Micro Sensor

enlighted™
A Siemens Company

The Enlighted Micro Sensor is our fifth-generation sensor, delivering all the functionality of our other sensors in a minimally-sized package. Integrated sensors capture data that is both processed locally and transmitted over the Enlighted network, enabling a full suite of applications. In addition, the sensor supports Bluetooth® Low Energy communication with tags and other BLE devices.

OVERVIEW

The Micro Sensor is a complete sensing and lighting control node powered from its attached light fixture. An innovative carrier-based mounting design supports easy installation and replacement. With integrated wireless communications for data transmission and remote configuration as well as autonomous fixture-level control, this sensor brings advanced lighting automation to a whole new level.

FEATURES AND BENEFITS

Enlighted Sensor Interface (ESI): IoT Ready™ LED drivers and Enlighted Control Units communicate with the sensor directly via a serial interface. The ESI provides access to device information, energy consumption, and digital lighting control.

Localized Lighting Control: Light-level schedules, preferences, and behavior profiles for each fixture are wirelessly communicated during system setup and locally stored to ensure continuous operation.

Edge Sensing: Local processing capability supports advanced sensing and detection algorithms, providing optimization of existing features and enabling future applications.

Bluetooth Low Energy: An embedded BLE radio allows the sensor to receive and transmit beacons as well as support communication with lighting control devices and other sensors.

Occupancy and Thermal Sensing: A digital Passive Infrared (PIR) sensor combined with separate ambient and temperature sensing support precise motion identification while minimizing false detection events.

Tunable White: Dual channel control supports tunable white fixtures, enabling color transitions based on time of day or user control.

Daylight Harvesting: Captured ambient light information is locally processed to raise and lower light levels based on available daylight.

Room and Zone Control: Pairs with room control switches for code-compliant manual-on or auto-off capability. Sensors can be grouped into zones that share occupancy sensing data and coordinate light control based on detected motion.

IoT Sensing Node: When configured as an IoT Node, the sensor streams comprehensive live data for use with Enlighted's real-time location and analytics software applications. This option is available directly from the factory or as a remote upgrade.

Standards-Based Networking and Security: The Enlighted 802.15.4 wireless network with AES-128 encryption delivers secure, reliable communication that coexists with Wi-Fi networks by sensing low-traffic channels and transmitting in bursts.

Data Privacy: The sensor captures occupancy data in the sensor coverage area. The sensor cannot directly reference or identify any natural person.

Driver Compatibility: Dimming and on/off control signaling for standard 0-10V ballasts and drivers in LED and fluorescent light fixtures.

The Enlighted Micro Sensor

Body	L	0.88"	22.5 mm
	Dia.	0.73"	18.5 mm
Bezel	Dia.	1.06"	27.0 mm

The Enlighted Fixture Carrier

Body	L	0.51"	13 mm
	Dia.	0.81"	20.7 mm

ENLIGHTED SPECIFICATION SUBMITTAL

Job Name:

Job Number:

Product Codes:

- ☐ SU-5E-[IoT/CL/IL]
- ☐ SU-CL-IoT-UPG
- ☐ SU-IL-IoT-UPG
- ☐ TMC-SU-5E
- ☐ CPL-RJ45
- ☐ CBL-5E-CU4-30N
- ☐ CBL-5E-CU4-7F
- ☐ CBL-5E-CU4-12N
- ☐ CBL-5E-5W-30N
- ☐

Micro Sensor

enlighted™
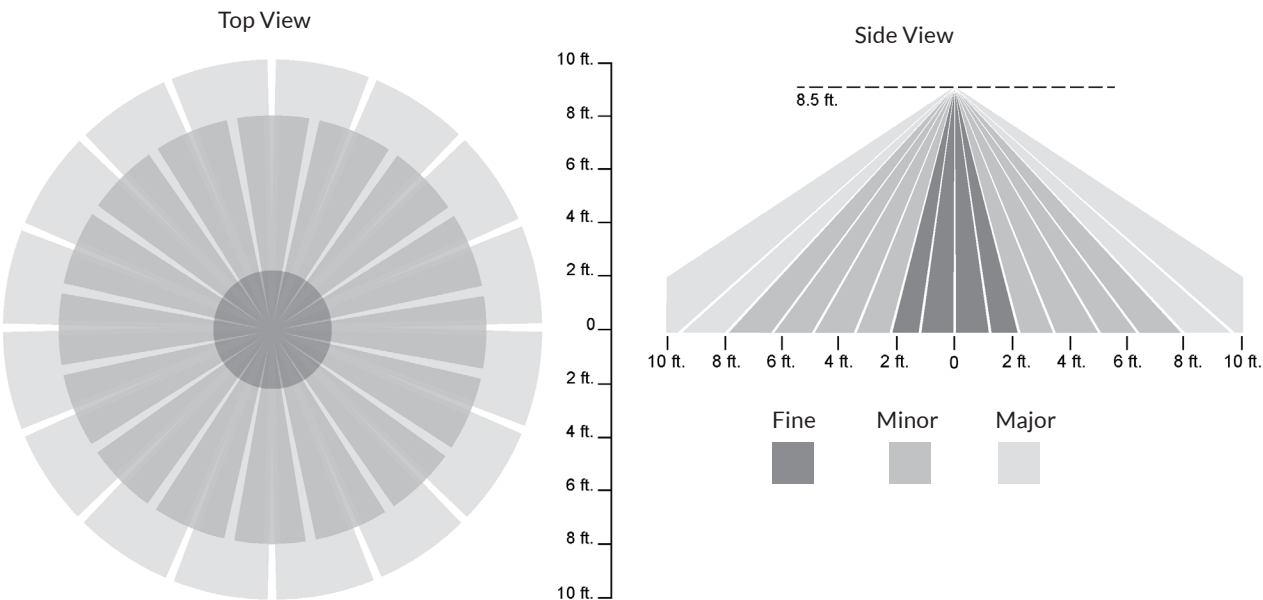A Siemens Company

MOUNTING

The Enlighted Micro Sensor is designed to be easily mounted into lighting fixtures or ceiling tiles such that only the discreet white faceplate is visible. The sensor slides into a carrier sleeve fitting a standard 1/2 inch trade size knockout or 7/8 inch (22 mm) hole. Carrier sleeves compatible with either lighting fixtures or ceiling tiles are available. Sensor replacement requires no tools—simply slide the sensor out of the carrier, unplug the connector, and install the new sensor.

Micro Sensor

0.73 in. (18 mm)
0.88 in. (22.5 mm)
1.06 in. (27 mm)

Carrier

0.81 in. (20.7 mm)
0.51 in. (13 mm)

SENSOR COVERAGE PATTERNS

The Enlighted Micro Sensor incorporates an optical Fresnel lens that works with the digital Passive Infrared (PIR) sensor to detect occupancy and motion. The multifaceted lens focuses light onto the PIR to produce an all-encompassing field of view through aggregation of many narrow fields of view. When the Micro Sensor is deployed as recommended, the area covered by each sensor overlaps, reinforcing coverage and accuracy across the entire floor plan.
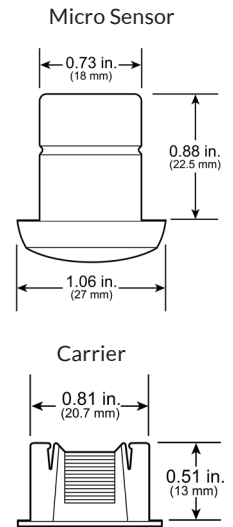
Ceiling Height	Fine Motion (Radius)	Minor Motion (Radius)	Major Motion (Radius)
8.5 ft/2.6 m	2.3 ft/0.7 m	8 ft/2.4 m	10 ft/3.0 m
15 ft/4.6 m	4.0 ft/1.2 m	10 ft/3.0 m	18 ft/5.5 m

Top View

Side View

8.5 ft.

10 ft. 8 ft. 6 ft. 4 ft. 2 ft. 0 2 ft. 4 ft. 6 ft. 8 ft. 10 ft.

Fine   Minor   Major

TECHNICAL SPECIFICATIONS

Motion Sensing: Digital Passive IR

Photosensor: Light Pipe/Photosensor Array

Enclosure: ABS/Polycarbonate blend

Type: Closed Loop Light Sensor

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

Wireless Standards: IEEE 802.15.4
Bluetooth 4.0 Low Energy (BLE)
Radio Frequency: 2400-2483.5 MHz
Wireless Range: 150 ft. (46 m) radius open range
Encryption: AES-128

Two Dimming Outputs: 10mA source/sink each

ORDERING INFORMATION

SU-5E-xxx*	Micro Sensor (*see Product codes)
SU-CL-IoT-UPG	Connected Lighting to IoT Sensor Upgrade
SU-IL-IoT-UPG	Independent Lighting to IoT Sensor Upgrade
TMC-SU-5E	Tile Mount Carrier
CPL-RJ45	Female RJ45 Coupler
CBL-5E-CU4-30N	30 inch Sensor Cable for CU-4
CBL-5E-CU4-7F	7 foot Sensor Cable for CU-4
CBL-5E-CU4-12N	12 inch Cable for CU-4
CBL-5E-5W-30N	30 inch Profile 0 Driver Cable

COMPLIANCE

Europe   CE RoHS REACH

United States   FC UL LISTED

Canada   cUL LISTED

WARRANTY: 5 years
View www.enlightedinc.com/limited-warranty-terms for complete terms and conditions

*Product Codes: xxx

IoT= IoT Node
CL= Connected Lighting
IL= Independent Lighting /Enlighted One