

Phantom

DIGITAL BALLASTS



Phantom

Power and Versatility

Use horizontally, vertically,
or mounted on the wall.

READ AND SAVE INSTRUCTIONS

The Phantom Digital Ballast features state-of-the-art microprocessor technology, an extruded aluminum body with cooling fins, handle and rubber feet, and optional vertical positioning or hanging for even more efficient cooling of the internal components. D-Models incorporate a dimming button with LED indicators to provide for energy - saving dimmability with both HPS & MH lamps. These instructions are based on operation of standard HPS & MH lamps. Supply power is based on typical commercial or residential 120/240V, 60Hz input. This product must be used with the appropriate wattage recommended HPS/MH lamps to achieve the highest efficiency, safety, luminosity, and to guarantee proper operation.

Warnings:

This manual contains important safety measures that should be followed during the installation and maintenance of the product. Please read it thoroughly before installing and operating this product.

1. This digital ballast is designed specifically for HPS & MH lamp operation.
2. This ballast is for indoor use only. Avoid exposure to excessive heat or contact with liquids.
3. This ballast does not rely on the luminance enclosure for protection against accidental contact with live parts.
4. To ensure proper lamp ignition, the lamp cord should not be longer than 30 feet.
5. Do not install or otherwise perform any maintenance, lamp changes, or other modifications while the ballast is connected to the power supply.
6. Please contact the retailer for service if the ballast does not work after confirming the power connection, output connection, bulb operation and utilizing the Reset function.
7. Do not try to open the ballast. Opening the ballast will void the warranty.

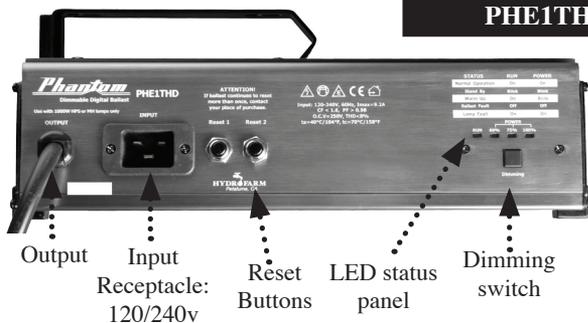
ALWAYS DISCONNECT POWER BEFORE MOVING UNIT, CHANGING LAMPS, ETC.

ABOUT YOUR BALLAST

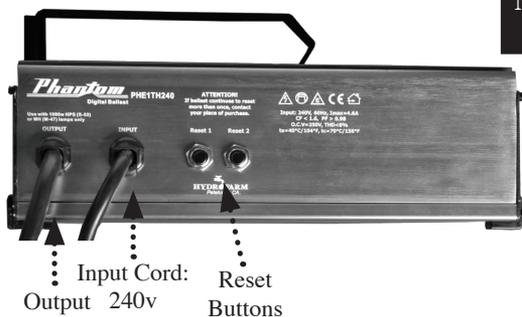
Performance (see back page for definition of terms)

MODEL	Main Voltage	Watts	Amps (Imax)	Amps 100% Power	Amps 75% Power	Amps 60% Power	Power Factor	Working Voltage	Ignitor Voltage	THD	CF	ta	tc
PHE1THD	120/240	1060	9.2/4.6	8.8 - 120v 4.4 - 240v	6.9 - 120v 3.4 - 240v	5.3 - 120v 2.7 - 240v	> 0.98	100-275	4.0 kV	< 8%	1414-1.6	40°C/ 104°F	70°C/ 158°F
PHE1TH240	240	1060	4.6	N/A	N/A	N/A	> 0.98	190-275	4.0 kV	< 8%	1414-1.6	40°C/ 104°F	70°C/ 158°F
PHE600D	120/240	636	5.5	5.3 - 120v 2.7 - 240v	4.2 - 120v 2.1 - 240v	3.2 - 120v 1.6 - 240v	> 0.98	100-275	4.0 kV	< 8%	1414-1.6	40°C/ 104°F	70°C/ 158°F
PHE400	120/240	424	3.7	N/A	N/A	N/A	> 0.98	100-275	4.0 kV	< 8%	1414-1.6	40°C/ 104°F	70°C/ 158°F
PHE250	120/240	265	2.3	N/A	N/A	N/A	> 0.98	100-275	4.0 kV	< 8%	1414-1.6	40°C/ 104°F	70°C/ 158°F

DIMMABLE - DUAL VOLTAGE PHE1THD & PHE600D



NON DIMMABLE - 240V PHE1TH240



DUAL VOLTAGE PHE400 & PHE250



INITIAL START UP: We recommend that you run your ballast and bulb for at least 12 straight hours after initial start-up. This will improve lamp life and performance.

Installing and connecting the ballast:

1. Find a suitable location for the ballast with sufficient cooling and away from any heat source. We recommend vertical mounting.
2. Before plugging your ballast in, make sure it is disconnected from the power source, the lamp is firmly installed into the lamp socket, and the Lock & Seal lamp cord is securely connected to the ballast.
3. Only use Hydrofarm provided power cables to connect the ballast to input power.
4. Lamps with auto-ignitors will not work with this ballast. **Not for use with external ignitors.**

For wall mounting:

1. Install 2 wall screws approximately 4 9/16" apart (Fig. A). If studs are not available, use drywall anchors sufficient to hold 15 lbs. Ensure that screw heads are large enough to not slip out of slot in handle, but not too large to fit through the large opening on the keyhole slot.
2. Leave screw heads protruding approximately 1/8"-1/4" from wall.
3. **For optimum cooling configuration, we recommend that the ballast be mounted vertically with the output connector towards the bottom.** Ensure that keyhole slots are oriented correctly (large hole down).
4. Loosen handle screws (Fig. B) and slide handle to center for wall mounting (Fig. C) then retighten screws.

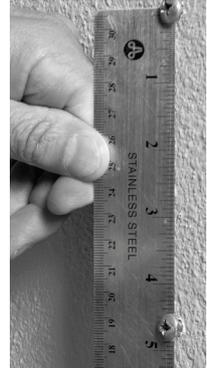


Fig. A



Fig. B



Fig. C

5. Slide ballast onto screws. (Figs. D & E)



Fig. D



Fig. E

NOTE: When operating in a vertical position (and not mounted on the wall), the handle must be positioned flush with the bottom of the unit for maximum support (Fig. F).



Fig. F (Standing)

RESETTING THE BALLAST

The reset buttons work based on input power. For 120v only one reset will trip if there's an issue, for 240v both may trip. The reset buttons also work as thermal cutoffs, and may trip in case of an overheating situation. After a reset button trips, wait 15 minutes before pressing the reset button. If after resetting the ballast, the problem continues, please contact your retailer for repair or replacement instructions.

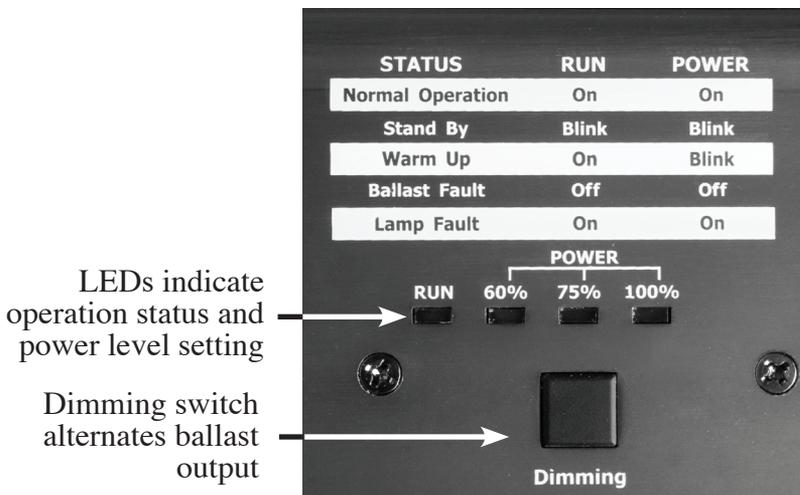


PHANTOM DIMMABLE

The following applies only to Phantom Dimmable models:

Operation:

1. When starting a cool lamp, the ballast will apply 100% power for 15 minutes to properly heat the gasses in the lamp. The dimming feature will not operate during this initial start-up period, but you can preset the dimming ratio during this time without impacting the warm up. After the warm up is complete, the ballast will run at the set dimming ratio.
2. Press the dimming button to cycle through the dimming levels. The appropriate LED indicator will light up to indicate selected dimming level (100%-75%-60%).
3. In the event of an input power failure, check your power connection, and then reset the ballast per the directions on page 5.
Warning: If the ballast does not work after the reset, please return it to the place of purchase.
4. Please check the output connection or replace the bulb in the event of an output failure. If the ballast continues to fault after precautions are taken, please return it to the place of purchase.
5. The Phantom line of ballasts has built in hot-restrike programming to protect the lamp and ballast in the event of the ballast turning off unexpectedly. The ballast will not attempt to restart a hot lamp for at least 15 minutes. If your lamp fails to start immediately, DO NOT cycle the power on and off. This can damage the lamp and ballast. If after 1/2 hour your lamp is still not lit, shut off power to the ballast, and reconnect. This will begin the startup sequence again.



Main Voltage – Rated input voltage for the ballast

Watts – Input power

Amps – Input current, or draw

Power Factor – A measurement of how effectively the ballast converts electrical current to useful power output, in this case, output to the lamp. Power factor is measured between 0-1, the closer you get to 1, the more effective the circuit is said to be. The Phantom's power factor is greater than .98.

Working Voltage – The acceptable operating range for input voltage to the ballast. Deviations from the rated numbers may result in decreased ballast performance and additional case generated heat.

Ignitor Voltage – Ballast output during ignition sequence.

THD (Total Harmonic Distortion) – A measurement of all harmonics present in a circuit. The higher the number, the more stress is applied to internal parts, the lamp, and the power grid. Generally, a number below 10% is considered desirable in an electronic ballast application.

CF (Crest Factor) – A measurement of how “clean” the ballast power output wave is. A perfectly clean output sine wave would have a CF of 1.414. Given that some harmonics must exist in an electrical system, the crest factor must always be higher than 1.414. Therefore, the closer the ballast is to a CF of 1.414, the easier it is on the lamp.

ta (Ambient Temperature) – Maximum rated ambient temperature for the ballast area. Excessive ambient temperature can result in ballast failure, safety shutdown, or lamp failure.

tc (Case Temperature) – Maximum temperature that the case of the ballast should reach. If the case temperature exceeds this number, the ballast may be malfunctioning, or the ambient temperature may exceed the rating.

WARRANTY

Hydrofarm warrants the Phantom Ballast to be free from defects in materials and workmanship. The warranty term is 3 years full/2 years prorated beginning on the date of purchase. Misuse, abuse, or failure to follow instructions are not covered under this warranty. Hydrofarm will, at our discretion, repair or replace the ballast covered under this warranty if it is returned to the original place of purchase. To request warranty service, please return the ballast, with original sales receipt, to your place of purchase. The purchase date is based on your original sales receipt.



Hydrofarm Inc.
2249 S. McDowell Blvd., Petaluma, CA 94954
www.hydrofarm.com

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