Catalog Number: | Date: | Project:

OVERVIEW

The nCM ADCX RJB and nCM PC RJB photocell sensors are ceiling/surface mount devices that provide a range of daylight harvesting features for nLight Control System installations with finished ceilings (e.g. ceiling tiles, sheetrock, plaster). The nCM PC RJB version provides on/off photocell control by default, while the nCM ADCX RJB provides automatic dimming photocell control by default. Ideal for spaces with windows, such as vestibules, corridors, classrooms, or offices, these sensors work by first monitoring daylight conditions in a room. They then signal networked nLight control devices to adjust their dimming outputs (and/or turn lighting off) to obtain maximum energy savings while ensuring adequate lighting levels are maintained.

The nCM ADCX RJB sensor controls nLight enabled luminaires (e.g. VTLED Family from Lithonia), nLight dimming relay packs (e.g. nPP16 D or nSP5 PCD), or auxiliary dimming output devices (e.g. nIO D). The nCM PC RJB switches nLight enabled luminaires or any relay/dimming device in an nLight system (e.g. nPP16). Both sensors can also be used together with nLight occupancy sensors. Manual override or adjustment of the dimming level is possible via WallPod dimmers or through the SensorView software.

Both versions are powered via the nLight network bus and can communicate with one or more nLight enabled luminaires or nLight relay/dimming packs to enable control of fixtures individually or in groups. These configurations work standalone and do not require a connection to a larger nLight network.

FEATURES

- Automatic Dimming Photocell Control (nCM ADCX RJB model only)
- Full On/Off Photocell Switching Control (disabled by default on nCM ADCX RJB)
- Optional Inhibit mode: Photocell can prevent lights from turning on if adequate daylight is available, but does turn lights off (nCM PC RJB model only)
- LED status indicator
- Adjustable settings (e.g. set-point) via push-button or SensorView software application
- Broadcasts photocell information over a local nLight channel
- Remotely upgradeable firmware

Government Procurement
BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

Warranty
Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

A+ Capable

This item is an A+ capable component, which has been designed and tested to provide out-of-the-box luminaire compatibility with simple commissioning, when included as part of an A+ Certified™ Solution.

To learn more about A+, visit www.acuitybrands.com/aplus.

nCM ADCX RJB
nCM PC RJB

Daylight Harvesting Photocell

BAA BABA A+ CAPABLE UL CERTIFIED

ORDERING INFORMATION

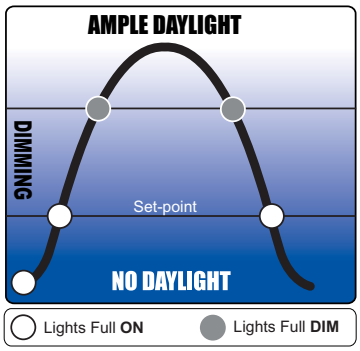
nCM									Example: nCM ADCX RJB
Series		**Dual Zone**		**Temp / Humidity**		**Additional Features (choose 1)**		**Buy America(n)[1]**	
nCM ADCX	Automatic Dimming Control Photocell	[blank]	Single Zone Control	[blank]	Standard	RJB	Rear RJ45 (CAT5e patch cable & RJ45 splitter included)	[blank]	Standard
nCM PC	On/Off Control Photocell	DZ	Dual Zone Control	LT	Low Temp/ High Humidity			BAA	Buy America(n) Act and/ or Build America Buy America Qualified

Notes:
1. Not available with LT

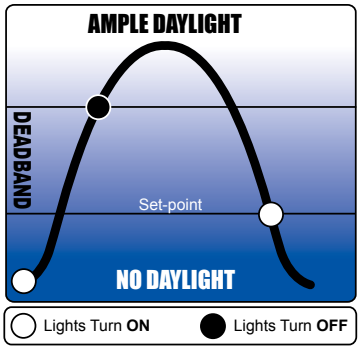
PHOTOCELL OPERATION

The nCM ADCX RJB sensor continuously adjusts a space's lighting 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 controlled dimmable lighting to operate at its full bright level. As daylight increases and begins to contribute to the overall light level of the room, the Automatic Dimming Control (ADC) feature starts dimming the room proportionally, eventually reaching the full dim level (or optionally switching off, see paragraph below). As the daylight levels fall, the ADC feature will again take control of the lights; reducing the dim level (increasing the brightness) in order to achieve the necessary total light level. At the point when all daylight contribution is gone, lighting will be back at its full bright level.

The nCM PC RJB sensor does not control dimming, but instead signals nLight devices located elsewhere within the sensor's zone to switch a controlled lighting load on when more light is needed. The lights are also signaled to turn off when light is above the set-point plus a 10% safety factor and deadband. The safety factor will prevent the system from cycling when the light level is very near the set-point. The deadband is the level of light contributed by the artificial lights being controlled. This level is tracked so if the lighting conditions change (for example a lamp burns out) the point at which the lights turn off is adapted accordingly. If the photocell can not view the lights being controlled (for example if it is looking up at skylights), there is no deadband and the sensor is said to be working open loop. There is also an adaptive cloud delay (optional) before the photocell turns the lights off to prevent the system from cycling on a cloudy day.



AUTOMATIC DIMMING (nCM ADCX RJB)

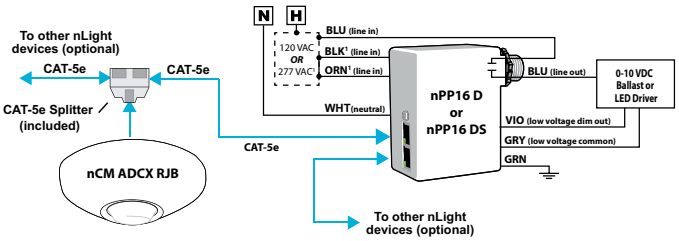


ON/OFF CONTROL (nCM PC RJB)

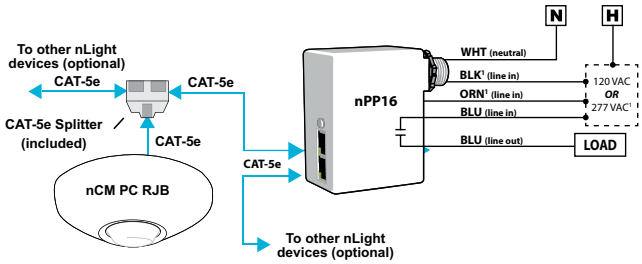
WIRING

T568B pin/pair assignment is recommended for all CAT-5e cables. Sensor power is provided via the CAT-5e connection to an nLight power pack/supply, nLight enabled digital luminaire, or nLight Bridge.

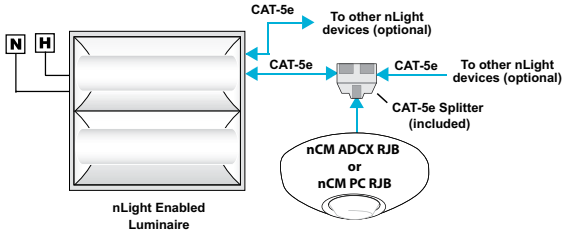
Wiring an nCM ADCX RJB to an nLight Dimming Relay Pack



Wiring an nCM PC RJB to an nLight Relay Pack



Wiring to an nLight Enabled Luminaire



Note 1
BLK - 120 VAC
ORN - 277 VAC (or 347 VAC if unit has 347 option)

DEVICE SETTINGS

Several operational settings for the nCM ADCX RJB and nCM PC RJB are available and configurable through the unit's push-button and/or SensorView software, including:

Common Settings:
- Photocell Broadcasting (Enable/Disable)
- Photocell Broadcasting Channel (1-16)
- LED Indicator (Enabled/Disable)
- Automatic Set-point Calibration Mode
- Blink-back Set-point (in footcandles)
- Set-point (0-200 fc)
- Sunlight Discount Factor (1-10)
- Photocell On/Off Transition Time (45 sec - 25 min)

nCM PC RJB Specific Settings:
- Adaptive Cloud Delay (Enable/Disable)

nCM PC DZ RJB Specific Settings:
- Photocell Pole 2 Broadcasting Channel (1-16)
- Photocell Mode:
  - Duo - Automatic step dimming
  - Duo (Never off) - Automatic step dimming with one load always left on
  - Inhibit - Loads will be held off if sufficient daylight present, but once on will not turn off from daylight
- Dual Zone Off-Point (110 to 200%)

nCM ADCX RJB Specific Settings:
- Override (Full Dim/Full Bright/Normal)
- Switch Tracking (Enable/Disable)
- Switch Tracking Channel (1-16)
- WallPod Dimming Adjustment (Temporary, Photocell Temporary Override, Permanent)
- Occupied Bright Level (1-100%)
- Unoccupied Dim Level (1-100%)
- Dimming Rate
- Photocell On/Off (Enable/Disable)

nCM ADCX DZ RJB
- Photocell Pole 2 Broadcasting Channel (1-16)
- Dual Zone Percentage Offset (-200 to 200%)
- Dual Zone Off-Point (110 to 200%)

SPECIFICATIONS

Electrical	**Input Ratings**	15-24VDC, 3mA, Class 2 (nLight network power)
	Output Ratings	24 VAC/VDC, 1A - Resistive (AR option)
	Relay Type	Latching (AR option)
	Standards/ Ratings	Energy Management Equipment, UL916 (E167435)
Mechanical	**Dimensions**	4.55"W x 1.55"D (116mm x 40mm)
	Mounting	Single-Gang or Octagonal Box, Surface Mount
	Color	White
	Finish	Matte
	Connection Type	RJ-45 nLight Network Ports (2 ports via included RJ-45 splitter) Low-Voltage Leads (AR option)
Environmental	**Warrantied Operating Temperature**	Standard: 14°F to 185°F (-10°C to 85°C) LT option: -4°F to 185°F (-20°C to 85°C)
	Relative Humidity	Up to 90%, Non-Condensing
	Standards/ Ratings	RoHS
General	**Standards/ Ratings**	System Component to aid in compliance with Title 24, ASHRAE 90.1, IECC