

## About OmniMax and™ Photocontrol Failsafe™

Photocontrol Failsafe™ is built into every Premium model OmniMax LED Replacement lamp. Photocontrol Failsafe maintains normal dusk-to-dawn operation of an OmniMax installed in a decorative fixture that uses a photocontrol without any additional maintenance should the photocontrol fail. This document explains how Photocontrol Failsafe operates with the OmniMax.

### Premium vs. Standard OmniMax Models

Evluma offers Premium and Standard OmniMax models. OmniMax Premium comes with Photocontrol Failsafe built-in and works with ConnectLED™. OmniMax Standard contains no controls or firmware. OmniMax Standard will not function with ConnectLED, nor does it include Photocontrol Failsafe. For the rest of this document anytime that the OmniMax is mentioned it is referring to OmniMax Premium models only.

For customers accustomed to the advantages of Photocontrol Failsafe in the AreaMax, it is important to note that the electrical operation of a decorative light fixture might differ from that of an area or street light such as the AreaMax. The AreaMax relies on a photocontrol to switch the light on and off at dusk and dawn. Decorative fixtures may or may not incorporate the use of a photocontrol. For those that do use a photocontrol to switch the light on and off at dusk and dawn, Photocontrol Failsafe is a valuable, maintenance saving feature. If a decorative fixture, or series of fixtures, runs on a contactor or power to the pole(s) is controlled by an alternate switching mechanism, you may not require the benefit of Photocontrol Failsafe. For OmniMax installed in a decorative fixture operating without a photocontrol in place, turning Photocontrol Failsafe OFF is an option.

Upon shipment, the OmniMax is configured for the approximate location where the lamp will be installed. Evluma recommends installing the OmniMax with a photocontrol in place, either new, factory installed, or from the fixture being replaced.

Once installed, the OmniMax immediately begins to collect dusk-to-dawn transition events as it goes through normal dusk and dawn cycles triggered by the photocontrol. Over time, new data, reflecting the local ambient lighting conditions (i.e. near tall buildings, behind a tree etc.) calibrates the existing data. The data collection cycle will restart if the lamp detects out-of-cycle transitions. As long as the photocontrol operates normally the OmniMax will continue to collect data.

### Daylight Savings Time

Photocontrol Failsafe uses Coordinated Universal Time (UTC). UTC is the primary time standard by which the world regulates clocks and time. It is, within about 1 second, mean solar time at 0° longitude and does not observe daylight saving time. Daylight saving time (DST) is not applicable to the sunrise and sunset calculations in Failsafe. OmniMax scheduled dimming, programmed with ConnectLED, can be set to observe daylight saving time.

## If the Photocontrol Should Fail

If the photocontrol should fail, the OmniMax detects the condition and executes dusk and dawn schedules based on the geographic location, Real Time Clock time and the refinements for local ambient lighting data collected during previous photocontrol operation. The longer a photocontrol is allowed to run, Failsafe will continue to verify and refine the data collected. Evluma recommends a photocontrol operation period of three weeks to adjust to the conditions established by the immediate environment, such as structures or terrain, which may affect the immediate and unique lighting conditions for the luminaire location. The OmniMax will continue in Failsafe until such time that the photocontrol begins to operate normally again, or is replaced.

## Failure Conditions

OmniMax Photocontrol Failsafe requires the use of a Fail-On photocontrol.

The OmniMax does not have an integrated photocontrol or a photocontrol socket; it does not have a sensor. The photocontrol for a decorative fixture is frequently located in the base of the fixture. The photocontrol thus controls the flow of power to the socket, turning the OmniMax off and on. The OmniMax is programmed to assume that when it goes on (power) a sensor has transitioned to night. Once it goes off (power) the next time the power comes on (typically night) it assumes that a sensor transitioned to daytime the last time the power went off.

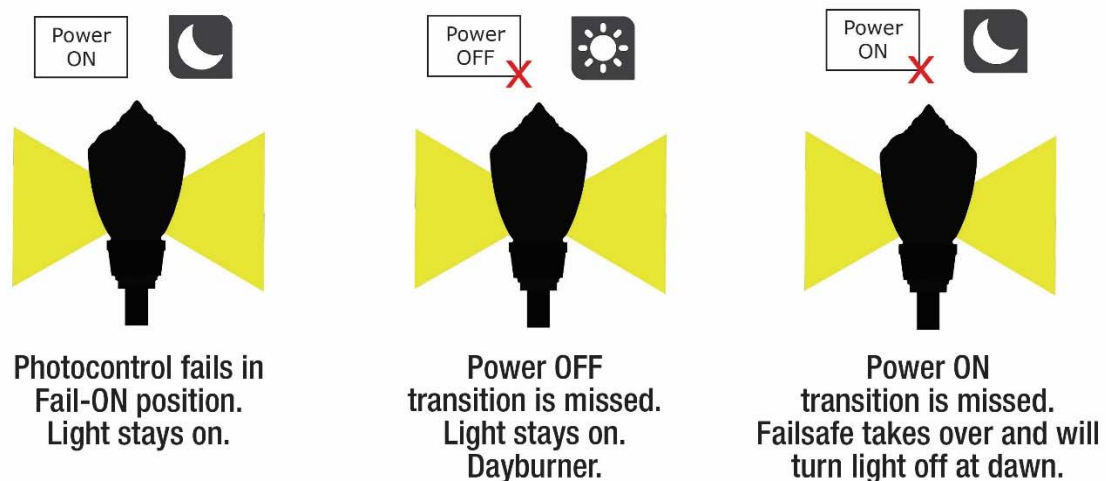


Figure 1. Photocontrol Failsafe will control the lamp on the second missed transition.

Photocontrols typically only fail during a transition. If a Fail-On photocontrol is installed, typically the first failed transition will be the OmniMax failing to power-off at dawn.

Sunset will be the second missed transition recognized and Failsafe will take over the OmniMax turning it on at dawn the following day.

The transition counts for OmniMax Photocontrol Failsafe are different from AreaMax Photocontrol Failsafe. The OmniMax only requires two missed transitions. The AreaMax requires three.

## **Photocontrol Failsafe OFF**

The OmniMax can be configured with Photocontrol Failsafe OFF. This is an optional setting, available in ConnectLED, if the decorative fixture does not have a photocontrol and the fixture is controlled by another method. If the decorative fixture should have a photocontrol and it should fail when Photocontrol Failsafe is turned OFF, the lamp will fail on, becoming a dayburner alerting you that a new photocontrol is required. By default, the OmniMax is configured with Photocontrol Failsafe ON when it leaves the factory.

## **Photocontrol Failsafe & ConnectLED**

Photocontrol Failsafe is a patented internal process that is built-in to the OmniMax. While every OmniMax is configured to work with ConnectLED, ConnectLED is an optional application that affords additional controls over the OmniMax. ConnectLED can be used to update the location of the OmniMax via the GPS capabilities of the device it is running on: iPhone, iPad, etc. This additional refinement to location is used by Photocontrol Failsafe to update the factory configured location settings improving the extrapolated accuracy of each transition. The OmniMax will automatically collect this data over time, so while the GPS location is helpful during the first three weeks of operation, it is not necessary. ConnectLED can be used to view the lamp status to determine if the sensor has failed and operating in Failsafe. ConnectLED can also be used to turn Photocontrol Failsafe OFF.

## **Photocontrol Testing**

Photocontrol testing does not affect the operation of Photocontrol Failsafe during the 15-day initial installation period.