

# Luminaire Control Module

ENCELIUM® Energy Management System – Hardware

ENCELIUM GreenBus II®  
Communication Network



The Luminaire Control Module (LCM) is a key component of the ENCELIUM Energy Management System (EMS). This device provides an interface between ballasts and the ENCELIUM GreenBus II communication network. The LCM is automatically addressed as soon as it is connected to an Energy Control Unit (ECU). Individually addressable, the LCM enables each ballast to be independently controlled and configured to best meet the needs of the facility.

The LCM switches a fixture ON or OFF via a relay contained in the module as well as delivers a low voltage dimming signal to any 0-10V dimming ballast/driver. LCMs can be connected to power relays or switch packs in order to switch larger electrical loads. An LCM can also be connected to LED drivers without isolation between the dimming section and the electrical output for added flexibility in LED driver options.

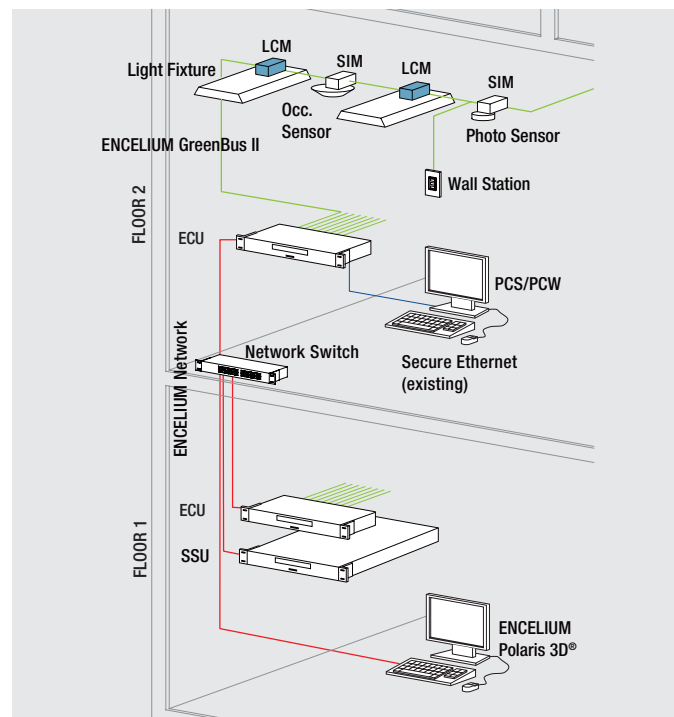
OSRAM offers a special Damp-Rated (DR) LCM for installations in interior locations subject to moderate degrees of moisture.

## Key Features & Benefits

Connects 0-10V dimmable luminaires to the ENCELIUM GreenBus II network for:

- Adjusting light levels to respond to
- Scheduling the operation of a
- Customizing lighting scenes for
- tailoring experiences/tasks
- variable lighting requirements
- luminaire to lower energy use
- during off-peak occupancy

## ENCELIUM Energy Management System Architecture



### System Architecture

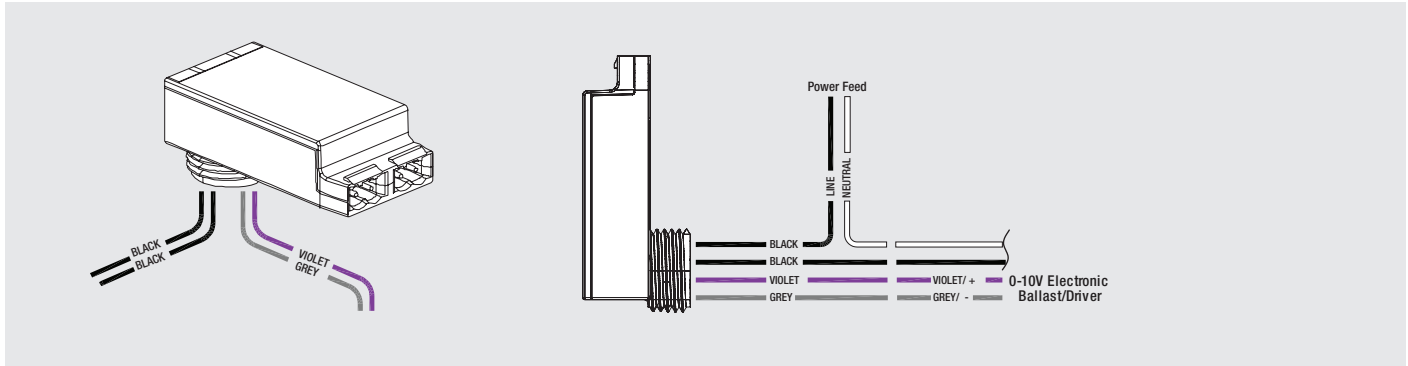
This illustration shows how each component is easily integrated into the ENCELIUM Energy Management System (EMS). ENCELIUM GreenBus II is a two-wire communication topology for supplying data and power to the system. Each light fixture, sensor, and wall controller is daisy-chained back to the Energy Control Unit (ECU) using pre-terminated 'click & go' ENCELIUM GreenBus II communication cabling. ECUs typically control individual floors and are linked via an Ethernet Network. Internet or LAN connection allows floor plan based control software to be operated anywhere on the network. For reference, the component shown on this data sheet is highlighted.

## Ordering Information

Item Number	Ordering Description	Field Bus	Modifiers	Label Color
45552	EN-ILCM-1R10V-GB2-BK	GB2	Black Housing (BK)	Orange
45553	EN-ILCM-1R10V-GB2-BKDR	GB2	Black Housing/Damp-Rated (BK/DR)	Orange

NAED 45552 & 45553 (with orange labeling) replace NAED 45244 & 45245 (with black labeling) for added flexibility with a range of LED drivers.

## ENCELIUM® Luminaire Control Module



## Wire Table

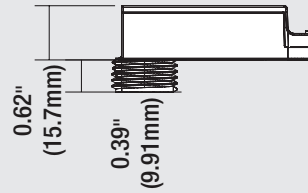
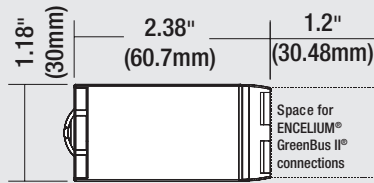
Wire Color	Function	Wire Length
BLACK	Line In/Out – Relay Contact	12"
BLACK	Line In/Out – Relay Contact	12"
VIOLET	Class 2, Low Voltage, 0-10VDC, 25mA max.	36"
GREY	Class 2, Low Voltage Return/Common	36"

## Specifications

- Dimensions: 1.18" W X 2.38" L X 0.62" H (30mm W X 60.7mm L X 15.7mm H)
- Operating temperature range: -40°C (-40°F) to 55°C (131°F)
- Suitable for luminaire or junction box mounting in standard 1/2" knockout (7/8" dia.)
- Absolute Maximum Ratings (all rated voltages have a tolerance of +/-10%):
  - 2.5A 120-480 VAC Electronic Ballast
  - 4.5A 120-480 VAC Ballast
  - 4.5A 120-480 VAC Resistive
  - 4.5A 120-480 VAC Tungsten
  - 4.5A 120-480 VAC General Purpose
- Single 0-10V dimming output (IEC 60929 Annex E). Capable of sinking 25mA (this is equivalent to 10 typical dimming ballasts/drivers)
- FCC Part 15/ICES-003
- Safety approvals:
  - Energy Management Equipment (UL 916 cULus Listed)
  - Emergency Lighting Equipment (UL 924 cULus Listed)
  - Heat and Smoke Release for Air-Handling Spaces (UL 2043)
- Connects to the ENCELIUM Energy Management System via two ports that accept pre-terminated ENCELIUM GreenBus II® Communication Cable
- Complies with the following electromagnetic requirements:
  - EN 61000-4-2
  - EN 61000-4-4
  - EN 61000-4-5

Install in accordance with all applicable national and local electrical and building codes.

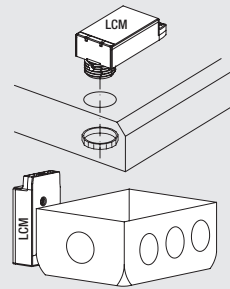
## Dimensions



## Wiring Diagram

The mechanical construction allows for simple installation of the LCM to an available 1/2 inch knock-out on the side or on top of a fixture (as shown to the right). ENCELUM GreenBus II communication wiring is still accessible from the outside of the fixture, while all necessary wiring to the electronic dimming ballast is available on the inside.

For some installations, a junction box may be required. It is recommended to securely mount the LCM to the junction box (as shown to the right) using an available 1/2 inch knock-out and a retainer nut.



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