# **HPS DE BALLAST** INSTRUCTION MANUAL

## **INTRODUCTION**

## THANK YOU FOR PURCHASING YOUR LUCIUS RECOM HPS DOUBLE ENDED BALLAST.

Lucius ReCom HPS DE 600, 800 & 1000W Ballasts are designed to efficiently and effectively provide optimum levels of horticultural light.

Lucius ReCom HPS DE Ballast operates a large selection of High Intensity Discharge (HID) Lamps, Double Ended High Voltage (DE, HV/400V), High Pressure Sodium (HPS) and Metal-Halide (MH) lamps.

All Lucius ReCom Ballasts can be controlled manually via the control knob or by the Lucius Light Management Controller (LMC). Dimming function for up to 200 Lucius Ballast, ON or OFF ballast timing on multiple zones is all controlled remotely with one LMC. The Lucius Light Management Controller is sold separately and includes many features described in the Lucius Light Management Controller instruction manual.

The Lucius ReCom HPS DE Ballast is equipped with safety features that protect against overloading, short circuit, over temperature, over and under voltage protection and more. With a peak efficiency of 97% the Lucius ReCom HPS DE Ballast is the most efficient and powerful HV Ballast on the market. It complies with international standard IEC and meets EMI/EMS requirements.

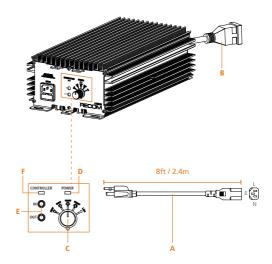
The Lucius ReCom Ballast is tested and approved by internal and external QC departments.

Lucius ReCom Ballasts are the ideal option for Remote or Combo application and compatible with all other reflectors and ballast.

Please read and hang on to this instruction manual, to help in reducing the risk of damage to the fixture, to yourself or others. Use the fixture only as outlined in this manual.

## **1. CONTENTS**

- → 1. Lucius ReCom HPS DE Ballast 600W □ 800W □ 1000W □ A Ballast input cable plug
  - A Ballast Input cable plug
  - B Ballast output cable plug
  - C Control knob
  - D Power ON LED
  - E Input / output AUX ports for Light Management Controller (LMC)
  - F Light Management Controller LED



## **2. SPECIFICATION**

	Lucius ReCom DE Ballast	600W	800W	1000W			Lu
	Nominal Voltage	USA:208/240V or 120/208/240V					Ou
		AU/NZ , UK, EU, Asia: 220/230/240V					Vo
	Voltage Range	USA: 195~265 or 110~265V AU/NZ , UK, EU, Asia: 195~265V					Ma
	Max Current	3A @ 240V 6A @ 120V	4A @ 240V 8A @ 120V	5A @ 240V 10A @ 120V			
	Inrush Current	< 30A/0.8mSec	< 40A/0.8mSec	< 50A/0.8mSec			lg
	Input Frequency	50/60Hz					19
NPUT	Efficiency			очтрит			
Z	Power Factor	≥0.97 <10%					
	THDv				Pİ		
	Plug	AU/NZS US 240V 4417 NEMA 6-1	US 120V UK NEMA 5-15 BS	EU 1363A DIN 49441		_	
	Cable		sia: 2.4m, 3×1.5m are equipped with	m <sup>2</sup> the magnet ring to			Ca
	Over-voltage	Protection mode is activated when the voltage is greater than 275V.					Co
		240V: Undervoltage between 175 ~ 195v leads to 90% output power drop. Protection mode is activated when the voltage is less than 175V. 120V: Undervoltage between 95 ~ 110v leads to 90% output power drop. Protection mode is activated when the voltage is less than 95V.					Co
	Under-voltage						Sig
			t is shorted, the bi D will alarm error				Ba
PROTECTION	Short Circuit	protection. See LI disconnect and re		_	Ba		
	Open Circuit	When the output is disconnected for any reason during operation, the ballast will shut down & the LED will alarm error for open circuit protection. See <b>LED</b> <b>Status.</b> To reset the ballast error, disconnect and reconnect the power.				GENERAL INFORMATION	Co
		When ambient temperature (Ta) is more than 40°C,				AL IP	Cer
	Over-temperature	the ballast will shut down & the LED will alarm error for high temperature protection. To reset the ballast error, keep the ambient temperature in the allowed operating range, disconnect & reconnect the power.				GENER	Re
	Lamp END of Life / Rectification	The ballast can protect against end of lamp life rectification.					
	Time Delay	All ballasts have I to reduce the star	ouilt in ignition dela ting current.	ay (0-6S randomly)			
	LED Status	ON: Power is app (LED illumina OFF: Power is not (LED off) Blinking: Protectio			Ma		

	Lucius ReCom DE Ballast	600\	v	800W	1000W		
	Output Frequency		>100KHz Ultra High Frequency				
	Voltage Range	<300V					
	Max Ignition	5KV					
OULFUL	Ignition Interval	1-5-5-5-5 minute *Atter 5 ignition failed attempts to turn the lamp on, the ballisst will be shut down and the LED will alarm error. See LED Status. To reset the ballast error, disconnect and reconnect the power.					
	Plug	AU/NZS 3112		US BAASR	UK & EU IEC 60320 C-13		
	Cable	USA: 8in, 3×16AWG AU/NZ, UK, EU, Asia: 0.2m, 3×1.5mm <sup>2</sup> *All output cables are equipped with the magnet ring to meet EMC requirements.					
	Control Knob	600W: MINIMUM - 400W - 600W - BOOST - LMC 800W: 400W - 600W - 800W - BOOST - LMC 1000W: 650W - 800W - 1000W - BOOST - LMC					
	Controller (Optional)	Able to connect to the Lucius Light Management Controller. Dimming, timing, temperature setting, simulating sunset and sunrise. See Lucius Light Management Controller instruction manual for more details.					
	Signal Wire	3.5mm Male Jumper Cable 5m					
	Ballast Dimension LxWxH	600W: 316x117x82.5mm 800W:302x190x106mm 1000W: 302x190x106mm					
	Ballast Weight	600W: 3.3Kg / 7.2lbs 800W: 4.4Kg / 9.7lbs 1000W: 4.5Kg / 9.9lbs					
	Compatible Lamp	600W: HPS 600W, HPS 600W/400Y, HPS DE 600W/400Y, MH 600W 800W: HPS DE 800W/400V 1000W: HPS 1000W, HPS DE 1000W/400Y, MH 1000W					
	Certification	FC 🕚 🛆 C E					
	Regulatory Standards	IEC 61347-1:2007+A1:2010 (also as used AS/NZS 61347.1:2002) IEC 61347-2-12:2005+A1:2011 EN 55015(AS/NZS CISPR 15:2011) IEC 61000					
		600W 800W	US: UK: EU:	LRCE-600244 : LRCE-8002441 LRCE-800122	41-HM1CDHS 41-HM1CDHK 41-HM1CDHE		
	Manufacturing Code	1000W	EU: AU/NZ US:	LRCE-800244 : LRCE-100024 LRCE-100012 CE-10002441-HI LRCE-100024	41-HM1CD5E 441-HM1CD5A 22441-HM1CD5S		

## **3. SAFETY PRECAUTIONS & WARNINGS**

- → The lamp and reflector can reach very high temperatures. Do not touch during or immediately after use. Allow sufficient time before touching the lamp or reflector after use.
- → Do not hold and carry any of the products by the power cords, or pull the power cord with excessive force.
- Do not use the fixture outside the rated temperature range or outside the rated voltage range.
- → Do not attempt to disassemble, repair, or modify the fixture.
- → Never power on the ballast without the lamp connected.
- $\rightarrow$  Do not use any of the products if any damage is present.
- → Do not turn the ballast on and off rapidly, as this can cause damage to the ballast and the lamp.
- This product complies with all necessary radio interference regulations; however, there may still be a radio interference effect on sensitive equipment.
- → Avoid coiled cords. Coiled cords may lead to electromagnetic interference.

- This ballast should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 9kHz – 1GHz. Relocate the ballast should any interference occur.
- → Never stack ballasts. Operating ambient temperature of the ballast is -20 to 40°C (-4 to 104°F). By providing the ballast with ambient air temperature of less than 30°C (86°F), it can work more efficiently and avoid any damage.
- Before installation of the ballast, lamp & reflector, ensure the light kit is disconnected from any power and controller.
- $\rightarrow$  Do not position the fixture in the following locations:
  - Locations subject to direct water exposure
  - Locations subject to direct vibration or shock
  - Locations subject to excessive dust
  - Locations subject to direct sunlight
  - Locations subject to condensation or icing
  - Locations subject to corrosive or explosive gases
  - Locations subject to strong static electricity or harmonics

## **4. ELECTRICAL CONNECTIONS**

#### → Before operation, ensure all electrical connections are secure.

- 1 Switch off main power.
- 2 Ensure the lamp is properly installed. Never use the fixture without a lamp or reflector.
- 3 Ensure the reflector cable plug in firmly connected to the ballast output plug.
- 4 Lucius Light Management Controller connections (if applicable):
  - Connect the Lucius Light Management Controller to the Input AUX port of the ballast via the controller Jumper Cable (Signal Wire)
  - Using the Jumper Cable, connect the output AUX port of the first ballast to the input AUX port of the second ballast and repeat this process to connect up to 100 ballasts per controller port x 2 zones (Total 200 ballasts).





Ballast input view

No splitter needed

- Ensure the power cord and the controller cable does not touch the reflector.
- Connect the ballast input cable to the power outlet. Ensure power is off.
- If external switch gear is used to supply power to fixture, ensure it can cope with the inrush current of the fixture (see ballast specifications). Never use household timers to switch the fixture.
- Always use an electrical contractor to ensure wiring can support the voltage and current requirements of the fixture.



(See Lucius Light Management Controller Instruction Manual for more details.)

## 5. START UP

The Lucius ReCom HPS DE Ballasts can be operated by either external timer box or Lucius Light Management Controller. After installing the light kit (ballast, bracket, reflector, and lamp) and ensuring the electrical connections are secure, follow below steps,

#### → 5.1 Using the external timer box

- 5.1.1 Set the control knob to the rated power.
- Note: Before dimming or boosting the lamps, ensure the lamp is operated at the nominal power (100%) for at least 100 hours to stabilize the lamp. Failing to do so may lead to sub-optimal light levels and premature end of life failure of lamp.



- 5.1.2 Consider all safety factors located in section 3 of this manual and lamp safety factors located on the lamp sleeve.
- 5.1.3 Switch on the main power.
- Note: All Lucius ReCom ballasts are equipped with ignition time delay to reduce the total inrush current. As a result, there is a small delay before the lamp ignites.
- 5.1.4 You can adjust the control knob to achieve the desired light level.

#### → 5.2 Using the Lucius Light Management Controller (LMC)

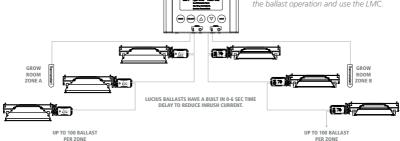
- 5.2.1 Switch off the main power of the ballast. Turn the control knob to the "LMC" option.
- 5.2.2 Connect the LMC power adaptor to the separate power supply and turn the LMC on. Adjust all LMC settings (ballast selection, dimming, timing, temperature settings, etc.) follow instructions on the LMC instruction manual and set the power to the nominal values or 100%.



500W D

- 5.2.3 Follow section 4.4 on this instruction manual to ensure about signal wire connections.
- 5.2.4 Switch on the main power. The controller LED on the ballast will turn on when the connection is successful and the ballast is fully controlled by the LMC.
- Note: You will need to connect the ballast input plug to the power supply or a distribution box.

You can also turn the control knob to the "LMC" during the ballast operation and use the LMC.



1000W DF



## **6. GENERAL MAINTENANCE**

Disconnect the product from all power before performing any maintenance. Regularly check the fixture for dust or dirt build-up. Dust, dirt, and fingerprint on the lamp, reflector and ballast may cause overheating and decreased performance.

- Clean the lamp regularly with a soft, dry and clean cloth.
- Clean the ballast and outside of the fixture using a dry or damp cloth.
- The lamp should be replaced every 5000 lighting hours or after 1 year's operation.
- Lucius recommends replacement of reflector after 5000 lighting hours to maintain maximum reflectivity. Depending on
  environment and lamp type the reflector will degrade. The Miro® aluminium cannot be cleaned without damage, therefore it is
  recommended that reflectors are changed once every year.
- Do not clean the fixture with detergents, abrasives, or other aggressive substances. Do not touch the inside of the reflector during installation and do not use water to clean it. This will damage the reflective coating on the surface.
- Allow sufficient time before connecting the light kit to the power supply after maintenance work has been conducted.
- Regularly check the wiring of the product to ensure it is undamaged.
- Note: Before initial use, the lamp may have a black mark on the arc tube. Do not be concerned! This shows the light kit has been tested prior to packaging. This will disappear when the lamp runs at full power.

## 7. STORAGE AND DISPOSAL

- Store the fixture in a dry and clean environment, with an ambient temperature of -40 to 70°C / -40 to 158°F.
- The product must not be discarded as unsorted municipal waste, but must be collected separately for the purpose of treatment, recovery, and environmentally sound disposal.
- The lamps are chemical hazardous waste (mercury) and must be delivered to the designated authorities.

## 8. WARRANTY

Refer to warranty on packaging. Lucius is not liable and the warranty will be void under the following circumstances:

- Incorrect use of the product.
- Not adhering to the warnings established in this instruction manual.
- Improper storage and handling.
- Unauthorised modification of the product.
- Use of unauthorised accessories or parts with the product.
- Purchases from unauthorised retailers or dealers.

Contact the retailer where the product was originally purchased for warranty claims and further information.