The WattStopper® LCAP Series Commercial Enclosures ship with pre-configured modular solutions. Load dimming and switching use Vantage™ controllers and switching products. The pre-configured designs save time in Vantage’s Design Center™ software and during the installation process.

The LCAP32L panel is designed for spaces that mainly use lighting loads controlled with a 0-10V/PWM. The design may also contain high voltage forward or reverse phase dimming loads. The included IC-DIN-II-LITE processor and POE (Power Over Ethernet) network switch provide an ideal platform for Equinox touchscreens, keypads, and integration with third party systems. The LCAP32L enclosure may be connected to other LCAP enclosures and Vantage enclosures; scalable to virtually any size system.

### SOLUTION L - LCAP ENCLOSURES

<table>
<thead>
<tr>
<th>Main Enclosure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAP32</td>
<td>32” Architectural Enclosure with hinged cover door</td>
</tr>
</tbody>
</table>

**LCAP32L Panel Configurations**

(See KIT Panel part numbers ordering key, last page)

- **Panel Upper Section:**
  - 1 to 2 LVOS-0-10-PWM stations

- **Panel Middle Section:**
  - 1 to 2 LVOS-0-10-PWM stations
  - OR -
  - 1 or 2 Power Stations (STPSRW101/201) (STPERW101/201)

- **Panel Bottom Section:**
  - 8-Port (4 standard and 4 POE) Ethernet switch/power supply
  - IC-DIN-II-LITE with power supply

<table>
<thead>
<tr>
<th>Part Number Breakdown</th>
<th>Enclosure and Lid ONLY</th>
<th>Panel Type</th>
<th>LVOS-PWM Station Quantity</th>
<th>LCAP32/44/M/S Optional Modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual PN</td>
<td></td>
<td>L-</td>
<td>*</td>
<td>[LCAP-OPT-]</td>
</tr>
</tbody>
</table>

**Important**

See Ordering Key on page xx

### Optional Parts

<table>
<thead>
<tr>
<th>Optional Parts</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA-RRU-1-120V</td>
<td>Emergency Shunt Relay - 120V</td>
</tr>
<tr>
<td>VA-RRU-1-277V</td>
<td>Emergency Shunt Relay - 277V</td>
</tr>
</tbody>
</table>

### Additional Parts Order Separately

<table>
<thead>
<tr>
<th>Additional Parts Order Separately</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA-EPC-DFS-120V</td>
<td>Emergency Lighting Surface Mount Switch 120V</td>
</tr>
<tr>
<td>VA-EPC-DFS-277V</td>
<td>Emergency Lighting Surface Mount Switch 277V</td>
</tr>
</tbody>
</table>
**LCAP32L SPECIFICATIONS**

<table>
<thead>
<tr>
<th>LCAP44A</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabinet Dimensions, HWD</td>
<td>32” x 24” x 4.575”&lt;br&gt;81cm x 61cm x 11.6cm</td>
</tr>
<tr>
<td>Door Dimensions, HWD</td>
<td>32” x 24” x 0.75”&lt;br&gt;81cm x 61cm x 2cm</td>
</tr>
<tr>
<td>Panel Insert, HWD</td>
<td>29.5” x 21” x 4.5”&lt;br&gt;75cm x 53.3cm x 11.4cm</td>
</tr>
<tr>
<td>Weight - Enclosure</td>
<td>30 lbs / 31.61 kg</td>
</tr>
<tr>
<td>Weight - Door</td>
<td>15.5 lbs / 7.03 kg</td>
</tr>
<tr>
<td>Weight - Panel Insert</td>
<td>18.7 lbs / 8.48 kg</td>
</tr>
<tr>
<td>Number of LVOS-0-10-PWM* Stations</td>
<td>1, 2, 3, or 4</td>
</tr>
<tr>
<td>Num. of STPSRW101(201)/STPERW101(201)*</td>
<td>Up to 2 - any model</td>
</tr>
<tr>
<td>Analog, 0-10DC/LV — Max. Outputs</td>
<td>Up to 16</td>
</tr>
<tr>
<td>PWM, LV — Max. Outputs</td>
<td>Up to 16</td>
</tr>
<tr>
<td>HV Relay 120-277 VAC - Max. Outputs</td>
<td>Up to 16</td>
</tr>
<tr>
<td>Line Feeds (breakers) required</td>
<td>2 or 3 and up</td>
</tr>
<tr>
<td>Flash Memory**</td>
<td>via controller*</td>
</tr>
<tr>
<td>Enclosure Finish</td>
<td>Galvanized Steel</td>
</tr>
<tr>
<td>Door Finish</td>
<td>Black - Powder Coated</td>
</tr>
<tr>
<td>Cover</td>
<td>Vented, hinged</td>
</tr>
<tr>
<td>Wire</td>
<td>Copper wire, min of 80° C / 176° F insulation</td>
</tr>
<tr>
<td>Ventilation</td>
<td>Maintained 36” front clearance</td>
</tr>
<tr>
<td>Ambient Operating Temperature</td>
<td>32 - 104° F / 0 - 40° C</td>
</tr>
<tr>
<td>Ambient Operating Humidity</td>
<td>5 - 95% non-condensing</td>
</tr>
<tr>
<td>UL, CUL, and CE Listed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*See this install sheets for important information: [Low Voltage Output Station Lighting_LVOS-0-10-PWM-1](#)<br>[Power Station Booster_STPSRW101-201 - STPERW101-201](#)<br>[DIN Lite Controller II_IC-DIN-II-LITE](#)<br>**InFusion controllers have a micro-SD flash card port for backup

**LCAP ENCLOSURE DESIGNS**

**LCAP SERIES ENCLOSURE FACTS**

- Enclosures must be populated from left to right and top down
  - Blank positions cannot be left between lighting modules in Design Center setup
- Enclosures are pre-configured and wired (to the extent possible) using specific combinations of the following components.
  Installed switching components are dependent on the enclosure design
  - Components using high-voltage wiring
    - Mixed high-voltage wiring
  - Components using low-voltage control signal wiring
  - Components using low-voltage communication wiring
  - Components using high-voltage and low-voltage connections made inside the enclosure
ENCLOSURE FEATURES / PARTS

1. Enclosure can (includes door), order LCAP32 for can only

2. Panel Insert *(upper section)*
   a. Ground terminals, (notice terminals for all sections)
   b. Wiring terminal blocks for upper section LVOS stations,
      (notice wiring blocks for all sections if populated with LVOS stations)
      i. Internal side pre-wired (see *Wiring Block* pg. 2)
      ii. External side wired in field (see *Wiring Block* pg. 2)
   c. Up to (2) LVOS-0-10-PWM stations *(upper section)*

3. Panel Insert *(middle section)*
   a. Second set of wiring blocks when populated with one or two additional LVOS-0-10-PWM stations
   - OR -
   b. One or two STPSRW101(201)/STPERW101(201) power stations - optional configuration parts

4. Panel Insert *(low-voltage section)*
   a. 8 Port Ethernet switch (4 standard and 4 PoE)
   b. IC-DIN-II-LITE Controller
   c. Power supplies for the controller and Ethernet switch

5. Enclosure cover with hinged/vented door allowing easy access when servicing and proper ventilation for convection cooling process

**LCAP32L PANEL BASIC CONSTRUCTION PARTS**
LCAP32L PANEL OPTIONAL CONSTRUCTION PARTS

- The VA-RUU-1 Switch comes pre-installed in the kit
- The VA-EPC-DFS-1 Switch is installed on site

**NOTE:** Please see install sheets for emergency switch applications

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**INSTALLATION / ENCLOSURE MOUNTING INSTRUCTIONS**

Installation of LCAP products should be performed or supervised by a WattStopper factory representative and a certified WattStopper installer. Installation and maintenance of high-voltage devices should only be performed by qualified and licensed personnel having appropriate training and experience.

- Do not mount enclosures in attics, garages, or crawlspaces, unless room is properly conditioned to conform to ambient room temperature and humidity requirements
- Mount enclosure a minimum of 18” from ceiling or floor
- National Electrical Code requires a minimum frontal clearance of 36” for the enclosure
- Use screws provide for mounting

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**CAUTION:**

**Drill proper size holes in can for running wires in and out of the enclosure. Separate high and low-voltage wire run channels.** All wire runs in and out of the enclosure should be secured using 2-screw connectors or equivalent as shown at the right. Proper conduit or equivalent wire channels should be used according to local codes and regulations.

**Breaker Feeds to Controllers:**
The Controller’s power supply should be wired to a dedicated circuit breaker. When multiple enclosures containing controllers are in close proximity to one another they may share the same breaker. Do not share the same breaker with controllers and enclosure loads.

**Station Bus Wire Specification**
Vantage wire, part #VDA-0143-BOX or VPLENUM-CABLE – 2C, 16AWG / 1.31mm², twisted, non-shielded, <30pF per foot. Separate a minimum of 12” / 30.5cm from other parallel communication and/or high-voltage runs.

**Controller to Controller Wiring**
**NOTE:** IC-DIN-II-LITE controllers use Ethernet connections for Controller to Controller communication. Please see the DIN_Lite Controller II_IC-DIN-II-LITE for additional information.
- Do not mix any LCAP series enclosures containing controllers with any generation one IC controllers.

**Station Bus Wiring**
WireLink stations connect to the Station Bus screw terminals on the controller. Use station bus wire, (above). Maximum total station bus wire = 1,000 feet with no station more than 500 feet from enclosure (typically the second half of the station bus loops back to enclosure with only one end connected). Station Bus should be separated a minimum of 12” from other parallel communication and/or high-voltage runs.
Main & Secondary Enclosure to Secondary Enclosure Wiring
IC-DIN-II-LITE controllers do not support secondary enclosures. They may only connect to other enclosures with generation two controllers.

RS-232 (2 Ports)
The IC-DIN-II-LITE controller has two RS-232 ports. Use these ports to connect any device that uses RS-232 communication. Only connect one RS-232 device at a time to an RS-232 port.

Communication protocol parameter settings:
- Standard baud rates 1200 – 115.2K
- 7-8 Data Bits
- Even, Odd, Forced or No Parity
- 200ft. maximum wiring distance

Default protocol for RS-232 communication is:
- Baud: 19200
- Parity: None
- Total bits: 8
- Stop bits: 1

RS-485 Connections
The IC-DIN-II-LITE controller has one RS-485 port. The RS-485 port is half-duplex, meaning that it can transmit and receive, but not at the same time. Maximum wiring distance for RS-485 ports is 200ft.

Possible Ground Loop Issues
All RS-232/RS-485 connections between third party equipment and RS-232/RS-485 connections may produce a ground loop. Most often, the connected RS-232/RS-485 device is not using the same power source or is far away from the Vantage enclosure resulting in a possible ground loop that may produce a data noise condition. If this condition is suspected, Vantage recommends a third party RS-232/RS-485 Opto (optical) Isolation Module. Opto Isolation provides a communications link and is an important consideration if a system uses different power sources, has noisy signals or must operate at different ground potentials.

Auxiliary Power
The IC-DIN-II-LITE controller has a 12VDC, 250ma auxiliary power connection. The 12VDC connection is typically used for one RFE1000 RadioLink Enabler.

NOTE: Do not connect more than one auxiliary device at a time to this power source. If additional powered devices are needed they must be separately powered with an external, isolated type (usually no ground prong), power transformer.

Neutrals
Run a separate NEUTRAL for each load connected to dimming devices. Failure to do this may cause loads, sharing the same neutral, to flicker slightly while ramping or dimming a load. The potential for flickering occurs with all dimming systems due to the changing load level coupling to the fixed load through the neutral.
PART NUMBER ORDERING KEY

Design Center will generate part numbers automatically as the enclosures are built. This key is for help creating manual orders if needed.

Architectural Dimming Panel - Lite (LCAP32L)

LVOS-0-10-PWM quantity -
Select: 1, 2, 3, or 4 (stop here if selecting 3 or 4)

Power Station Location 1 and 2 - select:
- **S1** - for STPSRW101, 120V (forward phase)
- **S2** - for STPSRW201, 277V (forward phase)
- **E1** - for STPERW101, 120V (reverse phase)
- **E2** - for STPERW201, 277V (reverse phase)
**KIT PART NUMBERS AND CONTENTS**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Incl/Opt</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCAP32L-1-KIT</td>
<td>Included</td>
<td>(1) LCAP32L Panel, (1) IC-DIN-II-LITE powered, (1) LVOS-0-10-PWM-P-1 with (1) pre-wired block, (1) COM-POE-SWITCH Ethernet switch</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>(1) or (2) STPSRW101 120V / STPSRW201 277V and/or STPERW101 120V / STPERW201 277V power stations, and (1) VA-RRU-1-120V or VA-RRU-1-277V</td>
</tr>
<tr>
<td>LCAP32L-2-KIT</td>
<td>Included</td>
<td>(1) LCAP32L Panel, (1) IC-DIN-II-LITE powered, (2) LVOS-0-10-PWM-P-1 with (2) pre-wired blocks, (1) COM-POE-SWITCH Ethernet switch</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>(1) or (2) STPSRW101 120V / STPSRW201 277V and/or STPERW101 120V / STPERW201 277V power stations, and up to (2) VA-RRU-1-120V or VA-RRU-1-277V</td>
</tr>
<tr>
<td>LCAP32L-3-KIT</td>
<td>Included</td>
<td>(1) LCAP32L Panel, (1) IC-DIN-II-LITE powered, (3) LVOS-0-10-PWM-P-1 with (3) pre-wired blocks, (1) COM-POE-SWITCH Ethernet switch</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>Up to (3) VA-RRU-1-120V or VA-RRU-1-277V</td>
</tr>
<tr>
<td>LCAP32L-4-KIT</td>
<td>Included</td>
<td>(1) LCAP32L Panel, (1) IC-DIN-II-LITE powered, (4) LVOS-0-10-PWM-P-1 with (4) pre-wired blocks, (1) COM-POE-SWITCH Ethernet switch</td>
</tr>
<tr>
<td></td>
<td>Optional</td>
<td>Up to (4) VA-RRU-1-120V or VA-RRU-1-277V</td>
</tr>
</tbody>
</table>

**LCAP32L ENCLOSURE MULTI-VIEW**

**WARRANTY INFORMATION**

Wattstopper warrants its products to be free of defects in materials and workmanship for a period of five (5) years. There are no obligations or liabilities on the part of Wattstopper for consequential damages arising out of, or in connection with, the use or performance of this product or other indirect damages with respect to loss of property, revenue or profit, or cost of removal, installation or reinstallation.

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Wattstopper garantit que ses produits sont exempts de défauts de matériaux et de fabrication pour une période de cinq (5) ans. Wattstopper ne peut être tenu responsable de tout dommage consécutif causé par ou lié à l’utilisation ou à la performance de ce produit ou tout autre dommage indirect lié à la perte de propriété, de revenus, ou de profits, ou aux coûts d’enlèvement, d’installation ou de réinstallation.

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