DIMLUX

XTREME SERIES LED - MKII

Installation Guide



THE FUTURE OF GROWING
JUST GOT BRIGHTER.

DIMLUX

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1. SPECIFICATIONS

1.1 OVERVIEW

The Dimlux Xtreme II is a high-performance indoor farming LED lighting system that is available in thee different power output models and multiple controller, add-on, sensor and configuration options to maximize flexibility for your growing needs.

Depending on your choice of LED fixture it has been equiped with an **Adjustable PhytoVegSpec® Indoor** or **Adjustable PhytoVegSpec® +NIR Indoor** spectrum. Please check your fixture for your specific configuration.

LIGHT SOURCE	550W LED	800W LED	1050W LED
PhytoVegSpec® Indoor			
Light Output (PPF)	1965 µmol/s	2884 µmol/s	3877 µmol/s
Light Output Total (PPF 350-800nm)	**1994 µmol/s**	**2926 µmol/s**	**3931µmol/s**
PAR Photon Efficacy (400-700nm)	3.4 µmol/J @ 277V AC	3.45 µmol/J @ 277V AC	3.55 µmol/J @400V AC
Total Photon Efficacy (350-800nm)	3.45 µmol/J @ 277V AC	3.5 µmol/J @ 277V AC	3.6 µmol/J @ 400V AC
AC Input Power	578W	836W	1092W
PhytoVegSpec® Indoor + NIR			
Light Output (PPF)	1825 µmol/s	2663 µmol/s	3604 µmol/s
Light Output Total (PPF 350-800nm)	**1965 µmol/s**	**2871 µmol/s**	**3822 µmol/s**
PAR Photon Efficacy (400-700nm)	3.4 µmol/J @ 277V AC	3.2 µmol/J @ 277V AC	3.3 µmol/J @ 400V AC
Total Photon Efficacy (350-800nm)	3.45 µmol/J @ 277V AC	3.45 µmol/J @ 277V AC	3.5 µmol/J @ 400V AC
AC Input Power	578W	832W	1065W
AC Input Voltage	208-400V AC, 50/60Hz	208-277V AC, 50/60Hz	208-400V AC, 50/60Hz
Beam Angle		90° × 120°	
Optics		**Patented** Deep Penetration Ultra High Transmittance Lens	
Auxiliary Light		**Patented** Light Pipe Multi Color 65k	
Ioniser		**Patented** Negative Ions & Cold Plasma	
Ozone		Non Detectable <0.05PPM	
Proximity sensor		Doppler Radar	
Minimum Mounting Height Above Canopy	50 cm / 19.7"	60 cm / 23.6"	70 cm / 28"
Thermal Management		Passive	
Max. Ambient Temperature		35°C / 95°F	
Control		By Smart Remote, Maxi Controller or Internal Controller	
Smartports (3x)		Interlink, Plant Temperature Sensor, Light Sensor	
Display For Spectrum and GUI		1.54" 65k Color IPS	
Total Harmonic Distortion (THD)		< 20%	
Lifetime L90		> 50,000h	
IP Rating		IP65	
Certifications		CE, UKCA, UL 8800, UL 1598 Wet Location, DLC	
Weight	12.4 kg / 35.5 lbs	16.1 kg / 35.5 lbs	20.8 kg / 45.8 lbs
Warranty		5 Year Standard	

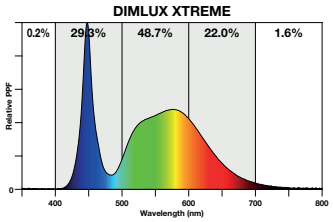
1.2 WAVEFORMS BLUE-RED RATIO

The Dimlux Xtreme II has several colormix output options based on the blue-red ratio (B:R ratio). The +NIR version also adds FarRed frequencies based on the selected B:R ratio. For more information on the color ratios refer to the configuration manual.

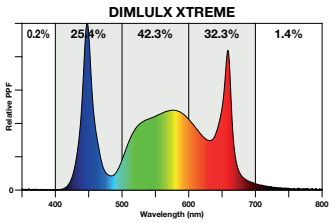
550/800/1050 Watt

B:R Ratio

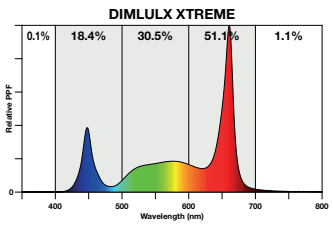
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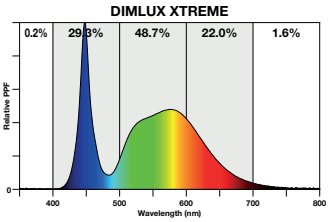
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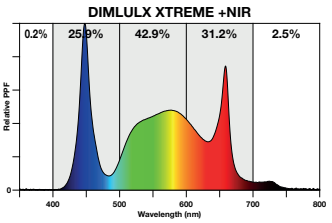
550/800/1050 Watt +NIR

B:R Ratio

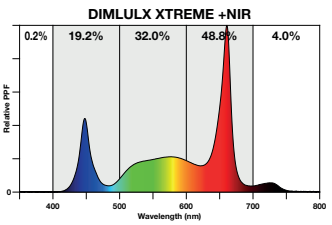
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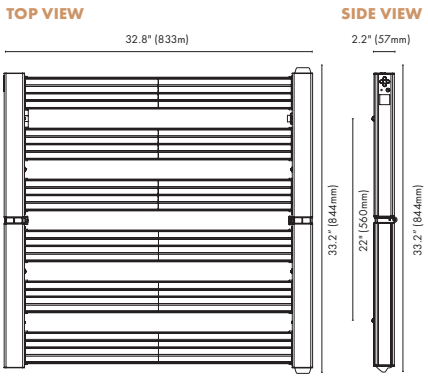


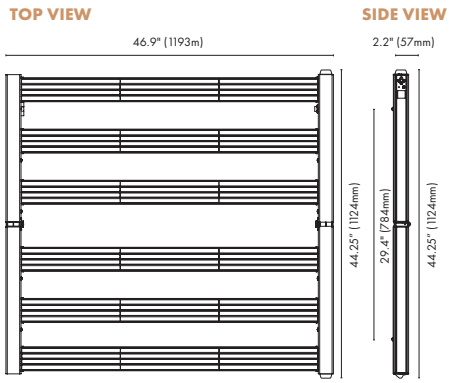
1.3 DIMENSIONS

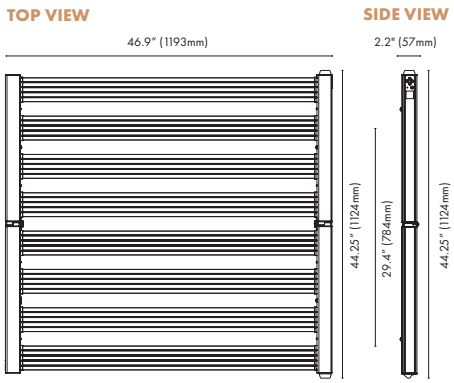
DIMLUX XTREME SERIES **550W LED**
DIMLUX XTREME SERIES **550W + *NIR* LED**

DIMLUX XTREME SERIES **800W LED**
DIMLUX XTREME SERIES **800W + *NIR* LED**

DIMLUX XTREME SERIES **1050W LED**
DIMLUX XTREME SERIES **1050W + *NIR* LED**







2. SAFETY & BEST PRACTICE

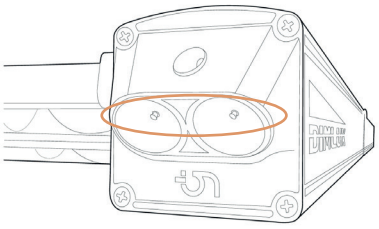
Please read this manual carefully before attempting to install a Dimlux Xtreme Series LED system. If you are not comfortable with the installation of high performance lighting systems, you should seek the services of an installation professional.

These products may represent a possible shock or fire hazard if improperly installed. Products should be installed in accordance with the owners manual and local electrical guidelines and law.

2.1 IMPORTANT SAFETY PRECAUTIONS

- Never look directly at the LED fixtures LED's when in operation.
- During operation, only use the control panel buttons. The fixture can get very hot.
- Always allow for a cool down period of at least 30 minutes before touching the LED rails. Touching the LED rails when the fixture is lit or immediately afterwards can result in severe burns.
- 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. FCC regulations apply. Please refer to www.fcc.gov for more information.
- Do not use the LED fixture when either the LED fixture or its power cord are damaged. Replace the power cord only with original certified cords.
- Do not expose the LED fixture to:
  - (ambient) temperatures outside the specified range: 0 to 35 degrees celcius / 32 to 95 degrees fahrenheit.
  - dust, sulfur vaporizers and water misters
  - direct sunlight during use or other heat generating light source.
- Always disconnect the LED fixture from its power supply before performing any maintenance.
- Do not use the LED fixture near flammable, explosive or reactive substances.
- The installation and use of the LED fixture is the responsibility of the end user. Incorrect use or installation can lead to failure and damage to the LED fixture.
- Modifications to the cords can lead to unwanted electromagnetic effects, which makes the product not comply with legal requirements.
- Do not open or disassemble the LED fixture.
- When mounted on the ceiling leave at least 5 cm of space between the ceiling and the fixture to allow the fixture to dispatch generated heat. Not allowing the fixture to dispatch heat will shorten the lifespan of the fixture.
- Always use a grounded power outlet.

- **The Ionizer can build up external electrical current that can give a shock from a close distance. Do not touch the bristles as they are fragile.**
- **The Ionizer has a blue indicator LED that indicates if the Ionizer is active**
- **The Ionizer can make a hissing sound. The ionizer might interfere with pacemakers, contact a health professional for information**

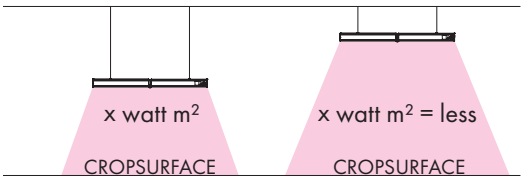


Ionizer on the Dimlux XtremeLED MK II

2.2 BEST PRACTICE & PREREQUISITES

- Dimlux lighting systems deliver high PPFD levels, typically more than experienced in nature. Adjustments to H2O, CO2, RH, nutrients and temperature are usually required. Make sure to measure and adjust to your crops needs.

- The Xtreme Series LED is designed to provide a uniform light distribution in the shape of a square. There is a very simple and unique way to determine the minimum height of the fixture depending on the output (550, 800 or 1050 Watt). A higher output fixture can lighten a larger effective area. Choose the power-output needed for your crop and mounting height.



- The minimum distance from fixture to crop is half the distance between the fixtures (centre size) in a multi-fixture set-up. It doesn't matter whether the LED is 550 Watt or 1050 Watt.

- Due to the lack of radiant residual heat with LED technology, the plant temperature will be considerably lower than with HPS. As a result, the temperature of the plant and the ambient temperature is lower without extra precautions. For optimal settings of the ambient and plant surface temperatures adjust your indoor climate accoringly. Use a Dimlux Plant Camera for accurate measurements. For automated control of the indoor climate use the Revomax II climate control unit.

2.3 GENERAL CARE & CLEANING

To achieve the optimal lifespan and performance of your fixtures, clean your fixtures after every grow cycle. Cleaning should always be done with the fixture disconnected from the power source using compressed air to the frame and heatsink or a damp cloth to wipe debris, dust and miniral build-up from light bars.

2.4 CONNECTING AND CONFIGURING

This manual is one of two manuals available and describes the mounting and connecting of devices. For instructions on configuring your Dimlux system refer to the configuration manual.

2.5 TERMINOLOGY

The manual uses industry standard abbreviations known in lighting and horticulture technology. Hereafter, abbreviations are used for readability purposes.

LED Light Emitting Diode, Light source of the Dimlux Xtreme series
HPS High Pressure Sodium lamps, traditional technology for lighting, not available in Dimlux Xtreme version
FCC Federal Communications Commission, Government body for electrical guidelines (United States)
PPF Photosynthetic Photon Flux, amount of light generated
PPFD Photosynthetic Photon Flux Density, the amount of light in the 400 to 700 nm range per square meter
NIR Near Infra Red light, light in the range above 700 nm
H2O Water, key-component in growing condition of plants, direct impact on growing performance
CO2 Carbon Dioxide, greenhouse gas. Key-component in growing condition of plants, direct impact on growing performance
RH Relative Humidity, the relative amount of water in the water-air mix compared to maximum
RCD Residual Current Device, safety device to shut down system in case of malfuction
RCBO Residual Current Breaker with Overload protection, safety device to shut down system in case of malfuction
UVA Ultra Vilolet Aging light specttrum
UVB Ultra Violet Burn light spectrum, Ionizing Radiation. Protection of human skin is highly recommended
B:R Blue-red frequency ratio, the amount of red-frequency opposed to blue-frequency

3. INSTALLATION

3.1 PACKAGE CONTENTS

1 **Xtreme 550W LED (+NIR) MKII, Xtreme 800W LED (+NIR) MKII or Xtreme 1050W LED (+NIR) MKII**

2 **Dimlux Power Cable 220V/377V outlets** (EU/UK/USA) *(based on the region/country of purchase)*

The Dimlux Xtreme MKII can also be used on a 400 Volt power outlet. Refer to your local qualified electrician for installation

Dimlux Xtreme Series 550W LED *MKII* › 200V-400V
Dimlux Xtreme Series 800W LED *MKII* › 120V-277V
Dimlux Xtreme Series 1050W LED *MKII* › 200V-400V

3 **Digital Interlink Cable** *(based on the LED fixture of purchase)*

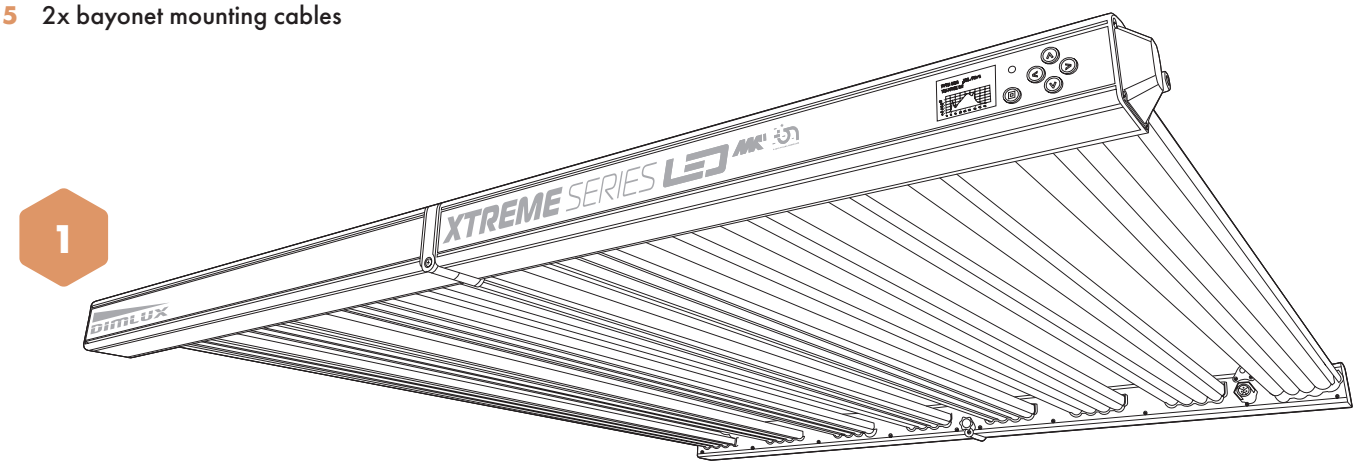
Dimlux Xtreme Series 550W LED *MKII* › 2 mtr / 80 in - Digital Interlink Cable
Dimlux Xtreme Series 800W LED *MKII* › 2.5 mtr / 100 in - Digital Interlink Cable
Dimlux Xtreme Series 1050W LED *MKII* › 3 mtr / 120 in - Digital Interlink Cable

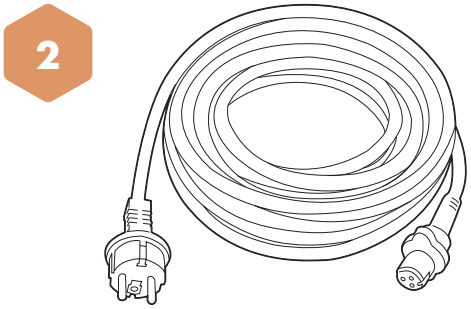
Optional Cabling (not included)

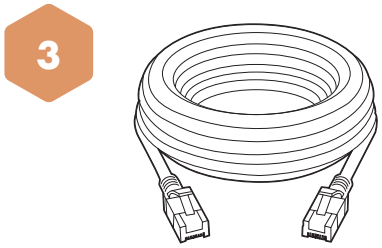
Dimlux Interlink Cable 2 mtr	SKU 2-370
Dimlux Interlink Cable 5 mtr	SKU 2-363
Dimlux Interlink Cable 10 mtr	SKU 2-364
Dimlux Interlink Cable 20 mtr	SKU 2-369

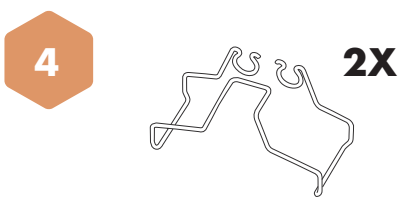
MOUNTING HARDWARE

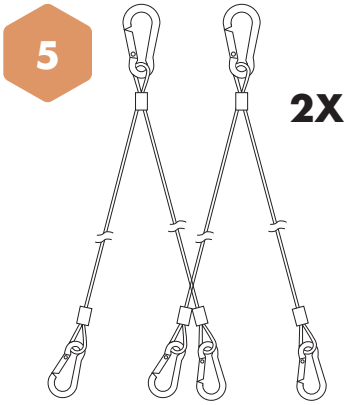
4 2x Cable Clamps
5 2x bayonet mounting cables







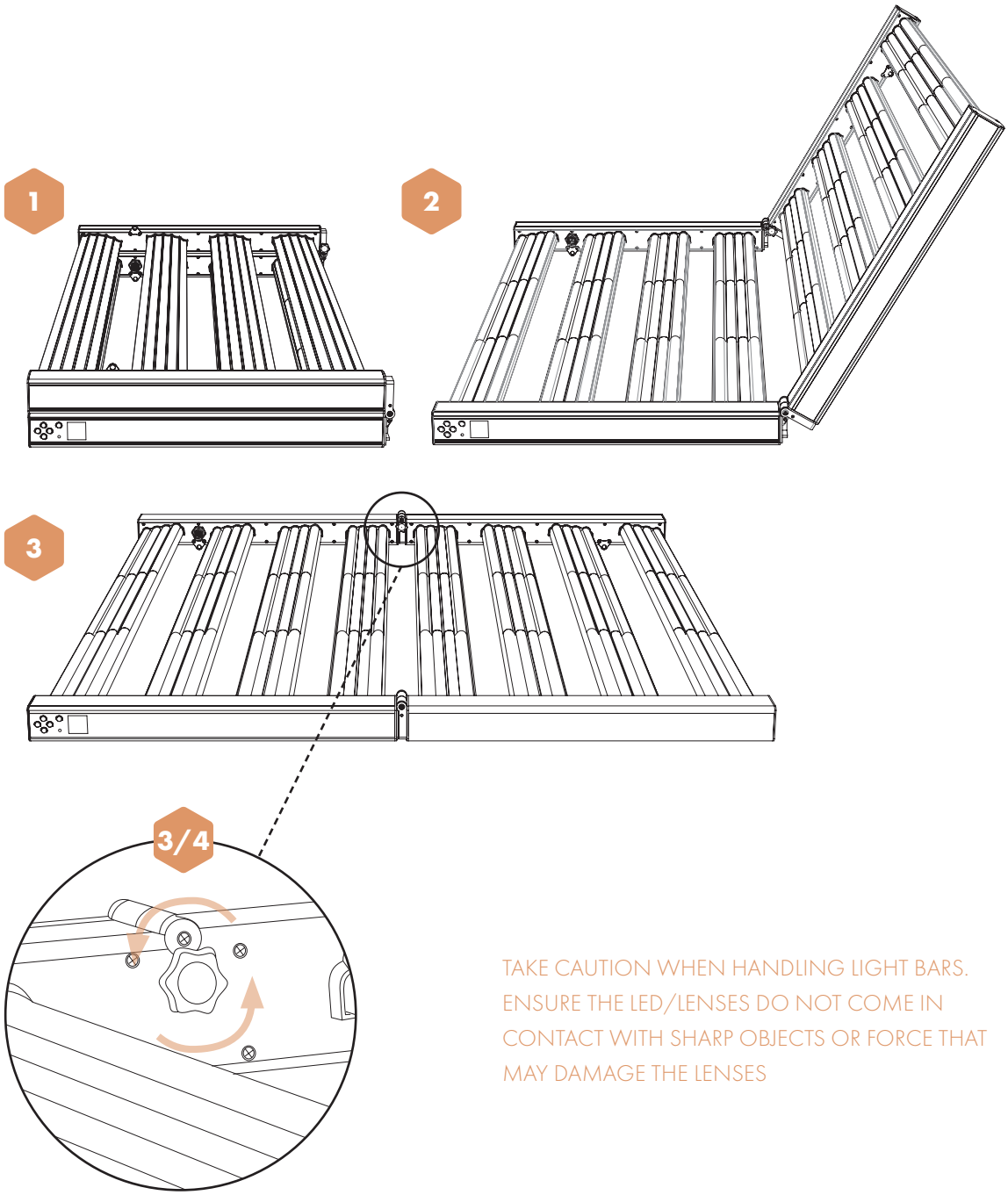




3.2 ASSEMBLY

1. Unbox The Dimlux Xtreme LED and check that all the indicated system and mounting hardware are present in the box.
2. Unfold module and place on flat, stable surface; then carefully turnaround the fixture so the lenses are facing downwards.
3. When unfolded, use the tighten knob on both insides of the hinge and turn the knob to fix the Xtreme LED fixture.
4. Always check whether the hinge is tightly fixed.

The Dimlux Xtreme LED MKII fixture is ready to be mounted.



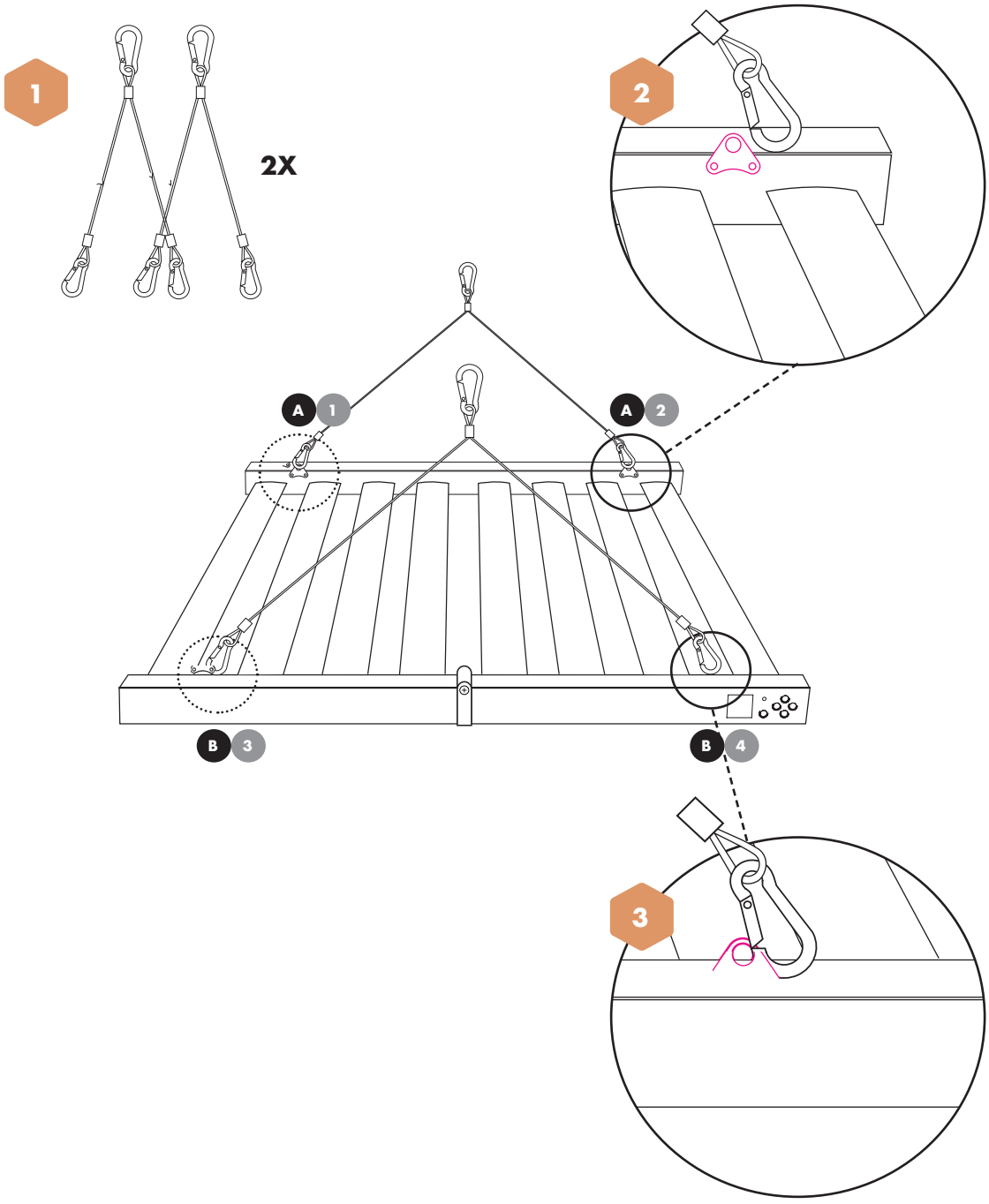
TAKE CAUTION WHEN HANDLING LIGHT BARS. ENSURE THE LED/LENSES DO NOT COME IN CONTACT WITH SHARP OBJECTS OR FORCE THAT MAY DAMAGE THE LENSES

3.3 MOUNTING

Make sure the fixture is still on a flat, stable surface with the lenses facing downwards and follow the next steps;

1. Take the supplied mounting cables.
2. Locate the Dimlux Xtreme LED fixture has 4 mounting rings, one in each corner of the fixture.
3. Mount the mounting cable to the hang tails A1 and A2 and the other mounting cable to B3 and B4.

- When mounted on the ceiling leave at least 5 cm of space between the ceiling and the fixture to allow the fixture to dispatch heat.
- Make sure the ceiling can hold the weight of the LED fixture as stated in the specifications



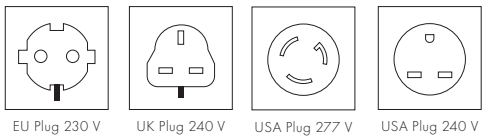
3.4 CONNECTING TO POWER OUTLET

Set up your LED fixture interlink configuration before connecting the Dimlux Xtreme LED fixtures to a power supply when using the Maxi Controller. For more configuration instructions refer to the **configuration manual.**

- Before connecting make sure the cables are not coiled, tangled or damaged.
- Do not use consumer-grade timers and/or power switches. The equipments has to be able to handle inductive loads.

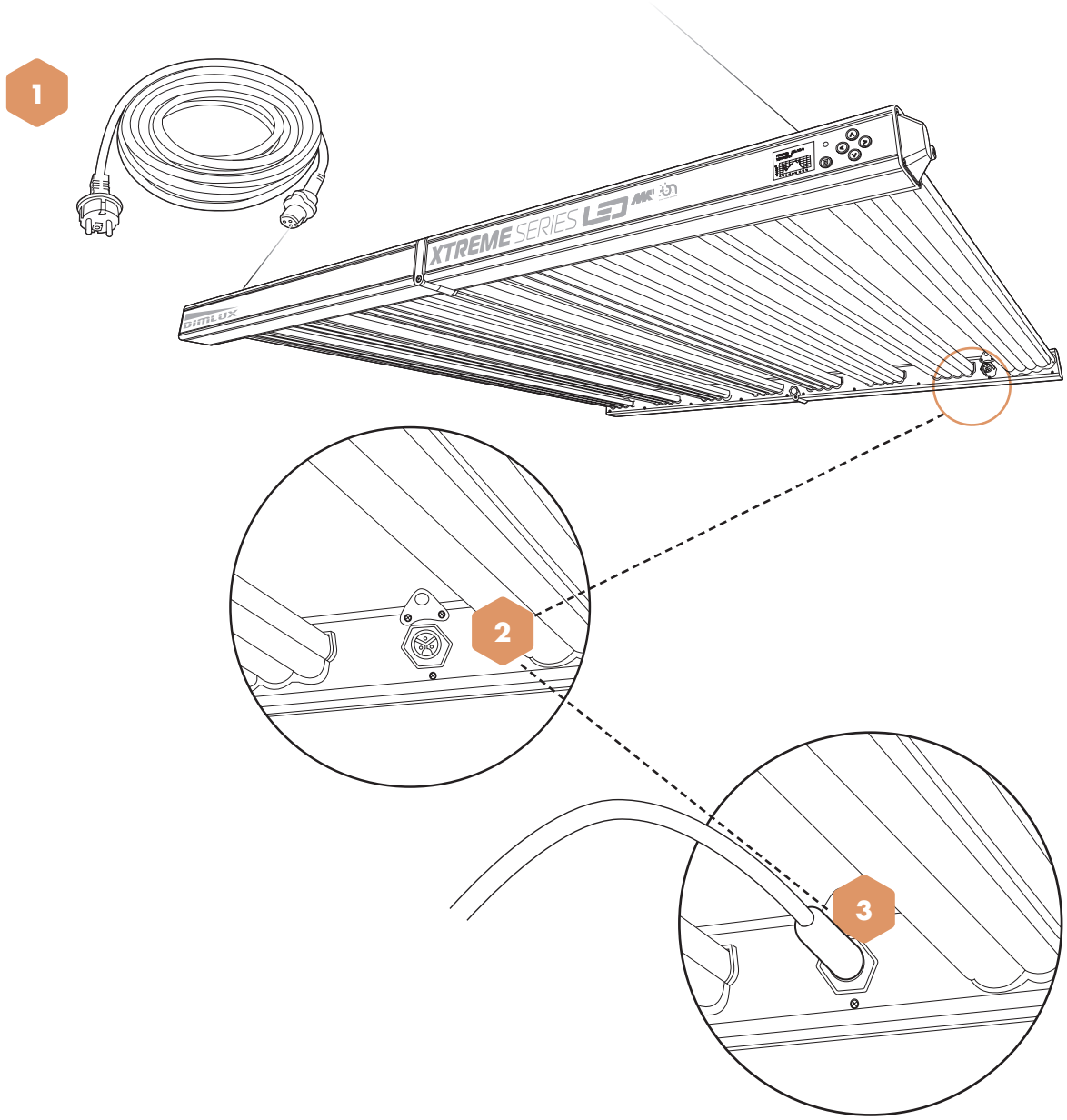
1 Take the supplied Power Cable. (EU/UK/USA) for standard 230V outlets. For 400V outlets please refer to a qualified electrical engineer.

Make sure to use the **correct cabling and grounded power outlet** and plug type appropriate to your region.



2 Search for the round power sockets on the Dimlux Xtreme LED fixture.

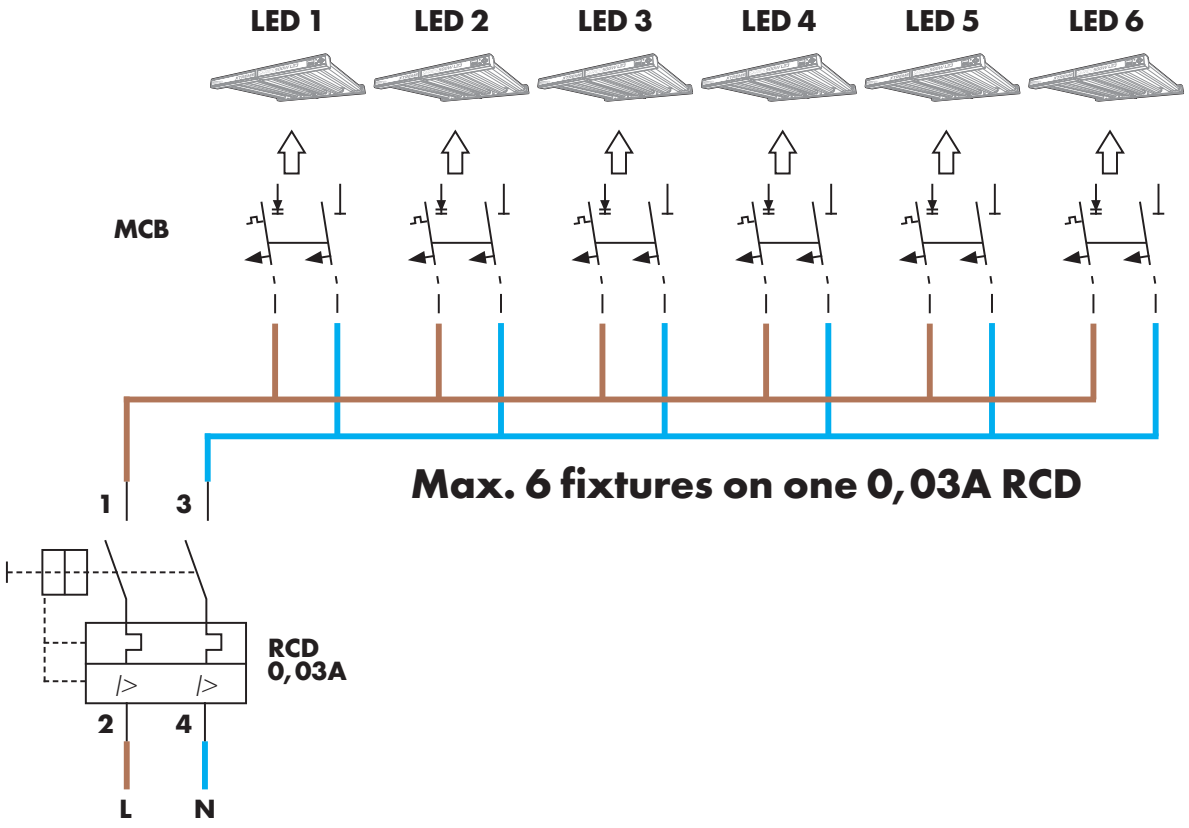
3 Insert the round waterproof powerplug into the power socket on the Dimlux Xtreme LED fixture and make sure it is firmly and fully plugged in.



3.5 POWER OUTLET CIRCUITBREAKERS

The Dimlux Xtreme Fixtures are high performance lighting systems should always be installed using a circuit breaker (RCD/RCBO). The device should be able to trip at a differential of 0.03A. A maximum of 6 fixtures can be connected to a normal 0.03A RCD. Use a circuitbreaker every six fixtures to guarantee long term health of the systems.

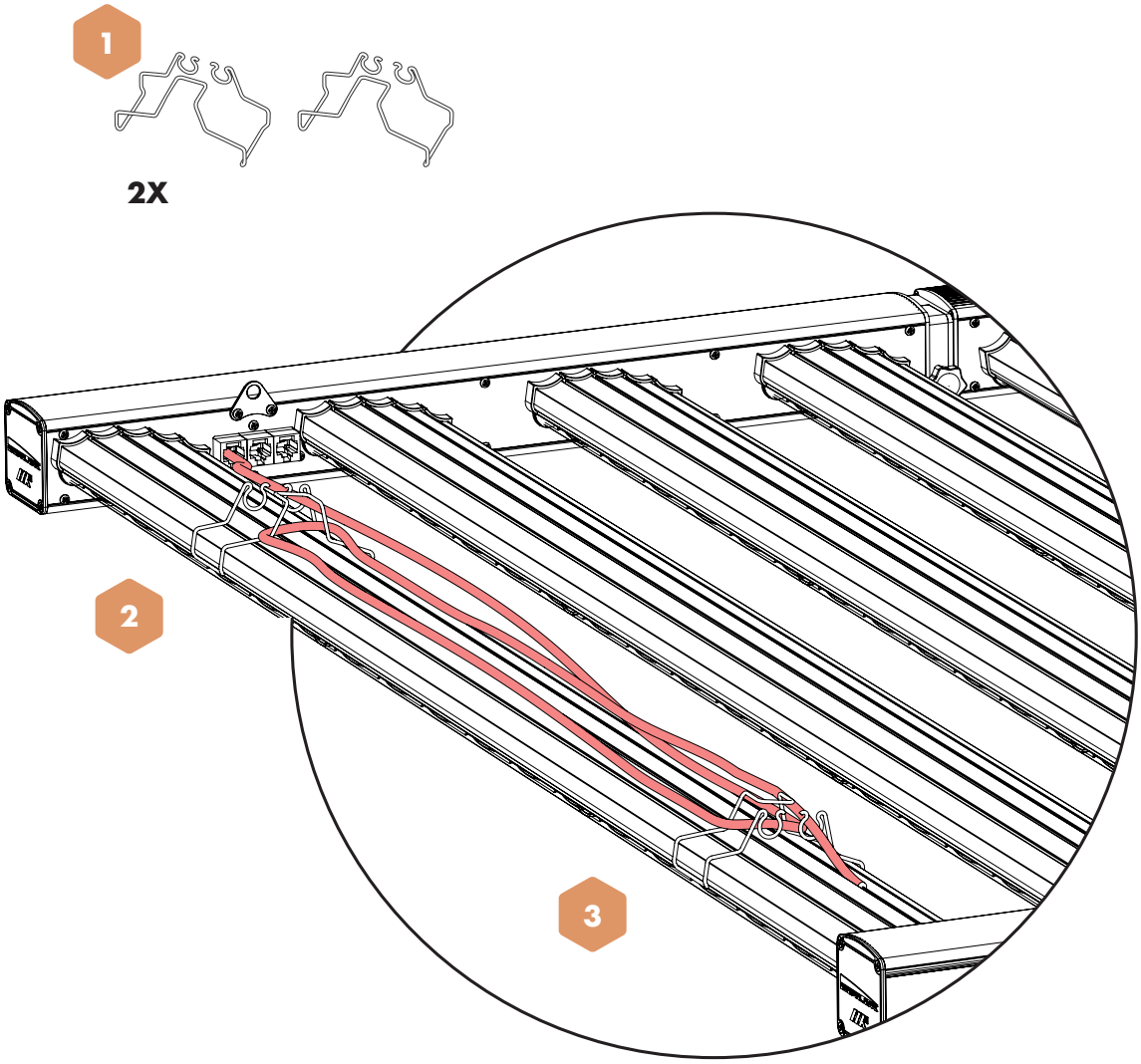
Contact your local qualified electrician when in doubt.



3.6 CABLE ROUTING

Use the supplied cable clamps to safely guide the cables. Before mounting the clamps and guiding the cables make sure the power is turned off.

1. Take the 2 Cable Clamps.
2. Click them onto both ends of the LED bar.
3. Arrange the cables in such a way that they are no longer hanging between the LED bars. Make sure the cables are not pressed too tightly together and not connected to a power outlet when arranging.



4. CONNECTING

Based on your configuration (next chapters) you can connect our wide range of accessories that enhance insights, control, crop yields and ease of use.

4.1 CABLING

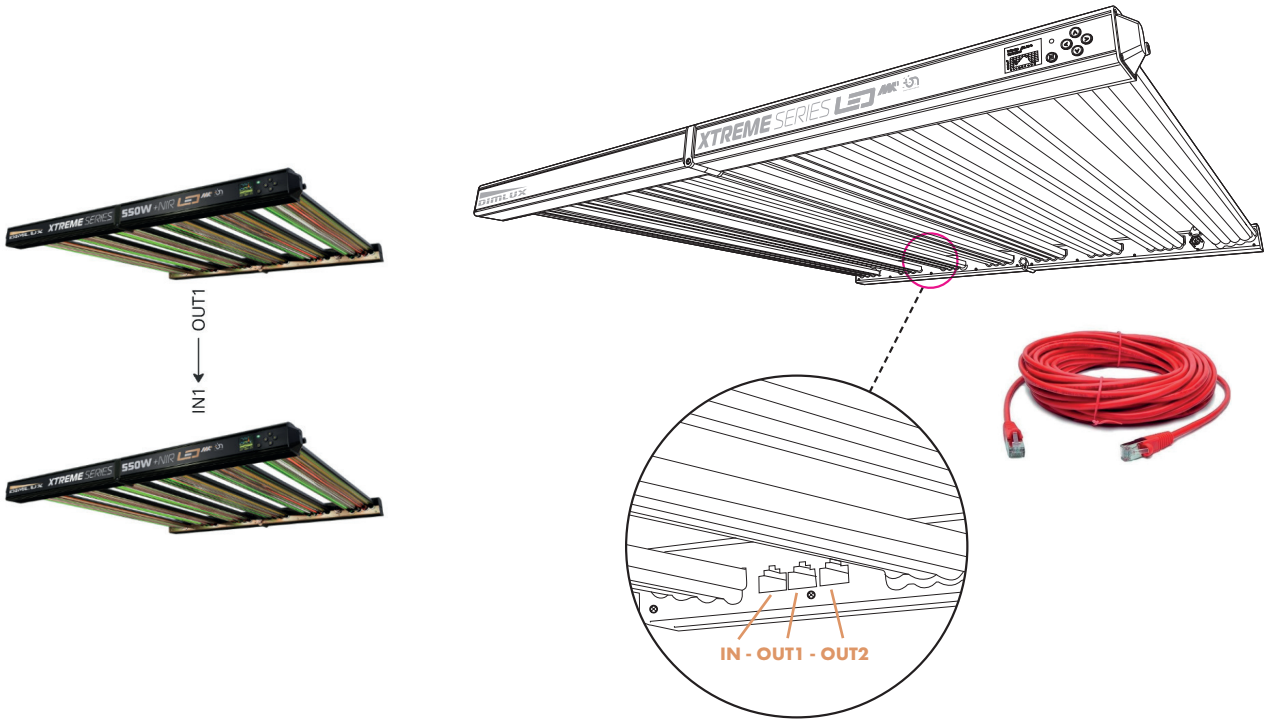
All fixtures and accessories use a standard UTP cable with RJ45 connector. For optimal performance use our Dimlux Interlink cables. Do not use cross-over cables as they can damage the system.

4.2 COMMUNICATION

The communication works based on the Smartport software protocol and is not compatible with your existing computer network. Treat the 'Dimlux' network of fixtures and accessories as a seperate thing and do not connect it to regular computer network devices.

4.3 CONNECTING IN-OUT

The Dimlux fixtures all have one INPUT and two OUTPUTS. Regardless of the configuration option designate one fixture as the 'LEAD' and connect the 2nd fixture on the OUT1 output. The 2nd fixture receives the signal on its IN port. The OUT2 port can be used for the AV-A+NIR and AV-B add-ons or a temperature sensor. Check the indivudual configuration options in the next chapter for more information and compatibility.



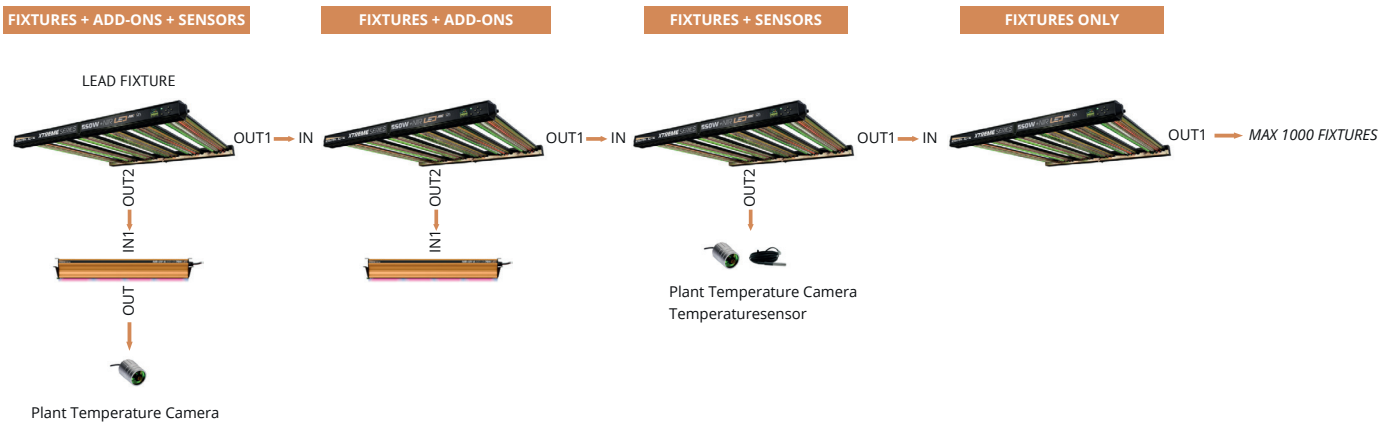
The Dimlux Xtreme Fixtures can be configured in four distinct ways, depending on your needs. The following chapters will discribe the option and connecting schematic.

1. Single or multiple fixtures without Controller
2. Single or multiple fixtures with Maxi Controller
3. Single or multiple fixtures with Maxi Controller & Smartbox
4. Single or multiple fixtures with Smart Controller

5. CONFIGURATION OPTIONS

5.1 SINGLE OR MULTIPLE FIXTURES WITHOUT CONTROLLER

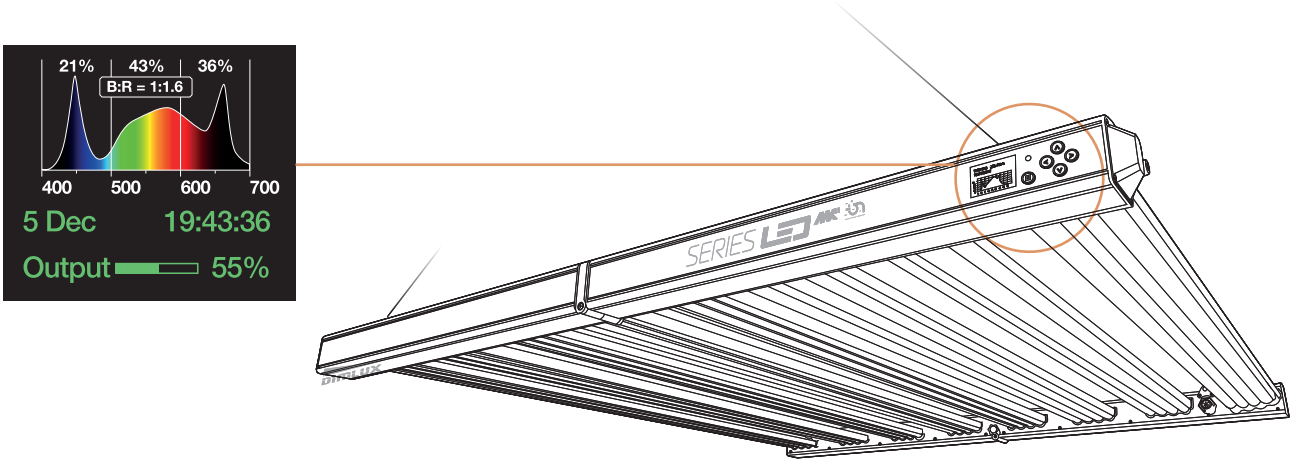
The most straight-forward way of controlling your Dimlux system is possible without any extra control unit (Maxi or Smart). Configure one lead fixture and connect the rest. All fixtures can be enhanced by an UV-A or UV-B add-on to broaden the light frequency. Add our temperature or plant temperature camera to gain better insights.



LCD DISPLAY NAVIGATION

The Dimlix Xtreme II is equiped with an easy to navigate menu to control all available options and view current settings and status. By pressing the square button you'll activate the display, press again to enter the settings menu. Use the directional buttons to navigate through the settings.

For settings & instructions refer to the configuration manual.



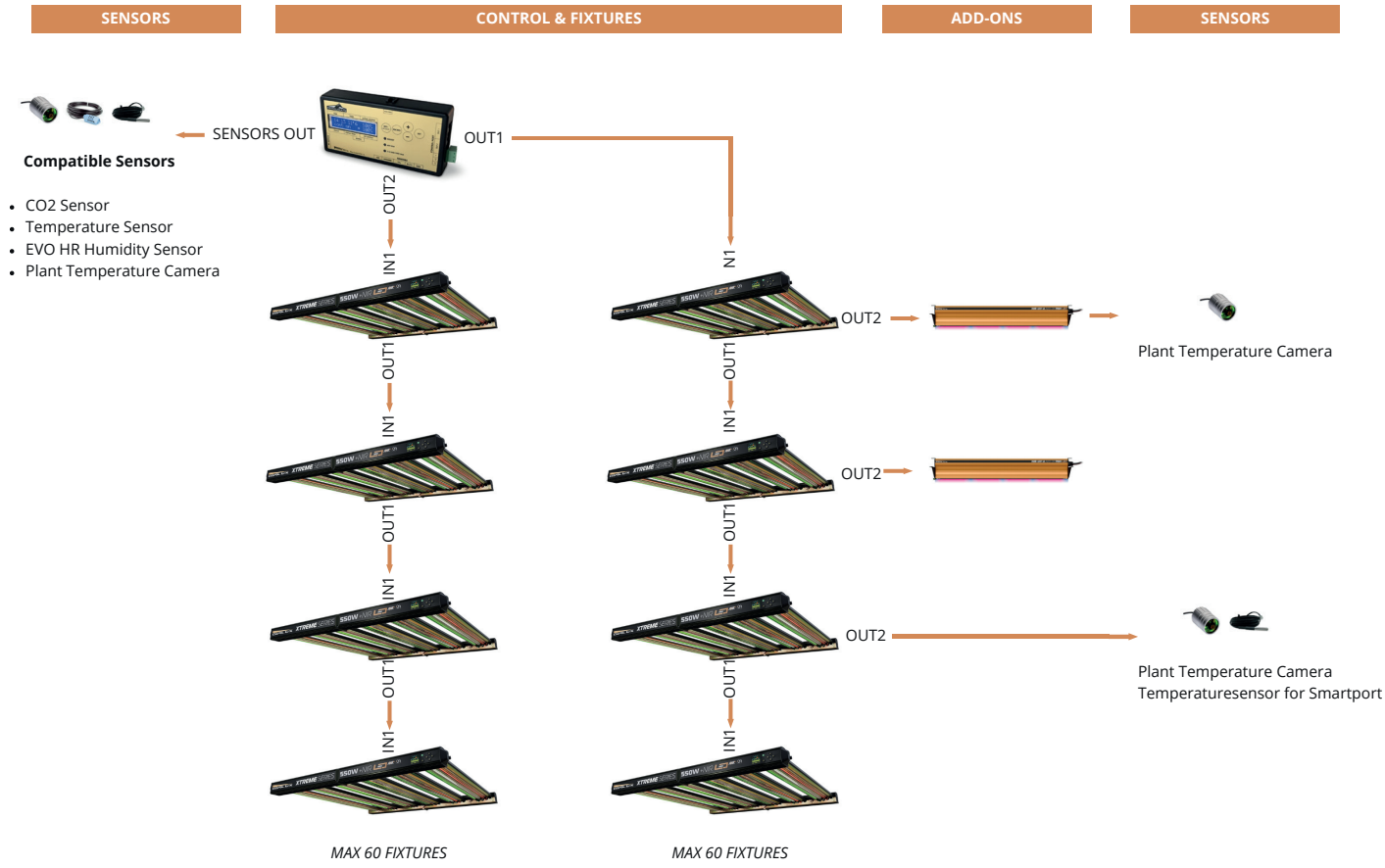
5.2 SINGLE OR MULTIPLE FIXTURES WITH MAXI CONTROLLER

Control all daily functionality with the comfort of eye-height, inside or outside of the growing area with the Maxi controller. Once the detailed configuration is done on the fixture, the daily operation is done at an easy accessible location of your convenience.



On top of all existing features and lighting add-ons, you can now connect a wider range of sensors of your choice:

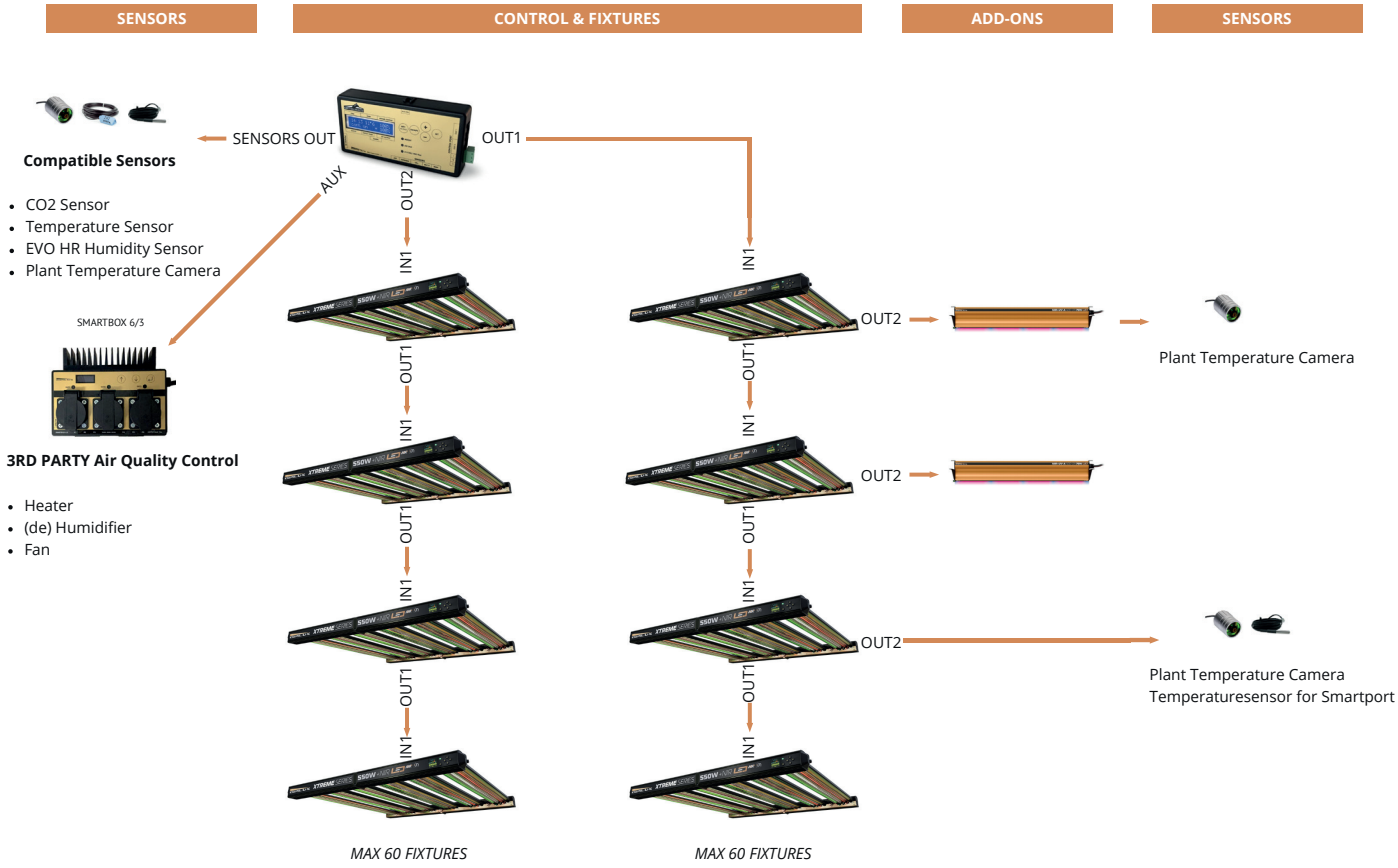
- Temperature
- Plant Temperature
- Humidity (RH)
- CO2



5.3 SINGLE OR MULTIPLE FIXTURES WITH MAXI CONTROLLER & SMARTBOX

Extend the functionality by adding the SmartBox 6/3 with 6 smartports for connecting extra sensors and up to 3 3rd party air quality control units like heaters, humidifiers, de-humidifiers and fans.

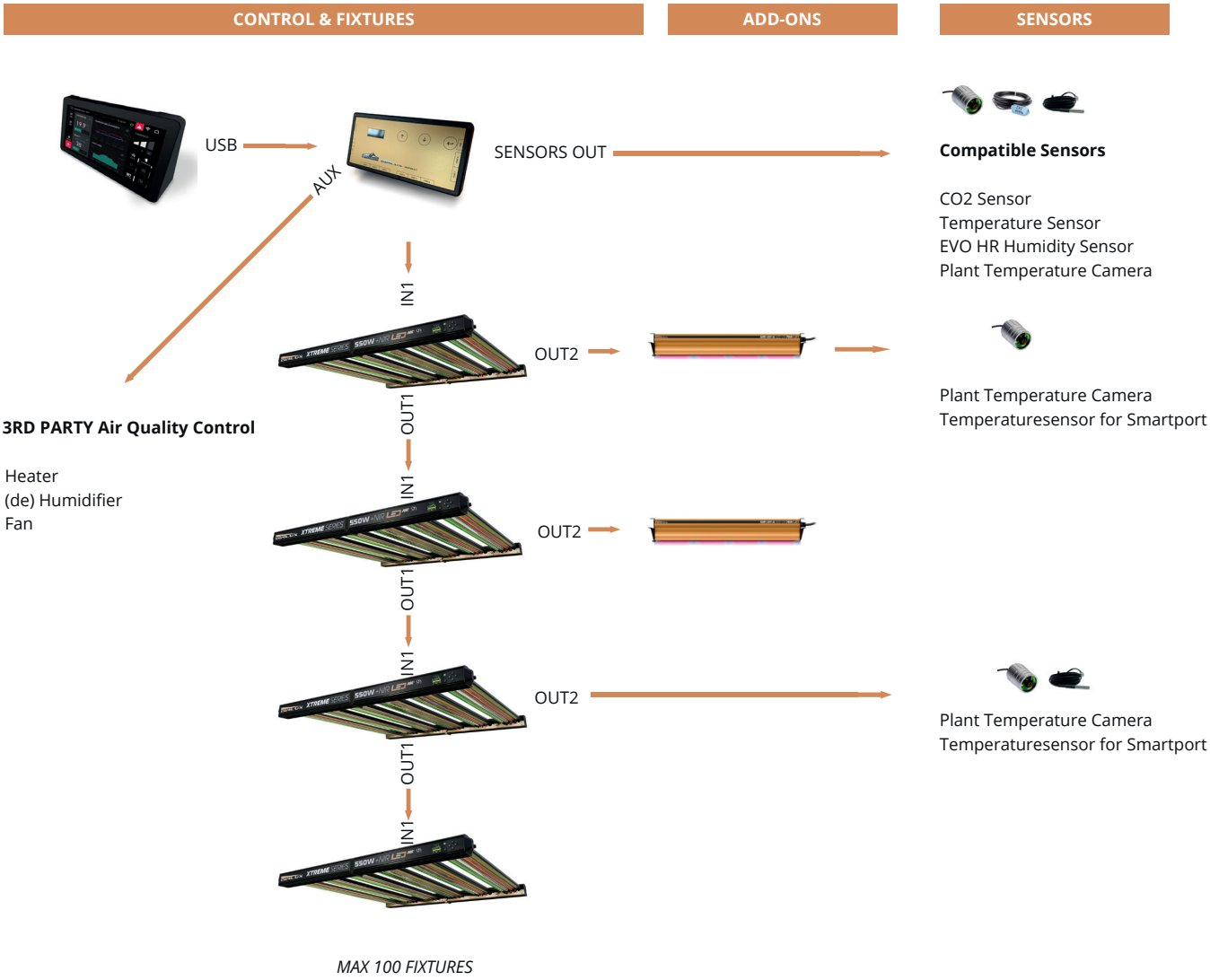




5.4 FIXTURES WITH SMART REMOTE CONTROLLER

Extend the remote control capabilities with our Smart Remote Controller. Control all fixture settings and digitize the whole fixture setup without any signal loss. Connect with the Dimlux Smartbox for the full range of sensors and 3rd party air quality control systems.





MAX 100 FIXTURES

6. ACCESSORIES

6.1 ESSENTIAL UPGRADES

The basic Dimlux Xtreme fixtures can be enhanced by several controllers, add-ons and sensors to increase ease-of-use, data insights and better crop yields.



When the fixtures are mounted outside of easy reach, use the **Maxi Controller** inside or outside of the growing room for easy access. Control basic functionalities from a comfortable position without disturbing your crops.



Use the fully digital **Smart Remote Controller** to get maximum control over your Dimlux Xtreme system. Use the panel or connect your computer over Wifi or wired networks to comfortably control all options from your desk, anywhere in the world.



The **Smartbox 6/3** is used for controlling a 3rd party (de-)humidifier or Watercooler that are inverter controlled and compatible sensors. The 6/3 variant can connect 3rd party heaters, humidifiers or fans. Also available in 8/0 (8 output) and 4/0 variants.



Enrich the lighting spectrum for your crops by adding near infrared (700 nm+) and UV-A (370-405 nm) lighting range with the **Dimlux Xtreme NIR+UV-A Add-on**.



Enrich the lighting spectrum for your crops by adding UV-B lighting range (290-320 nm) with the **Dimlux Xtreme UV-B Add-on**.



The DimLux **plant temperature camera** indicates the plant leaf surface temperature and controls your system to adjust so your crop is always in ideal temperature range.



Make sure the environment is always in the optimal operating range with our **air temperature sensor** with 5 meter or 10 meter cable variants.



Make sure the environment is always in the optimal operating range with our **Humidity Sensor**. Available in 5 and 10 meter cable variations

6.2 COMPATIBILITY MATRIX

Airlux Technologies - All accessories & compatibility		Config option 1	Config Option 2	Config Option 3	Config Option 4
SKU	Peripheral	Fixture(s) Only	With Maxi Controller	With Maxi Contr. and Smartbox	With Smart-Remote conttroller
	CONTROLLERS				
2-17	Dimlux Maxi Controller		●		
2-585	Dimlux Maxi Smartbox 4/0		●	●	●
2-586	Dimlux Maxi Smartbox 8/0		●	●	●
2-587	Dimlux Maxi Smartbox 6/3 EU		●	●	●
2-587	Dimlux Maxi Smartbox 6/3 UK		●	●	●
2-386	Dimlux Maxi Smartbox 0/2		●	●	●
Q1-25	Dimlux Smart Controller - Gold				●
Q1-25	Dimlux Smart Hub				●
	SENSORS				
2-34	Dimlux Maxi Temperature Sensor 5 mtr		●	●	
2-287	Dimlux Maxi Temperature Sensor 10 mtr		●	●	
2-64E	Dimlux Maxi Humidity Sensor 5 mtr		●	●	
2-288	Dimlux Maxi Humidity Sensor 10 mtr		●	●	
1-523	Dimlux Maxi CO2 Sensor		●	●	
2-44	Dimlux Maxi Plant Temperature Camera 5 mtr		●	●	
2-289	Dimlux Maxi Plant Temperature Camera 10 mtr		●	●	
2-550	Dimlux Smart Light Sensor 5 mtr			●	●
2-551	Dimlux Smart Light Sensor 10 mtr			●	●
2-552	Dimlux Smart Temperature Sensor 1 mtr	●		●	●
2-553	Dimlux Smart Temperature Sensor 5 mtr	●		●	●
2-554	Dimlux Smart Temperature Sensor 10 mtr	●		●	●
Q1-25	Dimlux Smart CO2 Sensor				●
2-544	Dimlux Smart Plant Temperature Camera 5 mtr	●			●
2-545	Dimlux Smart Plant Temperature Camera 10 mtr	●			●
	CABLING				
2-350	Dimlux Universal RJ45 Interlink Cable 0,6 mtr	●	●		●
2-353	Dimlux Universal RJ45 Interlink Cable 2,5 mtr	●	●		●
2-354	Dimlux Universal RJ45 Interlink Cable 3,5 mtr	●	●		●
2-355	Dimlux Universal RJ45 Interlink Cable 5 mtr	●	●		●
2-356	Dimlux Universal RJ45 Interlink Cable 10 mtr	●	●		●
2-370	Dimlux Smart RJ45 AWG26 Interlink Cable 2 mtr	●	●	●	●
2-363	Dimlux Smart RJ45 AWG26 Interlink Cable 5 mtr	●	●	●	●
2-364	Dimlux Smart RJ45 AWG26 Interlink Cable 10 mtr	●	●	●	●
2-369	Dimlux Smart RJ45 AWG26 Interlink Cable 20 mtr	●	●	●	●
2-361	Dimlux Universal RJ11 Communication Cable 10 meter	●		●	●
2-362	Dimlux Universal RJ11 Communication Cable 20 meter	●		●	●
2-365	Dimlux Universal RJ11 Splitter		●		
2-366	Dimlux Universal RJ45 Splitter		●		●

7. WARRANTY

7.1 WARRANTY

The Dimlux Xtreme II series and accessories are designed and manufactured with maximum care and craftsmanship. Airlux Technologies warrants the delivered goods to be free of defects for the duration of the applicable warranty period under normal use and conditions after the original purchase date. When the product shows any defects within this period that is not due to improper use, Airlux Technologies will replace or repair the defect product with a suitable replacement with at least the same functionality and specifications. Warranty of the replaced products will remain under warranty for the remaining period from the original product and purchase date. For service, the owner ships the unit to the closest Airlux Technologies service location, to be determined by the service desk. Airlux Technologies will require the original receipt to determine the warranty eligibility.

To contact the support desk:

By Phone: +31 20 776 6006
By e-mail: support@airsupplies.nl

7.2 KNOWLEDGEBASE

Direct link: www.dimlux.nl/knowledge-base

Scan the QR-code to go to our online knowledge base for the latest manuals and information