Z-MAX™ Plus
8, 24, 48 Relay Control Panels

DESCRIPTION
Leviton Z-MAX Plus relay control panels enable lighting applications of all sizes to be easily controlled as a complete system, integrated into a comprehensive system with Leviton Dimensions™ D4200 and D8000 controls, or operated independently. With 8 or 12 discrete inputs, these panels readily incorporate occupancy sensors, photocells, low voltage switches and a variety of other input devices. Eight different digital switch models are available for control from multiple locations, offering added flexibility. Designed for intuitive programming and operation, Z-MAX Plus panels feature a large keypad and 2-line, 16 character LCD screen, as well as USB port.

APPLICATIONS
• Office spaces - large and small
• Schools
• Churches
• Convention centers
• Ballpark lighting - professional and recreational
• Spaces where centralized lighting control, programming and monitoring are required
PRODUCT DATA

FEATURES
• Integrated astronomical time clock
• Relay cards are rated for all light sources as well as motors
• Relay cards are individually replaceable
• Single-pole and two-pole relays fit in the same location - same density regardless
• Normal or Emergency panel capability
• Panel is prewired and tested
• Standard transformer has inputs for 120V, 277V or 347V power; separate transformer functions at 230V +/- 15%
• Panels may be surface or recess mounted
• Master and Remote Panel configurations
• 2 year warranty on Panels

SPECIFICATIONS
Z-MAX Cabinets work with:
• Z-MAX Digital Entry Stations
• Dimensions D4200
• Dimensions D6000
• DMX Controllers
• Analog Controllers
• Low Voltage Switches
• Discrete and Analog Photocells
• Occupancy Sensors

POWER
• Input Power (Domestic): 120V, 277V and 347V
• Input Power (Foreign): 230V +/- 15%
• All voltages 50/60Hz, phase to neutral
• Lifetime power failure memory; restores lighting to levels prior to power interruption
• User adjustable for either sequential or non-sequential cycling of relays

SOURCES
• Incandescent (Tungsten) and Halogen
• Magnetic Low Voltage Transformer
• Electronic Low Voltage Transformer
• Neon or Cold Cathode
• Magnetic and Electronic fluorescent Lamp Ballasts
• HID
• Motor Loads (1 HP at 120V, 2 HP at 277V, 2 HP at 480V)

RELAYS
• Several relay cards to choose from:
  - 3A standard relay card
  - 1-Pole relay card, 120-277V, 20A, N/O or N/C, single pole
  - 347V 20A relay card, single pole
  - 2-Pole 208-480V, 20A, N/O or N/C relay card
  - Limiting 277V, 20A continuous use relay card
  - Relay cards rated at 20A for N/O or N/C continuous use lighting loads
  - Z-MAX zero cross circuit eliminates arcing at mechanical contacts when loads are switched. Prolongs relay life to an average of 1,000,000 cycles (on/off), handles 50 times steady-state current inrush. Rated for resistive, inductive, or capacitive sources.
• 10 year warranty on relay cards

WIRING
• Internal: Factory prewired and tested
• System Communications: Low voltage Class 2 (PELV) wiring connects cabinets to external controls
• Line (main) voltage: Feed (for Control Electronics) and Load wiring only. No other wiring or assembly required.

PHYSICAL DESIGN
• Enclosure: NEMA Type 1, IP-66 protection; #8 U.S. Gauge Steel. Indoors only.
• Dimension: (see page 4)
• Weight: (see page 4)

MOUNTING
• Surface-mount or recess
• Recessed mounting flanges available

ENVIRONMENT
• 32-104°F (0-40°C) relative humidity less than 95% non-condensing

STANDARDS
• For 120V, 277V, and 347V Panels:
  - UL 924
  - UL and CUL Listed (Reference: UL File E123072)
  - CEC Title 24 compliant
  - ASHRAE 90.1 compliant

ASTRONOMIC TIME CLOCK
• Capable of up to 999 events
• Capable of 999 holidays
• Holiday schedules are programmable one year in advance
• Astronomic time clock programmable by entering your location
• CEC Title 24 compliant 120V, 277V and 347V Panels

SWITCH INPUTS
• 8 or 12 (depending on panel) Switch inputs
• Inputs can control the following:
  - Low Voltage Switches
  - Maintained
  - Momentary
  - Toggle
  - Occupancy Sensors
  - Analog Photocells
  - Discrete Photocells
  - Analog Inputs
  - Contact Closures
• May be configured as pull up to 24 VDC (externally supplied) or pulled down to common

NETWORK CONNECTIONS
• LumaNet (For Z-MAX switches digital and tie into a networked system with D4200 or D4200)
• DMX
• Remote Panel Control
• USB serial interface for programming via a PC
• RJ-45 for Optional TCP/IP/Ethernet Board
• Optional modem and touch tone interface board
• BACnet
• Standard MSTP
• Optional
• Lonworks
• ModBus
• BACnet IP
• Metasys

MAIN UNITS/REMOTE UNITS
The Z-MAX Plus 24 and 48 panels are available in remote versions. This allows costs to be cut from a project and minimizes the amount of setup work at each cabinet.
• Main control module can handle 252 relays
• Utilizes CAT 5, low voltage wiring as the panel interconnect
• Main control module can handle 252 inputs
• Remote panel can have optional switch input board

Leviton Mfg. Co., Inc. Lighting Management Systems
1a2972 Weton Avenue, Tualatin, OR 97062 1-800-736-6682 Tech Line 1-800-929-8804 Fax 503-264-5594 www.leviton.com/lms
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PRODUCT DATA

FEATURES
- Integrated astronomical time clock
- Relay cards are rated for all light sources as well as motors
- Relay cards are individually replaceable
- Single-pole and two-pole relays fit in the same location - same density regardless
- Normal or Emergency panel capability
- Panel is prewired and tested
- Standard transformer has inputs for 120V, 277V or 347V power
- Panels may be surface or recess mounted
- Master and Remote panel configurations
- 2 year warranty on Panels

SPECIFICATIONS:
Z-MAX Cabinets work with:
- Z-MAX Digital Entry Stations
- Dimension 1200
- Dimensions 1200
- DMX Controllers
- Analog Controllers
- Low Voltage Switches
- Discrete and Analog Photocells
- Occupancy Sensors

POWER
- Input Power (Domestic): 120V, 277V and 347V
- Input Power (Foreign): 230V and 240V
- All voltages 50/60Hz, phase to neutral
- Lifeline power failure memory: restores lighting to levels prior to power interruption
- User adjustable for either sequential or non-sequential cycling of relays

SOURCES
- Incandescent (Tungsten) and Halogen
- Magnetic Low Voltage Transformer
- Electronic Low Voltage Transformer
- Neon or Cold Cathode
- Magnetic and Electronic Fluorescent Lamp Ballasts
- HD
- Motor Loads (1 HP at 120V, 2 HP at 277V, 2 HP at 480V)

RELAYS
- Several relay cards to choose from:
  - 1-Pole relay card, 120-277V, 20A, N/O or N/C, single pole
  - 347V 20A relay card, single pole
  - 2-Pole 20/480V, 20A, N/O or N/C relay card
  - Latching 277V, 20A continuous use relay card
  - 2-0A standard relay card
  - Relay cards rated at 20A for N/O or N/C continuous use lighting loads
  - Z-MAX zero cross circuit eliminates arcing at mechanical contacts when loads are switched. Prolongs relay life to an average of 1,000,000 cycles (on/off). Handles 50 times steady-state current. Rated for resistive, inductive, or capacitive sources.
  - 10 year warranty on relay cards

WIRING
- Internal: Factory prewired and tested
- System Communications: Low voltage Class 2 (PELV) wiring connects cabinets to external controls
- Line (main) voltage: feed (for Control Electronics) and Load wiring only. No other wiring or assembly required.

PHYSICAL DESIGN
- Enclosure: NEMA-Type 1, IP-20 protection. U.S. Gage Steel. Indoors only.
- Dimension: (see page 4)
- Weight: (see page 4)

MOUNTING
- Surface mount or recess
- Recessed mounting flanges available

ENVIRONMENT
- 32-104°F (0-40°C) relative humidity less than 95% non-condensing

STANDARDS
- For 120V, 277V, and 347V Panels:
  - UL 924
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  - CEC Title 24 compliant
  - ASHRAE 90.1 compliant

CONTROL MODULE OVERVIEW
The control module is used to configure the entire system. The controller features an LCD user interface to facilitate programming of all switching system and astronomical time clock (ATC) parameters.

CONTROL MODULE FEATURES
- Integrated astronomical time clock (ATC) automates switching with up to 999 user-defined events and 999 holiday schedules
- ATC events may be triggered by time of day or by a time offset from either sunrise or sunset
- System location is programmable by specifying your location
- ATC automatically adjusts for daylight savings time and leap year (where applicable)
- Programmable “blink warn” and user programmable refresh time
- Overrides available at panel for controls, time clock, and relays.
- Located in the panel for easy access
- 8 (8 panel) or 12 (24 and 48 panel) low voltage switch inputs (24 V DC) (additional 36 discrete inputs are available for the 24 and 48 panels - see accessories data sheet for details)
- Emergency sensing control power loss circuitry
- Astronomic time clock
- Daylight harvesting
- Prioritization of switch inputs and TOD schedules
- Switch input timers
- Timed overrides
- Master override (On/Off)
- Individual override switch per relay

ASTRONOMIC TIME CLOCK
- Capable of up to 999 events
- Capable of 999 holidays
- Holiday schedules are programmable one year in advance
- Astronomical time clock programmable by entering your location
- CEC Title 24 compliant 120V, 277V and 347V Panels

SWITCH INPUTS
- 8 or 12 (depending on panel) Switch inputs
- Inputs can control the following:
  - Voltage Switches
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  - Momentary
  - Toggle
  - Occupancy Sensors
  - Analog Photocells
  - Discrete Photocells
  - Analog Inputs
  - Contact Closures
  - May be configured as pull up to 24 VDC (externally supplied) or pulled down to common

NETWORK CONNECTIONS
- Luma-Net (for Z-MAX switches Digital and tie into a networked system with DIBox or DI200)
- DMX
- Remote Panel Control
- USB serial interface for programming via a PC
- RJ-45 for Optional TCP/IP Ethernet Board
- Optional modem and touch tone interface board
- Bacinet
- Standard MSTP
- Optional
- Lonworks
- ModBus
- Bacinet P
- Metasys

MAIN UNITS/REMOTE UNITS
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200937 SW Tellus Avenue, Tualatin, OR 97062 / 1-800-736-6682 / Tech Line 1-800-959-6004 / Fax: 503-296-5554 / www.leviton.com/lms
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# Z-MAX Plus Relay Control Panels

## RELAY CARDS

| RELAY-03 | Single-Pole N/O or N/C Relay Card, 30A, 120-277V |
| RELAY-ST2 | Single-Pole N/O Relay Card, 20A, 120-277V |
| RELAY-2PL | 2-Pole N/O Relay Card, 20A, 208-480V |
| RELAY-1NC | Single-Pole N/C Relay Card, 20A, 120-277V |
| RELAY-2NC | 2-Pole N/C Relay Card, 20A, 208-480V |
| RELAY-347 | 347V Relay Card, 20A, 347V |
| RELAY-LAT | Latching Relay Card, 20A, 347V |

## ACCESSORIES

<table>
<thead>
<tr>
<th>ACCESSORIES</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>RACoo-SIB</td>
<td>Switch Input Board - 36 Digital Inputs</td>
</tr>
<tr>
<td>RACoo-MOD*</td>
<td>External Modem with Touch Tone Input Capability</td>
</tr>
<tr>
<td>RACoo-ETH*</td>
<td>Ethernet Module</td>
</tr>
<tr>
<td>RACoo-0BF</td>
<td>Flush Trim Kit for B Relay Panel</td>
</tr>
<tr>
<td>RACoo-24F</td>
<td>Flush Trim Kit for 24 Relay Panel</td>
</tr>
<tr>
<td>RACoo-48F</td>
<td>Flush Trim Kit for 48 Relay Panel</td>
</tr>
<tr>
<td>RACoo-VBR</td>
<td>Voltage Barrier between Relay cards</td>
</tr>
<tr>
<td>RACoo-485*</td>
<td>Z-MAX Expansion Module for Bacnet MSTP</td>
</tr>
<tr>
<td>RACoo-BUS*</td>
<td>Z-MAX Expansion Module for ModBus or Lonworks</td>
</tr>
<tr>
<td>RACoo-BIP</td>
<td>Z-MAX Expansion Module for Bacnet IP</td>
</tr>
<tr>
<td>RACoo-JSC*</td>
<td>Z-MAX Expansion Module for Johnson Control Metasys</td>
</tr>
</tbody>
</table>

* Consult factory for availability.

## CABINET

<table>
<thead>
<tr>
<th>CABINET</th>
<th>LENGTH</th>
<th>HEIGHT</th>
<th>DEPTH</th>
<th>WEIGHT</th>
<th>SUGGESTED MOUNTING HEIGHT TO BOTTOM OF CABINET</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Relays - Networked</td>
<td>13” (330.20 mm)</td>
<td>13” (330.20 mm)</td>
<td>4 11/32” (110.55 mm)</td>
<td>16 lbs (7.26 kg)</td>
<td>53” (1,358.9 mm)</td>
</tr>
<tr>
<td>44 Relay Panel</td>
<td>20” (514.35 mm)</td>
<td>34” (863.60 mm)</td>
<td>4 11/32” (110.55 mm)</td>
<td>44 lbs (19.96 kg)</td>
<td>32” (812.5 mm)</td>
</tr>
<tr>
<td>48 Relay Panel</td>
<td>20” (514.35 mm)</td>
<td>54” (1,371.60 mm)</td>
<td>4 11/32” (110.55 mm)</td>
<td>65 lbs (29.48 kg)</td>
<td>12” (317.5 mm)</td>
</tr>
</tbody>
</table>

## LEVITON SPECIFICATION SUBMITTAL

**JOB NAME:**

**CATALOG NUMBERS:**

**JOB NUMBER:**

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**Leviton Manufacturing Co., Inc. Lighting Management Systems**

20461 SW Teton Avenue, Tualatin, OR 97062

Telephone: 1-800-736-6682 • Fax: 503-404-6594 • Tech Line (6:00 AM - 4:00 PM P.S.T. Monday-Friday): 1-800-959-6004

**Leviton Manufacturing of Canada, Ltd.**

165 Hyamus Boulevard, Pointe Claire, Quebec H9R 1E9 • Telephone: 1-800-469-7890 • Fax: 1-800-563-1853

**Leviton S. de R.L. de C.V.**

Lago Tana 43, Mexico DF, Mexico CP 11660 • Tel: (+52) 55-5083-1040 • Fax: (+52) 5386-1797 • www.leviton.com.mx

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

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