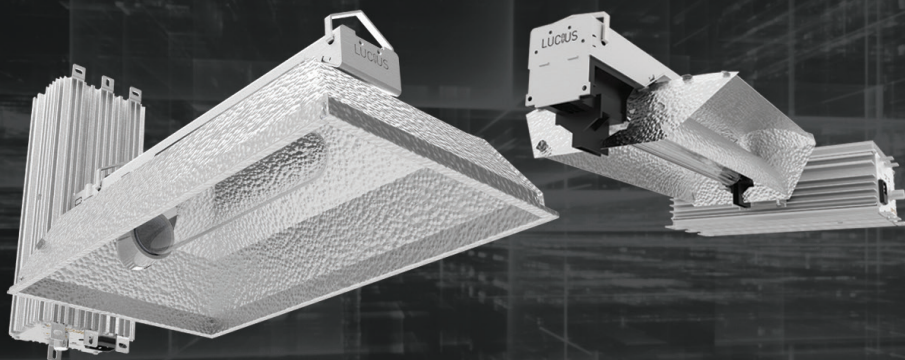


LUCIUS

RECOM

— HPS HV KIT



INSTRUCTION MANUAL

INTRODUCTION

THANK YOU FOR PURCHASING YOUR LUCIUS RECOM HPS HV KIT.

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

Lucius ReCom HPS HV 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. Refer to the 'Ballast Specification > Compatible Lamps' section for further details.

The Lucius ReCom HPS HV 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 HV Ballast is the most efficient and powerful HV Ballast on the market. It complies with international standard IEC and meets EMI/EMS requirements.

All Lucius ReCom Kits 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 Kit comes preassembled, tested and approved by internal and external QC departments.

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

All options are interchangeable with a smart locking system and without tools

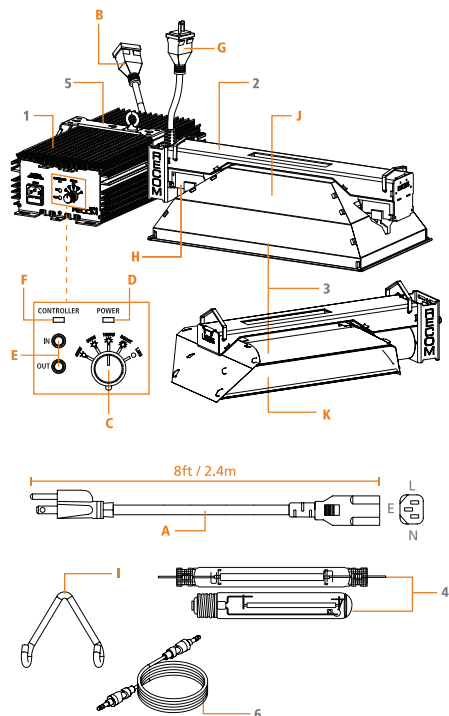
Lucius Reflectors use the new MAG-ATTACH system, fixing and releases reflectors with ease. Using a magnetic field with built-in thermal insulators to reduce the heat transfer into the ballast and increasing life span of equipment. Also preventing the fixture acting like a heat sink and increasing the bulbs burning temperature allowing the ceramic arc tube to burn brighter, producing greater light output and efficiency.

Best feature is the easy reflector replacement and tools not necessary.

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 HV Ballast**
600W ☐ 800W ☐ 1000W ☐
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. ReCom SE / DE Fixture Bracket**
G Reflector cable plug
H Lamp holders SE (E39 / 40) ☐ DE (K12 x 30s) ☐
I "V" Hanger (800W and 1000W version only)
- 3. Reflectors**
- **J** Focal Reflector SE ☐ DE ☐
K Broad Reflector SE ☐ DE ☐
- **4. Lamps**
HPS 600W 400V PRO HV ☐
HPS 600W DE PRO HV ☐
HPS 800W DE PRO HV ☐
HPS 1000W DE PRO HV ☐
- **5. Handle**
- **6. Signal Wire**















2. SPECIFICATION

→ General product information

INDOOR SUN = IND
PHILIPS = PH

Product Name	Lucius ReCom SE / DE 600W HV Kit	Lucius ReCom DE 800W HV Kit	Lucius ReCom DE 1000W HV Kit
Application	Horticultural Industry / Green Fields / Ideal for flowering		
Inclusion	Lucius ReCom Ballast, ReCom Bracket - Focal / Broad Reflector - Indoor Sun Lamp / Philips Lamp		
Light Kit PPF Efficacy	IND:1.72 PPF/W PH:1.88PPF/W	IND: 1.73 PPF/W	IND:1.85 PPF/W PH: 1.88PPF/W
Maximum PPF	IND:1200 μmol/s PH:1300μmol/s	IND:1620 μmol/s	IND: 2220 μmol/s PH: 2270μmol/s
Light Kit Weight	4.4Kg / 9.7lbs	5.5Kg / 12.1lbs	5.6Kg / 12.3lbs
Operating Temperature	-20 to 40°C / -4 to 104°F		
Shipping and Storage Temperature	-40 to 70°C / -40 to 158°F		
Operating Humidity	0% to 90% non-condensing		
Waterproof and dustproof	IP20		

→ Lucius ReCom Ballast




INPUT		Lucius ReCom DE Ballast			
		600W	800W	1000W	
Nominal Voltage		USA:208/240V or 120/208/240V AU/NZ , UK, EU, Asia: 220/230/240V			
Voltage Range		USA: 195~265 or 110~265V AU/NZ , UK, EU, Asia: 195~265V			
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	
Input Frequency		50/60Hz			
Efficiency		97%			
Power Factor		≥0,97			
THDv		<10%			
Plug		    			
Cable		USA: 8ft, 3×16AWG AU/NZ, UK, EU, Asia: 2,4m, 3×1,5mm ² *All input cables are equipped with the magnet ring to meet EMC requirements.			
Over-voltage		Protection mode is activated when the voltage is greater than 275V.			
Under-voltage		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.			
Short Circuit		When the output is shorted, the ballast will be shut down & the LED will alarm error for short circuit protection. See LED Status . To reset the ballast error, disconnect and reconnect the power.			
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 LED Status . To reset the ballast error, disconnect and reconnect the power.			
Over-temperature		When ambient temperature (Ta) is more than 40°C, 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.			
Lamp END of Life / Rectification		The ballast can protect against end of lamp life rectification.			
Time Delay		All ballasts have built in ignition delay (0-6S randomly) to reduce the starting current.			
LED Status		ON: Power is applied and the ballast is operating. (LED illuminated) OFF: Power is not available at the input. (LED off) Blinking: Protection Mode.			
OUTPUT		Lucius ReCom DE Ballast			
		600W	800W	1000W	
Output Frequency		>100KHz Ultra High Frequency 			
Voltage Range		<300V			
Max Ignition		5KV			
Ignition Interval		1-5-5-5-5 minute *After 5 ignition failed attempts to turn the lamp on, the ballast will be shut down and the LED will alarm error. See LED Status . To reset the ballast error, disconnect and reconnect the power.			
Plug		  			
Cable		USA: 8in, 3×16AWG AU/NZ, UK, EU, Asia: 0,2m, 3×1,5mm ² *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/400V, HPS DE 600W/400V, MH 600W 800W: HPS DE 800W/400V 1000W: HPS 1000W, HPS DE 1000W/400V, MH 1000W			
Certification		  			
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			
Manufacturing Code		600W AU/NZ: LRCE-6002441-HM1CDHA US: LRCE-6002441-HM1CDHS UK: LRCE-6002441-HM1CDHK EU: LRCE-6002441-HM1CDHE 800W AU/NZ: LRCE-8002441-HM1CD5A US: LRCE-800122441-HM1CD5S UK: LRCE-8002441-HM1CD5K EU: LRCE-8002441-HM1CD5E 1000W AU/NZ: LRCE-10002441-HM1CD5A US: LRCE-1000122441-HM1CD5S UK: LRCE-10002441-HM1CD5K EU: LRCE-10002441-HM1CD5E			

→ Lamps

Brands	INDOON SUN			PHILIPS	
Lamp Power	600W	800W	1000W	600W	1000W
Type	HPS DE High Voltage 400V			HPS SE High Voltage 400V	HPS DE High Voltage 400V
Lamp Voltage	205	235	245	225	250
Max PPF	1200µmol/s	1620µmol/s	2220µmol/s	1300µmol/s	2270µmol/s
Lamp PPF Efficacy	1.79 PPF/W	1.82 PPF/W	1.92 PPF/W	1.94 PPF/W	1.96 PPF/W
Lumen	95000	125000	160000	100000	164000
CCT - CRI	2100K - 28%	2100K - 35%	2100K - 35%	2000K - 30%	2000K - 37%
Base / operating position	DE (K12 x 30s) / Horizontal (H)			SE (E39/40) / Universal	DE (K12 x 30s) / Horizontal (H)
Dimension (L x Dia)	39x33mm			279x47mm	394x33,5mm
Manufacturing Code	HPS600/H/T33/DE/PRO HV	HPS800/H/T33/DE/PRO HV	HPS1000/H/T33/DE/PRO HV		

→ Fixture

REFLECTOR	Type	FOCAL SE	FOCAL DE	BROAD SE	BROAD DE
	Material	Stucco Aluminium Miro® 4			
	Reflectivity	95%			
	Application	Best choice for the professional gardeners Focal light concentration Highest average affective light Increased light penetration deep into plant canopy, ideal for high ceiling		Low ceiling preferred option Hanging close to the plant canopy Low bay / Wide spread Vented reflector reduce heat over plant	
	Compatible Lamps	HPS SE 800W HPS SE 600W/400V HPS SE 400W CMH 315W MH SE 800W / 600W / 400W	HPS DE 1000W/400V HPS DE 800W/400V HPS DE 600W/400V CMH DE 630W/400V	HPS SE 800W HPS SE 600W/400V HPS SE 400W CMH 315W MH SE 400W	HPS DE 1000W/400V HPS DE 800W/400V HPS DE 600W/400V CMH DE 630W/400V
	Grow Light Coverage Area	See the table of Grow Light Coverage Area on the packaging box			
	Manufacturing Code	LF-F	LF-F2	LF-B	LF-B2

RECOM DE BRACKET	Lamp Holder	SE (E39 / 40)	DE (K12x30s)
	Plug	 AU/NZS 3112  US BAASR  UK & EU IEC 60320 C-14	
	Cable	USA: 6 in, 3x16AWG AU/NZ, UK, EU, Asia: 0.15m, 3x1mm²	
	Manufacturing Code	AU : LRCF-4A US : LRCF-4S UK : LRCF-4K EU : LRCF-4E	AU : LRCF-2A US : LRCF-2S UK : LRCF-2K EU : LRCF-2E

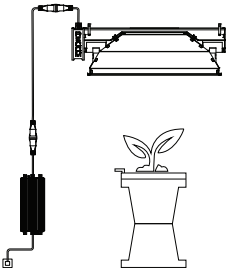
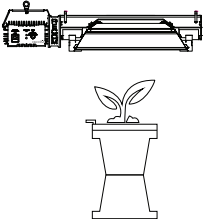
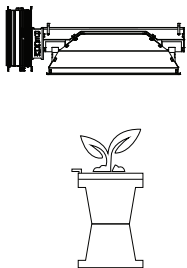
3. SAFETY PRECAUTIONS & WARNINGS

- 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.
- 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.
- 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.
- Avoid coiled cords. Coiled cords may lead to electromagnetic interference.
- 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.
- 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. ReCom KIT INSTALLATION

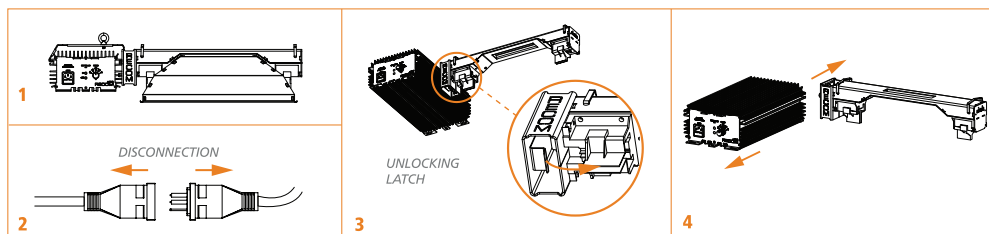
- Lucius ReCom products are the ideal option for Remote or Combo application and compatible with all other reflectors and ballast. The Lucius ReCom Kit can be installed in several options. All options are interchangeable with a smart locking system and without tools.

Note: The maximum distance between the ballast and reflector must not exceed 16m.

		
<p>REMOTE</p> <p>Placing ballast in ideal environment and close to power supply, decreases heat in grow room. Ballast remote fixing allows various mounting positions keeping reflector mobile.</p>	<p>HORIZONTAL COMBO</p> <p>Ideal for low ceiling, wide spread and hanging close to plant canopy. The kit comes supplied in the Horizontal Combo.</p>	<p>VERTICAL COMBO</p> <p>Vertical orientation is ideal for higher ceilings and provides easier access to the control knob.</p>

- **To separate the fixture from the ballast:**

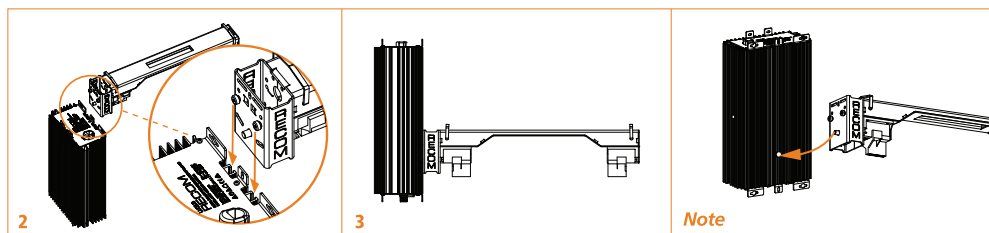
- 1 Ensure the ReCom Kit is disconnected from any power and controller.
- 2 Disconnect ballast output plug from reflector input cable.
- 3 Lift the unlocking latch inside the ReCom box.
- 4 Slide reflector bracket out from ballast "T" slot/s.



- **To connect the fixture to the ballast:**

- 1 Change ballast position to desired orientation.
- 2 Align bracket locators with ballast "T" slot/s.
- 3 Lift the unlocking latch and slide into position.

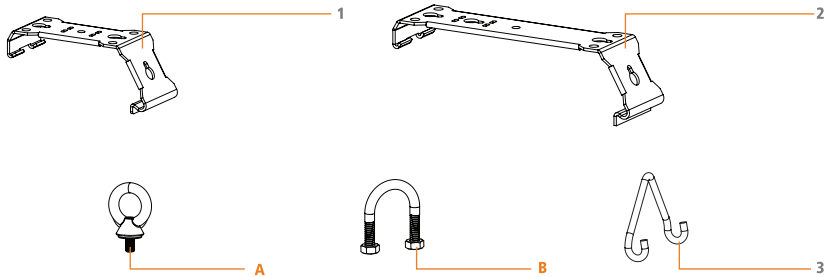
Note: If locking pin does not recess securely in ballast locking slot, the reflector bracket is NOT fixed securely and should be adjusted to fit correctly. Ensure locking pin drops into the locking slot of the ballast.



SUGGESTED INSTALLATION GUIDE

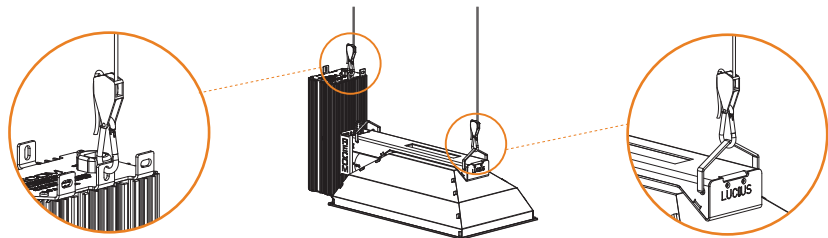
ACCESSORIES

1. Recom mounting handle 600
2. Recom mounting handle 800/1000
- A** Eye Bolt
- B** U-Bolt (not included)
3. Vee Hanger

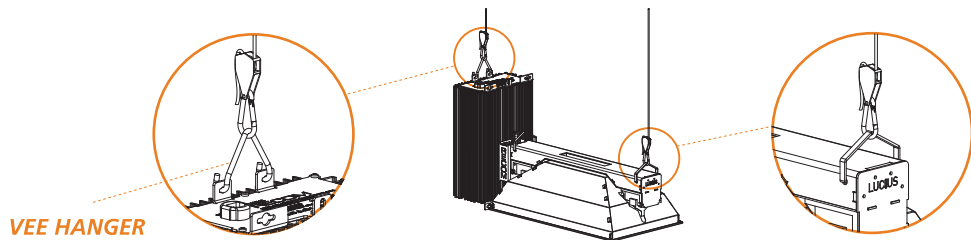


VERTICAL INSTALLATION

→ Hanging 600W Grow Light



→ Hanging 800W and 1000W Grow Lights



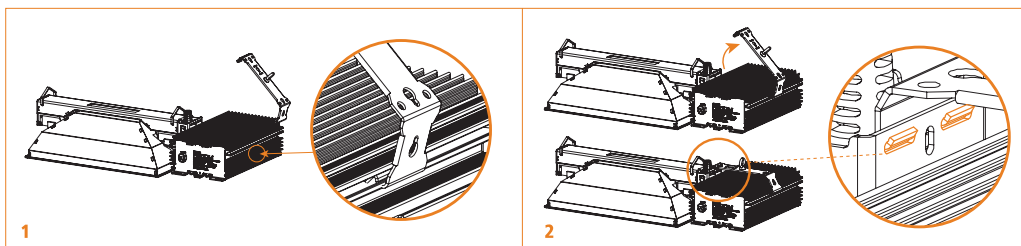
HORIZONTAL INSTALLATION

RECOM MOUNTING HANDLE ASSEMBLY

→ To secure Grow Light to Recom Mounting Handle

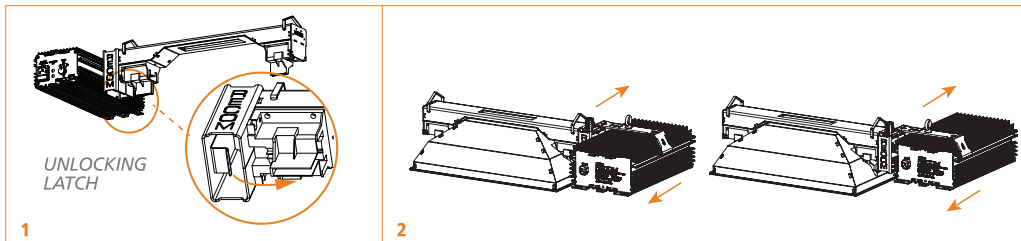
- 1 In order to secure the Grow Light to the Recom Mounting Handle, position the rear of the handle into the T-slot of the ballast.
- 2 Bring the Grow Light towards the other end of the handle until the handle hooks are safety secured in the Recom box slots.

Note: Make sure the locking hooks of the Recom handle are secured into the slots on the top of Recom bracket to avoid accidents or failure.



→ To remove the Recom Mounting Handle

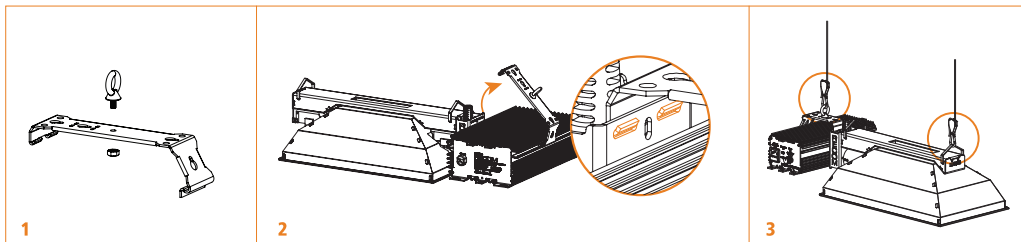
- 1 Lift the unlocking latch inside the bracket box.
- 2 Hold the unlocking latch open while sliding both the reflector bracket and the Recom handle out of the ballast.



LUCIUS RECOM MOUNTING HANDLE ALLOWS GROW LIGHTS TO BE INSTALLED IN 6 DIFFERENT POSITIONS

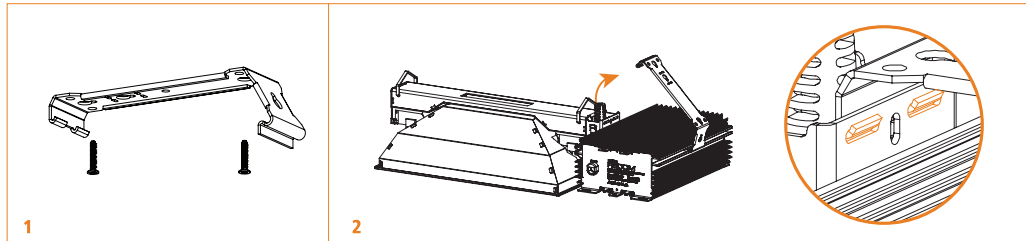
→ 1. Hanging Grow Lights using eye bolt

- 1 Screw eye bolt to Recom handle and fasten using M6 nut.
- 2 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*
- 3 Secure the rope ratchet clip to the eye bolt of the Recom hanger and the front hanger of the fixture bracket.



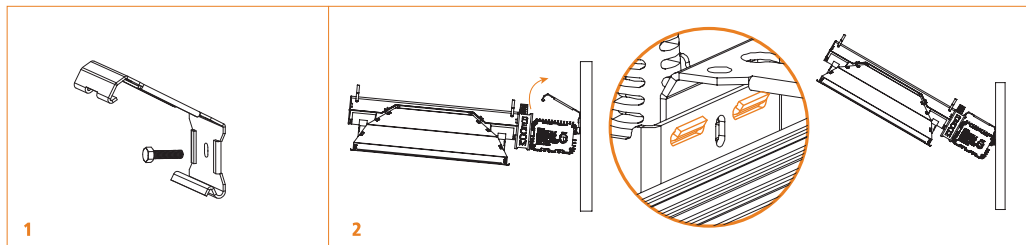
→ 2. Ceiling Mount

- 1 Screw Recom Mounting Handle to ceiling.
- 2 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*



→ 3. Wall Mount at 45° Angle

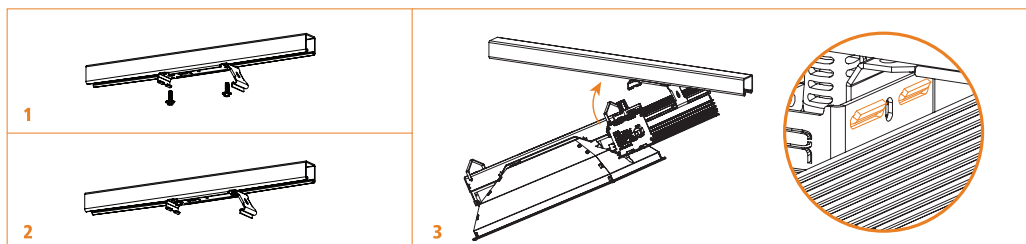
- 1 Screw Recom Mounting Handle to wall using the specified rear key hole.
- 2 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*



Note: The wall mounting is recommended for complementary side lighting.

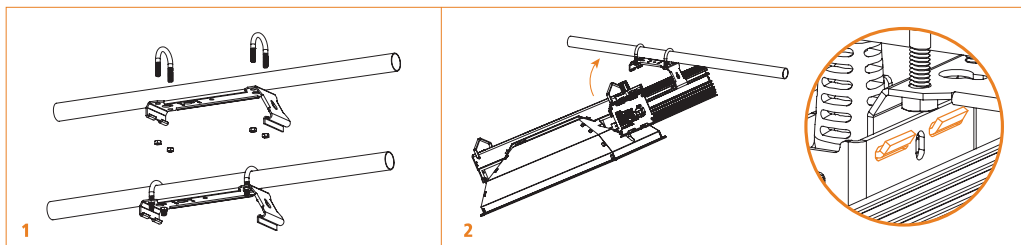
→ 4. Uni-Strut Mount

- 1 Insert the spring M10 - 3/8" nuts (not included) into the uni-strut and line them up to match the holes of the Recom Mounting Handle.
- 2 Use M10 - 3/8" bolts to secure the Recom Mounting Handle to the uni-strut by screwing into the spring nuts.
- 3 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*



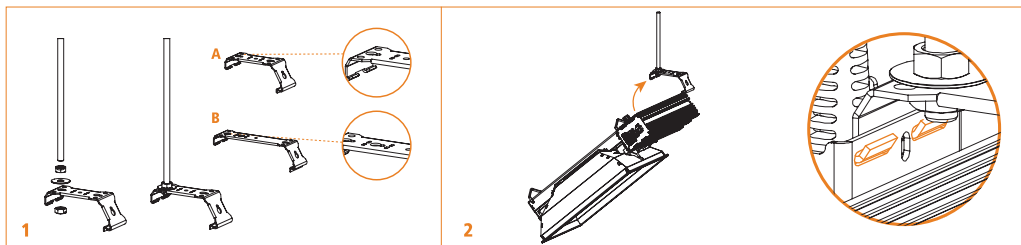
→ 5. Tent Mount

- 1 Secure Recom handle to a pole using the Lucius U-bolts.
- 2 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*



→ 6. All Thread Mount

- 1 Secure Recom handle to all thread using an M10-3/8" nut and washer on the top side and underside.
 - If using a 600W grow light the all thread must go through the front key hole of the Recom handle (Refer to image A).
 - If using a 800W or 1000W grow light the all thread must go through the middle key hole of the Recom handle (Refer to image B).
- 2 Secure Grow Light to the Recom Mounting Handle. *Follow "Recom Mounting Handle Assembly"*

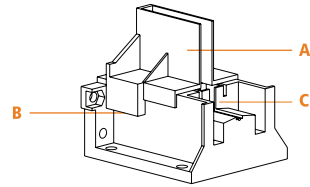


5. DE LAMP INSTALLATION

The lamp holder for the double ended lamps is a K12x30s socket.

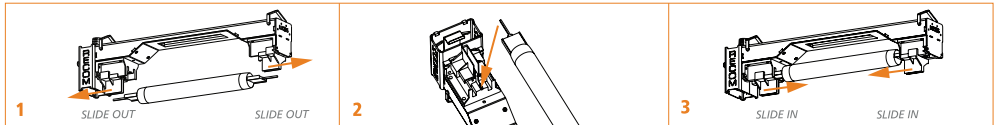
A Sliding Mechanism (for locking & unlocking the lamp)

B Fixed Holder **C** Wire Holder



→ To install the lamp:

- 1 Unlock the lamp holder by pushing the sliding mechanism outwards. (Ensure wires remain parallel with lamp. Failure to do so can cause lamp and socket to break down due to lose connection.)
- 2 Place the lamp in the fixed holder, ensuring the lamp wires sit between the wire holders of the DE socket.
- 3 Lock the lamp holders by pushing the sliding mechanism inwards.



→ To remove the lamp:

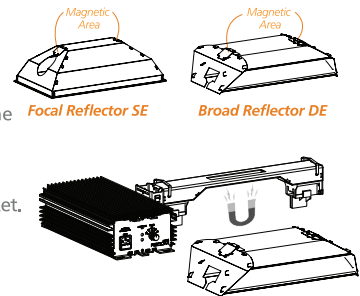
Follow "Safety Precaution & Warnings", section 3 of this instruction manual, unlock the lamp holders by pushing the sliding mechanism outwards and remove the lamp.

6. REFLECTOR INSTALLATION

ReCom Reflectors have a magnetic area which connects to the ReCom Fixture Bracket making it the easiest installation ever.

→ To install the Reflector:

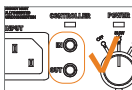
- 1 Ensure the light kit is disconnected from the power and controller, if the lamp is connected, remove the lamp.
- 2 Place the reflector on the bracket and:
 - Ensure the openings on the reflector align with lamp holders on the bracket.
 - Align the magnetic area of bracket and reflector.
- 3 Remove the reflector by simply pulling it away from the bracket.



7. ELECTRICAL CONNECTIONS

→ Before operation, ensure all electrical connections are secure.

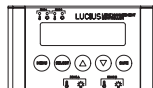
- 1 Switch off main power.
- 2 Ensure the lamp is properly installed. Never use the fixture without a lamp or reflector.
- 3 Ensure the reflector cable plug in firmly connected to the ballast output plug.
- 4 Lucius Light Management Controller connections (if applicable):
 - Connect the Lucius Light 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).
- 5 Ensure the power cord and the controller cable does not touch the reflector.
- 6 Connect the ballast input cable to the power outlet. Ensure power is off.
- 7 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.
- 8 Always use an electrical contractor to ensure wiring can support the voltage and current requirements of the fixture.



Ballast input view



No splitter needed



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

8. START UP

The Lucius ReCom HPS HV kits 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.

→ 8.1 Using the external timer box

8.1.1 Set the control knob to the rated power.

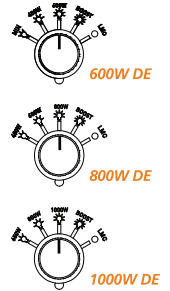
Note: Before dimming or boosting the lamps, ensure the lamp is operated at the nominal power (100%) for at least 100 hours to stabilize the lamp. Failing to do so may lead to sub-optimal light levels and premature end of life failure of lamp.

8.1.2 Consider all safety factors located in section 3 of this manual and lamp safety factors located on the lamp sleeve.

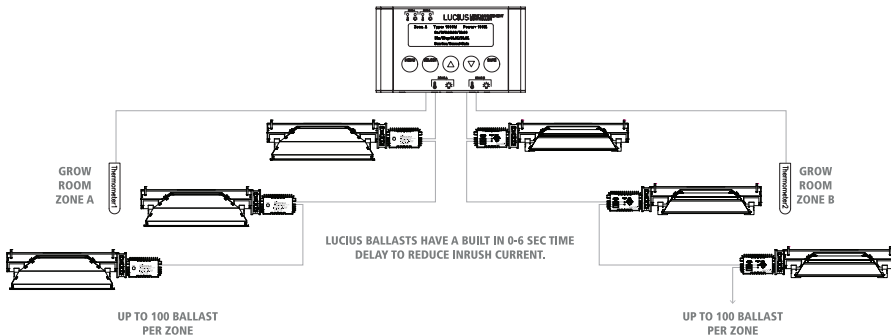
8.1.3 Switch on the main power.

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.

8.1.4 You can adjust the control knob to achieve the desired light level.



→ 8.2 Using the Lucius Light Management Controller (LMC)



8.2.1 Switch off the main power of the ballast. Turn the control knob to the “LMC” option.

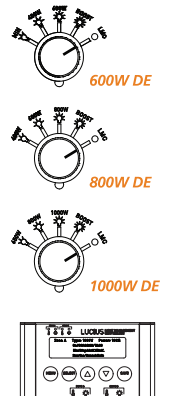
8.2.2 Connect the LMC power adaptor to the separate power supply and turn the LMC on. Adjust all LMC settings (ballast selection, dimming, timing, temperature settings, etc.) follow instructions on the LMC instruction manual and set the power to the nominal values or 100%.

8.2.3 Follow section 7.4 on this instruction manual to ensure about signal wire connections.

8.2.4 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.



9. 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.

10. 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.

11. 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.

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