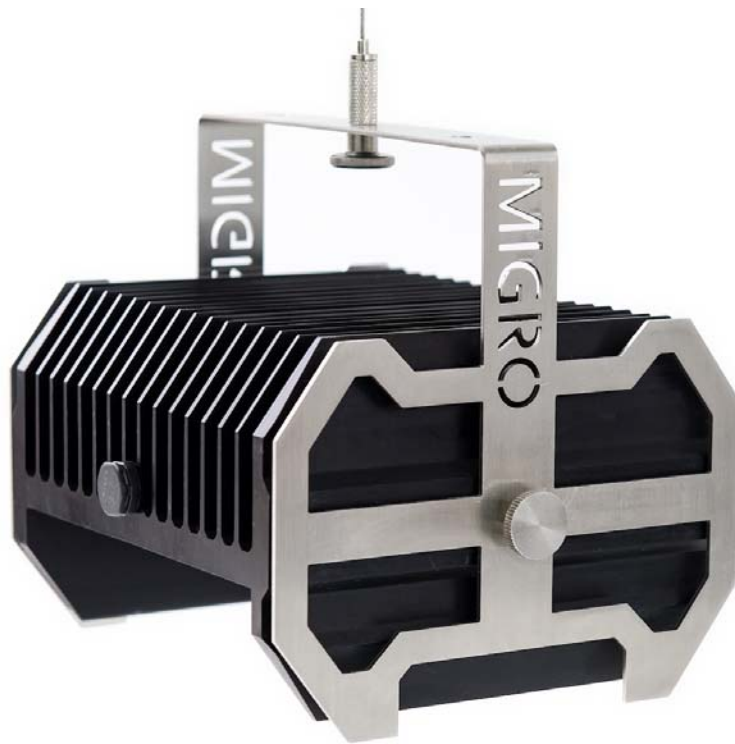


MIGRO

www.migrolight.com

By Partech LED Ltd

Instruction manual and datasheet



Models: MIGRO 100 & MIGRO 200

STOP - Please read all these instructions carefully especially the safety section before unboxing and assembling

Contents

- Safety
- System hardware overview
- Assembly instructions
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Safety

Please read this manual thoroughly before assembling and installing the MIGRO grow light system

Please retain this manual for reference for the lifetime for the product



The MIGRO system limits the voltage in the grow room to 102 Vdc and has built in protection for overcurrent, shorts or overheating. However, to minimise any remaining risk please switch the power off while installing and adjusting the MIGRO system.

If the mains plug needs to be changed to suit your power socket only a qualified person should carry out this work, in accordance with your local codes.

The MIGRO system will operate on a supply voltage ranging from 90V to 305V AC and from 47 to 63Hz frequency. Any other supply voltage will damage the lighting system.

The grow light and the cabling from the LED driver to the grow light is IP67 rated and can be used in a wet area. The mains power plug is not IP rated for a wet area and should be located in a dry area outside of the grow room. If the cable insulation or glands are damaged switch off the system immediately and return to us for repair.



The MIGRO grow light has a highly efficient and passive cooling heatsinks. In order to function correctly air must be able to flow freely across the fins of the heatsink. Do not cover the grow light and restrict the airflow across the heatsink under any circumstances. This will result in heat build up which may damage the grow light and/or cause a fire.

Do not put the grow light down on any surface when the light is on. The light intensity and radiated heat may damage the surface.



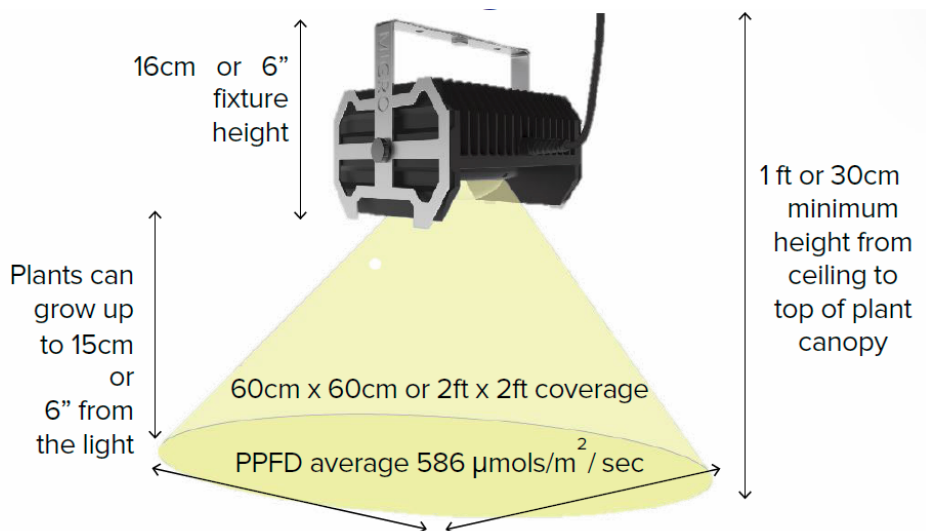
The light intensity from each MIGRO grow light is very high. If you look directly at the light source from less than 9" away the intensity is equivalent to the sun. To protect your eyes do not look directly at the light source when less than 60cm or 2 feet away.

Quick start

- Hang the MIGRO lamp from the hanger provided.
- Adjust the height of the lamp to 35cm or 14" above the top of the plants
- Connect the LED driver and lamp, screwing the cable connector firmly
- Plug in the LED driver to the mains supply
- Adjust the Light intensity using the dimmer control on the LED driver
 - For Seedlings start at a 1/5 turn (about 30W output) of the dimmer from off and keep at this level for the first 2 to 3 weeks (until two or three sets of true leaves have developed)
 - Adjust upwards at 1/5 turn per week up to 100% for flowering

How to optimise your grow light setup

MIGRO 100 (single grow light)



Coverage Charts

Flowering coverage:

Hanging height: 35cm
 60cm x 60cm or 2ft x 2ft coverage
 Power on Full (105W-110W)
 Ave. PAR intensity: 568 $\mu\text{mol}/\text{m}^2/\text{sec}$



Seedling Setting:

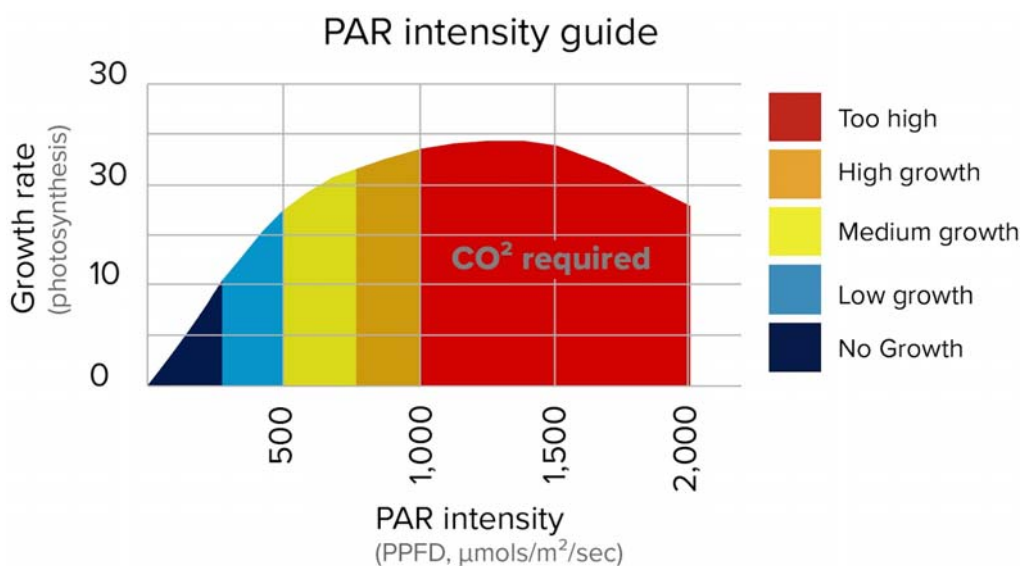
Hanging height: 35cm
 60cm x 60cm or 2ft x 2ft coverage
 1/5 turn of the dimmer (30W)
 Ave. PAR intensity: 155 $\mu\text{mol}/\text{m}^2/\text{sec}$



How much light plants need for maximum yield

To optimise your grow it is recommended that your plants receive 500-1,000 μmol of PAR light for every m^2 (PPFD). Less than this and growth rates and yield will be low.

Growth rates at higher PPFD levels do not justify the extra energy cost and heat output and the plants require additional CO_2 to utilise the high PAR intensity.



Modular arrays

The MIGRO grow lights can be positioned so that they each cover a 60cm x 60cm area and arranged in arrays to cover the total grow area.



System hardware overview

MIGRO grow light and mounting bracket

Electrical rating: 51V DC, 2000mA & consumes 107 Watts

LED: Luminus COB

Single grow light PPF (PAR output): 211 μ mol/s

Lumen output: 17,250 lm

Max operating temperature: 35° C or 95° F.

(Operating the MIGRO at higher ambient temperatures will reduce the performance and operating life)

Grow light can be tilted 180° and fixed in position.



Electrical connection cable

The 2.5 metre long connecting cables between the LED driver and the grow light are high temperature rated cables and have an ingress protection (IP) rating of IP67 which means they can be located in a wet area.



Where two grow lights are paired to one LED driver the wiring is in series. This means both grow lights need to be connected for the lights to come on. If necessary one grow light can be connected directly to the output of an LED driver for two grow lights. This will not damage the grow light or driver.

Please ensure the connectors are connected correctly and glands screwed tight by hand prior to switching on.

Lens

The Lens is an 90 degree lense with diffused pattern to spread a wide illumination so that you can grow close to the light. The lens material is borosilicate glass for ultra high efficiency



Breather

At the opposite end to the cable entry there is a breather vent. This allows the air to expand and contract inside the lamp so that no condensation builds up. It also reduces stress on the seals, prolonging their life. The vent allows gases through its filter but not liquid.



LED driver

The LED driver is highly efficient and reliable constant current transformer and has inbuilt protection from:

- Output over voltage
- Over temperature
- Short circuits

In the event of any of the above the driver will shut down. The driver will automatically restart if the conditions return to normal.



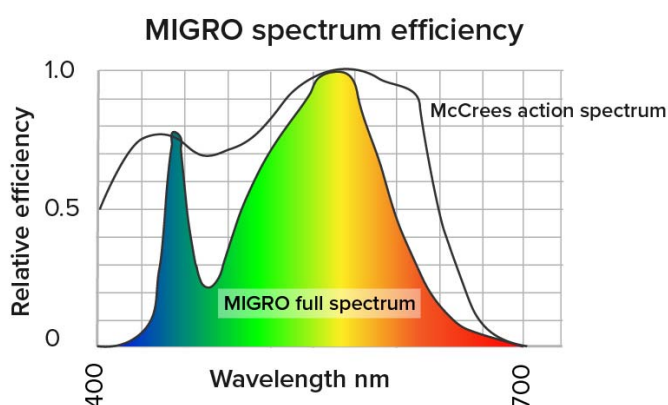
The driver and the mains plug connection should be located outside of the grow area in a dry and safe position with adequate ventilation. The life of the LED driver is related to its operating temperature. Keeping it as cool as possible will extend its life.

The driver is dimmer controlled and has an inbuilt dial for adjusting the output from 10% to 100%.



Light output

The MIGRO grow light is a full spectrum light. The spectrum is optimised for maximum PAR efficiency and matches the McCree action spectrum. The light output is suitable for growing from veg to flower.



Assembly instructions

MIGRO grow light

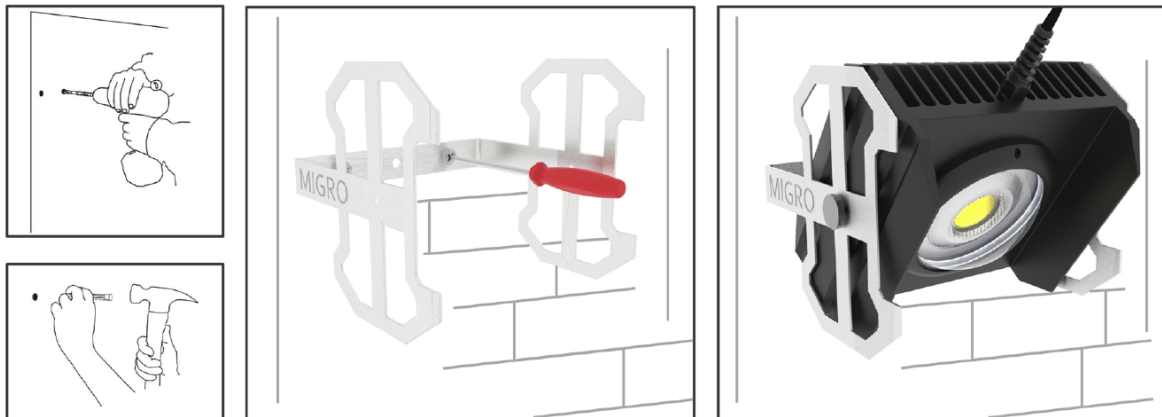
Each grow light is mounted in a stainless steel bracket & fixed with two M5 stainless steel thumbscrews. To adjust the tilt of the lamp loosen the thumbscrews, tilt the grow light, and re-tighten the thumbscrews by hand.

Do not over tighten the thumbscrews or the threads in the heat sink may be damaged.



The grow light can be fitted to a MIGRO hanger or customer specified frame using either the M5 stainless steel thumb screws provided or with any suitable fixings adequate to take the hanging load of the grow light.

When fixing the stainless steel bracket to a wall, beam or anything else it is easiest to unscrew the bracket from the grow light first. You can then comfortably align the bracket in position, drill the necessary holes, fix the bracket and re-fix the lamp in the bracket. Be careful to retain and reinstall the nylon washers between the grow light heatsink and the mounting bracket when reassembling. When fixing the bracket to a surface that is not horizontal at least two 6mm fixings should be used to account for the cantilever forces on the fixings in this arrangement.



Airflow and ventilation

Whatever position the grow light is fixed always ensure there is adequate room for airflow around the fins of the heatsink to prevent heat buildup. The clearance above the heatsink when fixed in the stainless steel bracket is adequate provided the ventilation system in the growing space is drawing air from above the top level of the heatsink. There should be at least 15cm or 6” clearance adjacent on at least three sides of each grow light to facilitate adequate airflow.

Technical Specifications

Input voltage: 110Vac or 240Vac
Photon efficiency: 2.0 μ mol/watt PPF
Lumen efficiency: 160 lm/watt
Cooling: passive (no fans)
Light Spectrum: Full Spectrum (Veg to flower)
Construction materials: 6000 series Aluminium alloy, stainless steel

Dimming 10-100% pwm
Ambient operating temperature: <35 °c
Warranty : 3 years
Lifetime: 50,000 hours (10 years)
Water ingress protection: IP 67
Certification: CE marked and ROHS



Maintenance

The MIGRO grow light system requires almost no maintenance. In ordinary use the only maintenance required is to keep the fins in the heatsink and the lens surface clean. This will ensure the cooling performance and light output are maintained, respectively.

To clean all of the components switch off the power and use warm water and soap with a damp cloth. Do not under any circumstances use a solvent, acid based or an abrasive cleaner on any of the components. Doing so may damage the finish of the product and the electrical and lens seals.

Contact for technical support

Email: info@migrolight.com

Website: www.migrolight.com

Youtube: MIGRO channel - optimise your grow light setup

Telephone: 00 353 (0)1 8245716

By Partech LED Ltd
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