

Power Extender 0-10VDC Dimming Control

Cat. No. PE300
Fluorescent Only

2400VA-120VAC, 60Hz
5500VA-277VAC, 60Hz

Power Consumption: 6W@120VAC max.
18W@277VAC max.

Power Supply Input Voltage:
108-305VAC, 60Hz

Dimmer Input: 120V, 60Hz

Output Ballast Control: 0-10VDC sink

For use with dimmable electronic ballasts that use a 0-10VDC dimming signal, such as Advanced Transformer Mark VII and Osram Sylvania Quicktronic Helios ballasts.

For more information go to
www.leviton.com

INSTALLATION INSTRUCTIONS



DI-000-PE300-00A

FEATURES

- Extends the power rating for dimmers
- Low-end adjustment available for setting the minimum brightness level
- Works with Dimensions Multizone Controllers or Leviton box mount dimmers.

INTRODUCTION

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 dimming ballasts (0-10 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 it works with, its internal power supply, the load, and the 0-10V 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 dimmer to the power extender. **Please read the wiring section carefully.**

The 0-10V dimming signal is provided on the GRAY and VIOLET wires. There are two sets of GRAY and VIOLET wires exiting the PE300. One set exits through the bottom wiring portal, for applications that require those wires to be run in conduit. They are rated 600V, 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 regulations.**

DESCRIPTION

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

Compatibility

- **Box Mounted Dimmers** – Must use a 120V, 600W Incandescent version of the following families: Illumatech, 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 dimmer Neutral 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 dimmers that come with their own minimum level adjustment, Leviton recommends they be adjusted to the minimum level upon installation and not used afterwards.

FCC COMPLIANCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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. DISCONNECT POWER WHEN SERVICING FIXTURE OR CHANGING LAMPS.
3. TO BE USED FOR DIMMING ONLY WITH 0-10V DIMMING BALLASTS.
4. USE THIS DEVICE ONLY WITH COPPER OR COPPER CLAD WIRE. WITH ALUMINUM WIRE USE ONLY DEVICES MARKED CO/ALR OR CU/AL.

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.

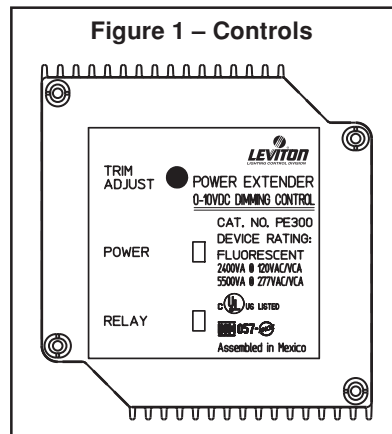
TO INSTALL:

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. Remove 3/4" (1.9 cm) of insulation from each circuit conductor. Make sure that ends of conductors are straight.
3. Connect lead wires per WIRING DIAGRAM as follows: Twist strands of each lead tightly and, with circuit conductors, push firmly into appropriate wire connector. Screw connectors on clockwise making sure that no bare conductor shows below the wire connectors. Secure each connector with electrical tape.

NOTE: The ground wire from the Power Pack must be connected to ground. In addition, the Power Pack housing must be grounded. If installing the Power Pack to a grounded metal box, the Power Pack will be grounded to the electrical box. Otherwise, use the GREEN ground screw to connect a ground wire.

4. **Low-Voltage Wiring (side wiring port):** Connect lead wires per WIRING DIAGRAM as follows:

Using low-voltage wires exiting the Power Pack, twist strands tightly together and, with low-voltage device conductors, push firmly into appropriate wire connector. Screw connectors on clockwise making sure that no bare conductor shows below the wire connectors. Secure each connector with electrical tape.



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.**

7. **Trim Adjust** – To adjust the minimum level, proceed as follows (refer to Figure 1):

- a. Turn on the dimmer
- b. Adjust the dimmer to its minimum position.
- c. On the PE300, turn the Trim Adjustment Knob counterclockwise (CCW) to raise the minimum level, or clockwise (CW) to lower the minimum level.

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:

ON: Turn ON the dimmer.

Turn OFF: Turn OFF the dimmer.

DIM: Adjust the dimmer DIM level.

BRIGHTEN: Adjust the dimmer BRIGHTNESS level.

Air Gap: Activating the air gap on the dimmer will cause the PE300 to turn its controlled Load OFF.

CAUTION: The Power Extender will still remain powered, but it will not activate the load.

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

LED Meaning	Physical Location	Color	State
Relay	LED 1	Red	If load is connected, LED ON
Power	LED 2	Green	If there is internal power, LED ON

OUTPUTS

Dimming Control: The GRAY and VIOLET wires provide a control voltage (current sink) that DIMS the ballasts. The control voltage varies between 0.6 - 10VDC.

WIRING

All wires type: 105°C AWM, 600V

Table 2 – Wiring Designators

Signal Name	Color	Gauge
From bottom opening		
Line (for power supply)	Black	18AWG
Neutral (for power supply)	White	18AWG
Ground	Green	12AWG
Dimmer input	Red	18AWG
Dimmer return	White/Red	18AWG
Relay contacts – Load	2 Blue	12AWG
Dim (To Ballast)	Violet	18AWG
Return (To Ballast)	Gray	18AWG
From side opening		
Dim (To Ballast)	Violet	18 AWG
Return (To Ballast)	Gray	18 AWG

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 is to be capped off.

TROUBLESHOOTING

- The Power Extender is not powered (Green LED OFF)
 - Circuit breaker is 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 mis-wired
 - Control Neutral (from dimmer) wire is not connected to the Neutral of the Line pair feeding the dimmer.
 - Dimmer is not an incandescent, 600W dimmer or a Monet Magnetic Low-voltage.
- The load turns ON, but quickly turns OFF
 - Dimmer is not an incandescent, 600W version.
- The load turns ON, but does not DIM/BRIGHTEN
 - The gray and violet wires are mis-wired.

LIMITED 2 YEAR WARRANTY AND EXCLUSIONS

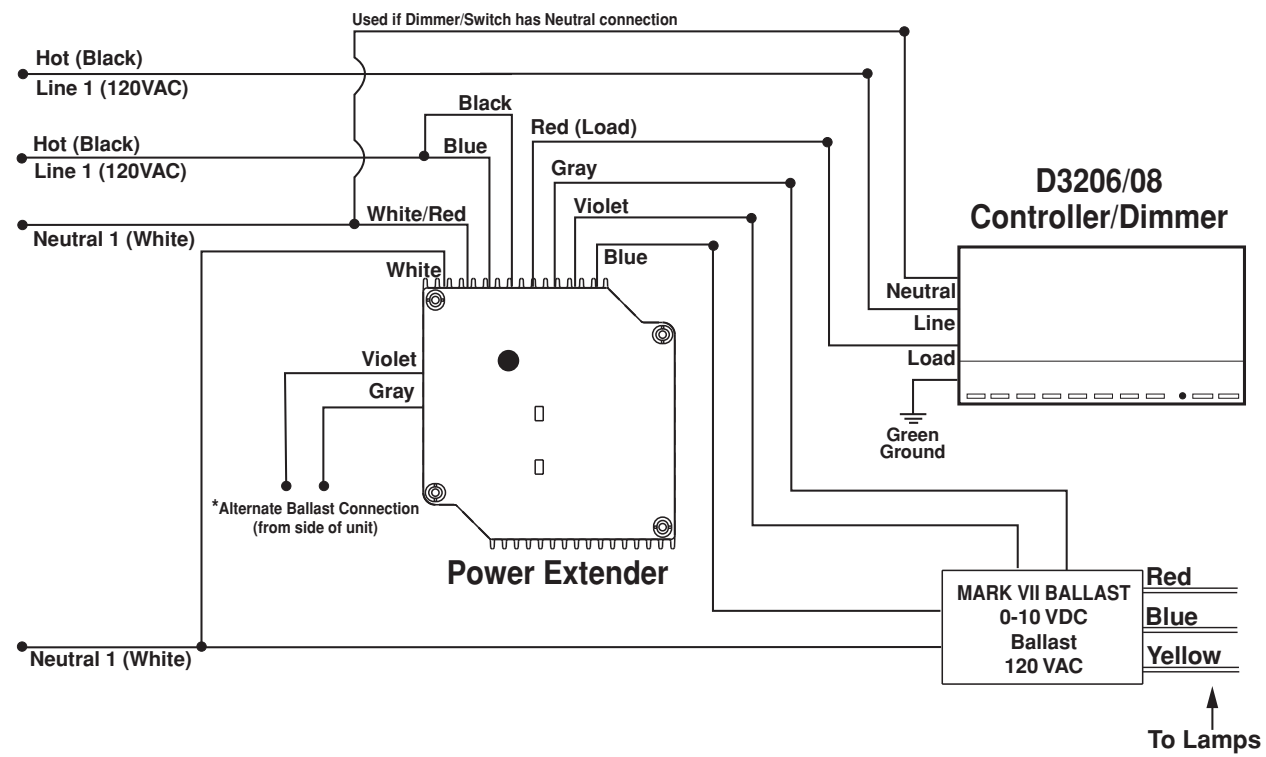
Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for two years from the purchase date. Leviton's only obligation is to correct such defects by repair or replacement, at its option, if within such two year period the product is returned prepaid, with proof of purchase date, and a description of the problem to Leviton Manufacturing Co., Inc., Att: Quality Assurance Department, 59-25 Little Neck Parkway, Little Neck, New York 11362-2591 (In Canada send to Leviton Mfg. of Canada Ltd., 165 Hymus Blvd., Point Claire, (Quebec), Canada H9R 1E9). This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to two years. Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation. The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

For Technical Assistance Call:
1-800-824-3005 (U.S.A. Only)
1 800 405-5320 (Canada Only)
www.leviton.com

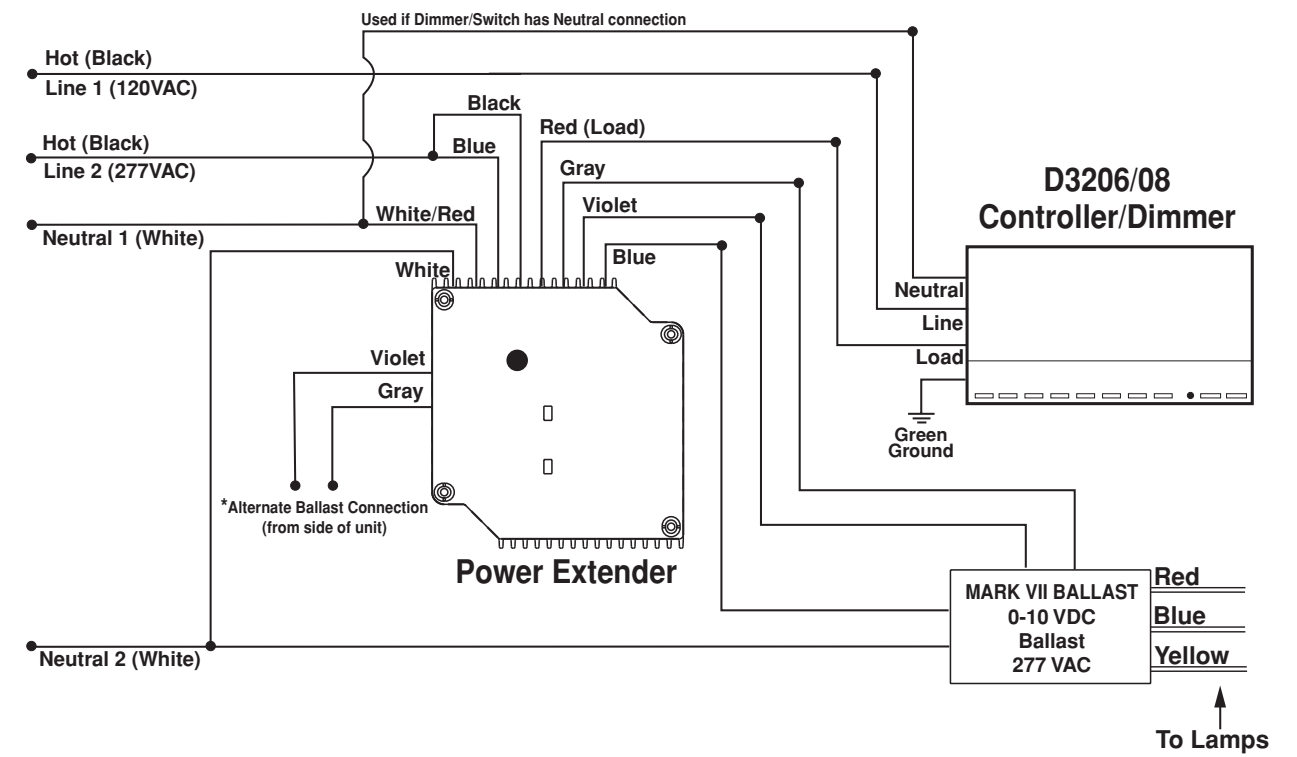


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Wiring Diagram 1A – Power Supply connected to Load side, 120V Application

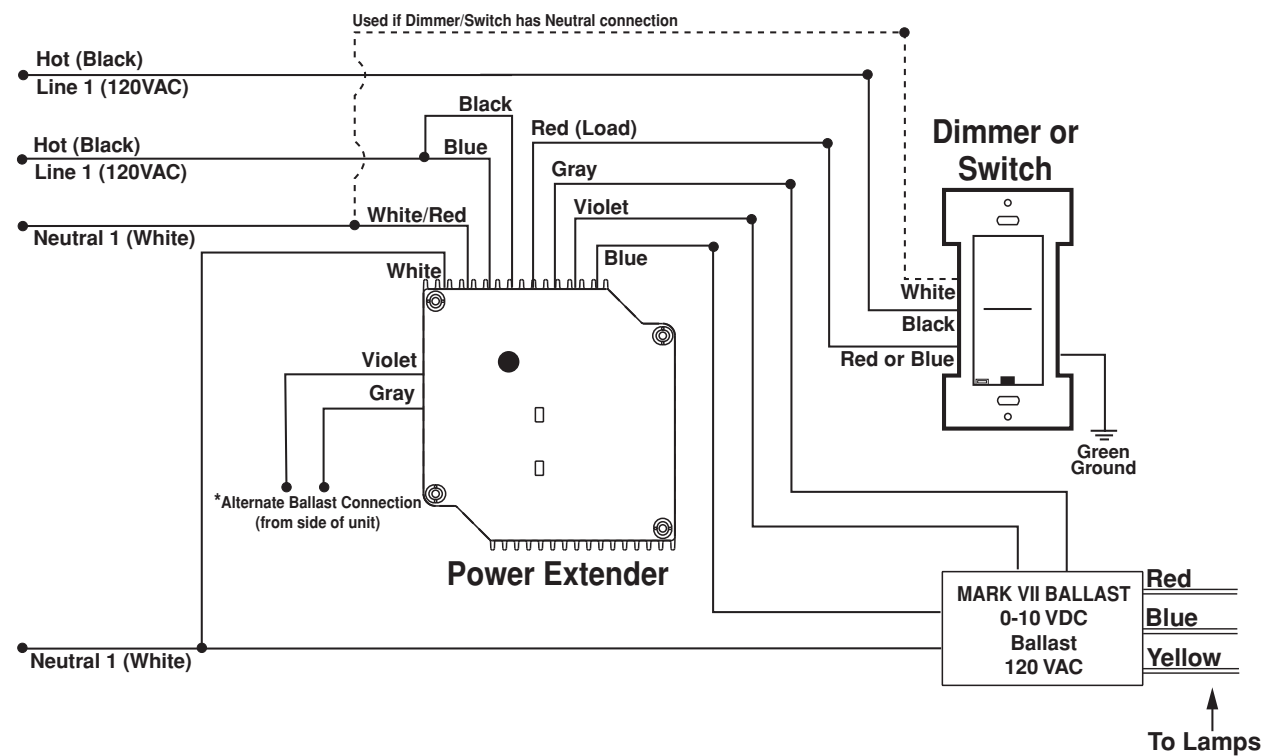


Wiring Diagram 2A – Power Supply connected to Load side, 277V Application

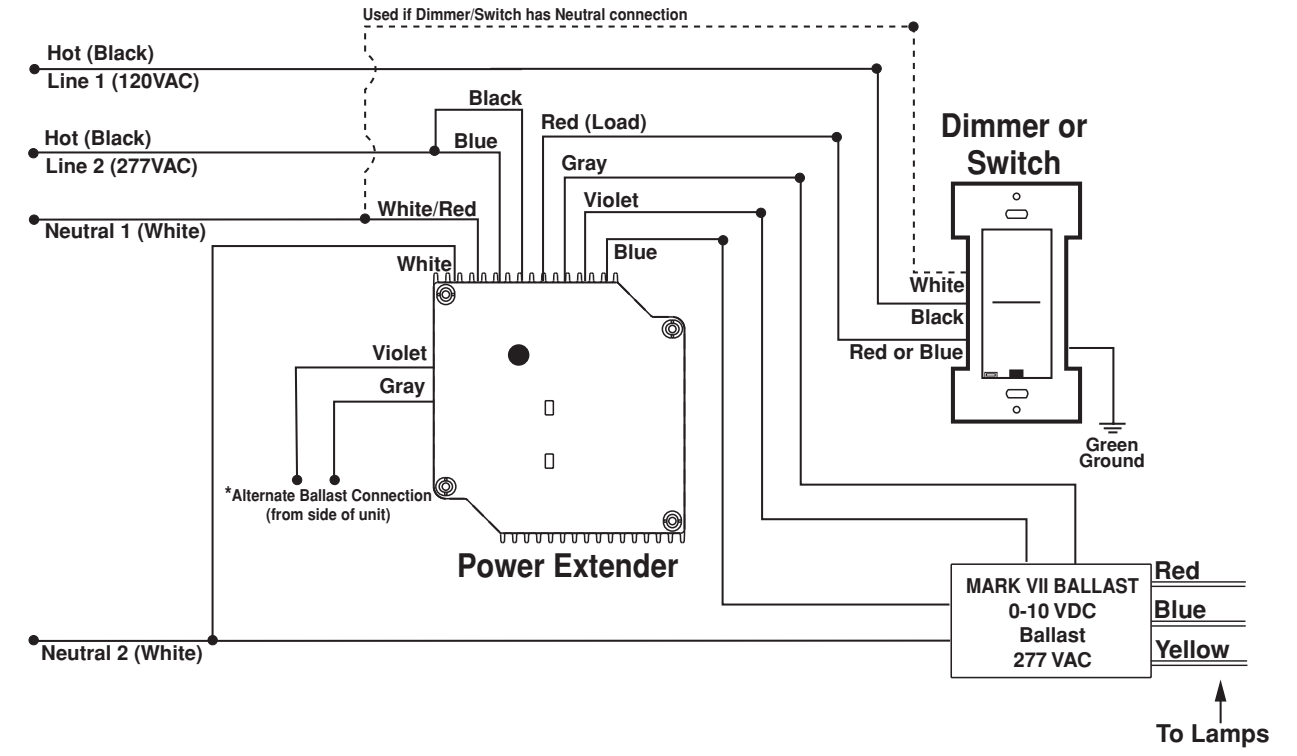


NOTE: In 277V applications, the dimmer or switch must still be wired for 120V.

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



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



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