



GLA-LDL-PC-0-10-WL

Dual-Loop Photosensor

Product Manual
Crestron Electronics, Inc.

Original Instructions

The U.S. English version of this document is the original instructions.
All other languages are a translation of the original instructions.

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Overview

The [GLA-LDL-PC-0-10-WL](#) is a dual-loop photosensor that continually measures ambient light in order to achieve the optimal balance of natural and artificial lighting in daylight harvesting applications. By harnessing natural daylight from windows and skylights, electrical lighting can be dimmed, reducing energy usage while maintaining a consistent light level for a more efficient and comfortable work or living space. With an IP54 rating, the GLA-LDL-PC-0-10-WL is suitable for indoor, outdoor and wet location applications.

In closed-loop type daylight harvesting applications, the GLA-LDL-PC-0-10-WL is installed on the ceiling directly above the primary work area. It measures all light within a 60° cone, which consists predominately of reflected light, acquiring the most natural approximation of perceived changes in ambient light levels.

In open-loop type daylight harvesting applications, the GLA-LDL-PC-0-10-WL is installed on the ceiling near a window or in the light well of a skylight, directed toward the incoming daylight and away from any electrical lighting fixtures. The system estimates the total amount of ambient lighting in the room according to the light level measured by the photocell.

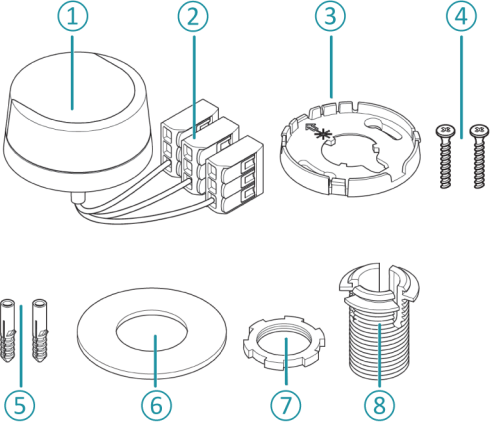
The GLA-LDL-PC-0-10-WL includes hardware to facilitate flush or surface mounting to a drywall or drop-tile surface. Its simple 3-wire interface allows for direct connection to a Crestron® control system via a single Versiport I/O or analog input port, with 24 V power taken from the Cresnet® network control bus.

NOTE: Cresnet communications requires a GLS-SIM or ZUMMESH-JBOX-SIM (both are sold separately). Power may be taken from Cresnet bus regardless of interface method. Connects to a GLS-SIM, ZUMMESH-JBOX-SIM, Versiport I/O, or Analog Input control port on any Crestron control system.

Using an optional sensor integration module ([GLS-SIM](#) or [ZUMMESH-JBOX-SIM](#) for a Züm® J-Box, both sold separately), the GLA-LDL-PC-0-10-WL becomes a full-featured Cresnet device, streamlining the total lighting system. Cresnet provides a simple solution for configuring and wiring sensors as part of any complete Crestron system. The Cresnet bus is the communications backbone for many Crestron keypads, lighting controllers, shade motors, sensors, and other devices.

Physical Description

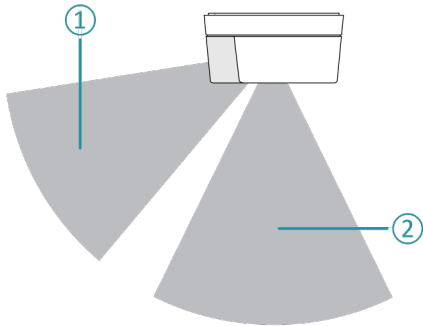
This section provides a breakdown of the physical components of the device.



- ① Photo Cell 0-10V
- ② Wires including WAGO connectors
- ③ Back plate
- ④ Screws
- ⑤ Dowels
- ⑥ Washer
- ⑦ Lock nut
- ⑧ 1/2 in. threaded chase nipple

Coverage

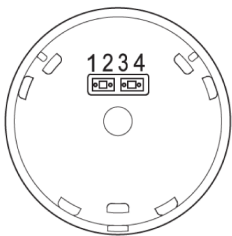
Depending on the application, the sensor has two possible fields of view. This is set by installing jumpers as described in the Light Level Settings section below.



- ① Sensor field of view when using Open Loop Control (OL)
- ② Sensor field of view when using Closed Loop Control (CL)

Light Level Settings

Jumpers are used to set the light level range and sensor field of view.



The following options can be set by installing jumpers in the specified locations:

- 1 2 3 4
- A. OL: 3-300 fc (factory default)
 - B. OL: 30-3000 fc
 - C. OL: 60-6000 fc
 - D. CL: 3-300 fc

Specifications

Sensing

| | |
|-------------------|-------------------------------|
| Field of view | 60° cone |
| Light sensitivity | CL: 3-300 fc OL: 3-6000 fc |
| Center axis | CL: 90° OL: 45° |

Controls and Connections

| | |
|----------------------------|---|
| Light sensitivity settings | OL: 3-300 fc (factory setting); OL: 30-3000 fc; OL: 60-6000 fc; CL: 3-300 fc |
|----------------------------|---|

NOTE: Field of view and light sensitivity are set by installing jumpers on the device.

| | |
|--------------|--|
| Flying leads | (1) Red Input flying lead; 24VDC power input; (1) Black Ground flying lead; (1) Orange Output flying lead; Recommend wire size: 18 AWG; Light level control signal output; Provides 0-10V analog control signal proportionate to the ambient light level; Connects to a Crestron® sensor integration module (GLS-SIM or ZUMMESH-JBOX-SIM , sold separately) or to a Versiport I/O or Analog Input control port on any Crestron control system |
|--------------|--|

Power Requirements

| | |
|---------------------|--|
| Current Consumption | 2mA class 2 at 24VDC |
| Cresnet Power Usage | ~.1 W; Cresnet communications requires a GLS-SIM or ZUMMESH-JBOX-SIM (both are sold separately). Power may be taken from Cresnet bus regardless of interface method. Connects to a GLS-SIM, ZUMMESH-JBOX-SIM, Versiport I/O, or Analog Input control port on any Crestron control system. |

Environmental

| | |
|-------------|---|
| Temperature | -40° to 158°F (-40° to 70°C) For indoor or outdoor use |
| IP Rating | IP54 |

Housing

| | |
|---------------------|---|
| Construction | High-impact injection-molded plastic |
| Mounting | Surface or flush ceiling mount directly to drywall or drop-tile |

Dimensions

| | |
|-----------------|------------------|
| Height | 1.06 in. (27 mm) |
| Diameter | 2.01 in. (51 mm) |

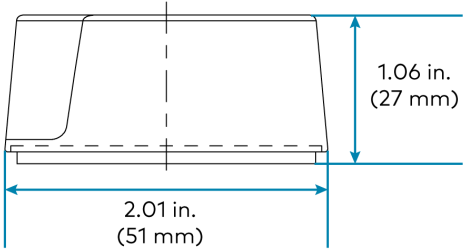
Weight

.011 lb (.05 kg)

Compliance

UL® Listed

Dimension Drawing



Installation

This section contains all the information needed to install the GLA-LDL-PC-0-10-WL.

Determine the Mounting Location

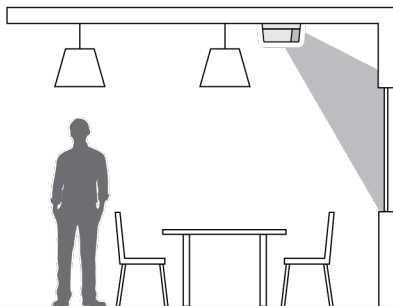
The GLA-LDL-PC-0-10-WL can be used in several different applications, with specific considerations for each.

Window Application

Where windows are the primary source of daylight, mount the photo cell on the ceiling between the window and the first row of fixtures.

1. Install jumpers to set the light level to option B (Open Loop Control, 30-3000 fc).
2. Place the photo cell 12 to 19 inches from the window.
3. Point the photo cell towards the window.

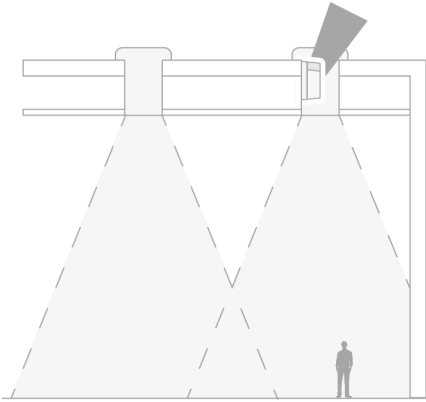
NOTE: Do not expose the photo cell to direct illumination from electric light sources.



Skylight Application

Mount the photo cell in the lightwell of the skylight.

1. Orient the photo cell towards the incoming daylight.
2. Install jumpers to set the light level to option C (Open Loop Control, 60-6000 fc).

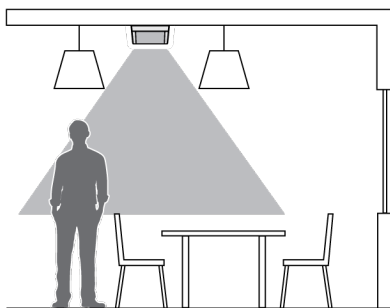


Desk Level Application

Mount the photo cell above the working space so that it reads the light level generated by both the electric light sources and the natural light coming through nearby windows.

- The ambient light level will fluctuate in different areas of the room due to several factors, such as fixtures, window locations, and wall colors. The device should be placed in a location with average light levels.
- Install jumpers to set the light level to option D (Closed Loop Control, 3-300 fc).

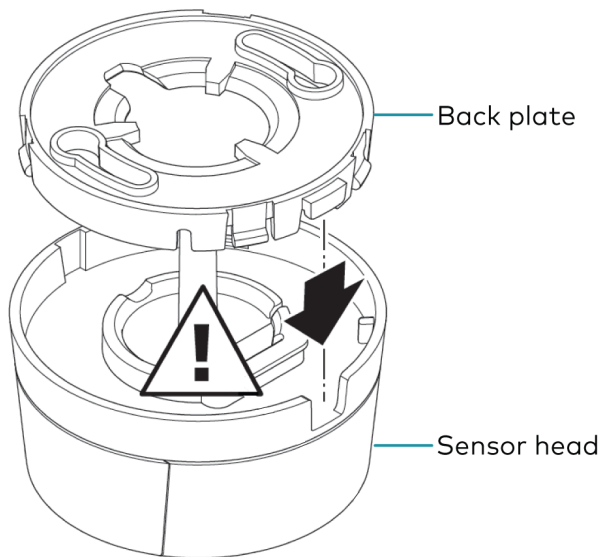
NOTE: Because furniture can impact the light levels, this should only be completed when the room is fully furnished.



Mount the Sensor

Follow these guidelines to correctly mount the GLA-LDL-PC-0-10-WL.

- The photo cell lens must face towards a window.
- Mount the GLA-LDL-PC-0-10-WL on a vibration-free surface.
- The back plate and sensor head must be lined up correctly:

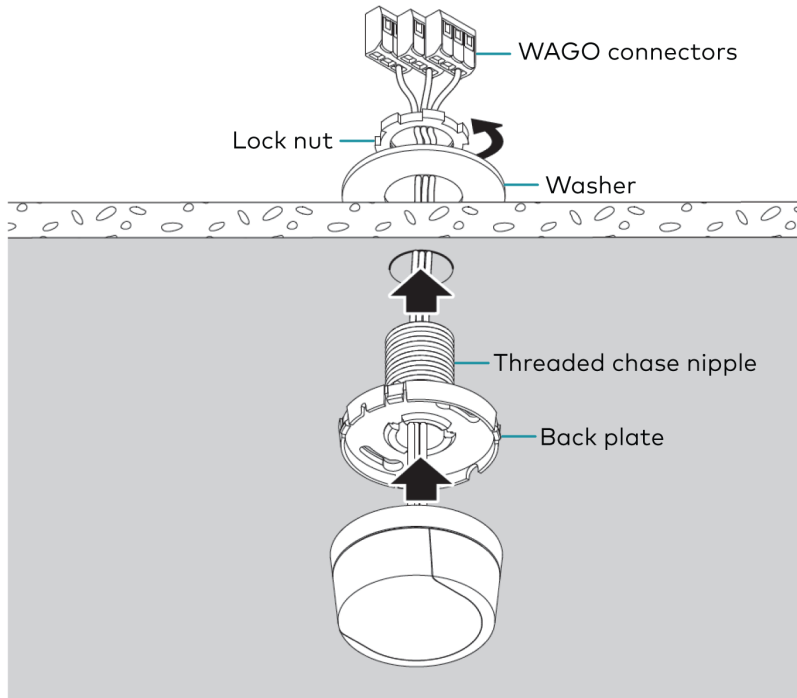


CAUTION: The gasket is required to maintain the IP54 rating. During installation, do not pull out the complete gasket. Instead, carefully lift up the edge covering the jumpers.

Regardless of installation location, there are three ways to mount the GLA-LDL-PC-0-10-WL.

Flush Mount with Nipple

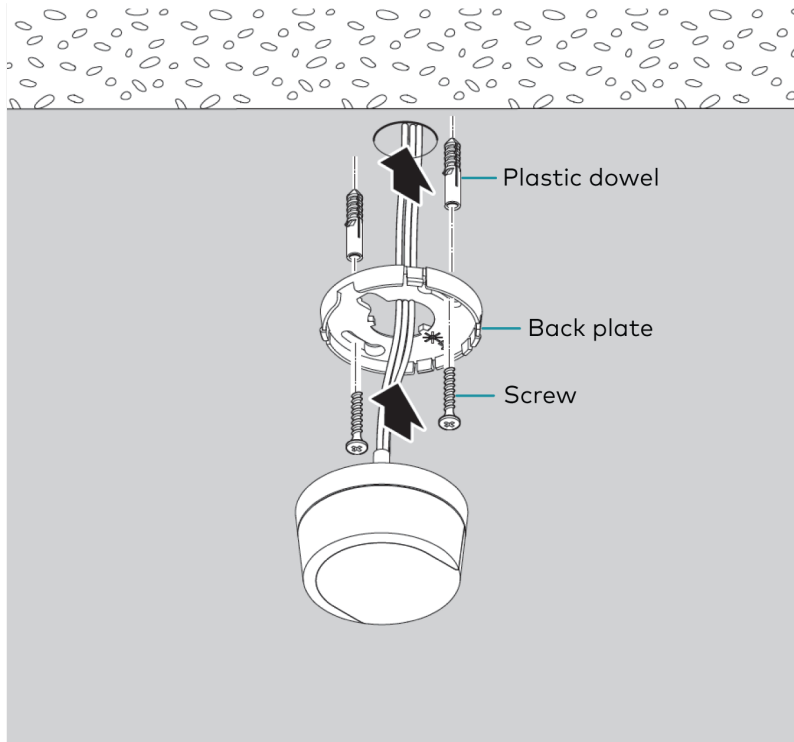
With this option, wires run through the nipple and can be concealed within the ceiling. Follow the steps below.



1. Hold the back plate in the mounting location and mark the center of the wire run hole.
2. With a 23/32 in. drill bit, carefully drill the hole for the wire run.
3. Snap the threaded chase nipple onto the back of the back plate.
4. Install jumpers to set the light level range and field of view.
5. Remove the WAGO connectors and pull the wires from the sensor through the back plate and threaded chase nipple.
6. Insert the wires into the drilled hole.
7. Place the washer over the wires and threaded chase nipple.
8. Using the lock nut, secure the threaded chase nipple in place.
9. Using the WAGO connectors, connect the three individual sensor wires (black, red, and orange) to the incoming wires.
10. Rotate the photo cell lens to face in the desired direction.

Surface Mount with Screws and Concealed Wires

Use this option when the nipple cannot be used, such as through concrete. Follow the instructions below.



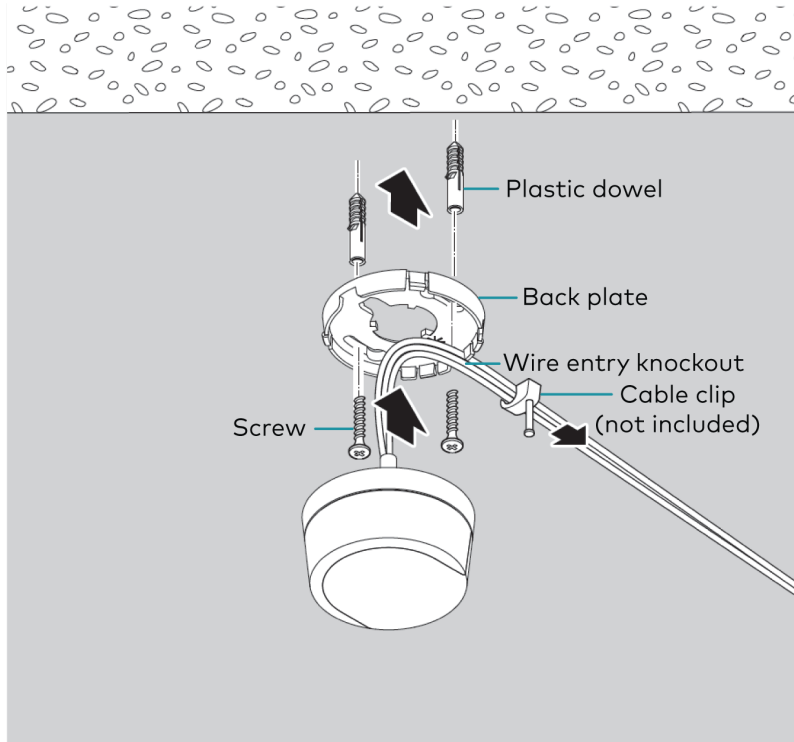
1. Hold the back plate in the mounting location, taking care to align it so that the photo cell lens is pointed in the desired direction.

NOTE: To align the sensor correctly, line up the key on the sensor to the key slot on the back plate.

2. Mark the locations for the two mounting holes and the center hole.
3. Using a 1/8 in. drill bit, carefully drill pilot holes in the two marked locations.
4. Using a 23/32 in. drill bit, carefully drill the hole for the wire run.
5. Insert a plastic dowel in each of the 1/8 in. drilled holes.
6. Align the back plate and secure it with the screws, taking care to align it so that the sensor lens points in the desired direction.
7. Pull the wire run through the drilled 23/32 in. hole.
8. Install jumpers to set the light level range and field of view.
9. Using the WAGO connectors, connect the three individual sensor wires (black, red, and orange) to the incoming wires.
10. Push the wires one at a time through the center hole in the back plate.
11. Align the sensor key and snap the sensor into the back plate.

Surface Mount with Screws and Surfaced Wires

Use this option when the nipple cannot be used and the wires are being run through the side of the GLA-LDL-PC-0-10-WL's housing. Follow the instructions below.



1. Hold the back plate in the mounting location, taking care to align it so that the photo cell lens is pointed in the desired direction.

NOTE: To align the sensor correctly, line up the key on the sensor to the key slot on the back plate.

2. Mark the locations for the two mounting holes and the center hole.
3. Using a 1/8 in. drill bit, carefully drill pilot holes in the two marked locations.
4. Using a 23/32 in. drill bit, carefully drill the hole for the wire run.
5. Insert a plastic dowel in each of the 1/8 in. drilled holes.
6. Align the back plate and secure it with the screws, taking care to align it so that the photo cell lens points in the desired direction.
7. Locate the wire entry knockout of the back plate. This is where the wires will pass through.
8. Install jumpers to set the light level range and field of view.

9. Connect the incoming wires to each of the three sensor wires (black, red, and orange). Use a wire connector small enough to fit between the sensor and the back plate when assembled.

NOTE: Wire connectors for this mounting option are not included.

10. Align the sensor key and snap the sensor into the back plate.
11. Secure the wires running to the sensor with cable clips to prevent the wires from sagging.

NOTE: Cable clips are not included.

Wire the Sensor

Light measurement is made with the black and orange wires. Verify the wiring is correct to avoid damage to the controller, lighting and connected control devices.

WARNING: Ensure that the power has been switched off at the breaker before wiring the GLA-LDL-PC-0-10-WL. Verify that the circuit is inactive with a voltage meter.



Resources

The following resources are provided for the GLA-LDL-PC-0-10-WL.

NOTE: You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

Product Certificates

To search for product certificates, refer to support.crestron.com/app/certificates.

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