

TYPICAL APPLICATIONS

- Daylight Harvesting
- Combination On/Off Switching & Continuous Dimming of 0-10 VDC Dimmable Ballast

FEATURES

- Full On/Off Control of Lighting
- Automatically Dims/Brightens 0-10 VDC ballasts as daylight changes
- Works as Stand Alone Unit or with Occupancy Sensor System
- Capable of finding optimum set-point
- Digital Set-Point Control
- Programmable via simple push-button commands
- Outputs to Power Pack or Lighting Control System via SPDT Relay
- Dimming sinks up to 20 mA
- Green LED Activity Indicator
- 100 Hour Lamp Burn-in Timer Mode

AVAILABLE OPTIONS

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

SPECIFICATIONS

- Size: Circular, 4.55" Dia., 1.55" Deep (11.56 cm Dia., 3.94 cm Deep)
- Sensor Weight: 5 Ounces
- Sensor Color: White
- Mounting: Ceiling Tile Surface, Round Fixture or Junction Box
- Relative Humidity: 20 to 90% non-condensing
- Operating Temp: 14° to 160° F (-10° to 71° C)
- Storage Temp: -14° to 160° 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 -40° F(-40° C)

CM-PC-ADC

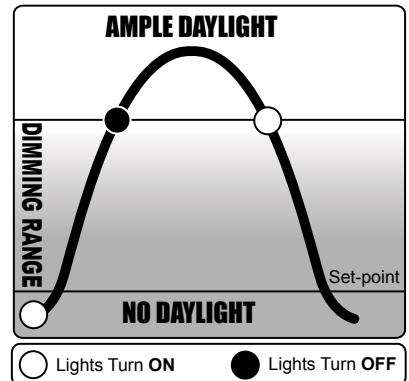
w/ Dual Zone Option!



The *CM-PC-ADC Series* combines the CM-PC On/Off Photocell sensor with the CM-ADC Automatic Dimming Control sensor to provide the industry's most intelligent control of lighting for daylight harvesting applications. Ideal for public spaces with windows like vestibules, corridors, or bathrooms; the sensors work by monitoring daylight conditions in a room, then controlling the lighting so as to insure that adequate lighting levels are maintained. The CM-PC-ADC can be used alone or as part of an occupancy sensor system. The sensors are powered with 12 to 24 VAC/VDC and typically operate with a PP-20 or MP-20 Power Pack; enabling complete 20 Amp circuits to be controlled.

DAYLIGHT HARVESTING 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 allows 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. When sufficient daylight is present to maintain the set-point without any contribution from the lights, the sensor will switch off the ballast completely. The lights will remain off until the daylight level drops below the set-point. At this point, the lights will be turned on with the ballast set at its full dim level. As the daylight levels fall further, the ADC feature will again take control of the ballast; reducing the dim level (increasing the brightness) in order to achieve the necessary light level. At the point when all daylight contribution is gone, the ballast will be back at its full bright level. To make the series of adjustments unnoticeable to room occupants, a 10 to 20% safety factor is maintained to prevent the system from cycling when the light level is very near the set-point. There is also a 20 minute delay before the sensor switches the lights off to prevent the system from cycling on a cloudy day; and a 45 second delay before switching from "Off" to "On".



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 Dual Zone (-DZ) option, the *CM-PC-ADC* has a second set of outputs that can control an additional zone of lighting. The option works by using a relative set-point for the second zone that is a selected percentage higher than the primary zone's set-point. The percentage is chosen via the digital push-button controls. A second 0-10 VDC dimming ballast can also be controlled at a selected level higher as well. The -DZ option is ideal for classrooms with individually controlled parallel rows of lights.

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

SERIES #	DESCRIPTION	DUAL ZONE	TEMP/HUMIDITY
CM-PC-ADC	On/Off Photocell & Automatic Dimming Photocell Sensor - Ceiling Mount, Low Voltage	Blank = Single Zone -DZ = Dual Zone	Blank = 14° to 160° F -LT = -40° to 160° 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. To easily adjust the set-point after it has been initially programmed (via either the Automatic or Manual process) the CM-ADC has an **Incremental control** feature that steps the brightness setting (voltage) up or down 10% (1 VDC) and adjusts the set-point accordingly.

WIRING INSTRUCTIONS

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

STANDARD CM-PC-ADC

WHITE - Outputs high VAC/VDC (from Brown wire) when sensor calls for Lights “On” (eg. the room is Dark)

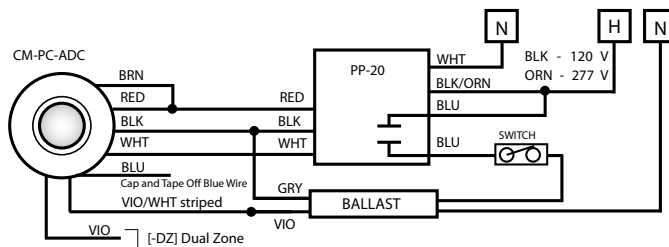
BLUE - Outputs high VAC/VDC (from Brown wire) when sensor calls for Lights “Off” (eg. adequate daylight is present)

RED - 12 to 24 VAC/VDC

BLACK - Common

BRN - Connect to Low Voltage Control input (Red wire on a Power Pack, White wire on an occupancy sensor)

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)

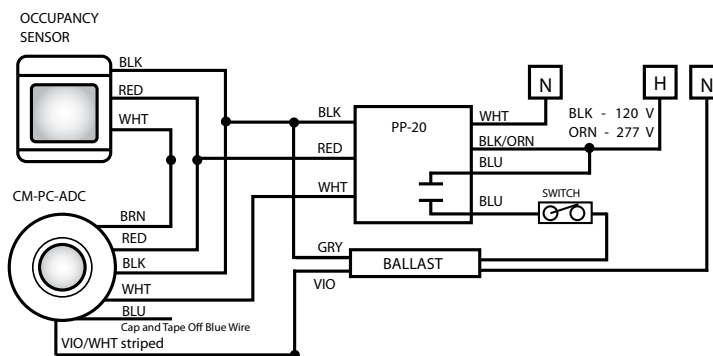
BLUE wire will output high DC when sensor calls for Lights “On” for Zone 2.

SOLID VIOLET wire connects to Zone 2’s 0-10 VDC dimmable ballast. Also connect Zone 2’s ballast Gray wire to sensor Black wire.

(Note: With the -DZ option the SPDT Relay is no longer present and the White wire will output only DC)

WIRING TOGETHER WITH OCCUPANCY SENSORS

Wire upstream occupancy sensor White wire to sensor Brown wire. When the space is unoccupied, the lights stay off regardless of daylight levels. However when occupied, the photocell sensor will control the lights according to daylight level and set-point.



WARRANTY: Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of sixty months. Sensor Switch, Inc., upon prompt notice of such defect will, at its option, provide a Returned Material Authorization number and a replacement product.

LIMITATIONS AND EXCLUSIONS: This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch, Inc. be liable for any incidental or consequential property damages or losses.