Product Description

The DRC Controller and Smart Pack combines all the functionality of a DRC Controller and Load controlling Smart Pack in a single device. As with any DRC Controller, this device is responsible for managing all the architectural controls and energy management business logic within a single room, and, is fully setup and configured using a Wi-Fi enabled cell phone or tablet.

• The LumaCAN™ network can span multiple rooms and connect multiple DRC devices together; however it is important to pay particular attention to setup and control of rooms to avoid cross room control.

Each DRC Controller can connect to a variety of devices, such as DRC smart packs, relay panels, and in the future Intellithm™ fixtures, LumaMAX™ RF sensors, DALI™ devices, and other devices. For specific capabilities and capacities, refer to the product data sheet.

Installation

WARNING: AVOID FIRE, SHOCK, OR DEATH; TURN OFF POWER at circuit breaker or fuse and test that power is off before wiring.

NOTE: This is an ESD Sensitive Device. Use safe ESD handling procedures when installing.

1. Mount.

a. Mount to face of 4 in sq junction box with minimum volume 30.3 cu.in or greater (4 in x 4 in x 1.25 in) using the provided screws.

NOTE the following:

• Ensure that conduit/cable entry clamp is located in a corner of junction box opposite the DRC niple as conflicts may occur.

• Dress wires to provide enough clearance when device is installed.

• When installing in jurisdictions which require Class 2 network wiring in conduit, add a 4 in square extension ring on-top of the smart pack, and a blank cover on top of that. The smart pack will then be sandwiched between two junction boxes, so one can be used for Class 2 and the other for Class 1.

• Some jurisdictions, like Chicago, may require the smart pack to be installed into a metal enclosure. When this is required, the contractor shall provide appropriate enclosure or request the appropriate enclosure from Leviton.

b. Preferred installation method is a) above, but the product may also be mounted using the niple through a junction box knock-out. NOTE: ensure all indicators remain visible and accessible post-installation.

2. Wire.

Wires LumaMAX® and control wiring per wiring diagram. If control (0-10V) wiring is to be run as class 2, sleeve wires with suitable insulating material from the SmartPack throughout until they exit the junction box.

3. Connect LumaCAN (See port locations in Operation step 1)

Test LumaCAN ports are provided to maintain the required Daisy-Chain topology of the LumaCAN network. Plug in CATe cable with standard RJ45 connector. If two connections are required, remove the terminator from one of the RJ45’s and make both connections. If only one connection is required, leave the supplied terminator connected. If only one connection is required, leave the supplied terminator connected. LumaCAN connections must be wired as follows:

• Solid GREEN

Indication lights and switches (for normal operation)

Indicators

- During normal operation, the Green indicator light will be lit.
- If power is lost, this indicator will go dark.
- If the LumaCAN network connection is lost, this indicator will go dark.
- If the Wi-Fi connection is lost, this indicator will go dark.
- If the firmware is reset to factory default state, this indicator will go dark.
- If the LumaCAN network connection is restored and the Wi-Fi connection is restored, this indicator will return to its normal state.

Switches

- During normal operation, the Wi-Fi switch will be lit.
- If power is lost, this switch will turn off.
- If the LumaCAN network connection is lost, this switch will turn off.
- If the Wi-Fi connection is lost, this switch will turn off.
- If the firmware is reset to factory default state, this switch will turn off.
- If the LumaCAN network connection is restored and the Wi-Fi connection is restored, this switch will return to its normal state.

Remember that LumaCAN cables, if device starts up, then there is electrical output or output from the LumaCAN cable. For the protection of the devices, if removing the cables does not solve the problem, check the Power input.
When used in emergency systems:

Emergency operation

The DRC Smart Pack can be used as a UL 924 emergency bypass device ensuring that the relay is closed during a power failure condition. Availability of input power to power the load is the responsibility of others. Two options for sensing power to determine whether you are in "emergency" are available and your Construction Documents will dictate which you are to use. The options and features of normal sense are as follows:

- **Sense is Line Power through the Black wire:** Upon loss of supplying power to the device, relay will close.
- **Sense is power over LumaCAN:** Upon loss of 24VDC power on LumaCAN cable relay will close.

NOTE: The "Emergency Circuits" label shall be placed on the DRC Smart Pack so the user is aware this device is used for emergency lighting.

1. Sense: Line mode details

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH, TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TURN OFF POWER AT THE 24 HOUR NIGHT LIGHT/EMERGENCY CIRCUIT AND TEST THAT POWER IN BOTH CIRCUITS IS OFF BEFORE WIRING, SERVICING, OR REMOVING FIXTURE. THIS FIXTURE IS POWERED BY TWO (2) CIRCUITS: THE REGULAR POWER BRANCH CIRCUIT AND THE 24 HOUR NIGHT LIGHT/EMERGENCY CIRCUIT.

In this scenario, the supply input wires are connected to normal power, and the Load in the relay is connected to emergency power. Upon loss of normal power, the relay closes, and the 0-10V lines go to high impedance allowing the load to go to full output powered from the emergency source. The Emergency Switch must be in the LINE position. Upon restoration of normal power, DRC Smart Pack will automatically resume normal operation.

- **Can Mode**
  - On loss of +24VDC LumaCAN power Smart Pack will close RELAY and force 0-10V to MAX brightness.
  - On loss of LINE power the Smart Pack will close RELAY and force 0-10V to MAX brightness.

2. Sense: CAN mode details

**WARNING:** TO AVOID FIRE, SHOCK, OR DEATH, TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND TURN OFF POWER AT THE 24 HOUR NIGHT LIGHT/EMERGENCY CIRCUIT AND TEST THAT POWER IN BOTH CIRCUITS IS OFF BEFORE WIRING, SERVICING, OR REMOVING FIXTURE. THIS FIXTURE IS POWERED BY TWO (2) CIRCUITS: THE REGULAR POWER BRANCH CIRCUIT AND THE 24 HOUR NIGHT LIGHT/EMERGENCY CIRCUIT.

In this scenario, the input supply wires are connected to normal power, and the Load in the relay is connected to emergency power. Upon loss of normal power, the relay closes and the 0-10V control wires to MAX brightness. The advantage of this scenario is that only emergency power is run to the DRC Smart Pack so separation of normal and emergency at this location is not required.

**Notes specific to this scenario:**
- The Emergency Switch must be in the CAN position.
- **CAUTION:** The systems designer and installer must verify that any and all power supplies which could supply power to either LumaCAN cable segment are fed from normal power and are not connected to a UPS or other power source which could be powered in an emergency mode condition.
- DRC Smart Pack will go to full output within 1 second.
- Upon restoration of normal power, the DRC Smart Pack will automatically resume normal operation.
- No power will be provided to the LumaCAN network.

3. Emergency self test - 

**FPA 101 Life Safety Code and NEC (Article 700.3 (B)) requires regular testing of all emergency equipment. To perform a test of these products, use the EM control breaker to interrupt normal power to the device, or the device providing power to the LumaCAN network which will put the Smart Pack into the Emergency behavior. Alternatively, if desired or if your jurisdiction requires it, you can use a standard toggle switch to interrupt the normal power line to trigger the emergency systems load. This test switch must be located locally to the load being controlled. Some jurisdictions may disallow multiple Smart Packs on a test switch or use of breaker in a panel as a test switch. Clarify with all local authorities.**

**Configuration**

1. Configuring the controller:

In order to configure a room with the DRC it is necessary to have an iOS or Android Wi-Fi capable device with the Leviton GreenMax DRC app installed. Connect to the DRC Controller as a Wi-Fi access point then use the app to move through the configuration process:

- Factory Default Access Point Name: GreenMax-DRC [serial number]
  (The serial number is printed on the product label, use only last four characters.)

2. Changing network configuration:

In situations where a wireless access point or password is changed but the configuration of the DRC needs to remain the same the following procedures to reset the network and reconnect to the device:

- Press and hold the Wi-Fi button for 20 seconds until the Wi-Fi LED flashes green rapidly.
- Release the button.
- The LED will continue to flash green rapidly until the reset cycle is complete. The LED will go dark then blink slowly indicating that it is ready for connection using its factory default AP name and credentials.

**NOTE:** even though you can connect to the app, you must be granted access by the site administrator to use the app for configuration.

**Troubleshooting**

1. Lights are ON after power outage.
   - This is the normal operation. The smart pack has a fail-safe feature which forces the relay to close on loss of power and the 0-10V at full output. Approximately 7-10 seconds after power is restored the device will return to its previous state and continue to monitor the LumaCAN network for any changes.

2. Device does not operate immediately after power ON.
   - This is the normal operation. The device has a 7-10 second startup time before it will begin operation.

3. Lights flicker.
   - Lamp or lamp socket has a bad connection.
   - Intermediate wires net secured firmly with wire connectors.

4. Lights did not turn ON.
   - Circuit breaker has tripped, or the fuse has blown.
   - Bulbs, tubes burn out.
   - Intermediate Hot/Neutral connection is not wired.

5. Heartbeat LED is either RED or WHITE.
   - Represents a processor or application failure. Try power cycling the DRC Smart Pack.

**FCC Compliance Statement:**

The device was tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**FCC Suppliers Declaration of Conformity**

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

**IC Statement**

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

**TRADEMARK DISCLAIMER:**

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**DRC CANADA ONLY**

For additional information and/or product returns, residents of Canada should contact Leviton in writing of Leviton Manufacturing of Canada ULC to the attention of the Quality Assurance Department, 165 Brynas Blvd, Pointe-Claire (Quebec), Canada H9R 1B9 or by telephone at 1 800 430-0220.