sensorswitch

AUTOMATIC DIMMING CONTROL PHOTOCELL SENSOR - FIXTURE MOUNT, LOW VOLTAGE

CMB-ADC

w/ Dual Zone Option!

TYPICAL APPLICATIONS

- Daylight Harvesting
- Continuous Dimming of a 0-10 VDC Dimmable Ballast

FEATURES

- Automatically Dims/Brightens 0-10 VDC ballasts as daylight changes
- Capable of finding optimum set-point
- Digital Set-Point Control
- Programmable via simple push-button commands
- Dimming sinks up to 20 mA
- Green LED Activity Indicator
- 100 Hr Lamp Burn-in Timer Mode

AVAILABLE OPTIONS

- Dual Zone Control (-DZ)
- Low Temp/Hi Humidity (-LT)

SPECIFICATIONS

- Size: 3.625" x 3.625" x 1.5" Deep (9.2 cm x 9.2 cm x 3.8 cm Deep)
- Sensor Weight: 5 Ounces
- Sensor Color: White
- Mounting: 1/2 inch knockout
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14º to 160º F (-10° to 71° C)
- Storage Temp: -14º to 160º F (-26° to 71° C)
- 12 to 24 VAC/VDC Oper. Voltage
- UL, CUL, and Title 24 Compliant
- 5 Year Warranty
- Made in U.S.A.

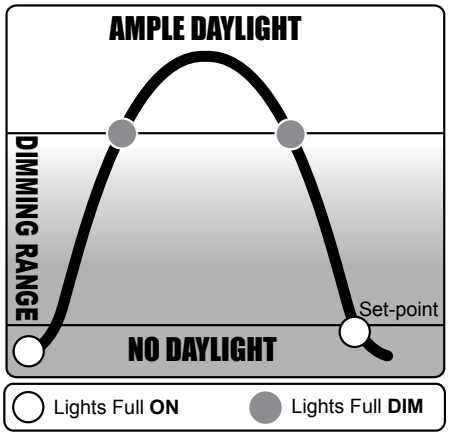
LOW TEMP/HI HUMIDITY(-LT)

- Conformally coated Circuit Board is corrosion resistant from moisture
- Operates down to -40º F(-40º C)

The *CMB-ADC Series* of Automatic Dimming Control sensors provide continuous control of dimmable ballasts for daylight harvesting applications. Ideal for public spaces with windows like vestibules, corridors, or bathrooms; the *CMB-ADC* works by monitoring daylight conditions in a room, then controlling a 0-10 VDC dimmable ballast so as to insure that adequate lighting levels are maintained. To add full On/Off switching to the dimming control provided by the *CMB-ADC*, see the Technical Data Sheet on the CMB-PC-ADC sensor. Additionally with the Dual Zone (-DZ) option, a second customized controlled output is provided. All units are powered by 12 to 24 VAC/VDC.

AUTOMATIC DIMMING CONTROL OPERATION

The sensor controls a 0-10 VDC dimmable ballast to achieve maximum daylight harvesting while maintaining a minimum light level referred to as the "set-point". When no daylight is available, the sensor will allow the dimmable ballast to operate at its full bright level (10 VDC). As daylight increases and begins to contribute to the overall light level of the room, the Automatic Dimming Control (ADC) feature starts dimming the ballast proportionally. At the point when sufficient daylight is present to maintain the set-point without any contribution from the lights, the sensor will hold the ballast at its full dim setting (0 VDC). When daylight levels fall below the set-point again, the Automatic Dimming Control will start reducing the dim level (increasing the brightness) in order to increase the overall light level. Finally, at the point when all daylight contribution is gone, the ballast will again be at its full bright level (10 VDC). With dimming control sensors, the set-point can be easily adjusted after it has been initially programmed (via either the Automatic or Manual process) using the Incremental control feature that steps the brightness setting (voltage) up or down 10% (1 VDC) and adjusts the set-point accordingly.



DUAL ZONE (-DZ) OPTION

Daylight contribution diminishes as the distance from the source (windows) increases. Therefore lights that are different distances from a window should not be controlled from the same photocell sensor output. With the -DZ option, the *CMB-ADC* has a second output that can control an additional 0-10 VDC dimmable ballast at a selected level (voltage) higher than that of the primary zone. This makes the -DZ option ideal for classrooms with individually controlled parallel rows of lights.

Model Numbering System: CMB-ADC-[DUAL ZONE]-[TEMP/HUMIDITY]

SERIES #	DESCRIPTION	DUAL ZONE	TEMP/HUMIDITY
CMB-ADC	Automatic Dimming Control Sensor - Fixture Mount, Low Voltage	Blank = Single Zone -DZ = Dual Zone	Blank = 14º to 160º F -LT = -40º to 160º F

LIGHT LEVEL SET-POINT

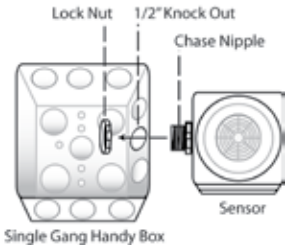
The sensor functions by comparing the amount of daylight available with a defined acceptable lighting level. This threshold, called the "set-point", is utilized in all daylight harvesting lighting control decisions. The sensor can find its optimum set-point via the **Automatic Set-Point Programming** mode. In this mode, the sensor takes light readings at different dim settings and then sets the minimum light level to be the amount contributed by the artificial lights being controlled. It is assumed that the space is properly lit by design, however, if this is not the case the set-point may be easily adjusted to the occupant's preference. All modes and settings are entered digitally via a push button sequence. Once programmed, the exact value of the set-point (in foot candles) can be read out from the sensor via a series of LED flashes.

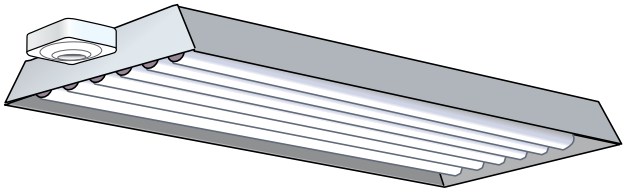
DIGITAL SET-POINT CONTROL

Each sensor contains a microcontroller that enables the user to engage the Automatic Set-Point Programming mode or to manually set / adjust the set-point. The manual process involves calculating and inputting the exact foot-candle value of the desired set-point into the sensor. It is important to note that the set-point is the light level required at the face of the sensor and that this value will be much different than the level required at a work surface. Typically, light levels at the ceiling are 3 to 5 times less than the work surface. For example, if 50 fc is desired at the work surface, the sensor should be set at 10 fc. For best results, measure the levels at both locations using a foot-candle meter before programming the set-point.

TYPICAL MOUNTING

The *CMB-ADC* can easily be mounted to a single gang handy or 1900 box by placing the half inch chase nipple through the half inch knockout. Then, the chase nipple is tightly secured by placing the lock nut on the chase nipple located inside of the box. The *CMB-ADC* can also mounts in a half-inch knockout hole on the side of a fixture.





WIRING INSTRUCTIONS

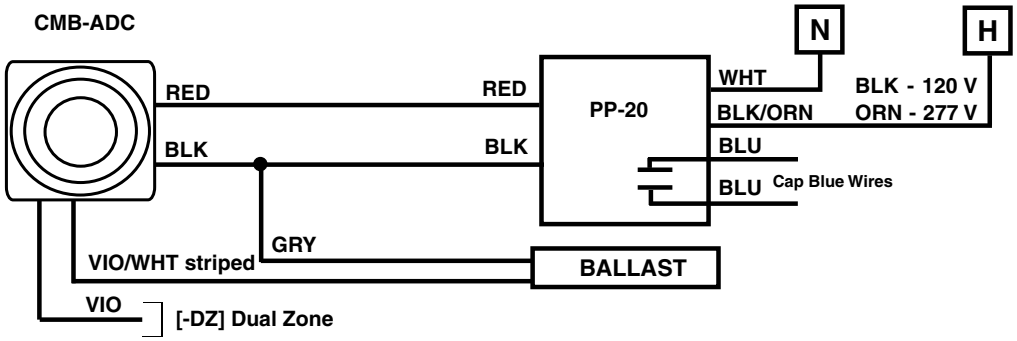
Wire lead connections are Class II, 18 to 22 AWG.

STANDARD CMB-ADC

RED - 12 to 24 VAC/VDC
BLACK - Common
VIOLET/WHITE striped - Connect to Violet wire from Zone 1's 0-10 VDC dimmable ballast. Also connect ballast Gray wire to sensor Black wire.

DUAL ZONE OPTION (-DZ)

Connect the additional solid VIOLET wire to Zone 2's 0-10 VDC dimmable ballast. Also connect Zone 2 ballast Gray wire to sensor Black wire.



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