Manuals+ — User Manuals Simplified.

BubblyNet S-DL-C12 Daylight Sensor User Guide

**S-DL-C12 Daylight Sensor
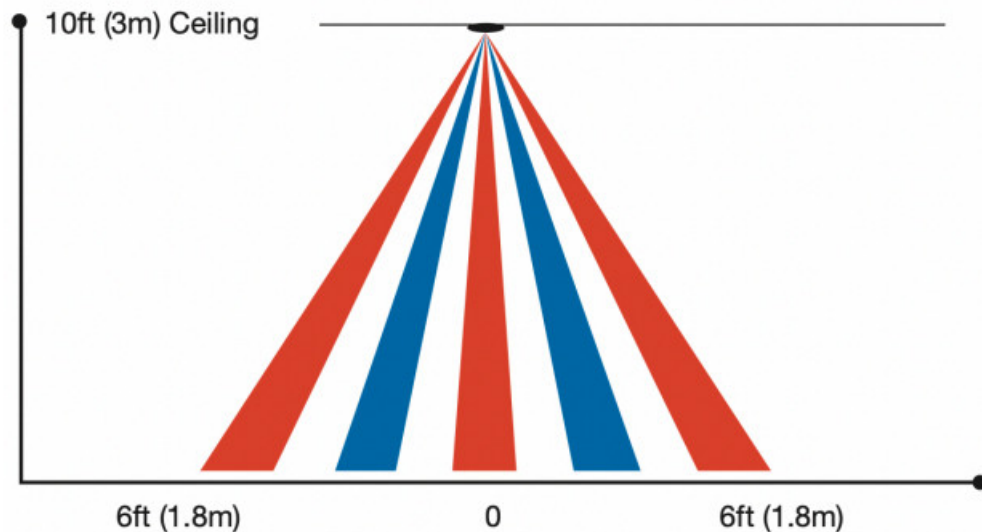User Guide**

Contents

Glossary

Lux= lumen per square meter
Fc= foot candle= one lumen of light density per square foot
Daylight Sensor= A device that reads available light and sends a signal to the control system.
Daylight Sensor = Photo Cell = Photo Sensor
Daylight detection cone= this is the area in which the cone can operate and detect a change in lightness.


Daylight Harvesting technology overview
When the sensor detects a lighting change, the Bluetooth mesh network reacts, and all the lights in the group dim up or down in accordance with the change and the lux level set as a standard.
Bubblejet uses a closed-loop method approached.
The closed-loop approach employs light sensors that measure light from both natural and artificial sources to regulate the intensity of the light fixtures until the required level is obtained. Light level intensity is regularly changed in response to changing daylight availability. Closed-loop systems are typically used in interior installations.
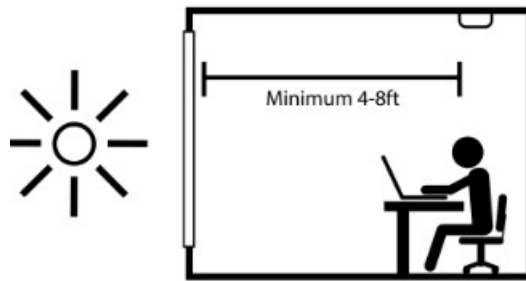**Where to place the daylight sensor**

- The sensor should be located close to the occupants' location so that the perceived lux from the occupants is very close to the one harvested by the sensor.

- Avoid exposing sensors to direct sunlight or harsh light conditions, as this can result in misleading readings and poor artificial lighting control.
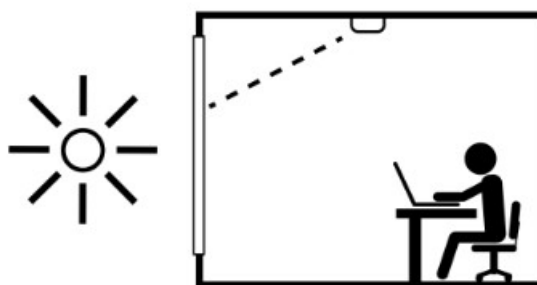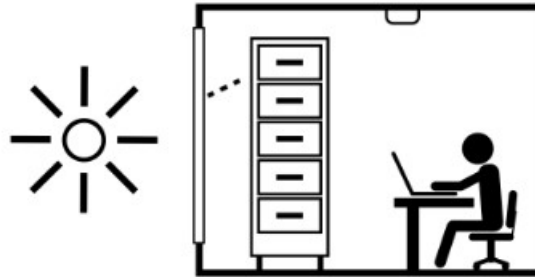

- Avoid to place the sensor nearby reflective surfaces such as glass or mirrors.

- The sensor should be place 4 to 8 feet away from the window (or 2 times the height of the window)

- Check that the daylight sensor's view is not obscured.

- Avoid putting the sensor in direct light from nearby lighting fixtures. This can cause the sensor's readings to be incorrect and the system to malfunction.
- Try to place the sensor in the spot with the highest ratio of sunlight and artificial lighting.
- Each partitioned space, such as a private office, should have one sensor.
- The optimal daylighting behavior will be provided by one sensor for each individually controlled shade group.
- Maintain a consistent sensor height throughout the room to ensure uniform measurements.
- Don't use more than one sensor per lighting control group.

Type of Daylighting

Continuous daylighting
To maintain the desired light level, continuous daylighting involves smooth, continuous dimming from low to high. Continuous daylighting adjusts lights based on the amount of daylight that is always present in the space, ensuring that the minimum light level is met without over-lighting the space (as opposed to switched and bi-level daylighting).

Switched daylighting
Loads are turned off in switched daylighting when the desired level of daylight is reached. To prevent frequent on-off behavior, this type of daylighting employs a delay-to-off. The electric lights are designed to provide the necessary amount of light at desk height. As the sun rises, the total amount of light in the room increases. The electric lights will turn off once the amount of daylight entering the space exceeds the minimum required light level. The electric lights will then be turned off until the natural light can no longer provide the minimum required light level in the space.

Calibration Requirements

Bad conditions:

1. Configuration during night time with artificial lights on

   Calibrating in a space illuminated only by electric lighting may result in the space being underlet during the day when the light sensor is affected by light coming from outside the sensor's field of view.

2. Configuration during night time with artificial lights off

   There is insufficient light, resulting in incorrect light sensor calibration.

3. Daytime with covered windows

Even though daylight is available, the windows are closed and there is insufficient light in the space. This may result in incorrect sensor calibration, resulting in a high error rate in other conditions.

Ideal condition:
The available daylight in the space is ideally close to the desired conditions to be maintained by daylight harvesting (light level is close to the level defined in the profile chosen for this zone) and at least 100 lux.
Before calibrating, make sure that at least 25% of the desired light level is reaching the sensor. If the sensor is washed out by sunlight, the calibration will almost certainly result in undesired behavior. When installing the sensor, remove or open all window coverings.

Calibration & Configuration

Once the sensor has been installed and provisioned into the lighting control group that we want to control. From the app's settings, we may enter the sensor calibration.
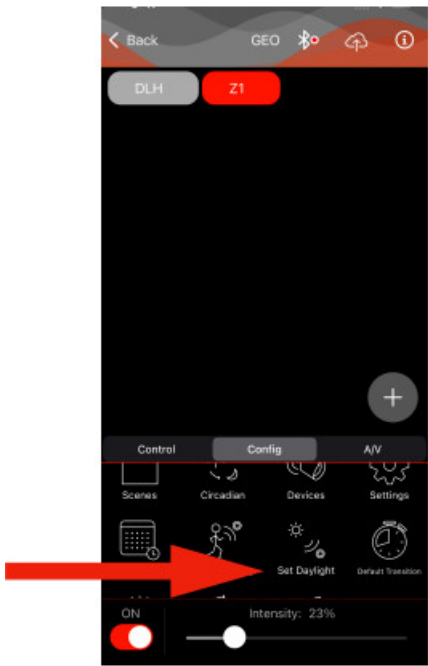

In the calibration menu, press the calculate min/max button. The lights will turn on and off, and the app will calculate a range of possible lux values you can attain. Set run time to 4 H if you don't have a motion detection on.
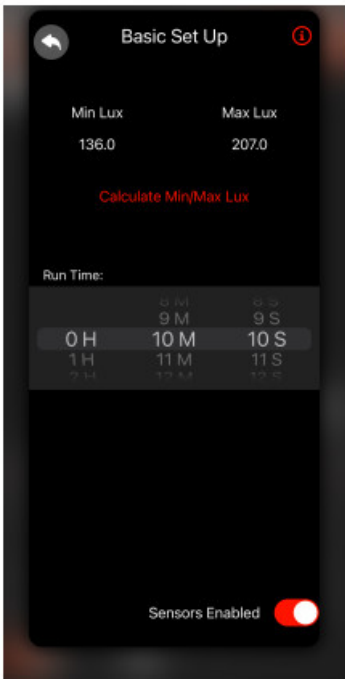
The following screen will require you to select a hold lux value and a value within the range. The slider would be set to the middle of the range by default.

The next slider is the KIU, which should be left at the default setting of 250 in most circumstances.

Lowering the KIU value reduces the sensor's sensitivity to changes in light input.

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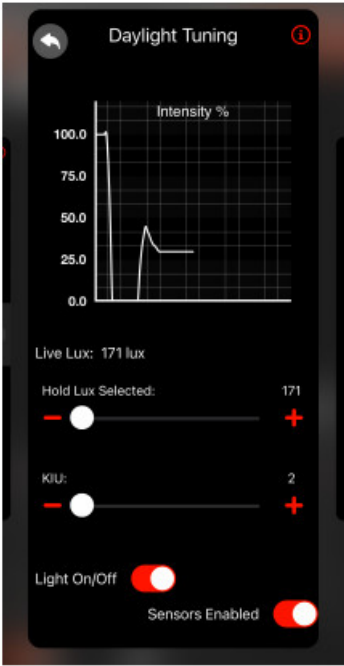
Documents / Resources

	BubblyNet S-DL-C12 Daylight Sensor [pdf] User Guide S-DL-C12, S-DL-C12 Daylight Sensor, Daylight Sensor, Sensor