in./mm)			Weight (lbs./kg)	Inner Pack Quantity	Case dimensions (in./mm)			Weight (lbs./kg)
		Length	Width	Height			Length	Width	Height	
LMFS-601	200	17.7/450	9.1/230	10.6/270	9.9/4.5	50	8.5/215	8.5/215	4.9/125	2.25/1.0
LMFI-111	200	18.5/470	13.4/340	17.7/450	47.6/21.6	50	12.2/310	8.5/215	8.3/210	11.4/5.2

Catalog #	Color	Description	Input Voltage	Total Rating
<input type="checkbox"/> LMFS-601	White	Integrated Fixture Sensor and Controller, Occupancy, Daylight Harvesting, and IPv6/Bluetooth	12-20 VDC	16mA current consumption from DALI bus
<input type="checkbox"/> LMFI-111	White	Fixture Interface, 120-277V, 1-10V DIMMING, Power to LMFS-601	120/277VAC	3A @ 120/277V

Information supplied above is subject to change.
 Harmonization code: 8538908080. Country of origin: China.

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