



# Vision.net

## Photocell Daylighting Sensor



Model: 63060CM

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Vision.net Photocell Daylighting Sensor Installation & Operation Guide

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## Important Safeguards

When using electrical equipment, basic safety precautions should always be followed including the following:



- a. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
- b. Do not use outdoors.
- c. Do not mount near gas or electric heaters.
- d. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- e. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- f. Do not use this equipment for other than intended use.
- g. Refer service to qualified personnel.

**SAVE THESE INSTRUCTIONS.**



**WARNING:** You must have access to a main circuit breaker or other power disconnect device before installing any wiring. Be sure that power is disconnected by removing fuses or turning the main circuit breaker off before installation. Installing the device with power on may expose you to dangerous voltage and damage the device. A qualified electrician must perform this installation.

**WARNING:** Refer to National Electrical Code® and local codes for cable specifications. Failure to use proper cable can result in damage to equipment or danger to persons.

**CAUTION:** Wire openings **MUST** have fittings or lining to protect wires/cables from damage. Use 90° C copper wire only!

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## QUICK START

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- Step 1. Install the Photocell Sensor. (Refer to page 5.)
- Step 2. Select Daylight Harvesting Mode. (Refer to page 9.)
- Step 3. Select Response Time. (Refer to page 10.)
- Step 4. Set Hi/Low Light Levels. (Refer to page 10.)

## PREFACE

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### About this Guide

The document provides programming and installation instructions for the following Vision.net products:

- 63060CM - Vision.net Photocell Daylighting Sensor

Please read all instructions before installing or using this product. *Retain this guide for future reference.*



### **IMPORTANT INFORMATION. PLEASE READ!**

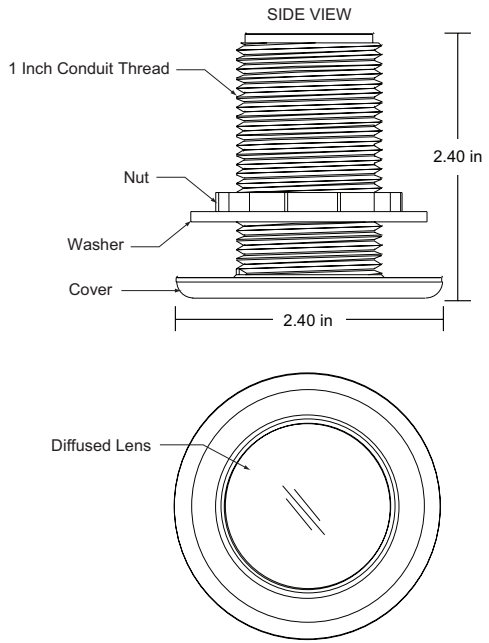
This unit is intended for installation in accordance with the National Electric Code® and local regulations. It is also intended for permanent installation in indoor applications only. Before any electrical work is performed, disconnect power at the circuit breaker or remove the fuse to avoid shock or damage to the control. It is recommended that a qualified electrician perform this installation.

## Description

### Vision.net Photocell Daylighting Sensor (63060CM)

The Vision.net Photocell Daylighting Sensor is a low-voltage daylighting sensor that measures changes in ambient light and controls its connected lighting loads according to the user's programming. The unit is able to decipher minor changes in light levels (such as passing cloud cover, intermittent shadowing, etc.) to prevent unwanted or inadvertent light cycling. In addition, the unit provides a programmable time-delay fade from 1 to 30 minutes for smooth light-cycling transitions.

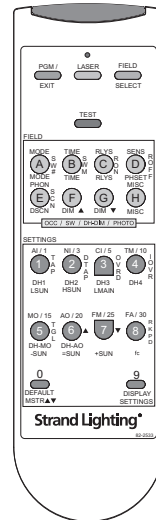
The Vision.net Photocell Daylighting Sensor is designed for use with a Vision.net Architectural Control System. When the device is connected, the sensor can dim the loads according to the space's needs for maximum energy conservation.



BOTTOM VIEW  
**Photocell Sensor**

### Vision.net Programmer Remote (63063)

The Vision.net Programmer Remote is an optional accessory which provides quick and easy access to the full range of Photocell Daylighting Sensor features.



**Programmer Remote**

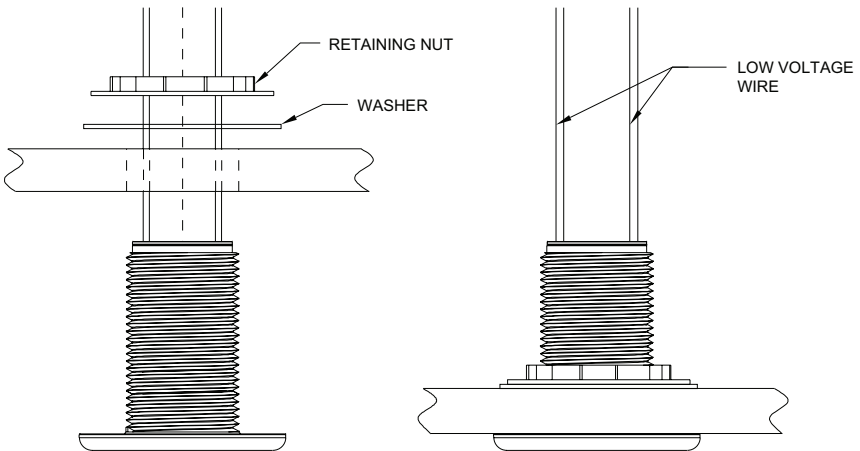
# INSTALLATION

## Mounting

The Photocell Daylighting Sensor may be mounted in a junction box or directly to the ceiling depending on local code. The unit must have an unobstructed view of the area to be monitored. Place the photocell near an exterior window where sunlight is most visible. Mount the photocell 1/2 the window height away from the window. Example: for a space with a 9' exterior window, mount the photocell 4 1/2' away from the window.

### To install:

- Step 1. Check for any obstructions located behind the desired mounting location.
- Step 2. Drill 1-1/2" hole in the desired mounting location.
- Step 3. Place Photocell Daylighting Sensor through the hole and secure with supplied washer and locknut.
- Step 4. The lens may be removed to install the Field of View Customizing Template. Simply rotate the lens cover slightly counter-clockwise and remove.
- Step 5. Trim the template for the desired effect and install on interior of the lens. (Careful placement of the template is necessary to ensure proper function.)
- Step 6. Replace lens cover and verify that the unit is securely mounted.



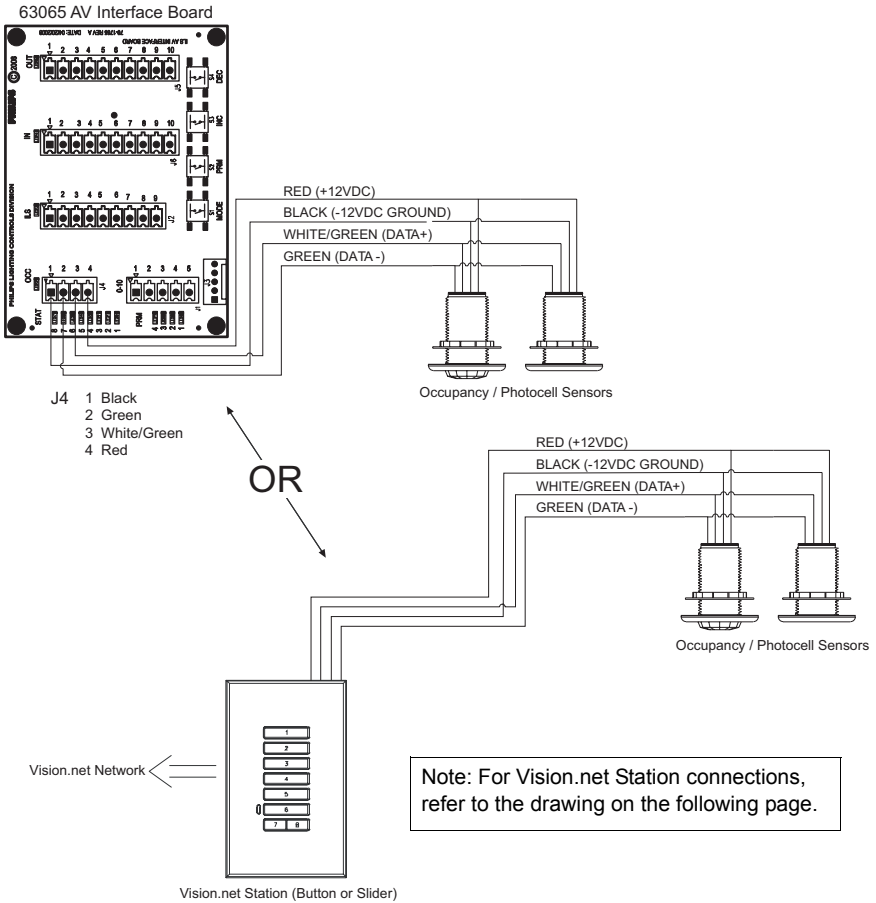
**Figure 1: Installing Photocell Daylighting Sensor**

## Wiring

The Photocell Daylighting Sensor should be connected to an AV Interface Board (63065) or to the sensor port of a Vision.net control station.

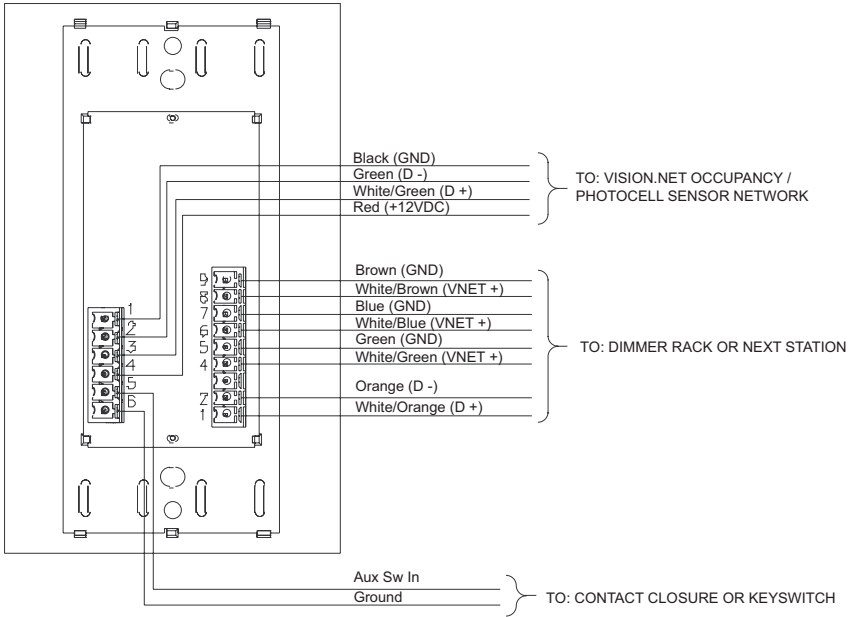
### To connect wiring:

- Step 1. If conduit is required by local code, route low voltage wiring into adjacent junction box and secure with included 1/2" nipple.
- Step 2. Connect low voltage network to AV Interface Board with (4) #18 AWG wires according to the wiring diagram below.



**Figure 2: Connecting Low Voltage Wiring**





**Figure 3: Vision.net Station Connections**

## SENSOR PROGRAMMING WITH VISION.NET DESIGNER SOFTWARE

Photocell Daylighting Sensors may be programmed with Strand Lighting's Vision.net Designer software, as part of a Vision.net architectural controls system. This software (and its manual) may be downloaded from [www.strandlighting.com](http://www.strandlighting.com).

## SENSOR PROGRAMMING WITH REMOTE

A Vision.net Sensor Remote Programmer (optional accessory) can be used to program the unit(s). Please note that configuration changes made with the Remote Programmer will not be saved in the Vision.net Designer software configuration file.

### To enter Programming Mode:

- Step 1. Aim the remote at the Photocell Daylighting Sensor and press the PGM (Program) button. All affected sensors will blink red.
- Step 2. You may now select which sensor you would like to program by "laser painting" it with the remote laser. Press and Hold the LASER button and allow the beam to "hit" the sensor you want to select. Once the signal is received, the sensor will illuminate green and is ready to receive commands.

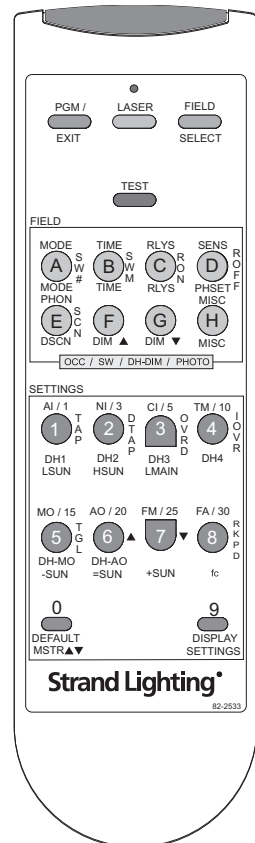


Figure 4: Remote Layout

## PROGRAMMING THE PHOTOCELL SENSOR

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### Entering Programming Mode

- Step 1. Enter Programming Mode (refer to page 8).
- Step 2. Tap FIELD SELECT button until the Photocell Sensor lights up its Green LED (Dimmer and Photocell Mode).

### Setting Up Daylight Harvesting

- Step 1. Tap MODE (A) button to select the Daylight Harvesting Mode (refer to page 8 for Programmer Remote button layout).
- Step 1a. Tap buttons 1-6 to select the following modes:
- 1** (DH1) - Daylight Harvesting RLYS Button Control Open Loop (RLYS Button(s) On with Low Sunlight and Off with High Sunlight).
  - 2** (DH2) - Daylight Harvesting Dimmer Control Open Loop (Move towards Preset 1 with Low Sunlight and Preset 2 with High Sunlight).
  - 3** (DH3) - Daylight Harvesting Dimmer Control Closed Loop (Move towards Preset 1 with Low combined Room Ambient and Sunlight and Preset 2 with High combined Room Ambient and Sunlight).
  - 5** (DH-MO) - Tap to set the Photocell in Manual On Mode:
    - a – When in DH1 Mode, the Photocell is enabled whenever RLYS Button 1 is on. This allows it to be controlled by a Sensor controlling RLYS Button 1.
    - b – When in DH2 and DH3 Modes, the Photocell is enabled whenever its assigned RLYS Buttons are On and the system is in Preset 1 (On Preset).
  - 6** (DH-AO) - Tap to set the Photocell in Auto Mode. Auto Mode is used whenever the Photocell is powered up. It will always turn on RLYS Buttons and set Preset 1. This mode is used whenever the Photocell Sensor is the only sensor in the system and the lights are externally controlled by a dimmer or relay cabinet.
  - 0** (DEFAULT) - Factory Default (DH2 – Manual On).

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**Note:** DH1 and DH2 are considered Open Loop, in that the Photocell will make adjustments based on detected sunlight (artificial or fluorescent lighting has less affect).

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**Note:** DH3 is considered Closed Loop, in that the Photocell will make adjustments based on artificial or fluorescent light (sunlight has less affect).

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- Step 2. Tap TIME (B) button to select response timing (speeds up or slows down the control of relay(s) or dimmers).

Step 2a. Select Response Time buttons 1-8:

- 1 – 1 min – Most aggressive for Dimmer Raise/Lower Control
- 2 – 3 min
- 3 – 5 min
- 4 – 10 min
- 5 – 15 min
- 6 – 20 min
- 7 – 25 min
- 8 – 30 min – Slowest for Dimmer Raise/Lower Control
- 0 – Factory Default (5 min)

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**Note:** For DH1 Mode, the Response Time is the time the sunlight is either below the Low Sunlight setting or above the High Sunlight setting before RLYS Button ON/OFF commands are transmitted.

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**Note:** For DH2 and DH3 Modes, the Response Time selects how rapidly the dimmers are adjusted with a change in light. Response times will vary based on how much and how rapid the light changes. The dimmers can respond in as little as 5 seconds or as much as 30 minutes.

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Step 3. Tap AV (C) to select the AV Button Input(s) to control when in DH1 Mode. Tap AV (C) to select the AV Button Input(s) that need to be On when in DH2 or DH3 Mode to enable the Photocell.

Step 3a. Tap 1-8 to select RLYS Buttons:

- 1 – RLYS Button 1
- 2 – RLYS Button 2
- 3 – RLYS Button 3
- 4 – RLYS Button 4
- 5 – RLYS Button 5
- 6 – RLYS Button 6
- 7 – RLYS Button 7
- 8 – RLYS Button 8
- 0 – Factory Default (No RLYS Buttons Assigned)

Step 4. Tap SENS (D) to Capture or Adjust the Low and High Sunlight Settings.

- Step 4a. When the Sunlight is at its Low Level (early morning or late evening), Press and Hold the LSUN (1) button for 3 or more seconds. Release the button when the Photocell Sensor goes blank. After 5 seconds the Sensor will take a Snapshot of the room and set the Low Sunlight Setting.
- A – The Sunlight Setting can be modified by Tapping the –SUN (5) button to decrease the level in 5% increments (max is -80%).
  - B – The Sunlight Setting can be set back to its Snapshot Level by Tapping the =SUN (6) button.
  - C – The Sunlight Setting can be modified by Tapping the +SUN (7) button to increase the level in 5% increments (max is +100%).
- Step 4b. When the Sunlight is at its High Level (mid-day), Press and Hold the HSUN (2) button for 3 or more seconds. Release the button when the Photocell Sensor goes blank. After 5 seconds the Sensor will take a Snapshot of the room and set the High Sunlight Setting.
- A – The Sunlight Setting can be modified by Tapping the –SUN (5) button to decrease the level in 5% increments (max is -80%).
  - B – The Sunlight Setting can be set back to its Snapshot Level by Tapping the =SUN (6) button.
  - C – The Sunlight Setting can be modified by Tapping the +SUN (7) button to increase the level in 5% increments (max is +100%).

## Testing Daylight Harvesting

- Step 1. Tap TEST button to put the system in TEST Mode. All Sensors will start flashing once every few seconds. The color of the Photocell Sensor will be based on whether it is sensing Sunlight below the Low Sunlight Level (Red), between the Low and High Sunlight Levels (Green), or above the High Sunlight Level (Blue). The control of the RLYS Buttons and Dimmers will be accelerated during Test Mode.
- Step 2. While in test Mode the sensed Sunlight can be electronically adjusted by tapping the –SUN (5) to reduce it in 5% increments, =SUN (6) to return it to actual level, and +SUN (7) to increase it in 5% increments. This allows the Photocell to be tested (observe the colors) without waiting for the actual sun to change.
- Step 3. Tap TEST button a second time to go back to Parameter Setting Mode.

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**Note:** Refer to page 8 for Programmer Remote button layout.

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## TROUBLESHOOTING GUIDE

Symptom	Cause	Correction
Lights do not come on either manually or automatically.	Lamp(s) are burned out or missing.	Replace lamp(s) in fixture(s).
	Circuit breaker is off.	Turn on circuit breaker.
	Wire connections are faulty.	Recheck all wire connections. Important! Turn off circuit breaker before servicing.
Lights are too bright or not bright enough.	Ambient light level(s) is/ are not set correctly.	Readjust Preset 1 (adjusts Maximum Lamp Level) and/or Preset 2 (adjusts Minimum Lamp Level). <i>or</i> Recapture the Low Sunlight and High Sunlight Levels. See "Programming: Photocell Daylighting Sensor".
Controlled lights react too quickly to ambient light changes.	Response Time not set properly.	Reprogram Response Time to a higher time setting.
The wrong fixtures react to the light levels.	Improper relays or dimmers are assigned to react to daylight harvesting control.	Reprogram to control the proper relays or dimmers.
Photocell Daylighting Sensor is not reacting to sun light level changes.	Unit is not properly programmed.	Verify programming and reprogram as desired.
	Unit is not located in the proper position to see sunlight changes.	Relocate daylighting sensor to view ambient (sunlight).
Photocell Daylighting Sensor is not reacting to programming IR remote control.	Batteries are expired in IR remote.	Replace batteries.

## NOTES

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