LS130
Technical Datasheet

Effective August 28, 2016

Starfield Lighting Automation

Passive Dual Technology Occupancy Sensors for Control of Lighting and other Switched Electrical Loads

RoHS COMPLIANT

Made in USA

CA Title 24

Overview

The LS130 is a family of compact, high performance, occupancy sensors that mount on ceilings or luminaires to provide reliable on/off control of lights and other switched electrical loads.

LS130 Dual Technology Occupancy Sensor

Highlights

Reliable More detection zones (up to 6x more), uniform coverage, ceiling mounting, zero cross-over switching, and high noise resistance all add up to exceptional error-free operation.

Right Shape Common sense and basic geometry says that using the LS130's rectangular PIR sensors to cover rectangular spaces will be efficient and it is covering up to 44% more effective area than radial sensors.

Passive Dual Technology Two completely passive sensors both see and hear activity to reliably detect occupancy both directly and around barriers.

Ceiling or Fixture Mount Small size, ¼" stem, and speed nut or adhesive pad attachment allows the LS130 to be optimally located on ceilings or light fixtures and flat or curved surfaces.

Convenient Access Buttons and indicators are located on the front of the sensor for convenient configuration, testing, and manual operation.

Patents Starfield's occupancy and daylighting technologies are protected by one or more issued or pending patents including US9459601 and US9084308.

Warranty 3-year limited.

General Specifications

Size 1.66 x 1.66 x 0.64 inch

Weight 1oz

Material 94v0 flame retardant PC/ABS blend

Color NEMA WD1 White

Mounting ¼ x 1" plastic stem through ¼" clearance hole using provided speed nut or optional adhesive pad.

Color NEMA WD1 White

Power 7mA, 24vdc, Class 2. PPUV power pack required

Indicators Three indicators for testing, programming, and sensor trips

Order Number

LS130- | 2 | D

PIR Motion Sensor	PAR Dual-Tech
1 - Slight 2 - Standard 3 - Spot 4 - Wide	D - Dual Tech

Standard package includes sensor, 3 wire nuts, 1 speed nut, and instructions.

Accessories:
PPUV - 100-277v universal power pack and 20A lighting relay. Ordered separately
AD1 - Speed Nut - pkg of 25
AD2 - Adhesive Pad - pkg of 25

Location & Applications

Location - For best performance locate the sensor on a light fixture or ceiling 24 inches away from supply air registers and other heat sources and with a full unobstructed view of the detection area.

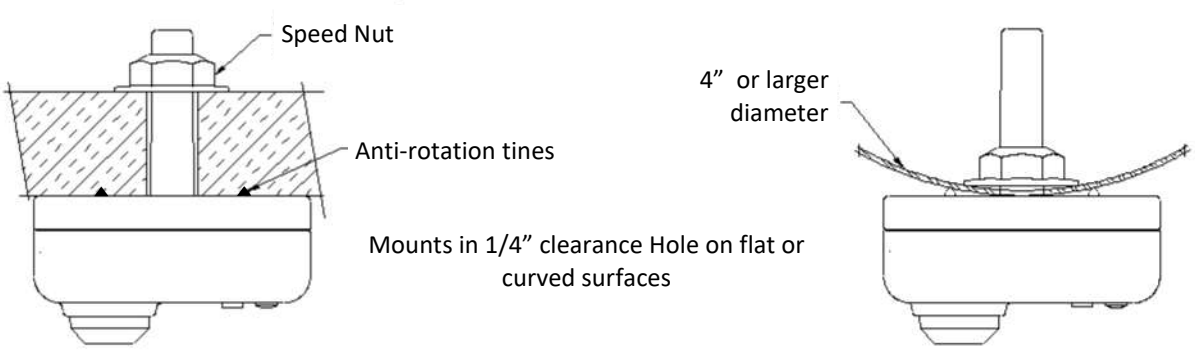
Height - See Coverage Table

Multiple PIR Coverage - Cover high value work surfaces from two or more directions to optimize coverage.

Large Work Areas - Parallel wire multiple LS130 sensors with 10% overlap to provide continuous, high resolution coverage of larger spaces.

Open Work Areas - Cover the entire area . Best practice is to place one sensor above each cubical or work area or

Mounting



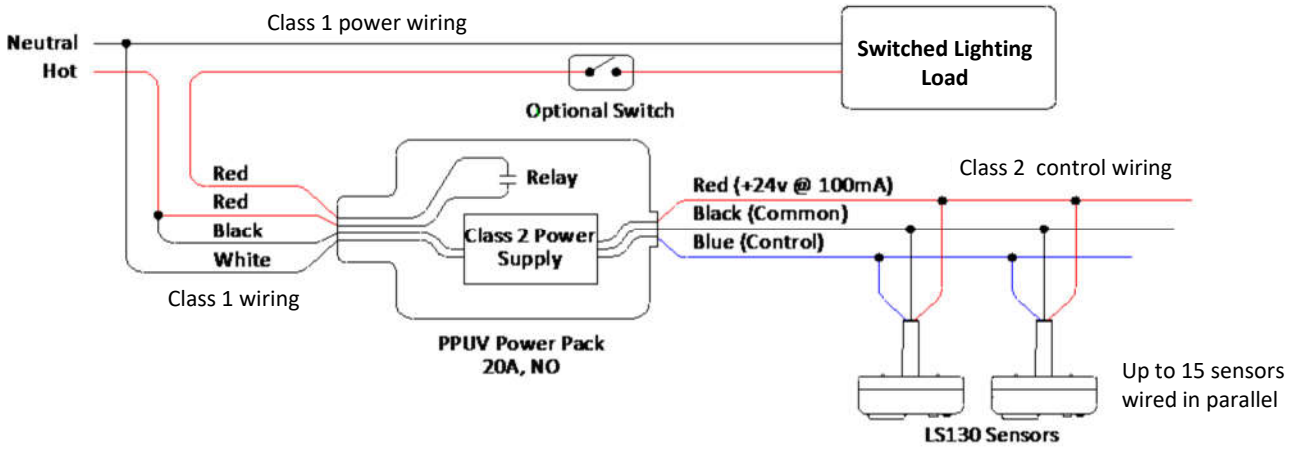
Flat Panels

Mounts on ceiling tile and flat panels up to 5/8" thick or on thicker panels with optional adhesive pad.

Curved Surfaces

Mounts on light fixtures and other curved surfaces with diameters as small as 4".

Wiring



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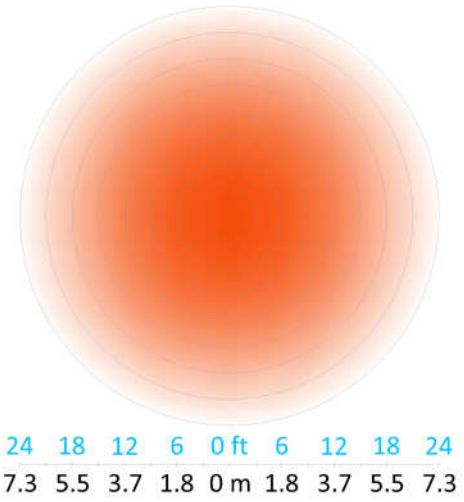
LS130 PAR Sensor

Starfield's patented Passive Audio Range (PAR) sensor hears around obstacles to provides the perfect compliment to PIR line-of-site detection.

HIGHLIGHTS

- Low power and completely passive
- Full range audio detection "hears" around obstacles
- Detects sharp sounds like speech, walking, chairs moving, and knuckle taps
- 5 sensitivity adjustments allows use in small to large zones.
- Dynamically filters out background noise.
- Must be activated by a PIR trip.
- PAR-only occupancy periods are limited to 20 minutes.
- Covers up to 1200 ft² in a 20ft radius in rooms with typical finishes.



PAR

Coverage - PAR sensor in a typical room and set to medium sensitivity covers up to 1200 ft² in a 20 foot radius depending of acoustic properties of room

LS130 Operation

OCCUPANCY

- The amber LED blinks each time activity is detected.
- Only a PIR trip can start an occupied period but either sensor can maintain it.
- After 10 minutes (adj) with no activity, lights turn off a 15 second grace period begins.
- During the grace period, either a PIR or PAR trip will turn lights on and restart the occupancy period.
- PAR trips by themselves can only sustain an occupied state for 20 minutes after which lights are turned off.
- Test Mode lowers the occupancy delay to 1minute for 10 minutes after normal operation is restored.

FACTORY SETTINGS

- **Occ Delay** 10 minutes
- **Grace Period** 15 seconds
- **PAR Sensitivity** Medium

ADJUSTMENTS

- **Occupied period** 5-20 minutes
- **PAR Sensitivity** High to Low

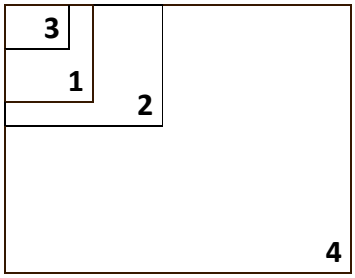
INDICATORS

- **Green** Blinks each time a button is pressed
- **Amber** Blinks each time activity is detected
- **Red** Not used

BUTTON OPERATION

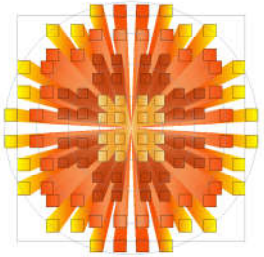
- **Button 1** Manual on
- **Button 2** Manual off *
- **Button 3** Blinks the green LED but has no function.
- **Button 1+3** Press and hold 15s to enter the test and configuration mode.

LS130 PIR Sensor Footprints

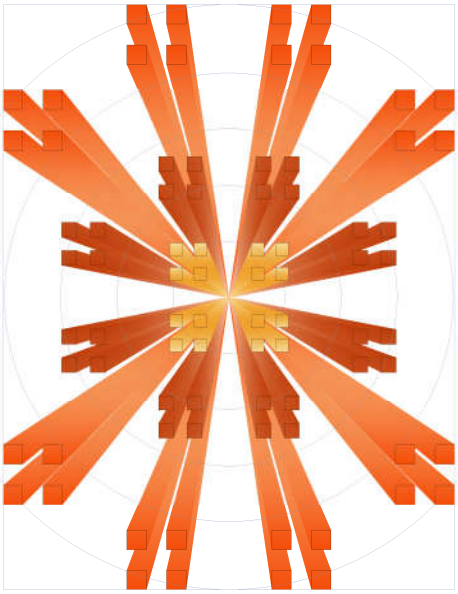


PIR Proportional Coverage

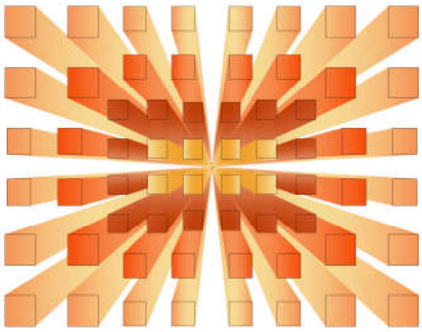
Type 3 - Spot



Type 1 - Fine



Type 4 - Wide



Type 2 - Standard

Coverage for sensors 1-3 is shown in proportion to each other.

PIR Coverage Table

Factor	1 - Fine	2 - Standard	3 - Spot	4 - Wide
Typical Applications	Offices	Classroom, Halls, Restrooms	Cubicles, Curtain Walls	Gymnasium, Warehouse
Typical Mounting Height (ft) [2]	6.5 above desk	9.0	9.0	18
Maximum Detection Distance (ft)	6.5 [1]	16.4	16.4	32.8
Coverage at Typical Mount (ft)	16Φ or 15x15	26x20	7.6x8.9	56Φ, 56x43
PIR Detection Zones	104	64	24	80
Coverage Area (ft^2)	225	520	55	2,500
Nominal Minimum Detection Level	Hand	Arm	Hand	Body

1. Type 1 has maximum resolution at desktop level. Detects walking motion at floor level.
2. Coverage is proportional to height so coverage at 10 feet is 11% larger than at 9 feet.