GreenMAX® Relay Control Panels

Modular Relay System Offers Unparalleled Flexibility



DESCRIPTION

The Leviton GreenMAX® Relay Control Panel line offers features and performance not available from any competing product on the market today. For increased reliability and durability, GreenMAX Cabinets and Relay Modules have a 25,000A Short Circuit Current Rating (SCCR) at 277VAC. Native communication network protocols—BACnet/IP, Ethernet, and LumaCAN—are built into each GreenMAX Command Module (processor) to offer unparalleled connectivity. No additional parts or adapters are needed to communicate with other products utilizing these protocols.

For increased flexibility, the modular GreenMAX system includes separate Cabinet enclosures, Command Modules (processor, power supply, and low voltage inputs), Relay Insert Panels, Relay Modules, and a Handheld Display Unit (HDU). For easier manageability and accessibility, Leviton ships empty cabinet enclosures separately from the electronic components. This makes the cabinets lighter and easier to handle and requires less effort to install. To further minimize handling and damage to the electronic components, Leviton can ship the electronic components later in the project schedule or as required.

All GreenMAX Relay Modules are 1-pole or 2-pole latching relay types that reduce parasitic energy use. The relay modules are the same physical size, allowing the optimal mix of relays to be customized for each application. Models include a basic control relay module and/or a self-contained dimming and switching relay module that supports daylight harvesting capabilities.

A Handheld Display Unit (HDU) can be detatched from the cabinet mounting location and moved to the most convenient network connection point to connect to any open LumaCAN or port on the same network as the cabinets. Commissioning and start-up functions are easier with the HDU, which allows programming to be done in the space being controlled rather than from the electrical room.

APPLICATIONS

- Heavy retrofit applications
- New construction projects
- Government facilities
- Office buildings
- Hospitals/medical offices
- Universities
- Restaurants
- Large campuses
- Any location requiring Daylight Harvesting and Demand Response

FEATURES

- Cabinets and relay modules with 25,000A Short Circuit Current Rating (SCCR) at 277VAC
- Relay modules rated at 30A General Fluorescent Ballast at 20A Incandescent
- Relay modules are latching with manual actuator
- Industry standard 0-10V dimming and switching relay module
- Programming and monitoring of the system is done with the exclusive Handheld Display Unit (HDU)
- Empty enclosure ships separately from electrical components
- Supports native protocols of BACnet/IP, Ethernet, and LumaCAN
- 8, 16, 32 and 48 relay sizes
- Four programmable levels of demand response
- Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements

Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
201 North Service Road, Melville, NY 11747-3138 **tech line** 800-323-892 **fax** 800-832-9538
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FEATURES

Relay Cabinet

- GreenMAX cabinet has a 25,000A at 277VAC short circuit current rating (SCCR) for increased reliability and durability
- Modular system includes separate empty cabinet enclosures, a command module, and relay insert panels to minimize handling and subsequent damage during installation
  - Command Module is the processor and power supply of the GreenMAX system and optionally includes a low voltage remote input card for analog devices
  - Relay insert panels feature quick install; each panel takes only two screws to install
- Native communication network protocols—BACnet/IP, Ethernet, and LumaCAN—are built into each command module to offer unparalleled connectivity; no additional devices are needed to communicate with other products utilizing these protocols
- Increased arc flash protection—the cabinet door opens to expose only the low voltage area of the cabinet
  - High voltage areas can be accessed by removing the wire-way covers—this requires the removal of retaining screws
- Voltage barriers can be installed between individual relay modules. This allows voltages from mixed sources in the same cabinet

Relay Modules

- All GreenMAX relay modules have a 25,000A short circuit current rating (SCCR) at 277V for increased reliability and durability
- Rated at 30A general fluorescent ballast (this rating is 20A, 347V in Canada) and 20A incandescent for all GreenMAX relays
- All relays are latching with a manual actuator to reduce parasitic energy waste over NO/NC relays
- Manual actuation lever on all GreenMAX rleays allow users to manually bypass the system to turn lights on or off without a CPU or power
- Self-contained dimming and switching relay module in 1-pole configurations supports daylight harvesting capabilities



GreenMAX Relay Modules

Remote Low Voltage (RLV)

- Remote low voltage input cabinets can be installed closer to the devices they serve (such as occupancy sensors, LV switches and photocells) to reduce wiring and labor and provide additional power; this also makes commissioning and troubleshooting easier
- Additional low voltage input points are available in quantities of 8 and 16
- Power supply input: 70W (max), 100-277VAC single phase input, 24VDC output
- The RLV utilizes CAT6 network cable to interconnect with the system and communicates via LumaCAN

Handheld Display Unit (HDU)

- Manage the GreenMAX system(s) remotely from any network device location
- System configuration and scheduling is performed via the HDU—this can be done while standing in the room or controlled space; programming is no longer confined to the electrical room
- Control entire GreenMAX system from any access point—relay cabinets, switches, or remote low voltage cabinets
- One HDU can be used for multiple systems
- Can be stored in the cabinet or designated docking station
- Communicate via LumaCAN
- 7-hour run time on a single full charge (batteries included)
- Astronomical clock—sunrise/sunset
- HDU does not need to be connected to system during operation. Full system functionality is provided independent of HDU

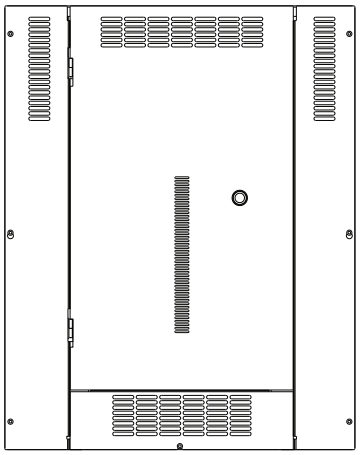
*Pair GreenMAX relay control panels, GreenMAX relay modules and GreenMAX HDU with GreenMAX digital switches and Leviton low voltage switches for a complete lighting control strategy.



GreenMAX Relay Modules

Comes complete with four (4) rechargeable Ni-MH batteries. Batteries charge when connected to LumaCAN.

DIMENSIONS



RELAY CABINETS	WIDTH	HEIGHT	DEPTH
R08TC-100	21”	22”	4”
R16TC-100	25”	32”	4”
R32TC-100	25”	48”	4”
R48TC-100	25”	64”	4”
REMOTE LOW VOLTAGE CABINET			
RLV08-308	14”	10”	4”
RLV16-316	14”	10”	4”

FEATURES

Electrical

- Power supply input: 70W (max), 100-277VAC single phase input, 24VDC output
- All input voltages: 50/60Hz phase to neutral
- Non-volatile memory and micro-SD card protect programming during blackouts

Wiring

- Internal: factory pre-wired and tested
- System components:
  - LumaCAN requires standard CAT6 network cabling
  - Low voltage Class 2 wiring connects input cards to control devices such as occupancy sensors, low voltage switches, and photocells
  - Hard-wired dedicated emergency input is provided in each cabinet and requires an external normally open (N/O) contact closure; the cabinet provides the source of low voltage +24VDC for this circuit; programmable individual relay response to the emergency signal
- Line voltage:
  - Feed for command module (control electronics) and load wiring only
  - Requires single phase hot and neutral connection
- LumaCAN Network:
  - CAT6 cable
  - RJ45 connectors
  - Wiring configuration (EIA/TIA 568B)
- Power must be injected into LumaCAN cable every 900 feet
  - Use a remote low voltage cabinet or a relay cabinet
  - Power supply—two-sided allowing up to 1500mA per side
- Voltage barriers available to separate circuits of different sources
  - Voltage barriers field install between relay modules

Network Connections

- Maximum LumaCAN communication network segment length is 1600 ft from end of line termination to end of line termination. Longer network lengths can be achieved with the use of a LumaCAN repeater
- Ethernet connectivity is native to each command module
  - Ethernet can be used to connect BACnet/IP system
  - Ethernet can be used to bridge between runs of LumaCAN to extend network length
- BACnet/IP is native to each command module
  - BACnet/IP must be run to each cabinet—may require Ethernet/network switch

Physical

- Enclosure: NEMA type 1, IP20 protection; #16 US gauge steel; indoor only
- Mounting: surface or flush mount

Environmental

- Ambient temperature range: 32°-122°F (0°-50°C)
- Relative humidity: <90% non-condensing

Listings

- UL508, UL924, cUL
- Can be used to comply with IECC, ASHRAE 90.1, and 2016 Title 24, Part 6 occupancy/vacancy sensing, 0-10V dimming, daylight harvesting, partial-ON, partial-OFF, scheduling, demand response, and receptacle control requirements

Listings

- Relay modules backed by 10-year warranty
- Relay panels backed by 2-year warranty

*ARRA compliant panels available—consult factory for availability

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ORDERING INFORMATION

CAT. NO.	DESCRIPTION
Enclosures (all cabinets are surface mount with a locking door)	
R08TC-100	GreenMAX Relay Cabinet, 8-Relay Size, NEMA 1
R16TC-100	GreenMAX Relay Cabinet, 16-Relay Size, NEMA 1
R32TC-100	GreenMAX Relay Cabinet, 32-Relay Size, NEMA 1
R48TC-100	GreenMAX Relay Cabinet, 48-Relay Size, NEMA 1
Command Modules (includes power supply with main processor unit), option 24VDC low voltage input card	
RPM00-300	Main Command Module, 100-277VAC, 50/60Hz, no inputs, LumaCAN 3
RPM08-308	Main Command Module with 8-port low voltage input card, 100-277VAC, 50/60Hz, LumaCAN 3
RPM16-316	Main Command Module with 16-port low voltage input card, 100-277VAC, 50/60Hz, LumaCAN 3
Panel Interiors	
R0800-000	Relay Insert Panel, empty with (8) spaces
R1600-000	Relay Insert Panel, empty with (16) spaces
R1616-1CB	Relay Insert Panel with (16) 1-pole RTC basic relays
R1616-1DS	Relay Insert Panel with (16) 1-pole dimming and switching relays
R1616-1TB	Relay Insert Panel with (16) 1-pole basic relays
R1616-2CB	Relay Insert Panel with (16) 2-pole RTC relays

CAT. NO.	DESCRIPTION
Handheld Display Unit (HDU)	
RHDU1-300	Handheld Display Unit, cabinet mounting, LumaCAN 3
RHDU1-BKT	Handheld Display Unit, mounting bracket
Remote Inputs with Power Supply (all cabinet power supplies are rated 120-277VAC, 50/60Hz)	
RLV08-308	Remote Low Voltage Input Cabinet, 8 inputs, NEMA 1 enclosure, LumaCAN 3
RLV16-316	Remote Low Voltage Input Cabinet, 16 inputs, NEMA 1 enclosure, LumaCAN 3
Relays (all relays are rated 30A, 120-230-277/347VAC, 50/60Hz), see GreenMAX relay data sheet for complete ratings	
RELAY-1CB	GreenMAX latching relay, 1-pole RTC basic
RELAY-1DS	GreenMAX latching relay, 1-pole, dimming and switching, 0-10VDC dimming, sinking
RELAY-1TB	GreenMAX latching relay, 1-pole basic
RELAY-2CB	GreenMAX latching relay, 2-pole RTC
RELAY-2TB	GreenMAX latching relay, 2-pole basic
RELAY-BFM	Blank filler module
Cabinet Accessories	
RGBAR-008	GreenMAX voltage barriers for 8-relay cabinets, 1 pair
RGBAR-016	GreenMAX voltage barriers for 16-, 32-, and 48-relay cabinets, 1 pair

NOTE: For GreenMAX digital switches and color change kits - see GreenMAX digital switches data sheet

LEVITON SPECIFICATION SUBMITTAL	
JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

Leviton Manufacturing Co., Inc. Global Headquarters
201 North Service Road, Melville, NY 11747-3138 **tel** 800-323-8920 **fax** 800-832-9538 **tech line** (8:30AM-7:00PM ET Mon-Fri) 800-824-3005

Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation
20497 SW Teton Avenue, Tualatin, OR 97062 **tel** 800-736-6682 **fax** 503-404-5594 **tech line** (6:00AM-4:00PM PT Mon-Fri) 800-959-6004

Visit our Website at: www.leviton.com/greenmax

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