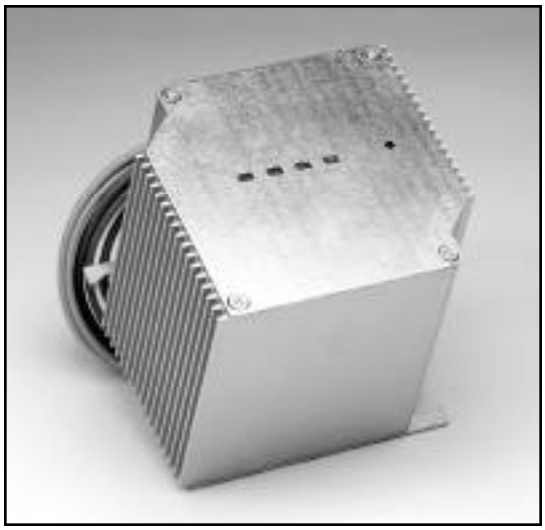
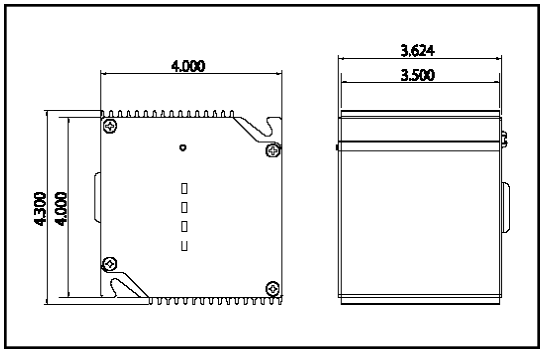
CN100 Dimming Power Pack

Application

Leviton's CN100 Dimming Power Pack links fluorescent fixtures and Leviton lighting system components including occupancy sensors, photocells, controllers, and personal computers installed with specialized software (PC not included). As the central link between all Leviton Control Network (LCnet) peripherals, the CN100 retains all system settings. The CN100 is compatible with non-dimmable and dimmable electronic ballasts using a 0 to 10VDC dimming signal, such as Advance Mark VII 0-10V, OSRAM Sylvania Quicktronic® Helios™, and ESI. The Power Pack also supports a number of building management functions.





Operation

The Dimming Power Pack is a versatile lighting control, which can be used in a number of ways with different peripherals: occupancy sensors, photocells, wall controllers, handheld remote controls, and personal computers. As part of a daylight harvesting system, the CN100 retains all light level settings, receives the photocell's light measurement, and adjusts its own output to dim/brighten attached, fluorescent fixtures. When attached to a single (or multiple) occupancy sensor, the Dimming Power Pack automatically switches lighting on and off based on room occupancy. And when someone adjusts lighting manually, via a compatible controller, the power pack adjusts the lights accordingly. For further automation and reduced electric consumption, the CN100 incorporates a built-in HVAC relay, as well as time clock off sequence, loadshed policy, and emergency mode programmability.

In addition to storing settings that govern how a Leviton dimming and/or energy management system will operate, the CN100 can provide power to several peripherals. The CN100 must be programmed using a wall controller or PC. These controls provide varying levels of programmability; the Leviton Personal Dimmer computer interface can be used to configure the greatest range of power pack settings. These include Maximum, Minimum, and Light Maintain Levels; dimming/brightening rate; and on and off fade rates.

LEVITON SPECIFICATIONSUBMITTAL

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Product Specifications

CN100

Features and Benefits

- Works with low-voltage non-dimmable and dimmable electronic ballasts, such as Advance Mark VII 0-10V, OSRAM Sylvania Quicktronic Helios, and ESI.
- Networkable with LCnet-compatible wall switches and dimmers, remote controls, photocells, occupancy sensors, and Leviton Personal Dimmer software for optional computer control over lighting, as well as multiple CN100's.
- Retains all LCnet system settings such as addresses, light (including preset) levels, time clock settings, loadshed and emergency status, unoccupied state, and 30-minute timeout state.
- Reduces electric usage by adjusting load output to the lowest light level called for by an active input (Least Light Law).
- Powers Leviton ODC-Series Ceiling-Mount and ODW-Series Wall-Mount Occupancy Sensors, ODC0P Photocell, LCnet wall controllers, and Leviton SmartJack.
- When ambient light levels fluctuate rapidly, the CN100 can average changes to keep lights from dimming and brightening (or turning on and off) too frequently.
- Adheres to environmental regulations (including California's Title 24) by defaulting to a 30-minute override of manually brightened settings. This override may be deactivated.
- Programmable time clock function shuts all LCnet lights off in an end-of-day sequence, ensuring that lights are not inadvertently left on. Twenty-five minutes after time clock is activated, the lights will flash a warning sequence: lights brighten to maximum, dim to minimum, then return to the previous brightness level within 5 seconds. After another 5 minutes the lights will dim by 30% and slowly fade to off.
- Accommodates loadshed policies by enabling electric consumption to be reduced during peak usage periods when programmed accordingly.
- Features a built-in, low-voltage HVAC relay that automatically turns off based on room occupancy, with occupancy sensor installed.

Specifications

Electrical

Input Voltage: 120 to 277VAC ± 10%
Input Current: 500mA
Isolated Output: 24VDC @ 500mA
Primary Relay Rating: 2400VA @ 120VAC and 5500VA @ 277VAC fluorescent
Testing/Code Compliance: UL Listed, CSA Certified, FCC Part 15, and California Title 24

Physical

Size: 4.3 x 4.0 x 3.6in. (10.92 x 10.16 x 9.14cm)
Color: metallic silver

Environmental

Operating Temperature Range: 0ºC to +55ºC
Storage Temperature Range: -10ºC to +85ºC
Relative Humidity: 20% to 90% non-condensing

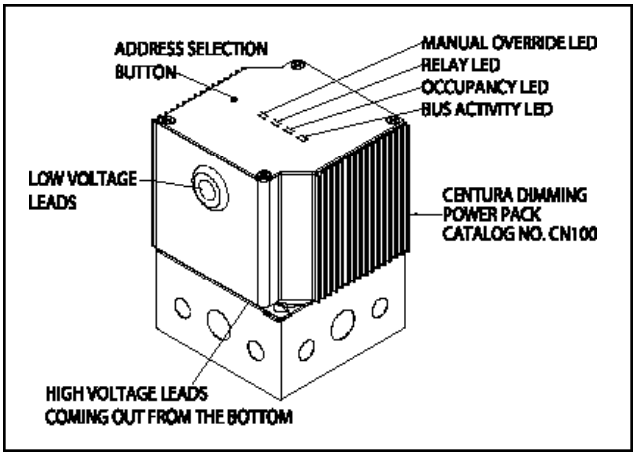
Warranty: Limited 2-Year Warranty

Termination

Power packs chosen as the first and last nodes on an LCnet bus must be terminated. The termination switch is behind the pack's faceplate. No termination is necessary if wire lengths between LCnet components are less than 10 feet.

Addressing

Addresses must be assigned when using multiple power packs via controller or software.



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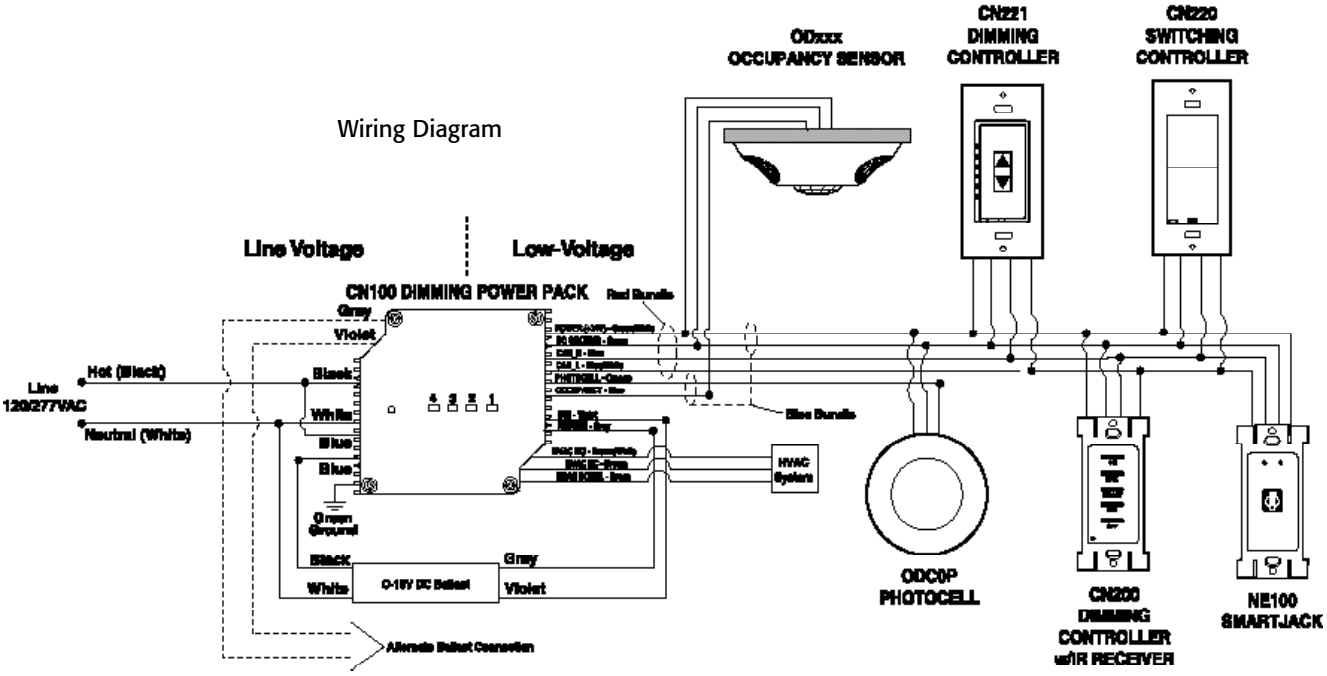
Wiring Diagram



Programmable Power Pack Settings

1. Maximum Light Level
   The maximum Power Pack output, which can be set lower than the maximum ballast output, is adjustable between 60% and 100%.
2. Minimum Light Level
   The minimum Power Pack output, which can be set greater than the minimum ballast output, is adjustable between 0% and 40%.
3. Light Maintain Level
   The level of light that the photocell measures and that the Centura System will try to constantly maintain when using the daylight-harvesting feature.
4. Unoccupied State
   Any time the occupancy sensor detects an absence of motion, it can be set to either turn the lights off or dim them to the Minimum Light Level.
5. Time Clock
   End of day sequence of light settings.
6. Dim/Bright
   The speed at which the lights are brightened or dimmed to a new, selected light level.
7. ON Fade Rate
   The speed at which the lights brighten to the Light Maintain Level.
8. OFF Fade Rate
   The speed at which the lights dim to off.
9. Manual Timeout
   When this setting is active, manual adjustments to lighting will only remain active for 30 minutes, at which point they will revert to the Light Maintain Level if it is dimmer than the manually-adjusted level. This setting can be disabled.
10. Loadshed Level
    When this setting is actived, lights will be reduced either at the 25% default level or at the selected percentage.

Note: There is a limit to the number of peripheral devices that may be attached to a single Centura Dimming Power Pack of 500 mA

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How the CN100 behaves is a function of how it prioritizes the various inputs it may be receiving from peripheral devices at any, given time.

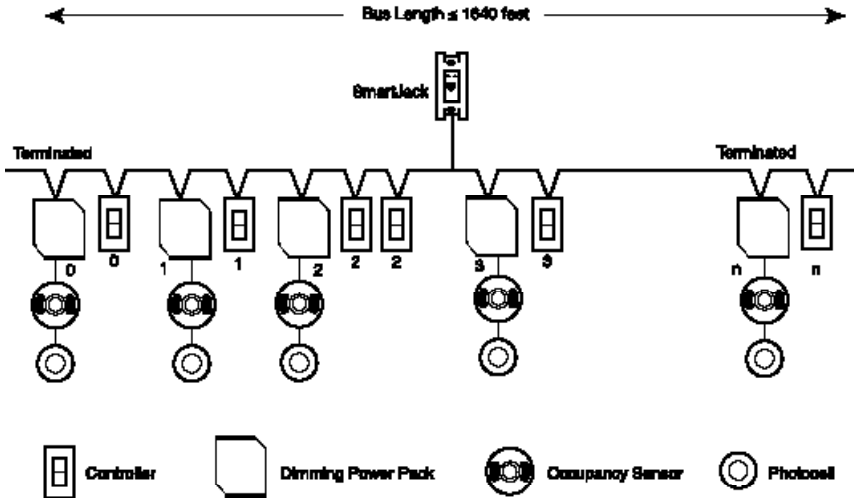
Power Pack Input Prioritization
The CN100 Dimming Power Pack may receive several inputs at any one time and it prioritizes these inputs in the following order.

1. Service (Air Gap) Switch: keeps lights off so service can be performed.
2. Emergency: lights turn to 100% brightness when system goes into emergency mode.
3. Program Mode: During reprogramming of default values and addresses, service switch and emergency mode settings will always take precedence.
4. Occupancy On/Off: turns lights on and keeps them on as long as occupancy is detected by sensor, and off when no motion is detected.
5. Manual Off: when a user turns lights off using a switch, remote control, or computer.
6. Time Clock: lights will adjust based on time clock settings.
6. Loadshed: decreases load output by a user-configurable percentage during loadshed periods.
7. Light Maintain Level: lighting adjusts its own output to maintain a user-set light level within a photocell's area of detection.
8. Manual On / Brighten / Dim: when a user adjusts lights using a switch, remote control, or computer.

Installation

Low Voltage Class 2 Wiring
- Daisy chain peripheral devices to CN100 bus.
- Make connections in junction box no longer than 29 ft drop.
- Run low voltage wires separately from line voltage.
- Use CAT5-type wiring.

High Voltage Class 1 Wiring
Connect wires in junction box using standard wiring practices.



LCnet Wiring Schematic

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