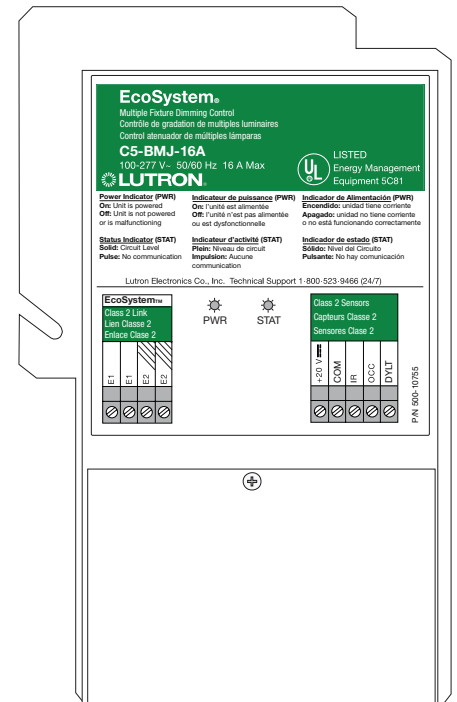


EcoSystem Dimming Power Module for 3-wire Lutron Dimming Ballasts

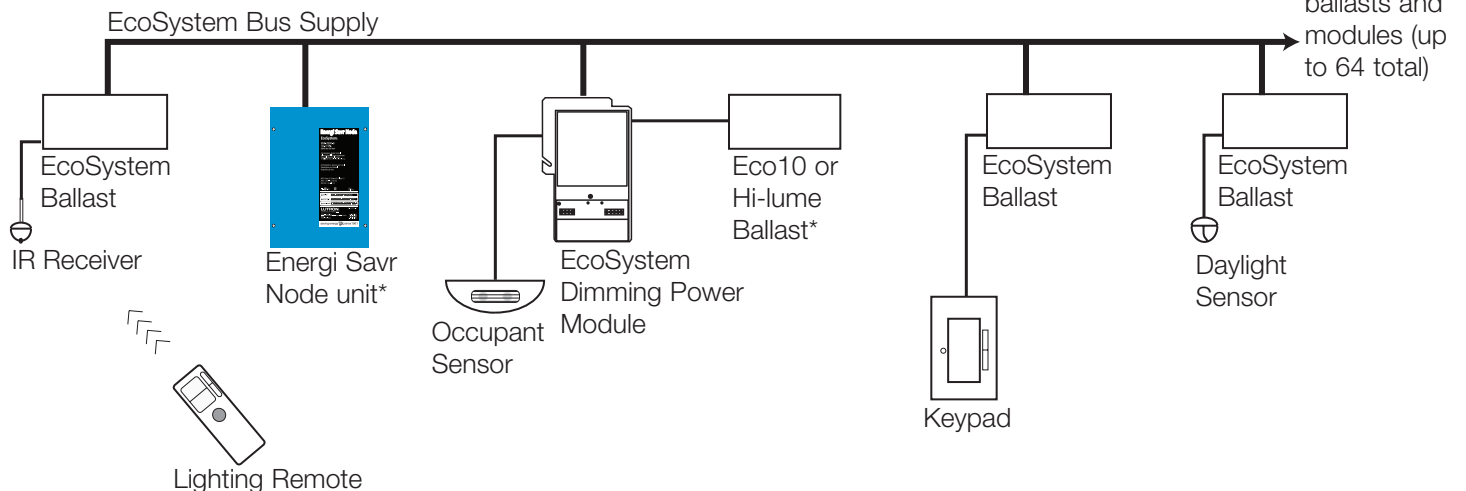
The Lutron EcoSystem dimming power module allows integration of Lutron 3-wire phase controlled dimming ballasts into Lutron EcoSystem bus supplies (Eco-10 and Hi-lume series only). The power module combines digital commands and sensor data to determine the proper light level.

Features

- Continuous, flicker-free dimming from 100% to minimum ballast level. (10% for Eco-10, 5% for Compact SE, 1% for Hi-lume)
 - Provides 20 V_{DC} power for and responds to one occupancy sensor, one EcoSystem daylight sensor, and one EcoSystem personal control input (infrared receiver or wallstation)
 - Communicates status and sensor levels over the EcoSystem bus supply
 - Works with the PHPM power interface.
- Note:** C5-BMJ-16A must be powered from a 120 V_{AC} distribution panel when controlling a PHPM-WBX-120-WH or PHPM-WBX-DV-WH; must be powered from a 277 V_{AC} distribution panel when controlling a PHPM-WBX-277/DV. See page 5 in this document for details.
- Universal voltage input: 100–277 V_{AC} 50/60 Hz
 - Non-volatile (EEPROM) memory stores specific system information for 10 years from power down to power restored
 - 100% performance tested at factory



EcoSystem One-Line



* Does not count as one of the ballasts or modules on the EcoSystem Bus.

LUTRON SPECIFICATION SUBMITTAL

Page

Job Name:	Model Numbers:
Job Number:	

Specifications

Standards

- UL® 916 Listed
- CSA 184 Certified
- NOM
- California Energy Commission (CEC) Listed
- Meets ANSI C62.41 Category A surge protection standards up to and including 6 kV
- Manufacturing facilities employ ESD reduction practices that comply with the requirements of ANSI/ESD S20.20
- Lutron Quality Systems registered to ISO 9001.2000
- Complies with requirements for use in other spaces used for environmental air (plenums) per NEC® 2014 300.22(C)(3)
- Meets the Canadian National Building Code plenum requirements for a concealed space used as a plenum within a floor or roof assembly
- For commercial use, Class A only

Power

- Operating Voltage: 100–277 V~ 50/60 Hz
- Dimming Range: 100% to minimum ballast relative light output level (10% for Eco-10, 5% for Compact SE, 1% for Hi-lume)
- Switched Output Rating: 16 A Softswitch load
- Control Output Rating: 500 mA for use with Lutron 3-wire ballasts or Lutron interface device
- IEC PELV/NEC® Class 2 Sensor Power: 20 V $\overline{=}$, 50 mA max.

Dimmable Load Types

- Lutron 3-wire phase controlled fluorescent dimming ballasts (Eco-10 and Hi-lume)

Dimmable Load Types Requiring an Interface

EcoSystem 16 A module can dim additional loads other than Hi-lume and Eco-10 ballasts when the appropriate Lutron PHPM-WBX models (PHPM-WBX-120-WH, PHPM-WBX-DV-WH, or PHPM-WBX-277/DV) are used.

Note: C5-BMJ-16A must be powered from a 120 V~ distribution panel when controlling a PHPM-WBX-120-WH or PHPM-WBX-DV-WH; must be powered from a 277 V~ distribution panel when controlling a PHPM-WBX-277/DV. See page 5 of this document for details.

Additional load types are as follows:

- Incandescent
- Halogen
- MLV
- ELV (must be manufacturer approved for reverse phase control)
- Neon/Cold Cathode
- Lutron Tu-Wire Fluorescent Dimming Ballast

Environment

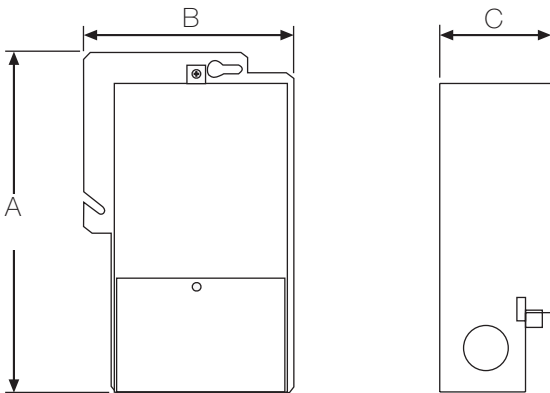
- Ambient Temperature Operating Range: 32 °F to 104 °F (0 °C to 40 °C)
- Relative humidity: less than 90% non-condensing
- For indoor use only

Module Wiring

- Terminal blocks accept wires of the following size:
EcoSystem bus (E1, E2): 22 AWG to 12 AWG (0.5 mm² to 4.0 mm²) solid wire
IEC PELV/NEC® Class 2 Sensors: 22 AWG to 12 AWG (0.5 mm² to 4.0 mm²) solid wire
- Wiring between module and ballasts is 4 conductors:
 - Switched Hot
 - Dimmed Hot
 - Neutral
 - Ground
- Wiring between module and ballast shall not exceed 500 ft (150 m)
- Wiring between module and sensors shall not exceed manufacturers specifications.

Job Name: Job Number:	Model Numbers:
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Dimensions



Dimensions

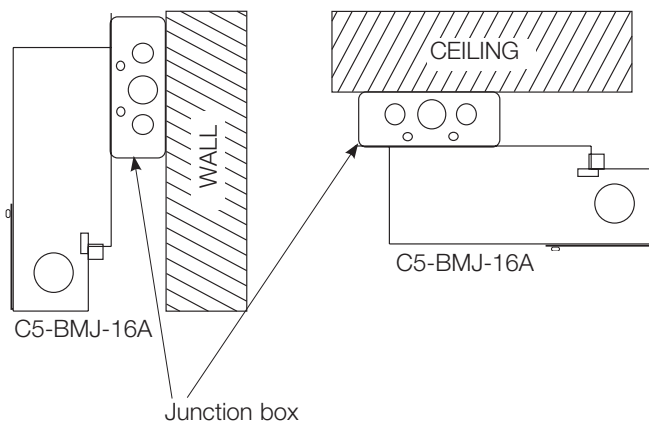
- A = 7.8 in (200 mm)
- B = 5.0 in (130 mm)
- C = 2.5 in (65 mm)

Mounting

- Mount the EcoSystem Power Module onto a 4 in x 4 in (102 mm x 102 mm) standard junction box (not included, but available; Lutron P/N 241496)
- Mount on a vertical or horizontal surface; all power wire connections will be made in the junction box; all EcoSystem bus wiring (Class 1 or IEC PELV/NEC® Class 2) and sensor wiring (IEC PELV/NEC® Class 2 only) connections will be made within the front cover of the unit.
- Mount in a location where the PWR and STAT indicators are visible.

Electrical Contractors and Engineers

- All field installed IEC PELV/NEC® Class 2 wiring must be separated from line voltage wiring by at least 0.25 in (6.4 mm)
- Some local electrical codes require IEC PELV/NEC® Class 2 wiring to be separately routed in a metal conduit

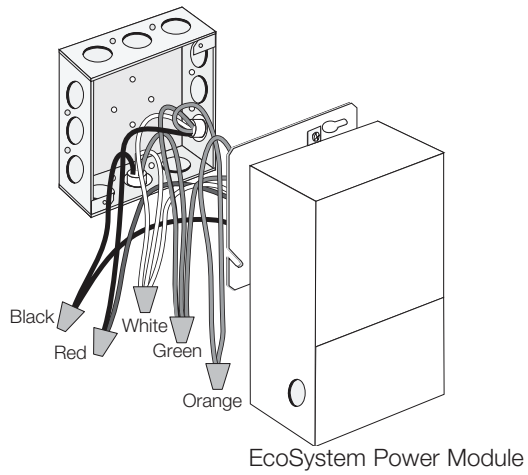


Job Name:	Model Numbers:
Job Number:	

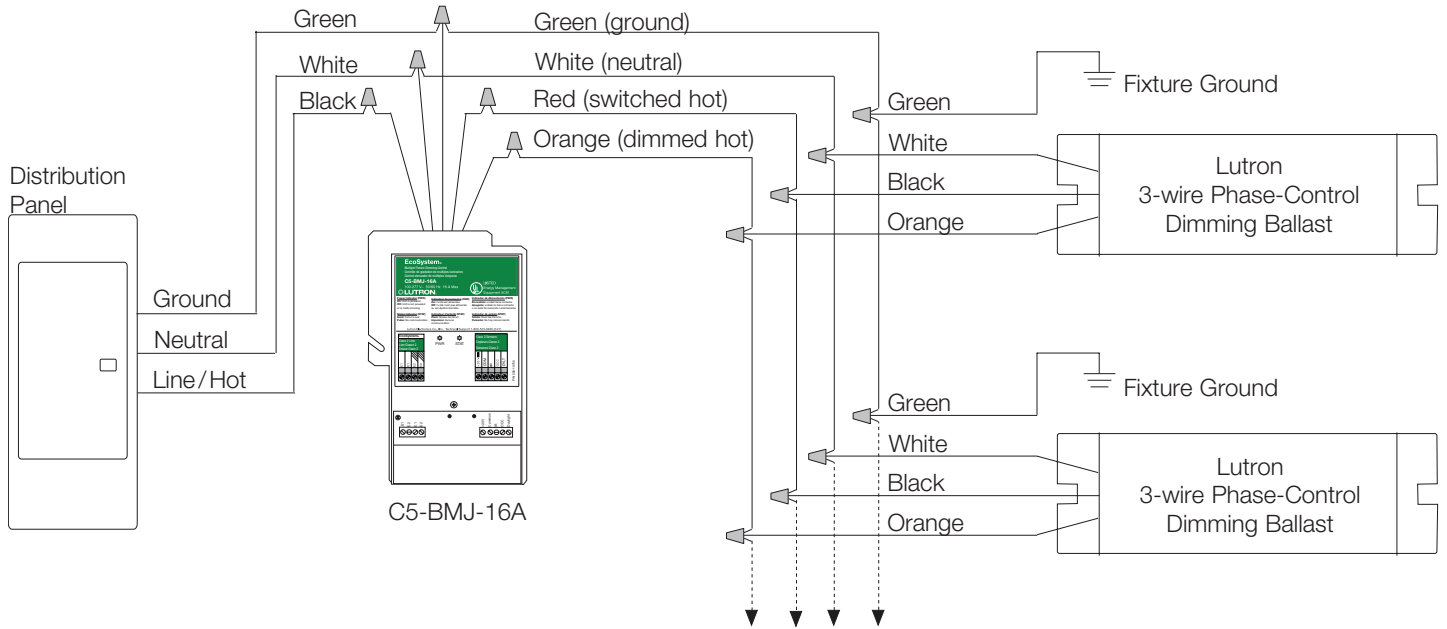
Wiring

EcoSystem Power Module Line Voltage Wiring

- Connect the input feed wires and the output load wires to the module as indicated in the wiring diagrams below
- Wiring between module and ballasts shall not exceed 500 ft (150 m)



Wiring to Lutron 3-Wire Dimming Ballast:



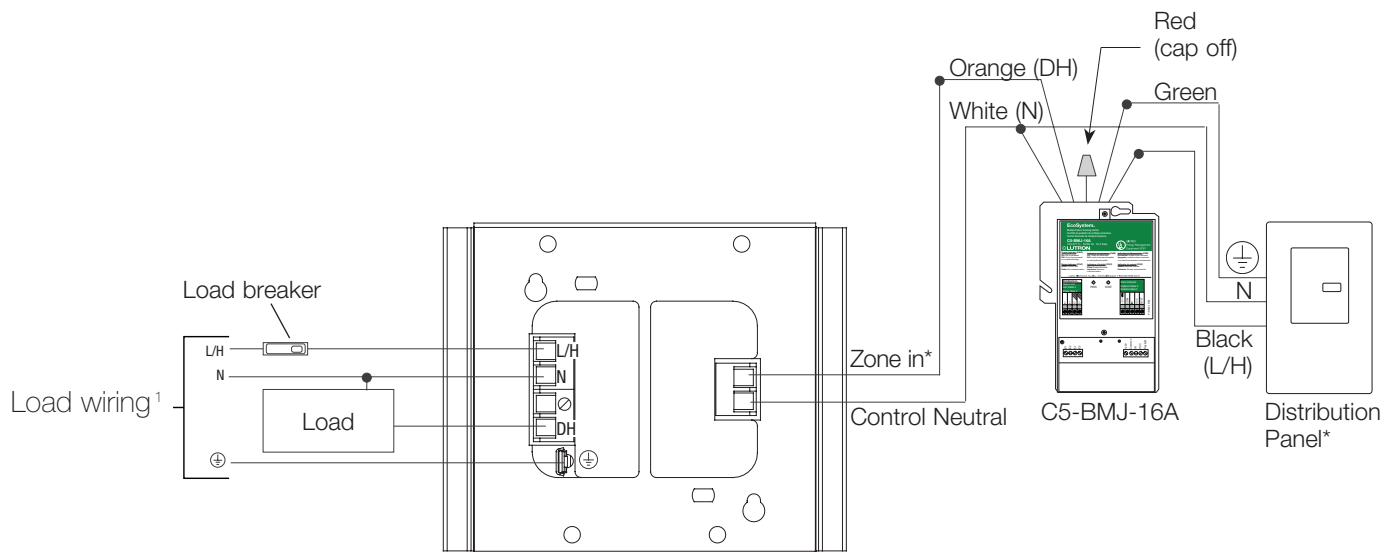
Colors indicate the module and ballast wire colors and/or ballast terminal colors

Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

Wiring to a PHPM-WBX Interface

The load breaker may be on a different phase than the control breaker.



***Note:** Power feed to BMJ must match the expected Zone In voltage for the PHPM.

Power Feed to C5-BMJ-16A	PHPM Required
120 V~	PHPM-WBX-120-WH or PHPM-WBX-DV-WH
277 V~	PHPM-WBX-277/DV

Legend

- L/H Line/Hot
- N Neutral
- SH Switched Hot
- DH Dimmed Hot
- ⊕ Ground
- ⊘ Not Used

¹ Load feed: 120 V~ for PHPM-WBX-120-WH; 120 – 277 V~ for PHPM-WBX-DV-WH or PHPM-WBX-277/DV

Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

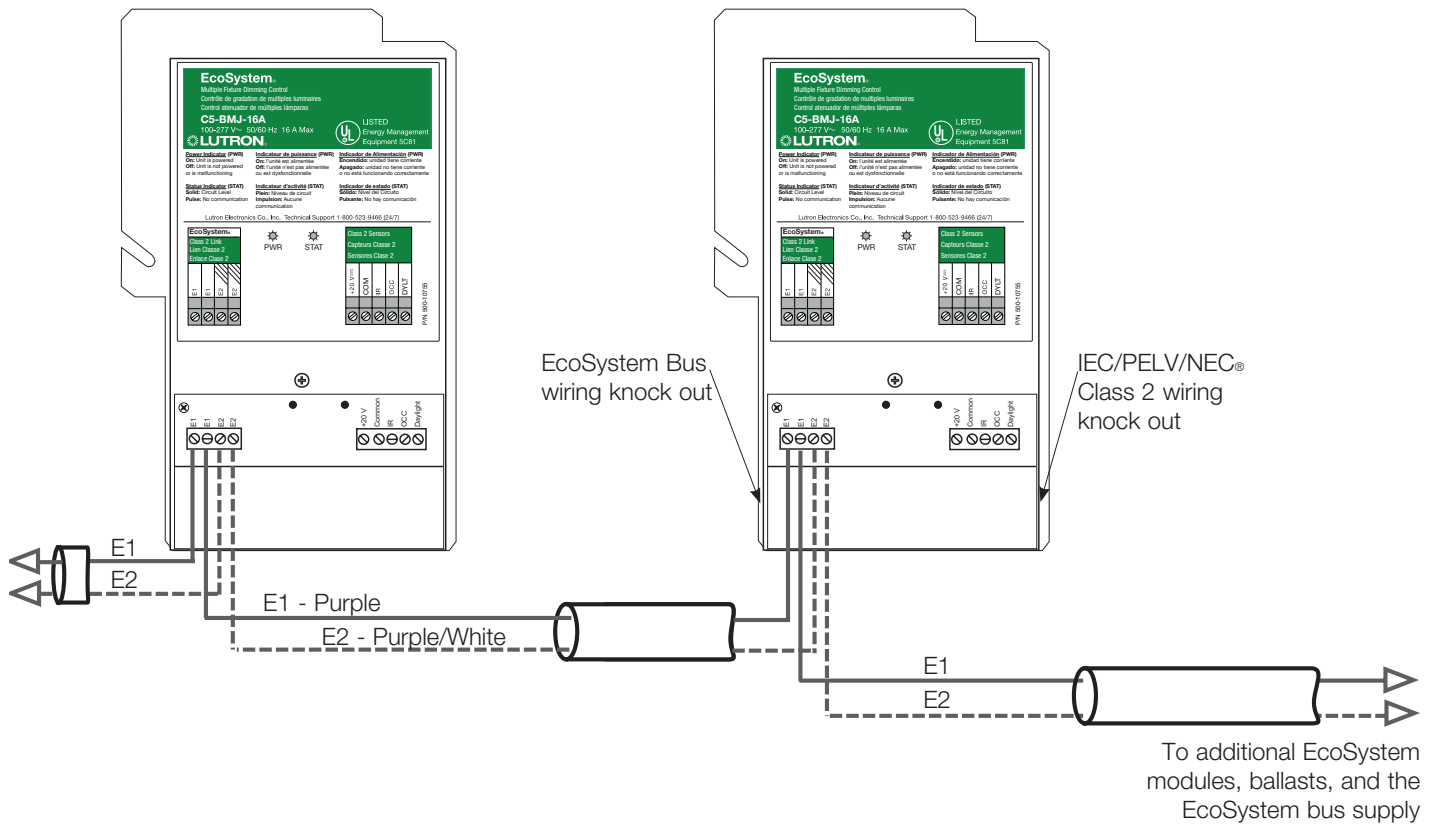
EcoSystem Bus Wiring

- Wire the EcoSystem bus to E1 and E2 terminals on the front of the module.
- When the EcoSystem bus is wired Class 1, the bus wiring must enter the left side knock out and maintain 0.25 in (6 mm) spacing from the IEC PELV/NEC® Class 2 sensor wiring.
- When the EcoSystem bus is wired IEC PELV/NEC® Class 2, the bus wiring may enter either knock out on the low voltage wiring area.

EcoSystem Bus Details

- E1 and E2 wires are not polarity sensitive
- Bus length is limited by the wire gauge used for E1 and E2 as follows:

Wire Gauge (solid wire)	Bus Length (max)
12 AWG (4.0 mm ²)	2200 ft (671 m)
14 AWG (2.5 mm ²)	1400 ft (427 m)
16 AWG (1.5 mm ²)	900 ft (275 m)
18 AWG (1.0 mm ²)	570 ft (175 m)



Job Name:	Model Numbers:
Job Number:	

Wiring (continued)

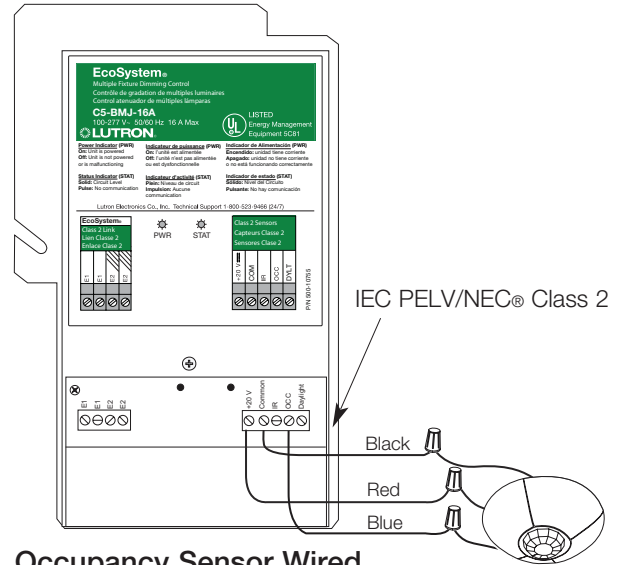
Low Voltage Wiring IEC PELV/NEC® Class 2 Sensors

- Wire color designations of the IEC PELV/NEC® Class 2 Terminals:

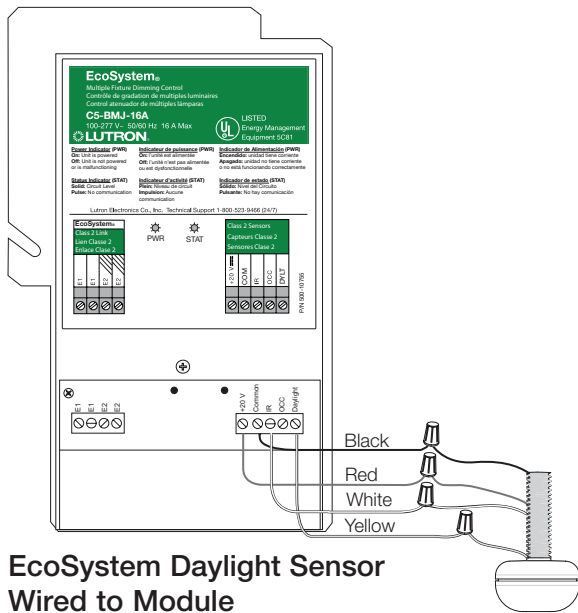
- Red = 20 V==
- Black = Common
- White = IR (wallstation/IR receiver)
- Blue = Occupancy Sensor
- Yellow = Daylight Sensor Signal

- Wiring between module and sensors shall not exceed manufacturers specifications.
- Make sure that the supply breaker to the EcoSystem ballast module is OFF when wiring.

Note: The module accepts only one IR Input. Use of the IR output from the EcoSystem daylight sensor precludes the use of an IR receiver or wallstation with the module. When both a daylight sensor and wallstation/IR receiver are wired to the same module, the IR wire from the daylight sensor should not be connected.

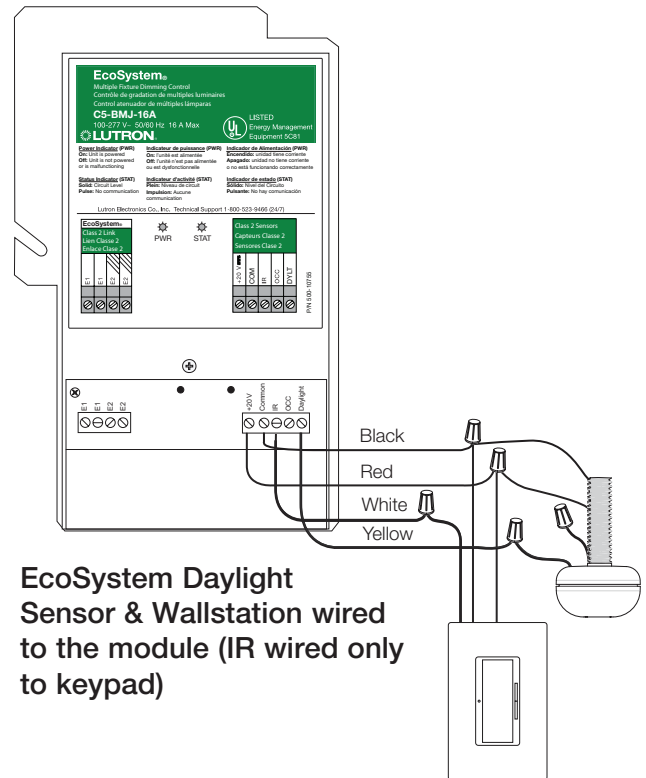


Occupancy Sensor Wired to Module



EcoSystem Daylight Sensor Wired to Module

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EcoSystem Daylight Sensor & Wallstation wired to the module (IR wired only to keypad)

Job Name:	Model Numbers:
Job Number:	