The Leviton Mark VII Power Extender, Cat. No. PE300, is capable of extending the power capabilities of many Leviton wall box dimmers, as well as acting as a single channel for Leviton’s dimming systems. It allows the control of fluorescent dimmable ballasts (10-10 V dimming signal) from dimmers that normally cannot control such a load type. The Power Extender incorporates a dimmer, a power supply, and a dim level measurement circuit. The PE300 connects to a dimmer or dimming channel. Its measurement circuit measures the dim level of the dimmer (channel) and outputs a corresponding level on its own dimmer. The user operates the dimmer (channel) in its normal way.

The Power Extender has wiring for connection to the dimmer with its internal power supply, the load, and the 120V dimming signal. Power must be provided to the PE300 for it to operate. The power connection can be 120V or 277V AC, and can be from the same phase as the dimmer or a different one. Care must be taken when wiring the power to the dimmer. Please read the wiring section carefully.

The 120-V dimming signal is provided on the red and yellow wires of the GRAY and VIOLET wires as center tap. One set exits through the bottom wiring portal, for applications that require those wires to be run in conduit. They are rated 60V 105 degree C. The other set of wires exits from the side wiring portal for Class II wiring applications. Please consult your local building codes for wiring regulation.

**DESCRIPTION**

The Power Extender will emulate the characteristics of the dimmer that it is connected to in terms of dimming range and resolution.

**FEATURES**

- **Box Mounted Dimmers** – Must use a 120V, 600V inaudible version of the following families: Illumatex, Mural, True Touch, Toggle Touch, Touch Point, and Home Controls
- **Monet Installations** – Must use Monet Magnetic Low-Voltage (requires a Neutral wire).
- **Architectural Systems** – All families

**NOTE:** For dimmers that include a Neutral wire (such as some scene capable dimmers), the Neutral dimmer wire must be connected.

The PE300 has a minimum level adjustment. Any minimum levels adjustments should be made on the Power Extender, NOT on the dimmer. For all that come with their own minimum level adjustment, Leviton recommends they be adjusted to the minimum level upon installation and not used afterwards.

**INSTALLATION INSTRUCTIONS**

**WARNING:** To be installed and/or used in accordance with appropriate electrical codes and regulations.

**WARNING:** If you are not sure about any part of these instructions, consult a qualified electrician.

**OTHER CAUTIONS:**

1. **Both Lighting Fixture and Controller Must Be Grounded.**
2. **Do Not Service Power Extender Power While Servicing Fixtures or Changing Lamps.**
3. **For Use for Dimming Only With 120/10V Dimming Ballasts.**
4. **Use This Device Only With Copper or Copper Clad Wire. With Aluminum Wire Use Only Devices Marked CAIR or Cool.**

**NOTE:** The Power Pack must be installed in a properly grounded metal 4" (10.2 cm) outlet box. Depending on the application and the number of connections, more space may be needed. If so, use an appropriate size box or box extension.

There are two wiring ports on the Power Pack, one for high-voltage (Line) wires and one for low-voltage wires. The high-voltage wires exit out of the bottom, and the low-voltage wires exit out of the side.

Refer to Table 2 for wire designations.

To INSTALL:

1. **WARNING:** To avoid fire, shock, or death, turn off power at circuit breaker or fuse and test that power is off before wiring!
2. **The Power Pack must be installed in a properly grounded metal 4" (10.2 cm) outlet box. Depending on the application and the number of connections, more space may be needed. If so, use an appropriate size box or box extension.**
3. **Carefully position all wires to provide room in outlet box for Power Extender. Mount Power Extender to outlet box.**

4. **Connect lead wires per WIRING DIAGRAM as follows:**
   - **From top opening:**
     - **Line (for power supply):** Black 18 AWG
     - **Neutral (for power supply):** White 18 AWG
     - **Ground:** Green 12 AWG
   - **From side opening:**
     - **Dimmer return:** White/Red 18 AWG
     - **Relay contacts – Load:** Blue 12 AWG
     - **Dimmer input:** Red 18 AWG
     - **Dimmer return:** White/Red 18 AWG
   - **From bottom opening:**
     - **Power input:** Black 18 AWG
     - **Return (To Ballast):** Gray 18 AWG

5. **Carefully position all wires to provide room in outlet box for Power Extender. Mount Power Extender to outlet box.**
6. **Restore power at circuit breaker or fuse. INSTALLATION IS COMPLETE.**

**OPERATION**

The operation of the PE300 follows the operation of the dimmer it is connected to. To operate the PE300, the dimmer must be operated as follows:

- **Turn Off the dimmer.**
- **Turn Off:** Turn Off the dimmer.
- **Dim:** Adjust the dimmer’s brightness.
- **Brighten:** Adjust the dimmer’s brightness.

**Air Gap:**

- **On:** When the air gap on the dimmer will cause the PE300 to turn its controlled Load OFF.
- **Off:** When the air gap on the dimmer is activated.

**NOTE:** The PE300 has an air gap relay built-in, therefore, the ballasts will be disconnected by an air gap when the dimmer is OFF or the air gap control on the dimmer is activated.

**Table 1 – LED Indicators**

<table>
<thead>
<tr>
<th>LED Meaning</th>
<th>Physical Location</th>
<th>Color</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>LED 1</td>
<td>Red</td>
<td>On if led is connected, LED ON</td>
</tr>
<tr>
<td>Power</td>
<td>LED 2</td>
<td>Green</td>
<td>If there is internal power, LED ON</td>
</tr>
</tbody>
</table>

**Table 2 – Wiring Designators**

<table>
<thead>
<tr>
<th>Signal Name</th>
<th>Color</th>
<th>Gauge</th>
</tr>
</thead>
<tbody>
<tr>
<td>From bottom opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line (for power supply)</td>
<td>Black</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Neutral (for power supply)</td>
<td>White</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Ground</td>
<td>Green</td>
<td>12 AWG</td>
</tr>
<tr>
<td>Dimmer input</td>
<td>Red</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Dimmer return</td>
<td>White/Red</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Relay contacts – Load</td>
<td>Blue</td>
<td>12 AWG</td>
</tr>
<tr>
<td>Dim (To Ballast)</td>
<td>Violet</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Return (To Ballast)</td>
<td>Gray</td>
<td>18 AWG</td>
</tr>
<tr>
<td>From side opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power input</td>
<td>Black</td>
<td>18 AWG</td>
</tr>
<tr>
<td>Return (To Ballast)</td>
<td>Gray</td>
<td>18 AWG</td>
</tr>
</tbody>
</table>

The dimmer can be connected to the same line as the PE300 power wires, or it can be connected to a separate line. The dimmer return MUST be connected to the Neutral wire that goes along with the Line connection of the dimmer.

**Line Connection Options**

- **When using a 120V ballast, the dimmer, PE300 power supply and ballast load may all be connected to a 120V line.**
- **When using a 277V ballast, the relay contacts must be connected to the 277V. The PE300 power supply wires MUST be connected to the same power as the Load.**

**NOTE:** Only one pair of the GRAY and VIOLET wires is to be used at a time. The unused pair can be capped off.

**TROUBLESHOOTING**

- **The Power Extender is not powered (Green LED OFF)**
- **Power wires are not connected properly.**
- **The load does not turn ON (relay LED is OFF), but the Power Extender is powered (Green LED ON)**
- **The dimmer is OFF.**
- **The dimmer air gap switch is activated**
- **The dimmer is connected to a separate circuit, and the circuit breaker is OFF.**
- **Dimmer is not wired**
- **On:** Dimmer is not an incandescent, 600W dimmer or a Monet Magnetic Low-Voltage.
- **The load turns ON, but quickly turns OFF**
- **On:** Dimmer is not an incandescent, 600W version.
- **The load turns ON, but does not DIM/BRIGHTEN**
- **The grey and violet wires are mis-wired.**

**For Technical Assistance Call:**
1-800-980-3665 (U.S.A. Only)
1-888-455-3329 (Canada Only)
www.leviton.com
**Wiring Diagram 1A – Power Supply connected to Load side, 120V Application**

- Hot (Black)
- Line 1 (120VAC)
- Neutral 1 (White)
- Violet
- Gray

**Controller/Dimmer**

- Red (Load)
- Blue
- White/Red

**Neutral 1 (White)**

**Power Extender**

**MARK VII BALLAST**

- 0-10 VDC
- Ballast
- 120 VAC

**To Lamps**

*Alternate Ballast Connection* (from side of unit)

**Wiring Diagram 1B – Power Supply connected to Load side, 120V Application**

- Hot (Black)
- Line 1 (120VAC)
- Neutral 1 (White)
- Violet
- Gray

**Dimmer or Switch**

- Red (Load)
- Blue
- White/Red

**Neutral 1 (White)**

**Power Extender**

**MARK VII BALLAST**

- 0-10 VDC
- Ballast
- 120 VAC

**To Lamps**

*Alternate Ballast Connection* (from side of unit)

**Wiring Diagram 2A – Power Supply connected to Load side, 277V Application**

- Hot (Black)
- Line 1 (120VAC)
- Neutral 1 (White)
- Violet
- Gray

**Controller/Dimmer**

- Red (Load)
- Blue
- White/Red

**Neutral 1 (White)**

**Power Extender**

**MARK VII BALLAST**

- 0-10 VDC
- Ballast
- 277 VAC

**To Lamps**

*Alternate Ballast Connection* (from side of unit)

**Wiring Diagram 2B – Power Supply connected to Load side, 277V Application**

- Hot (Black)
- Line 1 (120VAC)
- Neutral 1 (White)
- Violet
- Gray

**Dimmer or Switch**

- Red (Load)
- Blue
- White/Red

**Neutral 1 (White)**

**Power Extender**

**MARK VII BALLAST**

- 0-10 VDC
- Ballast
- 277 VAC

**To Lamps**

*Alternate Ballast Connection* (from side of unit)

NOTE: In 277V applications, the dimmer or switch must still be wired for 120V.