DEva Series

1000w HPS, 1000w CMH, Dual 1000w CMH

Owner's Manual

2 March 2021

Congratulations on your new DEva Integrated Lighting System! The DEva combines a unique low-frequency Silent Squarewave ballast with a computer-designed DE reflector for one amazing, computer-controlled grow light system. We hope you dig it the most.

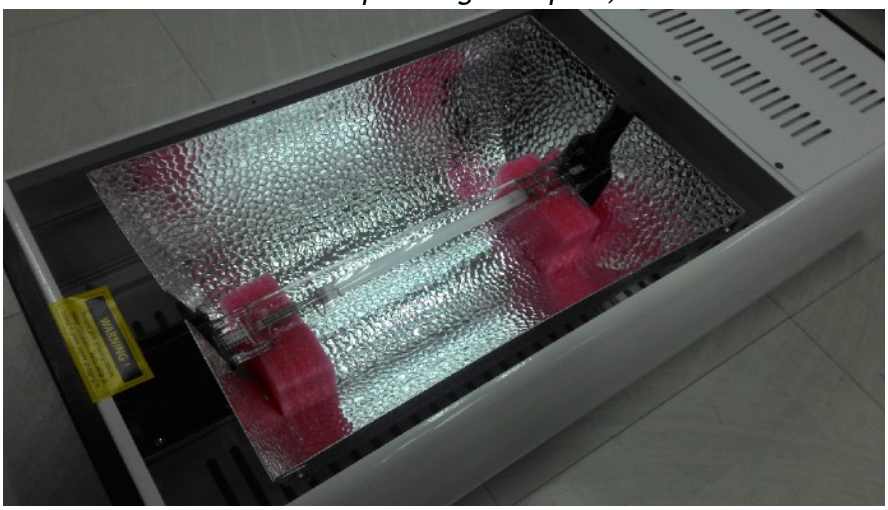
This manual will tell you to to hang, connect and operate your new DEva.

The Box Contains

- *DEva Integrated Lighting System*
- *Power Cord*
- *Two (2) RJ-14 Data Cables*
- *RJ-14 Dual Splitter*

Installing Your DEva

The DEva comes fully assembled, lamp installed and ready to go. Before lighting up, make sure to remove all packing material and tape and double check the lamp lamp connectors CLICK down solidly. The pink foam blocks are to cushion the lamp during transport, but MUST be removed before powering up the light.



Hang the DEva from the four eye bolts installed on the top of the light, and make sure to use a cable tie to make a "drip loop" in the power cord to keep condensation out like this:

Front Panel Controls

The front panel of the DEva has a push button for setting power level, and connector for 120/240 volt AC power and a connector for external control by a computer, the Revolution RLC1 or Autopilot PX1 Digital Lighting Controllers.

Each button press moves the power setting one LED to the right. DEva waits for three (3) seconds after the last button press before doing anything, so you can't accidentally turn your lights off.

Blinking LEDs – What Your DEva Is Telling You

OFF Blinks Once A Second – Over Temperature
If the DEva internal circuits reach 80 Celsius, it's way too hot and it will shut off with the OFF LED blinking on and off once a second. Once the internal temperature cools to 50 Celsius DEva will automatically restart.

OFF Blinks Four Times A Second – Ignition Timeout
If the lamp fails to ignite, DEva will wait and try again for 30 minutes like this:

- *Wait 5 minutes, try again*
- *Wait 5 minutes, try again*
- *Wait 10 minutes, try again*
- *Wait 10 minutes, try again*
- *Give up, switch off, this is not happening*

After 30 minutes and five (5) tries to start, DEva flashes the OFF LED four (4) times a second to let you know that she's off, and intending to stay off until reset or power is removed.

If the OFF LED is flashing fast you can either remove and reapply power, or simply press the button to restart the ignition sequence. We suggest replacing the lamp first – if it doesn't light in a half hour of trying, it probably isn't going to.

Selected Power LED Blinks Once A Second – Low Voltage
When incoming power drops below 115 volts the LED for your chosen power level will blink on and off once a second indicating output power is limited due to low incoming supply voltage.

Incoming Voltage	Maximum output power
115 VAC or more	All power levels available
Less than 115 VAC	1000W
Less than 110 VAC	750W
Less than 100 VAC	OFF

If incoming voltage remains at or below 100 VAC (a failing generator or brownout, for example) DEva will remain off until voltage rises above 110 volts. If the voltage drops below about 90 volts, DEva will indicate this by all lights going dark.

Selected Power LED Flickers Briefly Once a Second – External Control
The RLC1 Digital Lighting Controller can control 512 DEva lights in two zones. You can set on and off times, sunrise and sunset ramps, dimming with temperature and over temperature shutdown for each zone.

When the provided RJ-12 phone cable is plugged into the DEva and an RLC1 controller, the front panel lights on the DEva will show the closest power setting and the LED will blink off, very briefly, once a second to show you that the DEva is controlled by an outside source and that pressing the button will not work.

If the cable becomes disconnected, or the RLC1 stops working DEva will return to manual control at whatever power level was last selected – just as you would expect.

NOTE: The CMH is not dimmable.

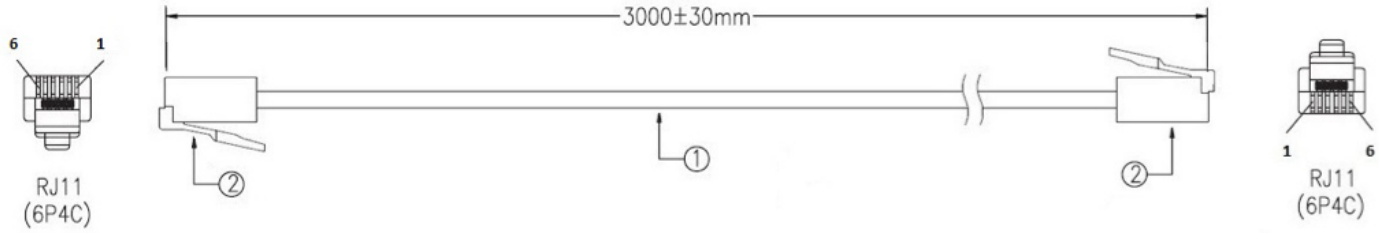
Power Cables

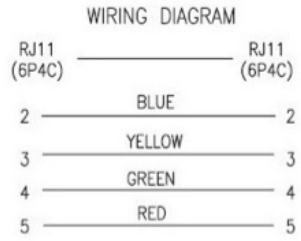
RLC1 Controller adapters come with ALL FOUR plug versions and are world-power ready. DEva lights come in two voltage ranges - 120-277 and 347 volts, and can be ordered with various power cords as noted below. 347 volt DEvas are direct-wire.

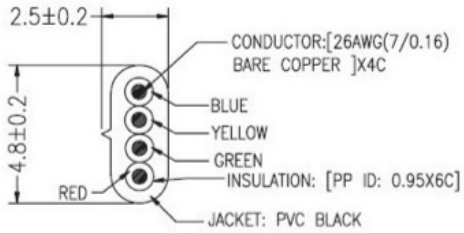
Part Number	Where Used	Looks Like ...
Plug: NEMA5-15P	USA, Canada	
Plug: NEMA6-15P	USA, Canada THIS IS THE STANDARD CORD	
	Australia, New Zealand, China, Argentina	
	UK, Ireland, Singapore	
	Europe (except UK)	
Plug: NEMA L7-15P	USA, Canada, Europe These are available by special order for projects that require a locking connector.	

Data Cables and Connections

These are the data cables we supply. If you get longer or different ones, make sure they are wired like this.







CABLE CONFIGURATION

②	PLUG	RJ11 PLUG 6P4C INSULATION PC CLEAR GOLD PLATED	2	
①	CABLE	UL20251,26AWG*4C(7/0.16BC) PVC JACKET COLOR: BLACK	AS	
ITEM	PART NAME	DESCRIPTION	Q'TY	REMARK

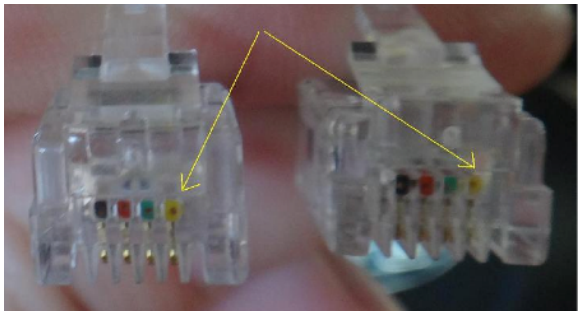
Look at the cable ends in the pic to the right and you'll see the wires are the same by color, pin 1 to 1, pin 2 to 2, etc. on each connector.

RevMicro has the right cables of all sizes should you need them, or http://digikey.com is a good source in the USA.

We have tested and recommend these cables:

Digikey Part Number A2662R-07-ND, 7' long.
Digikey Part Number A2662R-25-ND, 25' long.

https://www.digikey.com/



Technical Specifications

	Double-Ended	**CMH Dual Bulb**
Input Voltage	120/240 or 240/277 volts AC, 50/60 Hz	
Input Current	4.40 amperes @ 240 volts	
System efficiency	94.7% @ 240 volts	
Driver efficiency at full power	> 98%	
Power factor	> 99.4%	
Light Source	1000W 400v double-ended (CMH or HPS)	Two 500w PGZ Base Lamps
Luminous Flux	> 2100 uMole/sec (DE)	1800 uMole/sec (Two 500w)
External Dim	Revolution or Autopilot controller	
External Dim Connector	RJ14 telephone interconnect type (6P6C)	
Internal Dim	Push button on panel	Not dimmable
Output power	HPS dimmable, CMH not dimmable	Not dimmable
Dimming	Pushbutton or external controller	
Certifications	Certified to FCC Part 18 Class B, FCC Part 15 Class B CSA Certified to UL 1598 CE Certified RoHS and RoHS2 Certified	
Dimensions	305mm x 650mm x 135mm (about 26 x 12 x 5 inches)	

FCC Compliance Statement

The DEva Integrated Lighting System has been tested at FCC-certified laboratories in the United States and conforms to FCC's Part 18B Consumer standard for Industrial, Scientific, and Medical Equipment for both conducted and radiated emissions. Although not required by the FCC, the DEva has also been qualified in the same laboratory to pass FCC Part 15B, usually reserved for computers, pro audio, and similar consumer electronic devices.

Given that all electronic equipment emits some RF energy, please note that compliance with these standards does not mean a zero level of emission, only a very low level of emission. The FCC requires that we also state:

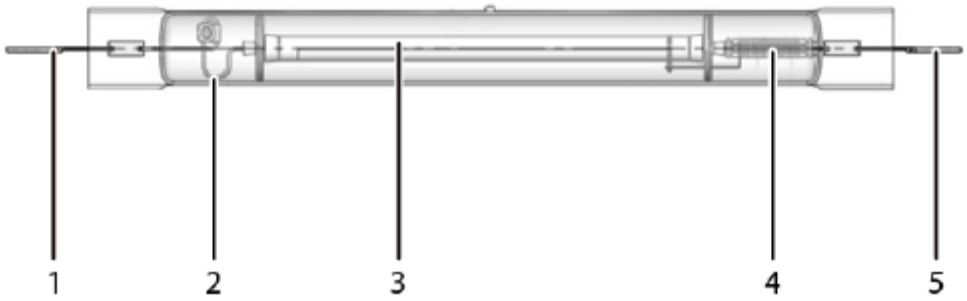
> *This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz.*
>
> *This device complies with Part 18 and Part 15 of the FCC Rules.*
>
> *Changes or modifications not expressly approved by Revolution Microelectronics could void the user's authority to operate the equipment.*

Appendix I – Installing the Ushio HPS lamp

Yes, it matters which way you put it in!

It matters which way the lamp goes in since HPS lamps are not symmetrical:

1. *The Getter side is closest to the electronics pack*
2. *The triple capacitor is at the far end of the fixture*
3. *The burner filament is up, on the reflector side*



1. *This end to ballast electronics*
2. *Round Getter and BLV logo on glass*
3. *Burner filament, fine wire that runs the length of the arc tube*
4. *Triple capacitor*
5. *This end to the far end of the fixture*

The right way looks like this:

BLV logo closest to the ballast end / Triple capacitor to the far end / Burner filament on reflector side.