Enlighted Compact Sensor

SPECIFICATION

The Enlighted Compact Sensor’s small form factor and flush mount design enables the sensor to blend into its surroundings while it monitors occupancy, daylight and temperature. The Compact Sensor incorporates all the programmability and sensing needed to autonomously control illumination levels, monitor occupancy and environmental conditions. Data is transmitted wirelessly to the Enlighted networked management system.

OVERVIEW

The Enlighted Compact Sensor is designed for indoor lighting applications. The sensor fits into standard sensor knockouts in most fixtures and can also be mounted into the ceiling. With a durable wireless antenna, digital motion, photocell, and temperature sensing and distributed intelligence the Enlighted Compact Sensor brings advanced lighting controls to a whole new scale.

FEATURES AND BENEFITS

Localized Control. Local microprocessor and memory in each sensor allows the execution of programming to be done at the fixture, eliminating dependence on any other network component.

Software-Driven. Light-level schedules, preferences and behavior settings can be defined for each individual fixture and saved in the Enlighted Compact Sensor’s local memory as a software profile. These profiles are wirelessly loaded into the Enlighted Compact Sensors during system commissioning and can be easily modified when desired.

Dual-Technology Occupancy/Vacancy Sensing. Occupancy sensing is provided by the Digital Infrared motion sensor and is enhanced by using the photo sensor to detect changes in the “scene” below to minimize false tripping. When paired with the wireless Enlighted Room Control, the Enlighted Compact Sensor can act as a vacancy sensor providing manual-on/auto-off capability.

Daylight Harvesting Photosensing. The Enlighted Compact Sensor has a multi-phototransistor array attached to a light pipe which brings in data from the “scene” below. The Enlighted Compact Sensor then sends commands to the Enlighted Control Unit to raise and lower light levels based on available daylight.

Thermal Sensing. Reports the temperature at each fixture in the facility.

Motion Grouping. Enlighted’s Compact Sensors can be placed into motion groups, thereby allowing fixtures to act as if a space is occupied based on the motion patterns of other sensors in the buildings.

Full Reporting Functions. Granular and frequent sensor data collection enables deep insightful reporting and analytics. The Enlighted system captures local occupancy, power consumption, light levels and temperature data at each location.

Standards-Based Networking and Security. Adhering to the 802.15.4 wireless protocol, transmitting in bursts and appropriately selecting low-traffic channels, the Enlighted wireless network reliably coexists with Wi-Fi networks. Data is AES-128 encrypted to provide security.

Simple and Low-Cost Installation. No above ceiling wiring is necessary. Typical installations follow a one sensor-per-fixture plan, which makes the installation process simple and repeatable.

Lighting Technology Compatibility. The Enlighted Compact Sensor can send dimming controls to standard 0–10V ballasts and drivers for LED, fluorescent, HID, induction, or plasma fixtures and on/off controls for all types of fixtures and relays.

The Enlighted Compact Sensor

<table>
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<tr>
<th>Body</th>
<th>L 1.96&quot;</th>
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ENLIGHTED SPECIFICATION SUBMITTAL

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<td>CBL-3-50F</td>
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Enlighted Compact Sensor

MOUNTING
The face of the Enlighted Compact Sensor is only 1.18 inches (30mm) in diameter and is designed to mount in a 7/8 inch (22mm) hole. The length of the body is 1.96 inches (49.7 mm). The Enlighted Compact Sensor is detailed to blend with most ceilings—so it virtually disappears.

Lighting fixture manufacturers who are interested in creating smart fixtures are often forced to add sensors that don’t aesthetically integrate well with their fixture designs. The Enlighted Compact Sensor disappears into the fixture via a 7/8" hole.

SENSOR COVERAGE PATTERNS
Enlighted Compact Sensors incorporate a state-of-the-art optical Fresnel lens for digital passive infrared (DPIR) motion sensing.

The lens array incorporated in the Enlighted Compact Sensor for motion sensing produces an all-encompassing field of view by aggregating many repeated narrow fields of view as depicted in the illustration above. For the typical 12.5 ft. ceiling, major motion can be detected at about a 10 ft. radius and minor motion at about 6.5 ft. radius. For a high-bay sensor installed at a 35 foot mounting height, major motion can be detected at about a 20 ft. radius and minor motion at about 12.5 ft. radius.

When the ceiling-mounted Enlighted Compact Sensors are deployed per light fixture as recommended, the areas covered by each device overlap, reinforcing accuracy at the perimeters.

Motion sensitivity is also digitally tunable via the customizable software profile loaded into each Enlighted Compact Sensor during the Enlighted commissioning phase.

TECHNICAL SPECIFICATIONS
Motion Sensing: Digital Passive IR
Photosensor: Light Pipe/Photosensor Array
Enclosure: ABS Polypropylene
Operating: 32° to 122° F / 0° to 50° C
Radio Frequency: 2400–2493.5 MHz
Wireless Protocol: IEEE 802.15.4
Wireless Range: 150 ft. radius (46m) open range
Encryption: AES-128

ORDERING INFORMATION
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COMPLIANCE
Worldwide RoHS
United States
Canada

For more information about the Enlighted Compact Sensor visit www.enlightedinc.com or email sales@enlightedinc.com
The Enlighted Fixture Mount Sensor adds intelligent control to any fixture with a small form factor and ease of installation. The sensor provides all the benefits of Enlighted’s Smart Sensor technology, including digital PIR and ambient light sensing with state-of-the-art daylight harvesting, occupancy and environment monitoring. Simple to integrate within a fixture, the sensor operates seamlessly to create comfortable space and communicate data wirelessly to the Enlighted control network.

OVERVIEW

The Enlighted Fixture Mount Sensor is designed to fit in a standard 1/2 inch knockout in indoor fixtures, leaving only the sensor face (27 mm) visible, making it an ideal choice for adding intelligence while maintaining aesthetics. The 18 AWG solid copper wiring between the sensor and a compatible LED driver simplifies installation and provides plug and play capabilities as well as compatibility with numerous LED drivers available in the marketplace. With a durable wireless antenna, digital motion, ambient light and temperature sensing and distributed intelligence, the Fixture Mount Sensor makes advanced lighting control a reality for any fixture manufacturer.

FEATURES AND BENEFITS

Localized Control: Local microprocessor and memory in each sensor enables sequence of operation at the fixture, eliminating dependence on any other network component once system setup is completed.

Software-Driven: Light-level schedules, preferences and behavior settings definable for each fixture and saved in the sensor’s local memory as a software profile. Profiles are wirelessly communicated to sensors during system setup and can be easily modified when desired.

Occupancy Sensing: Digital PIR detection is supplemented with data from the ambient light sensor for precise detection of changes in the coverage area and minimized false tripping.

Manual-on/Vacancy Sensing: When paired with the wireless Enlighted Room Control (WS-1-00), the sensor acts as a vacancy sensor providing code-compliant manual-on/auto-off capability.

Daylight Harvesting: An ambient light sensor captures light level data from the coverage area. The sensor then interprets this data and transmits code-compliant control commands to the LED driver to raise and lower light levels based on available daylight.

Thermal Sensing: Reports the temperature at fixture level granularity.

Zone Control: Sensors can be grouped into zones, thereby allowing multiple fixtures to share occupancy sensing data and respond simultaneously to occupant motion patterns in specific building areas.

Full Reporting Functions: Local occupancy, power consumption, light levels and temperature data collection compatible with Enlighted’s control network enables deep insightful reporting and analytics.

Standards-Based Networking and Security: Adhering to the 802.15.4 wireless protocol, transmitting in bursts and appropriately selecting low-traffic channels, the Enlighted wireless network reliably coexists with Wi-Fi networks. AES-128 encryption provides robust data security.

Simple and Low-Cost Installation: Single wiring connection in fixture only with no other above ceiling wiring required. One sensor-per-fixture approach simplifies installation process.

Lighting Technology Compatibility: Sensor dimming and on/off signals are compatible with the Philips Xitanium SR LED driver (model # XI040C110V054VPT).
Fixture Mount Sensor

MOUNTING
The face of the Enlighted Fixture Mount Sensor is only 1.06 inches (27mm) in diameter and is designed to mount in a 1/2 inch trade size knockout, or .875 inch (22mm) hole. All parts of the sensor are enclosed within the fixture cavity except for the sensor face, which is positioned outside the luminaire body looking down at the space. The sensor features a flexible 2-washer assembly with spring to ensure a snug fit regardless of the thickness of the fixture wall.

Lighting fixture manufacturers who are interested in creating smart fixtures and aesthetically appealing fixtures can now do both with the Enlighted Fixture Mount Sensor.

DIMENSIONS

SENSOR COVERAGE PATTERNS
Enlighted Compact Sensors incorporate a state-of-the-art optical Fresnel lens for digital passive infrared (DPIR) motion sensing.

The lens array incorporated in the Enlighted Fixture Mount Sensor for motion sensing produces a 105 degree field of view for coverage. The maximum recommended mounting height should not exceed 19 feet (6 meters).

TECHNICAL SPECIFICATIONS
Motion Sensing: Digital Passive IR
Ambient Light Sensing: Light Pipe/Photosensor Array
Enclosure: ABS/Polycarbonate
Operating: 32° to 122° F / 0° to 50° C
Radio Frequency: 2400–2493.5 MHz
Wireless Protocol: IEEE 802.15.4
Wireless Range: 150 ft. radius (46m) open range
Encryption: AES-128
Warranty: 3 years

ORDERING INFORMATION
FS-D2 Enlighted Fixture Mount Sensor*

* standard packing in quantities of 200, assembled. Contact factory for different quantities.

COMPLIANCE
Worldwide IEC 62386–101, 102 Ed1.0 RoHS
United States
Canada

For more information about the Enlighted Fixture Mount Sensor visit www.enlightedinc.com or email sales@enlightedinc.com