Enlighted Smart Sensor

enlighted

The Enlighted Smart Sensor monitors occupancy, daylight, and temperature. The Enlighted Smart Sensor incorporates all the programmability and sensing needed to autonomously control illumination levels, monitor occupancy, and environmental conditions. The sensor transmits the data wirelessly to the Enlighted network management system.

OVERVIEW

The Enlighted Smart Sensor is designed for general indoor lighting applications. The sensor measures occupancy and motion, ambient light, temperature, and fixture energy consumption. It incorporates a programmable microprocessor and wireless communications functionality, both operating from the power of the fixture to which it is attached. Sensor behaviors and schedules are stored both in the sensor and backed up at the Enlighted Energy Manager.

The Enlighted Smart Sensor collects data and transmits it to the Enlighted Energy Manager for reporting via an onboard secure wireless radio. The wireless radio receives data during commissioning, maintenance, and programmed events such as demand response.

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 Smart Sensor's local memory as a software profile. These profiles are wirelessly loaded into the Enlighted Smart 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 sensor can act as a vacancy sensor providing manual-on/auto-off capability.

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

Motion Grouping. Enlighted's Smart 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 group.

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 Smart 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 Smart Sensor

L	3.46"	88mm
W	3.46"	88mm
H	1.18"	30mm

ENLIGHTED SPECIFICATION SUBMITTAL

Job Name:

Job Number:

Product Codes:

☐ SU-2O-00

☐ SU-2O-HB

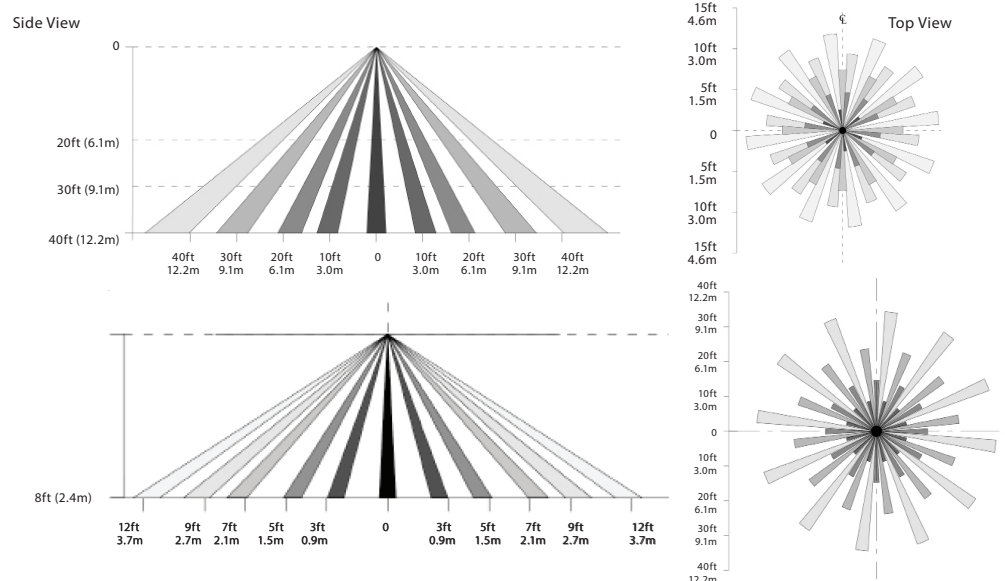☐ BRKT-SU-2O-00

☐ BTTN-SU-2O-00

☐ CBL-2-7F

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MOUNTING

The Enlighted Smart Sensor comes with a nylon threaded screw for mounting in acoustical tile or drywall ceilings. Optional mounting accessories available include a sheet metal screw with a button mounting bracket for fastening to T-bar ceilings and fixtures and a formable bracket is available for mounting the SU directly to the light fixture.

SENSOR COVERAGE PATTERNS

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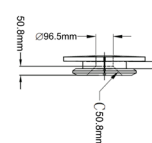

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Adjustable Mounting Bracket

Button Mounting Bracket

The lens array incorporated in the Enlighted Smart 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 Smart 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 Smart Sensor during the Enlighted commissioning phase.

TECHNICAL SPECIFICATIONS

Motion Sensing: Digital Passive IR

Photosensor: Light Pipe/Photosensor Array

Enclosure: Recyclable ABS

Operating: 32° to 122° F / 0° to 50° C

Radio Frequency: 2400–2483.5 MHz

Wireless Protocol: IEEE 802.15.4

Wireless Range: 150 ft. radius (46m) open range

Encryption: AES-128

ORDERING INFORMATION

SU-2O-00	Standard Mount Sensor Unit
SU-2O-HB	High-Bay Mount Sensor Unit
BRKT-SU-2O-00	Adjustable Mounting Bracket
BTTN-SU-2O-00	Button Mounting Bracket
CBL-2-7F	7 ft. Sensor Cable

COMPLIANCE

Europe   CE   RoHS   REACH

United States   FC   UL LISTED

Canada   c UL LISTED

Warranty: 5 years
Refer to www.enlightedinc.com/limited-warranty-terms for complete terms and conditions