

LUCIUS RECOM

— CMH DE 630W KIT















INSTRUCTION MANUAL

2. SPECIFICATION

→ General product information

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|----------------------------------|---|
| Product Name | Lucius ReCom CMH DE 630W Kit |
| Application | Horticultural Industry. Ideal for the entire plants cycle. |
| Inclusion | Lucius ReCom Universal 630W Ballast - ReCom DE Bracket - Focal Reflector DE - Indoor Sun Lamp |
| Light Kit PPF Efficacy | 1.74 PPF/W |
| Maximum PPF | 1130 µmol/s |
| Light Kit Weight | 4.4Kg / 9.7lbs |
| 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 Universal 630W Ballast




| | | |
|---------------------|----------------------------------|---|
| INPUT | Nominal Voltage | 208/240V |
| | Voltage Range | 195~265V |
| | Max Current | 3A |
| | Inrush Current / Input Frequency | Inrush < 30A/0.8mSec 50/60 Hz |
| | Efficiency | 97% |
| | Power Factor | ≥ 0.98 |
| | THDv | <10% |
| INPUT | Plug |     AU/NZS 4417 US 240V NEMA 6-15 UK BS1363A EU DIN 49441 |
| | 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. |
| PROTECTION | Over-voltage | Protection mode is activated when the voltage is greater than 275V. |
| | Under-voltage | Under-voltage between 175 ~ 195V leads to 90% output power drop. Protection mode is activated when the voltage is less than 175V. |
| | 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 | 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 |    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 ² *All output cables are equipped with the magnet ring to meet EMC requirements. |
| | Control Knob | 600W - 630W - 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 user guide for more details. |
| | Signal Wire | 3.5mm Male Jumper Cable 5m |
| | Ballast Dimension LxWxH | 316x117x82.5mm |
| GENERAL INFORMATION | Ballast Weight | 3.3Kg / 7.2 lbs |
| | Compatible Lamp | CMH DE 630W HPS DE 600W/400V HPS SE 600W HPS SE 600W/400V MH 600W |
| | 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 | AU/NZ: LRCE-6302441-CHM1CDHA US: LRCE-6302441-CHM1CDHS UK: LRCE-6302441-CHM1CDHK EU: LRCE-6302441-CHM1CDHE |

→ Indoor Sun Lamp

| | |
|---------------------------|---------------------------------|
| Lamp Power | 630W |
| Type | CMH Double Ended PRO HV |
| Lamp Voltage | 200 |
| Max PPF | 1130µmol/s |
| Lamp PPF Efficacy | 1.8 PPF/W |
| Lumen | 70,000 |
| CCT - CRI | 4200K - 95% |
| Base / operating position | DE (K12 x 30s) / Horizontal (H) |
| Dimension (L x Dia) | 393x33mm |
| Manufacturing Code | CMH630/H/T33/DE/4.2K/PRO HV |

→ Fixture

| | | | |
|-----------|--------------------------|--|---|
| REFLECTOR | Type | Focal DE | BROAD DE |
| | Material | Stucco Aluminium Miro® 4 | |
| | Reflectivity | 95% | |
| | Application | Best choice for the professional gardeners Focal light concentration Highest average effective 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 DE 1000W/400V HPS DE 600W/400V | HPS DE 800W/400V CMH DE 630W/400V |
| | Grow Light Coverage Area | See the table of Grow Light Coverage Area on the packaging box | |
| | Manufacturing Code | LF-F2 | LF-B2 |

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| RECOM DE BRACKET | Lamp Holder | DE (K12x30s) |
| | Plug |   AU/NZS 3112 US BAASR  UK & EU IEC 60320 C-14 |
| | Cable | USA: 6 in , 3×16AWG AU/NZ, UK, EU, Asia: 0.15m 3×1mm² |
| | Manufacturing Code | AU : LRCF-2A US : LRCF-2S UK : LRCF-2K EU : LRCF-2E |

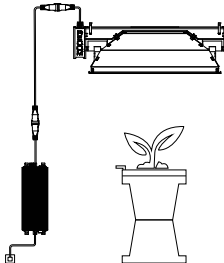
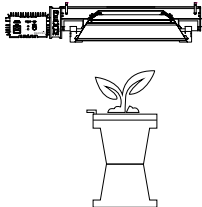
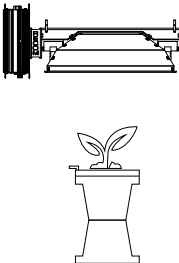
3. SAFETY PRECAUTIONS & WARNINGS

- 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 9 kHz – 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

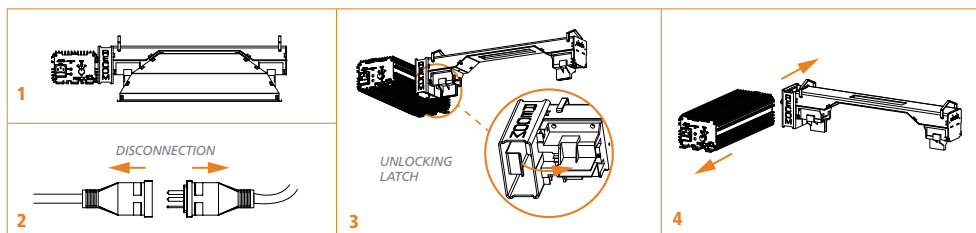
- Lucius ReCom products are the ideal option for Remote or Combo application and compatible with all other reflectors and ballast. The Lucius ReCom CMH DE 630W Kit can be installed in several options. All options are interchangeable with a smart locking system and without tools.

Note: The maximum distance between the ballast and reflector must not exceed 12m.

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| <p>REMOTE 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 Ideal for low ceiling, wide spread and hanging close to plant canopy. The kit comes supplied in the horizontal combo.</p> | <p>VERTICAL COMBO Vertical orientation is ideal for higher ceilings and provides easier access to the control knob.</p> |

- To separate the fixture from the ballast:

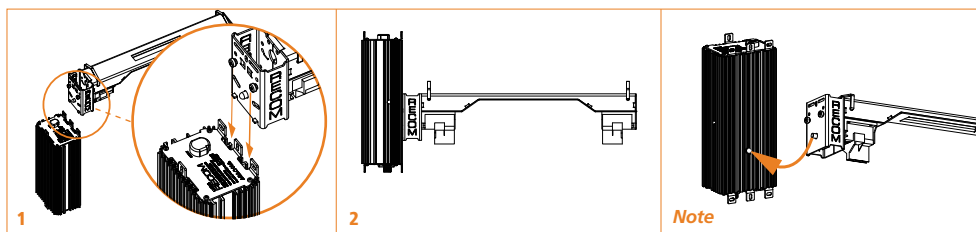
- 1 Ensure the ReCom Kit is disconnected from any power and controller.
- 2 Disconnect ballast output plug from reflector input cable.
- 3 Lift the spring loaded unlocking latch inside the ReCom box.
- 4 Slide reflector bracket out from ballast "T" slot/s.



- To connect the fixture to the ballast:

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

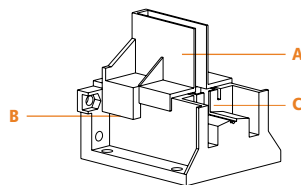
Note: If locking pin does not recess securely in ballast locking slot, the reflector bracket is NOT fixed securely and should be adjusted to fit correctly. Ensure locking pin drops into the locking slot of the ballast.



5. LAMP INSTALLATION

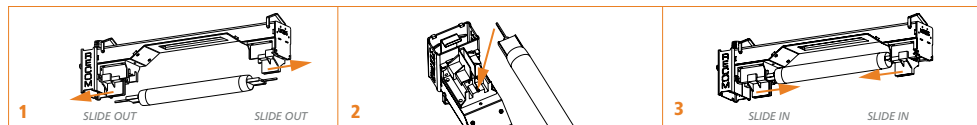
The lamp holder for the double ended lamps is a K12x30s socket.

- 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:

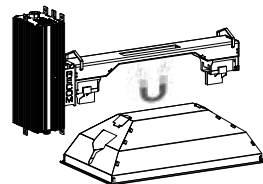
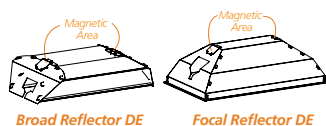
Follow "Safety Precaution & Warnings", section 3 of this instruction manual, unlock the lamp holders by pushing the sliding mechanism outwards and remove the lamp.

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:

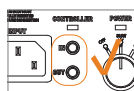
- 1 Ensure the Lucius ReCom Kit is disconnected from the power and controller, if the lamp is connected, remove the lamp.
- 2 Place the reflector on the bracket and:
 - Ensure the openings on the reflector align with lamp holders on the bracket.
 - Align the magnetic area of bracket and reflector.
-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



7. ELECTRICAL CONNECTIONS

→ Before operation, ensure all electrical connections are secure.

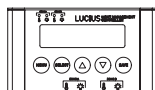
- 1 Switch off main power.
- 2 Ensure the lamp is properly installed. Never use the fixture without a lamp or reflector.
- 3 Ensure the reflector cable plug in firmly connected to the ballast output plug.
- 4 Lucius Light Management Controller connections (if applicable):
 - Connect the Lucius Light 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 CMH DE 630W Kit can be operated via 2 methods.

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.

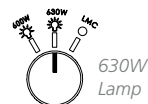
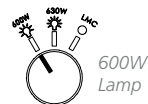
Note: Before dimming or boosting the lamps, ensure the lamp is operated at the nominal power (100%) for at least 100 hours to stabilize the lamp. Failing to do so may lead to sub-optimal light levels and premature end of life failure of lamp.

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

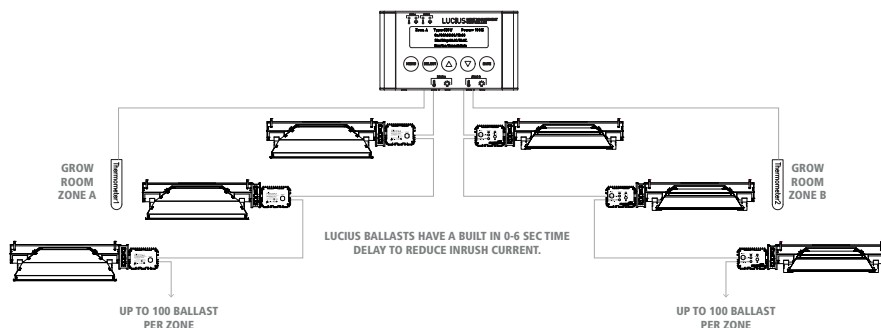
8.1.3 Switch on the main power.

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)



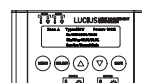
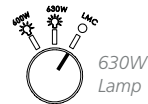
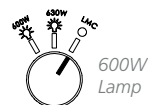
8.2.1 Switch off the main power of the ballast. Turn the control knob to the "LMC" option.

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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