GreenMAX® DRC System Features

Description

The GreenMAX® DRC Room Control System offers a fully distributed wired and wireless room control system, with each room operating independently of others—no dependence on network processors or centralized controllers. This revolutionary system is fully configurable via the GreenMAX DRC app for smart devices, and can be used to comply with IECC, ASHRAE 90.1, and 2022 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, demand response and receptacle control requirements.

GreenMAX DRC App

Wirelessly commission, configure, control, monitor and provision the GreenMAX DRC system using WiFi and the GreenMAX DRC App designed for an Android or iOS smart device or other WiFi-enabled devices within a 30' range.

System Features

- Enables a full suite of wired and wireless lighting control capabilities
- Programmable from WiFi network using any Android or iOS smart device and GreenMAX DRC App
  - Connect to an expert Leviton Technical Support staff member for remote commissioning and support via the app
- Connection to building WiFi network recommended but optional; direct connectivity from app is supported
- Multi-location switching

Occupancy Detection and Response

- Multiple occupancy zones supported
- Auto-ON/auto-OFF
- Manual-ON/auto-OFF
- Partial-ON, partial-OFF
- (2) vacancy time-outs
  - Auto-ON functionality:
    - Go to fixed level
    - Restore previous level
    - Restore daylighting target
- Multi-zone daylight harvesting
  - Closed loop daylight harvesting
  - Configurable dead band

Occupancy Detection and Response (cont'd)

  - Room daylight harvesting has two operating modes
  - CAP at Target—lights will never go brighter than the programmed target level
- Override allowed—lights can temporarily override the daylighting target
  - When the lights are in override, they will remain so until the user puts them in daylighting mode again by pressing the "ON" button, the user adjusts the level, or the override timer expires
  - Upon expiration of the override timer, the lights will revert to the daylighting target value
  - Daylighting timer can be set from 1-minnute to 1-hour(s) or to infinite

Fully Integrated Solution

- Integrates with Sapphire™ Touch Screens and GreenMAX Relay Panels into one system
- Wireless Keypad Room Controller connects to Intellect-enabled fixtures and Leviton wireless devices -- all fully configurable via the GreenMAX DRC App

Programmable Digital Keypad Buttons

- Each soft button is programmable
  - Execute Scene—collection of groups at level with fade time, does not need to be all lights in room
  - Room ON/OFF—all lights assigned to room controller ON or OFF. ON level and fade time are configurable
  - Toggle Room—turn entire room ON/OFF via a single button.
    ON level and fade time are configurable.
  - Toggle Group—turn a single group ON/OFF via a single button. ON level and fade times are configurable.
  - Raise/Lower—each button press increases or decreases the lights. Holding the button will cause the lights to raise (or lower) until the button is released. Raise/lower can impact any of the following:
    - Entire room
    - Single group
    - Last selected scene
- GreenMAX DRC Digital Keypads feature antimicrobial treated plastic to help keep its surfaces cleaner and prevent microorganisms from degrading the product

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Wireless Keypad Room Controller
- Wireless interface for configuration, control and status monitoring
- Supports auto configuration
  - Out-of-the-box configurations saves commissioning time and money
- Two operating modes: access point for standalone operation, and Wi-Fi client for connecting to building network
  - Installer
    - Create new rooms, add new devices
    - System limit of 15 keypads per room controller
- GreenMAX DRC Wireless Keypad Room Controllers feature antimicrobial treated plastic to help keep its surfaces cleaner and prevent microorganisms from degrading the product.

User Access Controls
- Functionality configurable based on which user is currently logged into the GreenMAX DRC App. Each user can be granted the following privileges:
  - Permissions definable at each level in the building hierarchy project, building, floor, area, room)
  - Occupant Access
    - View room access
    - Change level of all groups
    - Execute scenes
  - Scene Editor
    - Change scenes
  - Commissioner
    - All functions of Occupant Access, Scene Editor, and Installer Project Admin
    - Manage users and permissions

GreenMAX DRC Scheduler
- Connects to any Room Controller in a space using the GreenMAX DRC App. Scheduler automatically detects the time zone in each location for out-of-the-box configuration
  - Schedule —a collection of events organized together for a specific purpose. Each Room Controller can store up to 16 schedules and 32 events per schedule
  - Local Schedule—allows user to enable and save schedules for a space on one device
  - Events—light changes and behaviors occurring at a specific date and time
  - Event Date—the "when" of the event including the time and date range
  - Event Times—fixed time (default) or astronomical clock; only one action per event, up to 32 events max
  - Light Action*
    - ON (default), OFF, Disabled Scenes
  - Behavior Action—the "what" for light adjustments and behavior changes
  - Disabled (default), occupancy disable, manual-ON, Occupancy-ON; daylighting enable and disable; daylight enable and disable, keypad enable and disable
  - Calendar—collection of pre-defined date ranges like holidays or seasonal schedules (ex: turn lights ON and OFF between 7AM and 7PM except for major holidays); up to 5 calendars with 30 days max

*At least one event action must be set

Automatic System Configuration (DRC Room Controller Required)
The GreenMAX DRC system automatically addresses and configures itself with the following functionalities:
- Works with the GreenMAX DRC Wireless Keypad Room Controller only
- All switches will have the functionalities per their labels
- Occupancy sensors turn lights partially ON to 45% when occupancy is detected and turn lights OFF when vacancy is detected
- Vacancy time out is set to 30 minutes to occur in two stages:
  - Light output reduction to 30% after 15 minutes
  - Lights OFF after another 15 minutes
- All lights daylight harves to a pre-determined set point and minimum output set at 35%
- Customized configurations can be made any time using the GreenMAX DRC App

Auto Addressing System Requirements
- A GreenMAX DRC Room Controller must be on the network. For systems without the GreenMAX DRC Room Controller, addresses and configuration must be set manually.
- All devices in the space must be LumaCAN digital devices and connected via LumaCAN CAT6 cabling
- All cables must be tested via a CAT6 cable tester, and confirmed sound prior to connection to any Leviton equipment
- Each end of the LumaCAN network must be terminated with the termination switch/jumper/plug installed
- For multiple rooms to work together, they must be connected via the WiFi network only
- If there is more than one Room Controller on the network, the switches will control all devices on the network. However, occupancy and daylighting controls will not operate until the system can be commissioned using the GreenMAX DRC App.

Pre-Programmed Button Configurations
All button stations are programmed as follows:
- 3 second fade time for all buttons
- **1 Button Station**
  - ON/OFF Room Toggle
- **2 Button Station**
  - Button 1: Room ON
    - Enable long press to raise lights
  - Button 2: Room OFF
    - Enable long press to lower lights
- **4 Button Station**
  - Button 1: Room ON
  - Button 2: Raise Room, 3%/press (0s fade time)
  - Button 3: Lower Room, 3%/press (0s fade time)
  - Button 4: Room OFF
- **8 Button Station**
  - Button 1, 2: Room ON
  - Button 3, 4: Raise Room 3% (0s fade time)
  - Button 5, 6: Lower Room 3% (0s fade time)
  - Button 7: Room to 1%
  - Button 8: Room OFF

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Low Voltage Current Draw		
Low Voltage Room Controller (DRC00-0L0)	435-210mA, +12-24Vdc	
Digital Switch (DRKDN)	50-25mA, +12-24Vdc	
Digital Sensor (OSR05-ICW)	70-35mA, +12-24Vdc	
2-Port AI (DRID0)	35mA + connected device consumption, +12-4Vdc	
LumaCAN to DALI Gateway (DRCDD)	60mA, ,+12-24Vdc LumaCAN 250/500mA,+24Vdc, DALI	
Phase Control Dimmer (DRDDP-A40)	200mA	N/A
Phase Control Dimmer (DRDDP-A20)	0mA	N/A
DRC Wireless Keypad Room Controller (DRKDN-Uxx)	N/A	+120-277VAC, 25mA

Room Controller Capabilities		
	WIRED	**WIRELESS**
Max # of Devices	100 per Wired Room Controller	60 per Wireless Room Controller
	A device is: • Controlled load (smart pack or single channel of a phase control dimmer, wireless load controller, Intellect-enabled fixture) • Occupancy sensor (digital or analog, or wireless) • Keypads (all buttons count as single device) • Remote sensor • Remote keypads • DALI device (input or output) • DMX channel	
Max # of Keypads	• System limit of 15 keypads per Room Controller	
Max # of Groups/Zones	127 per Room Controller Included is: • Occupancy zone • Daylighting zone • User group	
Max # of Scenes	127 Per Room Controller	

Power Supplies		
	WIRED	**WIRELESS**
Max # of Room Controllers	System limit of 15 keypads per room controller	
Max # of Controlled Channels	32,768 per building	—
Max # of Points per BACnet/Interface	1,024 A point is any of the following: • Dimmer or relay ON/OFF/Level control • Sensor or contact closure input • Metrology data—each metric represents a single point	—
Network— Max # of Nodes	250	—
Max Distance	LumaCAN max run length 1,600 ft between repeaters; up to 10,000 ft end-to-end when using repeaters	Zigbee: 70' between nodes
Topology	LumaCAN: Daisy-chain; home run supported when using 6-port repeater	Zigbee, self-healing, 2.4Ghz, wireless mesh

Low Voltage Current Supply	
GreenMAX DRC Power Supply (DRC00-0D0)	500mA
LumaCAN Power Supply (PST24-R41) • Full capacity available on terminals • Commonly used with 6-Port Repeater (NPRPT-6)	v3 * 1500mA on RJ45 4100mA Max
DIN Rail Power Supply (PST24-I10)	1000mA

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