WaveLinx Networked Relay Panel (PLE-*)

IMPORTANT: Read carefully before installing product. Retain for future reference.
Failure to comply with these instructions may result in death, serious bodily injury and property damage.

⚠ WARNING

Risk of Fire, Electrical Shock, Cuts or other Casualty Hazards- Installation and maintenance of this product must be performed by a qualified electrician. This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and hazards involved.

Before installing or performing any service, the power MUST be turned OFF at the branch circuit breaker. According to NEC 240-83(d), if the branch is used as the main switch for a fluorescent lighting circuit, the circuit breaker should be marked with "SWD". All installations should be in compliance with the National Electric Code and all state and local codes.

Risk of Fire and Electric Shock- Make certain power is OFF before starting installation or attempting any maintenance. Disconnect power at fuse or circuit breaker.

Risk of Burn- Disconnect power and allow product to cool before handling or servicing.

Risk of Personal Injury- Due to sharp edges, handle with care.

DISCLAIMER OF LIABILITY: Cooper Lighting Solutions assumes no liability for damages or losses of any kind that may arise from the improper, careless, or negligent installation, handling or use of this product.

NOTICE: Product may become damaged and/or unstable if not installed properly.

Note: Specifications and dimensions subject to change without notice.

ATTENTION Receiving Department: Note actual product description of any shortage or noticeable damage on delivery receipt. File claim for common carrier (LTL) directly with carrier. Claims for concealed damage must be filed within 15 days of delivery. All damaged material, complete with original packing must be retained.

NOTICE: All new wiring must be fully verified before applying power.

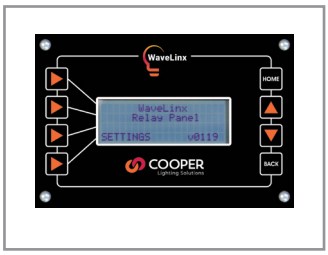
NOTICE: Designed for indoor installation and use only.

COOPER Lighting Solutions

SAVE THESE INSTRUCTIONS

This installation instruction is for the WaveLinx Networked Relay Panel.

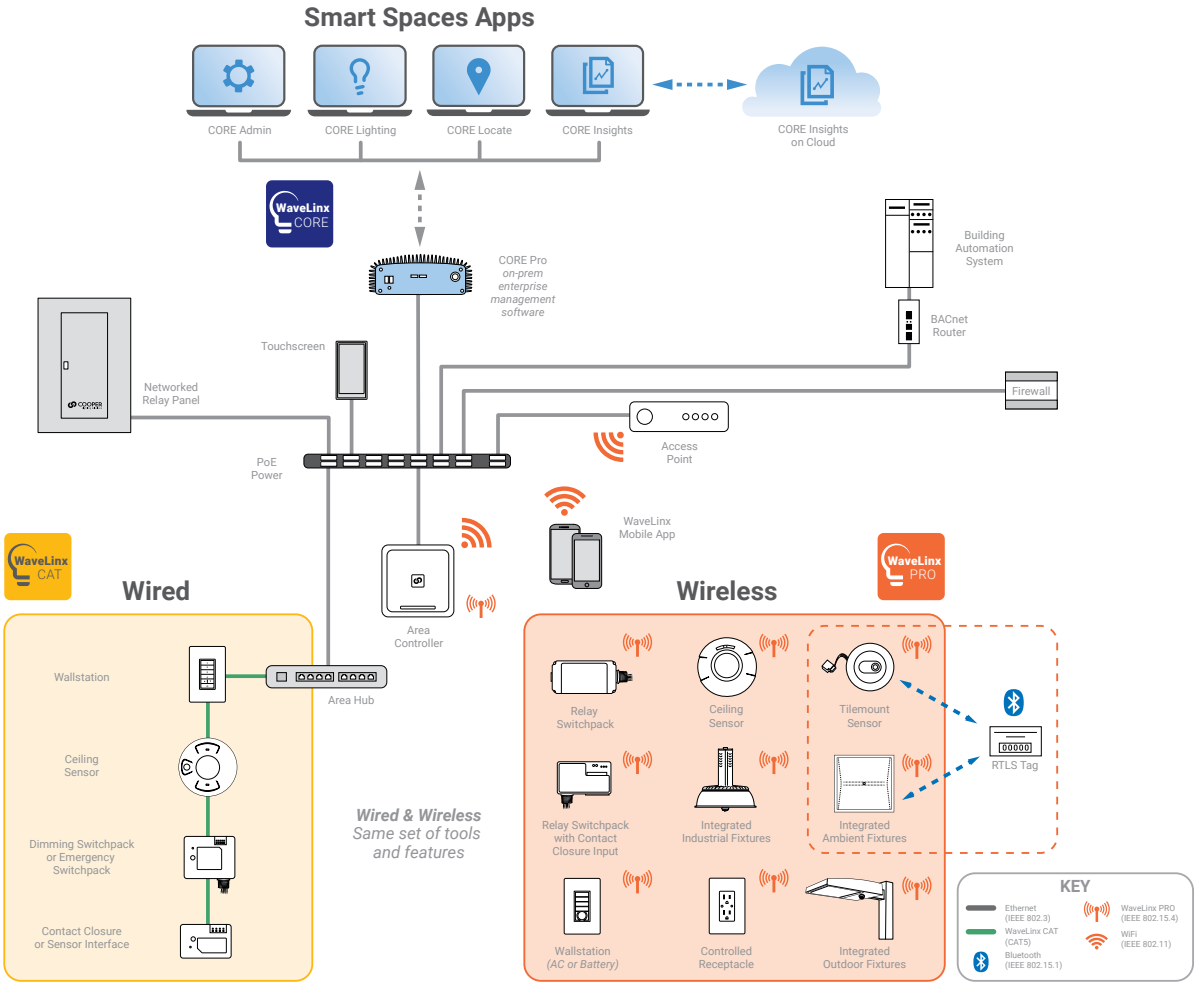
The purpose of this document is to provide sufficient detailed instructions for installation. The proper installation of the hardware and wiring is important to make a trouble free reliable lighting control system.



This document covers installation of the following product:

- PLE-* WaveLinx Networked Relay Panel

WaveLinx connected lighting (WCL) system Architecture



Pre-Installation Check List

- Unpack the lighting control panel
- Report any damage to the freight carrier
- Remove the enclosure door and set aside
- Determine appropriate mounting location for panel
- Mount the panel to the wall
- Punch knockout holes for high and low voltage conduit runs
- Pull a dedicated line and neutral to the control transformer and terminate
- Pull line wires from circuit breaker box to the relays
- Pull load wires to lighting loads from the relays
- Connect line wires to load wires. Test for shorts by powering up the circuits
- After clearing faults, connect line and load wires to relays
- Pull CAT5 data line wires to panels and WaveLinx Area Controller
- Test all cables with the appropriate cable tester
- Clean the cabinet of any construction debris and dust
- Double check all high voltage connections
- Apply power to the panel

Mounting the Panel

Location

Determine the proper location for the WaveLinx Panel. Typically the panels are mounted near the lighting circuit breaker box and near the lighting loads that will be controlled.

Environment Considerations

WaveLinx Networked Relay panels are installed in a NEMA 1 enclosure designed for indoor applications, where conditions are not usually severe. The panels should be mounted in an area with an ambient temperature between 0 and 50° C (32°-122°F) and humidity from 10 to 90% non-condensing.

Mounting

The enclosure is provided with 4 holes located at each corner of the enclosure. secure the enclosure to the mounting surface with the appropriate hardware for the application.

Wiring the Controller

Wire Control Transformer

Pull a dedicated 120VAC, 277VAC, or 347VAC circuit to the panel for the control transformer. see figure 2.1 for termination details. Cap the unused lead to prevent electrical shock.

Line and Load Wires

Pull the line wires from the circuit breaker box and the wires from the lighting loads to the enclosure. Be sure to keep the high voltage wires isolated to the high voltage compartment. Connect each line to the appropriate load wire. Power on the circuits, test for faults and clear any found. After testing each circuit, connect the line and load to the appropriate relay per the schedule. Be sure to torque wire terminations to 20 lb. /in. See below for details.

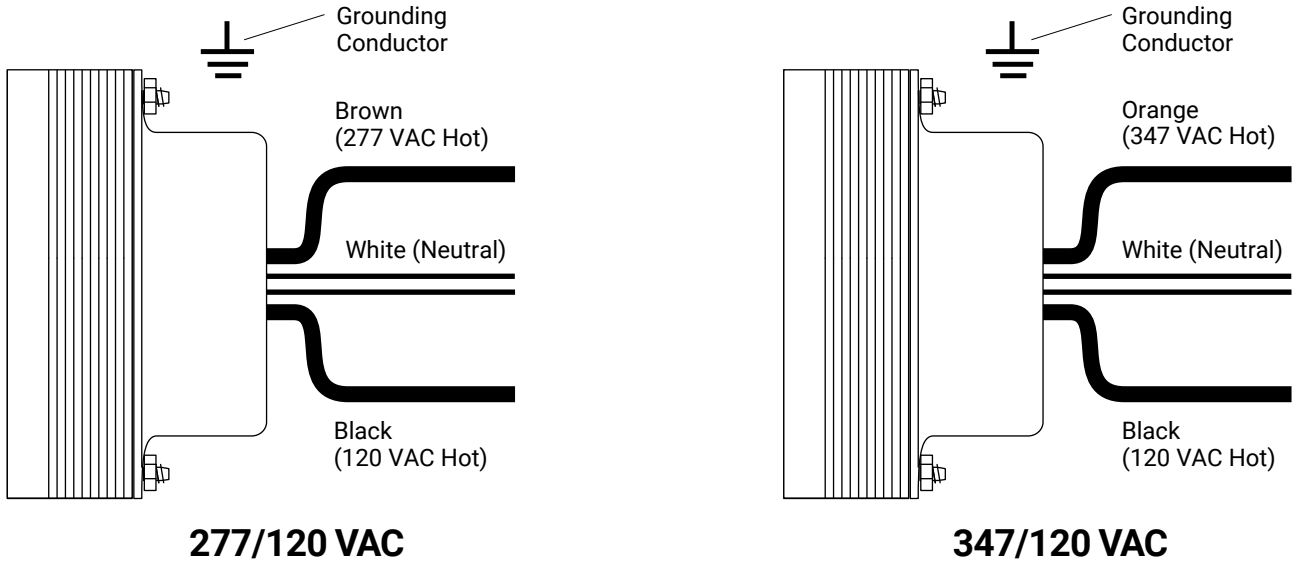
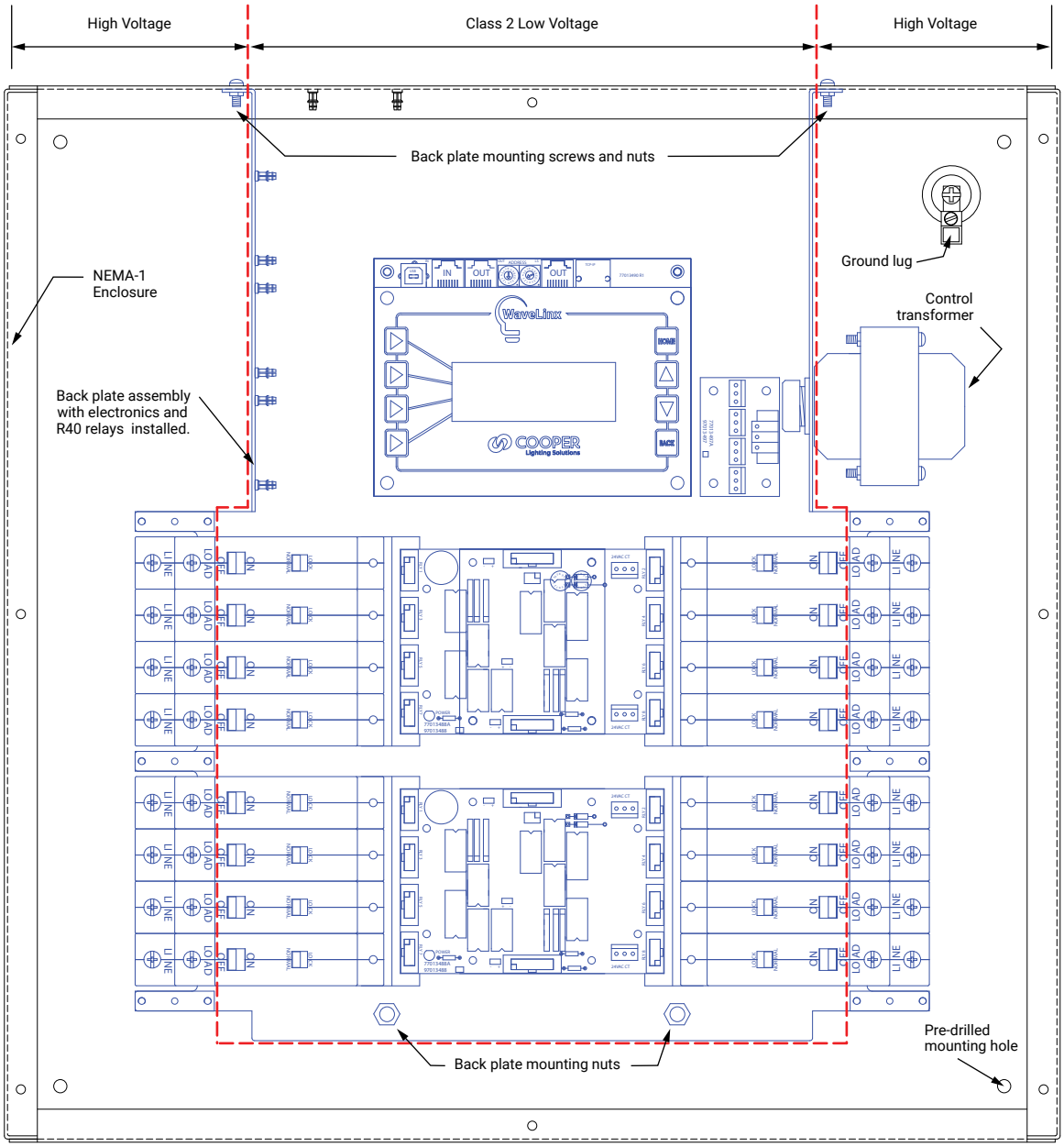


Figure 2.1



Note: Branch circuit protection and disconnect switch to be provided by installer.

Note: Electronic components must be protected from falling debris during installation. This can be done by using a cardboard shield to cover the electronics, or the interior back plate and electronics can be removed and stored in the shipping box until the enclosure and electrical conduit is installed.

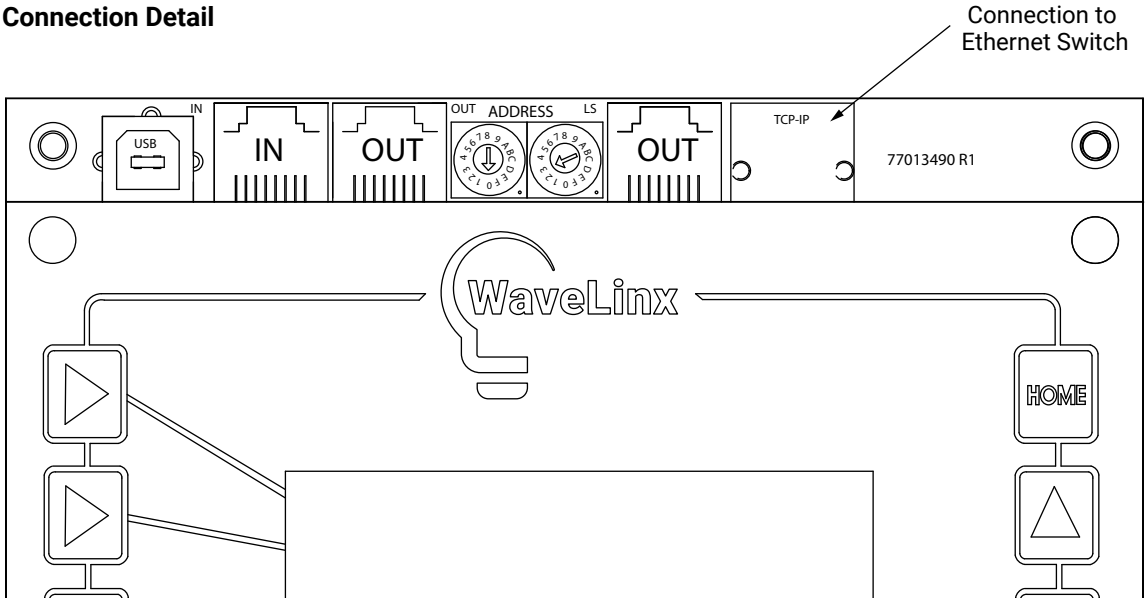
1. Locate pre-drilled holes for mounting enclosure to wall or supports, attach enclosure securely using the appropriate hardware for the application.
2. Install line voltage conduit and low voltage conduit runs into relay panel.
3. Pull a dedicated circuit for the control transformer and terminate per the transformer termination label located in the enclosure.
4. Install a ground wire to the lug provided.
5. Pull high voltage line and load wiring, terminating conductors to relays per scheduled information.
6. Identify and mark all wiring and record to schedule for future system programming.
7. Verify terminations and voltage using a test meter before applying power to the equipment.

Network Cable Installation

Ethernet Cable Connection

The panel communicate with WaveLinx Area Controller (WAC) via IP. The Ethernet cable connection is required between panels and WaveLinx Area Controller (WAC) via Ethernet switch. The Ethernet cable must be Category 5e, or Category 6 cable. RJ45 connectors must be rated for the type of cable being terminated to. Be sure that cable run in a plenum is rated for that use. Any cable run underground must have underground rated cable, have a 12AWg solid Cu wire pulled along with it grounded at one end, and have surge suppressors installed.

Connection Detail



Pre-Power-Up Checks

- Verify power to controller and output boards from the secondary of the transformer. The voltage should be 24- 28VAC from red wire to red wire, 12 – 16VAC yellow wire to each red wire. see figure 2.1 for details.
- Verify power connectors to output boards are seated and have voltage from the secondary of the transformer.
- Verify all ribbon cables between controller/output boards and connecting relays are well seated.
- Verify all high voltage wires are terminated and all high voltage fish paper barriers are installed.

Power-Up and Check Out

Power-Up

The power switch is located under the right side of the keypad. Turn the power switch to the right to activate the controller. The power LED located in the lower left should light and the Keypad LCD should display the WaveLinx Relay Panel.

Verify Relay Operation

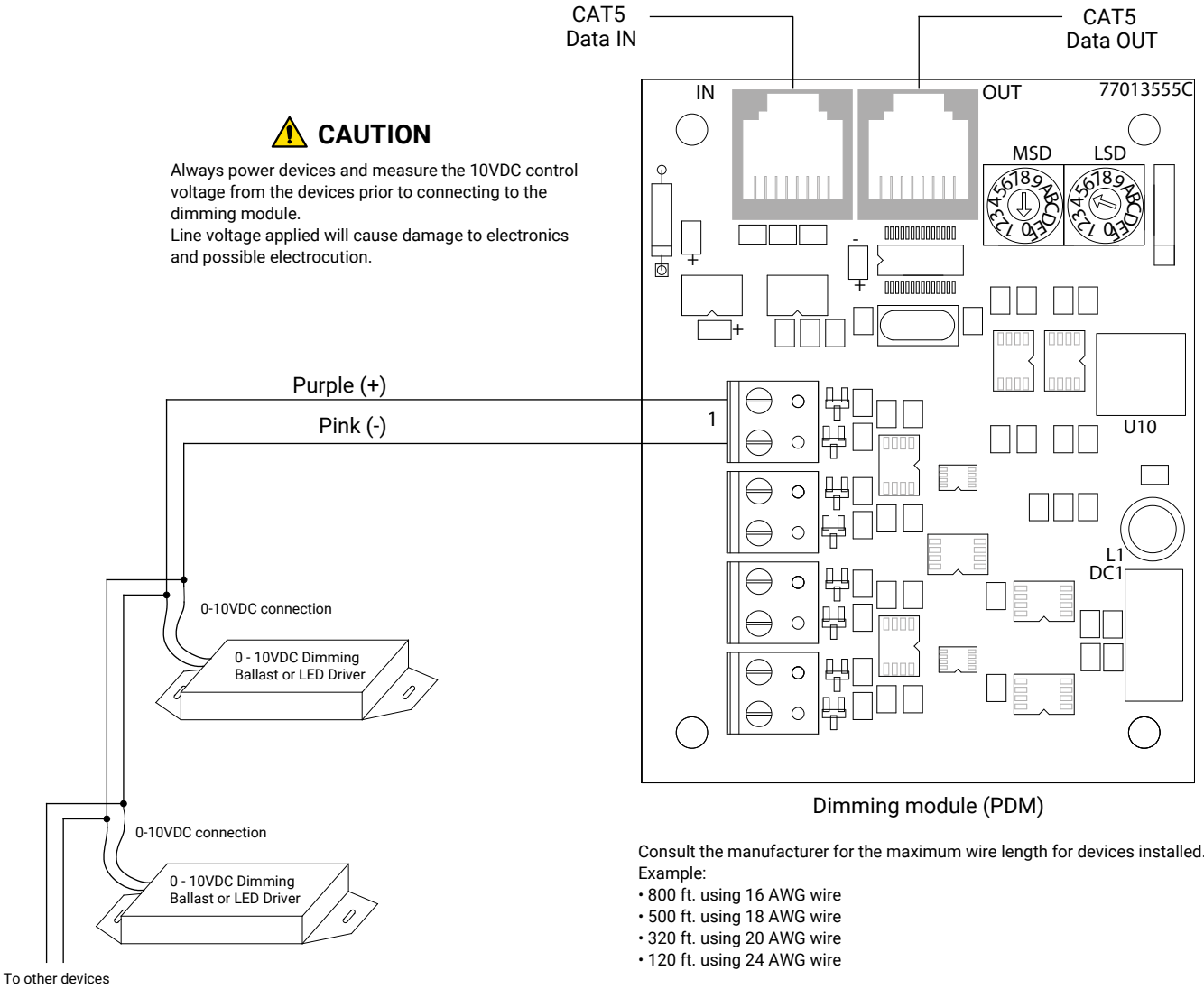
With the controller powered up press the “all on” push button switch located on the lower left side of the controller, all of the relays should turn On. Press the “all on” button and verify that all relays turned OFF. The relays have built in indicator on their on/off override switch that indicates their state.

Dimming Module Wiring Details

The Dimming Module provides 4 independent zones for controlling ballasts, LED drivers or other devices that have 0 - 10VDC control. Each control port can control up to 200 ballasts parallel connected based on a typical current of .5mA each, with a maximum of 100mA per output channel or dimming zone. Consult manufacturer for current requirements and recommended wiring practices for class 2 wiring.

Output Connection: Parallel connect the 0 - 10VDC control wires from the ballasts, LED or other controlled devices and terminate on the dimming control port using the wiring termination shown below, follow the wire distance limitations provided by the device manufacturer.

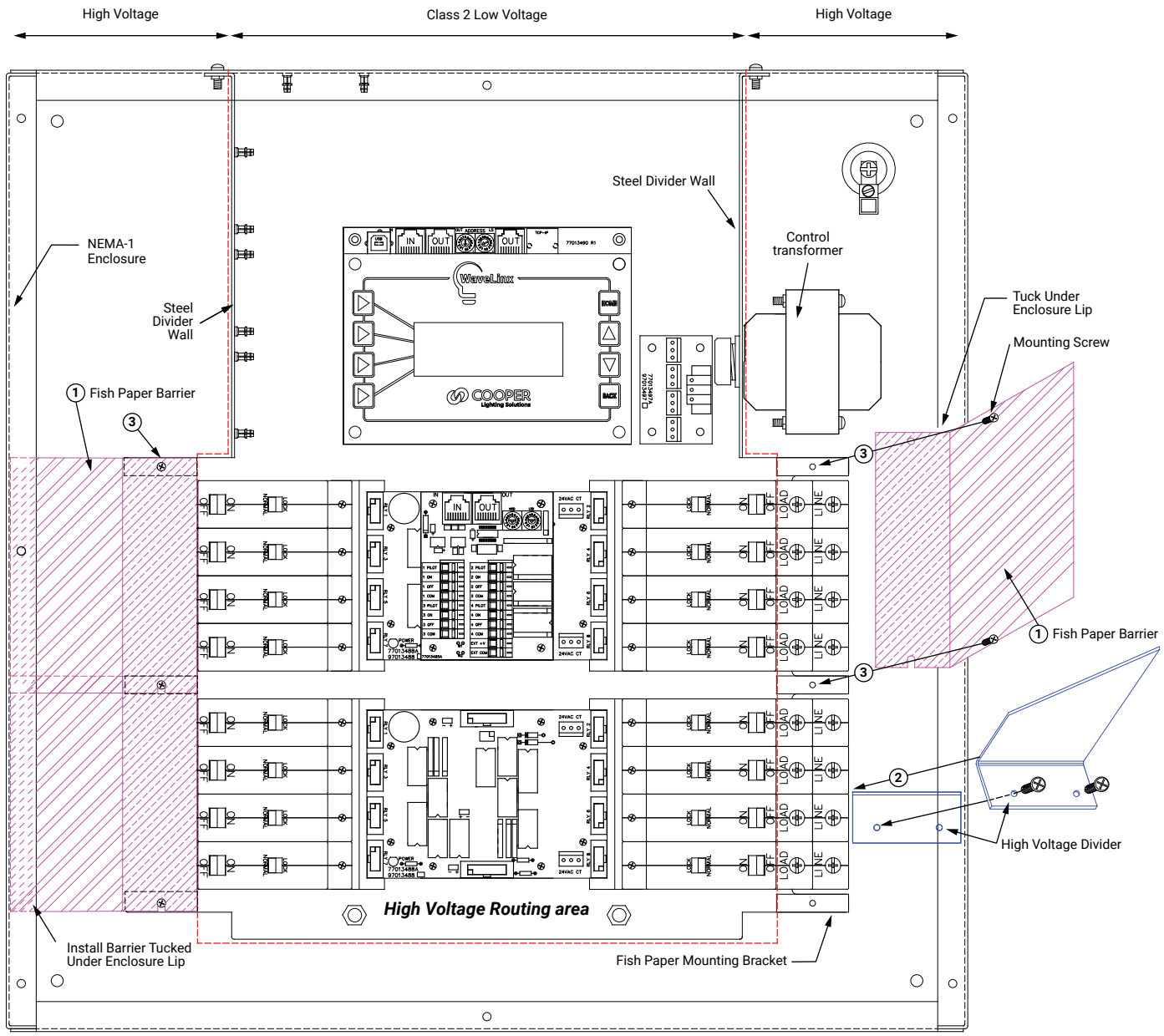
Data Connections: Panel mount dimmer will come factory pre-connected using CAT5 cable. For the remote module option, connect the WaveLinx data line to the IN port, then connect the OUT port to the next device.



Dimming module (PDM)

Consult the manufacturer for the maximum wire length for devices installed.
Example:
- 800 ft. using 16 AWG wire
- 500 ft. using 18 AWG wire
- 320 ft. using 20 AWG wire
- 120 ft. using 24 AWG wire

High Voltage Divider and Barrier Installation Details



The right and left sides of the enclosure can be dedicated to different line voltages (120 or 277V) and would not require a high voltage divider. If the left or right relay section needs to be separated from top to bottom a high voltage divider can be field installed.

High Voltage Divider Installation:

1. Remove the fish paper barrier and retain the barrier and screws.
2. Align the high voltage divider between relays to be separated and secure with self tapping TEK screws provided.
3. Secure fish paper to mounting brackets with screws removed.

Warranties and Limitation of Liability

Please refer to **www.cooperlighting.com/global/resources/legal** for our terms and conditions.

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