



DECORA[®]
COLLECTION BY LEVITON

CENTURA[™]
Dimming Controller
(Multi-location)

Cat. No. CN221
24VDC
24mA, 1W

For use w/Dimming Power Pack
and other LCnet products

For more information go to
www.leviton.com/centura

INSTALLATION INSTRUCTIONS



DI-000-CN221-00A-Pilot

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For Technical Assistance Call:
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FEATURES

- Leviton's Decora® Style design
- Enables settings of Controller
- Low-Voltage for easy installation
- Separate Bright, Dim, On and Off Buttons
- Color conversion available
- Fits standard wall box

INTRODUCTION

The Dimming Controller, Cat No. CN221, allows easy to use manual control of a Centura Lighting Control System. The Controller has separate ON, OFF, BRIGHT and DIM buttons to provide simple control of your Power Pack. The Controller allows manual control of your lights and programming of the Power Pack from a standard wall box in an easy to reach location. In using the Controller, you may override the automatic operation of the Power Pack to give the most convenience to your lighting needs.

DESCRIPTION

The Controller has a user friendly rocker within the rocker design (refer to Figure 1). There are four functions on the face; from top down they are ON (large upper rocker), BRIGHT (small upper rocker), DIM (small lower rocker) and OFF (large lower rocker). The Brightness Level Display on the left indicates the current light level. The Controller has a removable face so that the colors can be changed (refer to Figure 2).

The Controller is a component of the Lighting System. It is used to provide local user control of the lights and allows programming of the Power Pack. The Controller provides the ability to program the MAX, MIN, UnOccupied and Light Maintain light levels, in addition to Manual Time-out and the Power Pack address for multiple Power Pack installations. The programming sequence is described under the "TO OPERATE" section.

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

INSTALLATION INSTRUCTIONS

WARNING: TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH APPROPRIATE ELECTRICAL CODES AND REGULATIONS.

WARNING: IF YOU ARE NOT SURE ABOUT ANY PART OF THESE INSTRUCTIONS, CONSULT A QUALIFIED ELECTRICIAN.

CAUTION: DISCONNECT POWER WHEN SERVICING FIXTURE OR CHANGING LAMPS.

CAUTION: The Controller operates off of low-voltage (24VDC), so care must be taken when replacing a light switch. **CONSULT LOCAL BUILDING CODES AND REGULATIONS FOR PROPER LOW-VOLTAGE INSTALLATION.**

TO INSTALL:

1. **WARNING:** TO AVOID FIRE, SHOCK, OR DEATH; **TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TEST THAT POWER IS OFF BEFORE WIRING!**
2. Remove existing wallplate and switch or dimmer, if applicable

CAUTION: IF APPLICABLE, ENSURE THAT CIRCUIT CONDUCTORS ARE PROPERLY CAPPED OFF WITH WIRE CONNECTORS AND REMOVED FROM WALL BOX.

3. Connect lead wires per appropriate WIRING DIAGRAM as follows: Twist strands of each lead tightly and, with low-voltage wires, push firmly into appropriate wire connector. Screw connectors on clockwise making sure that no bare conductor shows below the wire connectors. Secure each connector with electrical tape.
4. Carefully position all wires to provide room in outlet box for Controller. Mount Controller into box with mounting screws supplied.
5. Restore power at circuit breaker or fuse. Turn the Controller ON by pressing the upper half of the rocker. The GREEN ON/OFF LED will turn OFF to indicate the Controller is ON (when the Controller is OFF, the LED is ON).

NOTE: If programming is desired proceed to "PROGRAMMING" section, otherwise continue with Step 6.

6. Attach Decora® Screwless wallplate. **INSTALLATION IS COMPLETE.**

PROGRAMMING

NOTE: Use large rockers to cycle programming steps and small rockers for selection of level or setting.

1. Pull off the Decora® Screwless Wallplate. Reverse wallplate and adhere Programming Label to the inside so that label is facing out (refer to Figure 4). This label is to be used as a programming guide.
2. Using a small screwdriver or pen-point, press the program button (refer to Figure 3). LED #1 will flash to indicate the **Manual Time-out** selection. **NOTE:** When any of the LED's 1-5 flash, the Controller is in the program mode. Place wallplate over frame of the Controller. For multi-gang installations, refer to Figure 4.
3. LED #5 will be lit indicating the **Manual Time-out** default Enabled (YES). To program **Manual Time-out** Disabled (NO), press the small lower rocker. LED #6 will be lit indicating **Time-out NO**. To return to default YES, press the small upper rocker.
4. To program **Maximum Light Level**, press the large lower rocker (refer to Figure 4). LED #2 will flash indicating the **Maximum Light Level** selection. Press the small upper or lower rocker to adjust lights to the desired maximum level. **NOTE:** The Brightness Level Display will not show the light level when the Controller is in Program mode.
5. To program the **Light Maintain Level**, press the large lower rocker (refer to Figure 4). LED #3 will flash indicating the **(Daylight)** selection. Press the small upper or lower rocker to adjust lights to the desired level maintained by the photocell.
6. To program the **UnOccupied** mode, press the large lower rocker (refer to Figure 4). LED #4 will flash indicating the **UnOccupied** mode selection. LED #6 will be lit indicating the default **Lights OFF**. To program **UnOccupied** mode **Min.**, press the small upper rocker. LED #5 will be lit indicating the **UnOccupied** mode **Min.** To return to default **Lights OFF**, press the small lower rocker.
7. To program the **Minimum Light Level**, press the large lower rocker (refer to Figure 4). LED #5 will flash indicating the **Minimum Light Level** selection. Press the small upper or lower rocker to adjust lights to the desired minimum level.
8. To exit **Program Mode**, press the large lower rocker (refer to Figure 4). LED #7 will flash indicating the Controller will exit the program mode in 3 seconds.

NOTES:

- To return to any previous programming step, press the large upper or lower rocker until satisfied.
- If there is no activity for 2 minutes during any of the steps, the Controller will exit the program mode.

Defaults	
Manual Time-out	Enabled YES
MAX	100%
Light Maintain	100%
UnOcc	OFF
Min	0%
Address	0

Figure 1 - Controller Functions

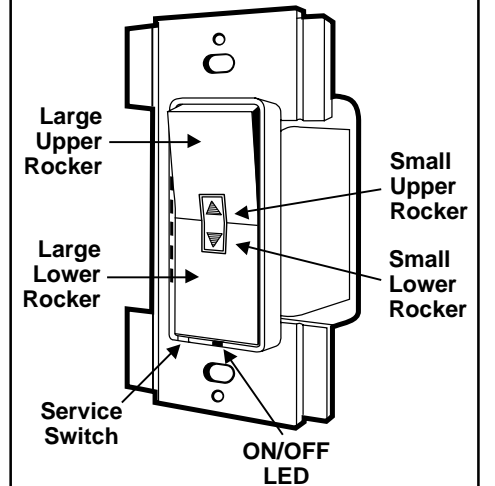
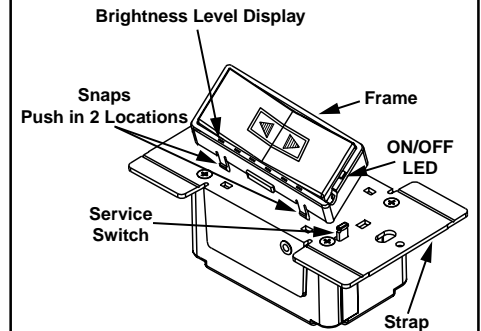


Figure 2 - Color Conversion



TO OPERATE:

- ON:** Press the upper half of the large rocker. The lights will fade ON.
- OFF:** Press the lower half of the large rocker. The lights will fade to OFF (ON/OFF LED lit).
- BRIGHTEN:** Press and hold the upper half of the small rocker to the desired light level.
- FULL BRIGHT:** If the lights ON, pressing the upper half of the large rocker will turn lights ON to the maximum level.
- DIM:** Press and hold the lower half of the small rocker to the desired level.
- SERVICE SWITCH:** On the lower left corner of the switch plate, there is a Service Switch (refer to Figure 1). When servicing a controlled fixture, pull lever out (OFF position). This will send a message to the Power Pack to keep the lights OFF. After servicing is complete, push the lever in (ON position) to restore power. The lever must be pushed in all the way (ON position) for normal operation.
- BRIGHTNESS LEVEL DISPLAY:** Indicates the level of brightness when the lights are ON. Indicates the previous level of brightness when the lights are OFF (refer to Figure 2). When lights are OFF, the brightness level of lights can be changed before turning lights ON by pressing the small rocker UP/DOWN.
- COMMUNICATION LED:** The communication LED will flash when the Controller transmits a message, and when it receives a valid message. It is located under the wallplate (under the screwless wallplate adapter, not shown) (refer to Figure 3). It is visible in the space between the frame and the wallplate adapter.

- LIGHT LEVELS:**
 - MAX:** The maximum light level is adjustable between 60%-100%.
 - MIN:** The minimum light level is adjustable between 0%-40%.
 - UnOccupied:** The UnOccupied level is the selection between OFF and MIN. Therefore, when the occupancy sensor detects an absence of motion, the lights will be either OFF or at MIN, depending on the setting.
 - Light Maintain:** The Light Maintain level is the amount of light that the Power Pack will maintain in the room. The Power Pack maintains a programmed light level by adjusting the lights automatically to compensate for the ambient light present in the room. If the room is very bright (mid-day), the lights will be set to a dim level. If the room is dark (evening and morning), the lights will be set to a bright level. This desired level of light is programmed by the Controller.

- MANUAL TIME-OUT:**
 - The Power Pack adjusts the lights in order to automatically maintain a programmed light level (as described above). There are times when this light level needs to be manually overridden. However, some local building codes (such as California Title 24) do not allow lights to be permanently raised above the Light Maintain level. The time-out is 30 minutes.
 - NOTE:** The time-out can be disabled for installations that do not need to conform to these building codes. The Manual Time-out is a selection between enable (Time YES) and disable (Time NO).

- Power Pack ADDRESS:**
 - The Controller and the Power Pack must have the same address in order to communicate to each other. The default address is the same, but when installing multiple Power Packs, each must have a different address.
 - The Controller has an address wheel for addressing (refer to Figure 3). If there is only one Power Pack on the bus, the address wheel **DOES NOT** have to be adjusted. For installations where there are multiple Power Packs, the address wheel is used to set the Power Pack's address (refer to the Dimming Power Pack's Instruction Sheet for further details).

- To set the Power Pack's address, proceed as follows:**
 1. Remove wallplate and the frame (may have to remove screwless wallplate adapter also).
 2. Using a small screwdriver, rotate the address wheel to the next unused address.
 3. Pull out Service Switch.
 4. Press the Address Selection button on the Power Pack.
 5. Return Service Switch to the IN position.
 6. Address is now selected.

NOTE: Only one Power Pack can be programmed at a time.

- MULTI-LOCATION:**
 - Up to 4 Controllers can be connected in parallel. All Controllers **MUST** be on the same address.

COLOR CONVERSION PROCEDURE

The color of this device can be changed to suit your interior design requirements. Simply obtain a color conversion kit of the appropriate color from your Leviton distributor and proceed as follows (please note that wallplate must be removed).

1. Select the color of the face you desire.
2. The frame has snaps on its sides. Using a small screwdriver, **gently** remove the frame from the strap (refer to Figure 2).
3. Take the new frame and position it properly to the strap. Notice that the frame has a cut-out for the safety switch lever. Line up the plastic snaps with the square holes in the strap. Insert the snaps on one side of the frame into the strap.
4. Firmly press sideways and down to slip the other snaps into place. The frame snaps in with a audible click. Ensure that all four snaps are secure. Replace Decora® wallplate. **The color conversion is complete.**

TROUBLESHOOTING

- If NO LED's are lit; there is no power
 - Check wiring.
- If none of the Brightness Level Display LED's are lit, but OFF LED is lit; there is no communication to the Power Pack
 - check communication wiring.
 - check that Power Pack is operating.
- Communication LED does NOT light when the button is pressed
 - Check power wiring connections.

For Multiple Power Packs on the Bus:

- The Controller has power (at least the OFF led is ON) but pressing the buttons have no effect on the lights; there is no communication between the Controller and the Power Pack
 - If the communication LED does NOT flash when a button is pressed, see above.
 - If the communication LED does flash, check the address of the Power Pack and Controller (refer to Dimming Power Pack Instructions).

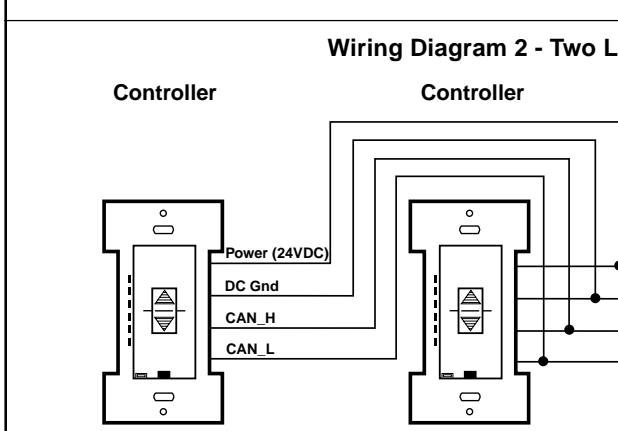
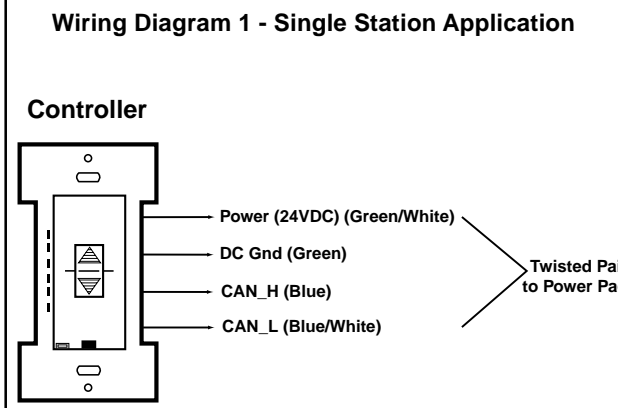
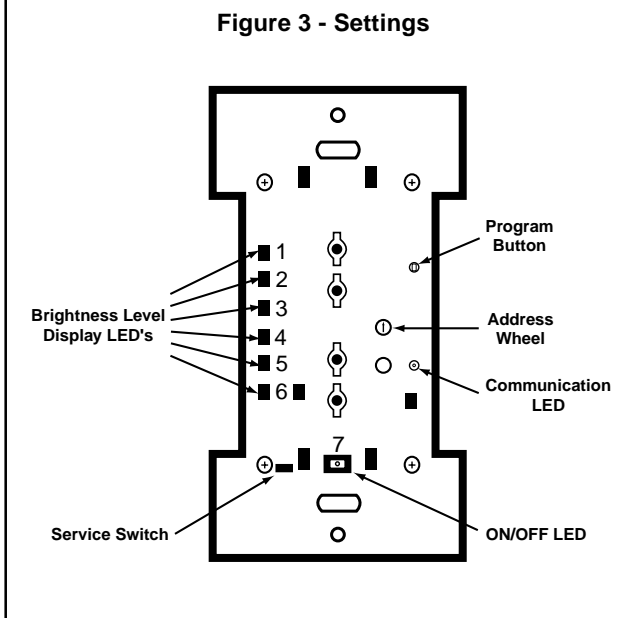
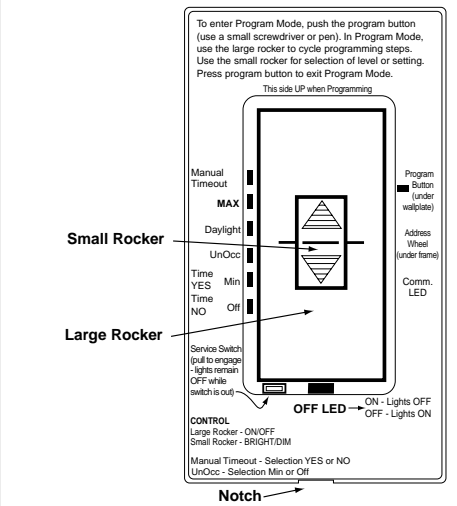
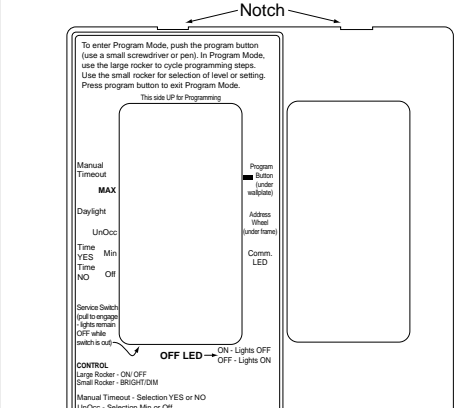


Figure 4 - Program Label



Back of Multi-Gang Wallplate



NOTE: Both Controllers must have the same address for multiple location control of 1 Power Pack.