

Two-wire Fixture Mount Sensor (FS-D22)

SPECIFICATION

The Enlighted two-wire 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. The sensor also includes a Bluetooth 4.0 BLE radio for beaconing. Simple to integrate within a fixture, the sensor operates seamlessly to create a comfortable space and communicate data wirelessly to the Enlighted control network.



OVERVIEW

The two-wire Fixture Mount Sensor (FS-D22) is designed so the device installs into the fixture cavity, leaving only the sensor face 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. With a durable wireless antenna, digital motion, ambient light, temperature sensing, and distributed intelligence, the two-wire 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 enable a 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 are 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.

Bluetooth 4.0 Low Energy (BLE): Incorporates a BLE radio and broadcasts beacons. Beacons can be turned on or off using the Enlighted Energy Manager.

Manual-on/Vacancy Sensing: When paired with the wireless Enlighted Room Control (WS-2-00), 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 ambient temperature at the sensor location.

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 the installation process.

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

The Enlighted two-wire Fixture Mount Sensor

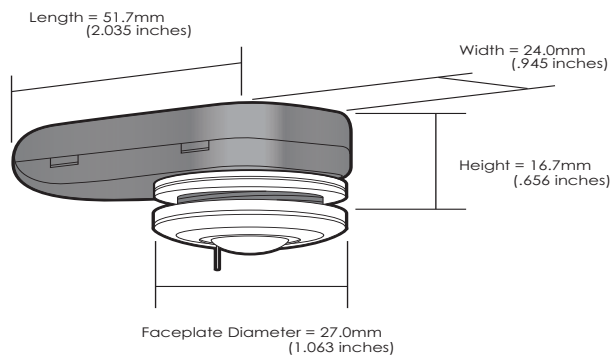
Body	L	2.03"	51.7mm
	W	0.9"	24mm
Face	Dia.	1.06"	27mm
Weight		0.8 oz	22.6 grams

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MOUNTING

The Enlighted two-wire Fixture Mount Sensor can be easily integrated into lighting fixtures through a 1/2 inch trade size knockout or .875 inch (22mm) hole. Just unscrew the faceplate from the sensor, insert the threaded part through the knockout, and reattach the faceplate from the outside of the fixture. A spring washer ensures that the faceplate is flush with the fixture. After the sensor has been properly mounted into a fixture, only the discrete white faceplate is visible.

DIMENSIONS



SENSOR COVERAGE PATTERNS

The Enlighted two-wire Fixture Mount Sensor uses infrared technology to detect occupancy. The human body emits heat as infrared light. The sensor incorporates a multifaceted lens to focus this light on to a passive infrared detector (PIR). Using patented algorithms, the Enlighted two-wire Fixture Mount Sensor analyzes the PIR's output and determines if a person is present.

The Enlighted two-wire Fixture Mount Sensor can detect occupancy within a 100 degree conical field of view. The maximum recommended mounting height is 20 feet (6 meters) above the floor.

TECHNICAL SPECIFICATIONS

Motion Sensing: Digital Passive IR

Photosensor: Light Pipe/Photosensor Array

Enclosure: ABS/Polycarbonate blend

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

Radio Frequency: 2400–2483.5 MHz

Bluetooth 4.0 Low Energy (BLE):

Operating Frequency: 2400–2483.5 MHz

IEEE Standard: 802.15.1

Broadcasting Interval: Configurable

Wireless Protocol: IEEE 802.15.4

Wireless Range: 150 ft. (46m) radius in free space field

Encryption: AES-128

ORDERING INFORMATION

FS-D22 Enlighted two-wire Fixture Mount Sensor

COMPLIANCE

Europe

United States

Canada

Warranty: 3 years



Bluetooth® is a registered trademark of Bluetooth SIG, Inc.

The Enlighted Space application provides accurate, detailed occupancy views and extensive building utilization reports.

OVERVIEW

The cloud-based Enlighted Space application software provides insight into building usage and occupancy patterns using data from the Enlighted Sensor Network. The Space application allows customers to visualize and measure workspace utilization providing detailed views and extensive reports of occupancy patterns. Customers can anonymously, non-intrusively measure usage of workspaces, identify under-utilized spaces, increase efficiency, and develop strategies to increase employee productivity. The application is easy to deploy as no customer premise equipment is needed.

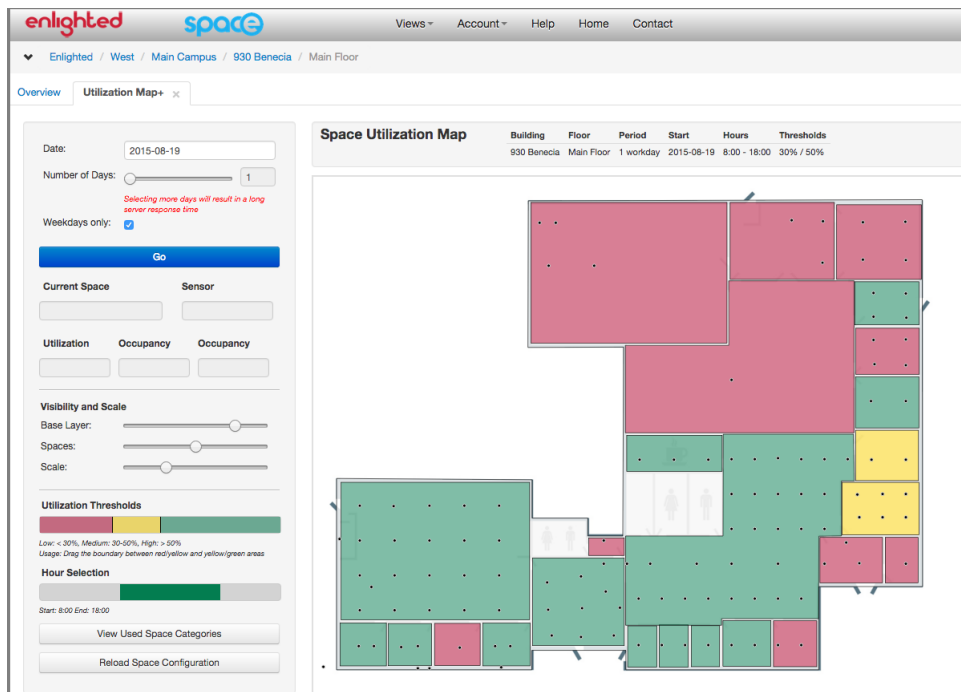
FEATURES AND BENEFITS

Ease of Deployment and Use: Easy to deploy cloud-hosted SaaS-based application with visual maps that can be customized to define workspaces directly on a floor plan.

Visualize and Measure Space Utilization: Detailed insight into space utilization of how people utilize workspace on a floor. Data-driven and visual analysis of actual movement on a particular floor through aggregation and visualization of motion "trail" patterns.

Extensive Reporting: Provides estimates of occupied square footage and costs by department and function, vacancy reports detailing the percentage of unoccupied space, utilization reports showing low, medium, high workspace utilization. Graphs display average and peak utilization in each area of a workspace over time.

Use-cases: Understand utilization of workspaces such as conference rooms, open spaces, and huddle areas to consolidate real estate. Incorporate workspace design changes to increase user productivity for optimizing building utilization. Monitor janitorial and security sweeps to track after-hour activities to support facilities.



For more information and to see a demo, email sales@enlightedinc.com



SPECIFICATION

The Enlighted Aire application saves energy by providing demand-driven heating or cooling using Enlighted’s advanced distributed real-time occupancy sensing network.

OVERVIEW

The Enlighted Aire application saves energy by providing heating and cooling only when and where it is needed. Commercial building operators can now implement advanced reset strategies based on real-time building occupancy to maximize their investment in Direct Digital Control (DDC) systems with Variable Air Volume (VAV) and Variable Frequency Drives (VFD). Aire enables facility managers to direct cooling or heating to where occupants are working, providing for a more comfortable environment while simultaneously saving energy. Additionally, distributed temperature sensing allows better control over hot and cold spots in each zone, improving user comfort and reducing hot/cold calls.

FEATURES AND BENEFITS

Powerful yet easy to use: Provides a balance between High, Medium, and Low setpoints with intuitive system control. Users can define behavior for each VAV zone based on the most common space types in buildings such as conference room, open office, or hallway. Built-in advanced fail-safe protective safety features ensure sensor and system reliability.

Simple Administration: At-a-glance view of the recommended setback modes and zone utilization with easy to drag interface for mapping sensors to zones and VAVs. The display includes concise visual mapping of zones, VAVs, and sensors on a floorplan with pre-defined behaviors and schedules for most common commercial space types. A minimal set of BACnet points provide a simple integration interface with Building Management systems that support BACnet/IP.

Rich reporting and monitoring via BMS: Dynamically view energy savings using customizable time schedules and setback levels. Monitor and view real-time setback status, utilization, and temperature by zones.

Time of Day	Reset Low (min.)	Reset Medium (min.)	Reset High (min.)	Reset to Auto/Occupied (Minutes)
Early Morning	2	4	6	1
Morning	3	5	7	2
Mid Morning	2	4	6	1
Lunch	3	5	7	2
Afternoon	2	4	6	1
Late Afternoon	3	5	7	2
Evening	2	4	6	1
Night	3	5	7	2

Private Offices (7 Zones)

- Private Office
- Open Office
- Conference Room
- Call Center
- Call
- Call Room
- Call Booth
- Call Center
- Call Booth

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Dashboard Zones Behaviors Schedules

Existing Zone Behavior

- Matrix Conference Rooms
- Usual Suspects Conference Rooms
- Dark Knight Conference Rooms
- Rush Hour Conference Rooms
- Mission Impossible Conference Rooms
- Cops1 Conference Rooms
- Cops2 Conference Rooms

Open Office - A Assign Zone and Behavior

Main Campus Carson Building Demo Area

ENLIGHTED SPECIFICATION SUBMITTAL

Job Name:

Job Number:

Product Codes:

AIRE-HW-01: Manages up to five Energy Managers, includes HW and SW, Zone licenses not included

AIRE-HW-02: Manages Enterprise Energy Manager, includes HW and SW, Zone licenses not included

AIRE-ZNS-20: Yearly 20-zone License Starter Pack Software

AIRE-ZNS-01: Yearly Add-on License for a Single Zone

For more information and to see a demo, email sales@enlightedinc.com