Model-One System User Manual

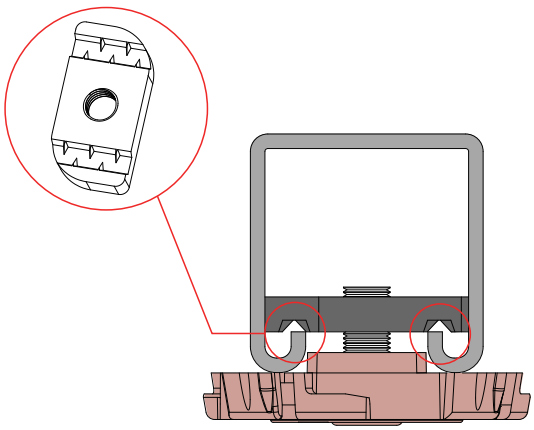
• OVERVIEW

The ThinkGrow Model-One System is a modular grow light system designed to allow users to customize their lighting setup and to provide even lighting for all shape and size spaces. The Model One System combine s LED light bars, individual LED drivers and integrated communication & power cords to create a complete lighting system. Growers can plug-and-play FIVE different types of LED bars to further customize their system. Each LED bar is listed at 90 watts of light. Growers can position each of the Model One drivers close together for high PPFD applications like flowering, or space them further apart for small plants and vegetative areas that do not require high PPFD.

The Model-One System provides two types of replaceable LED drivers. The standard model driver called the TLD-2 features 2 channels of control, with each channel controlling a certain type LED diode on the LED bars. The TLD-4 driver offers 4 channels of advanced spectrum control allowing Full spectrum, Deep Red, Far Red and UV diodes to be controlled separately. Using either model will allow growers to change the light spectrum according to the different stages of their plants.

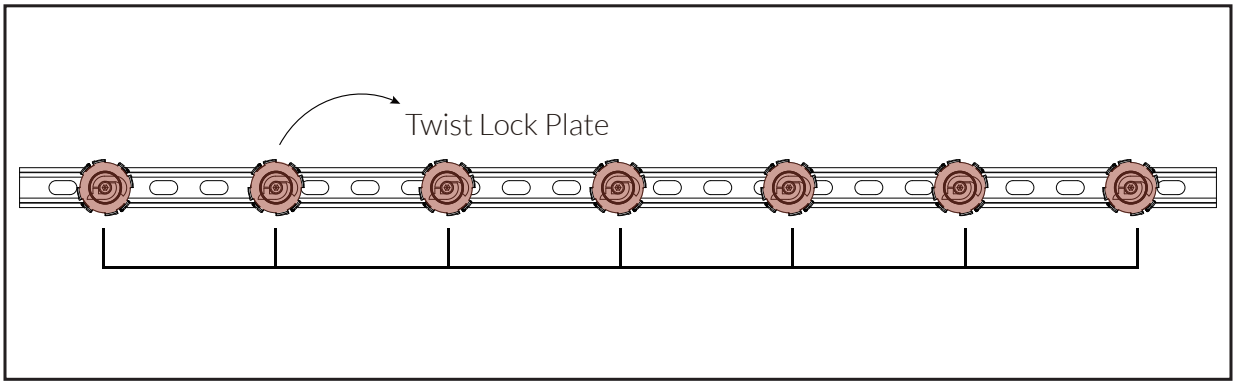
• INSTALLATION

TWIST LOCK PLATE INSTALLATION

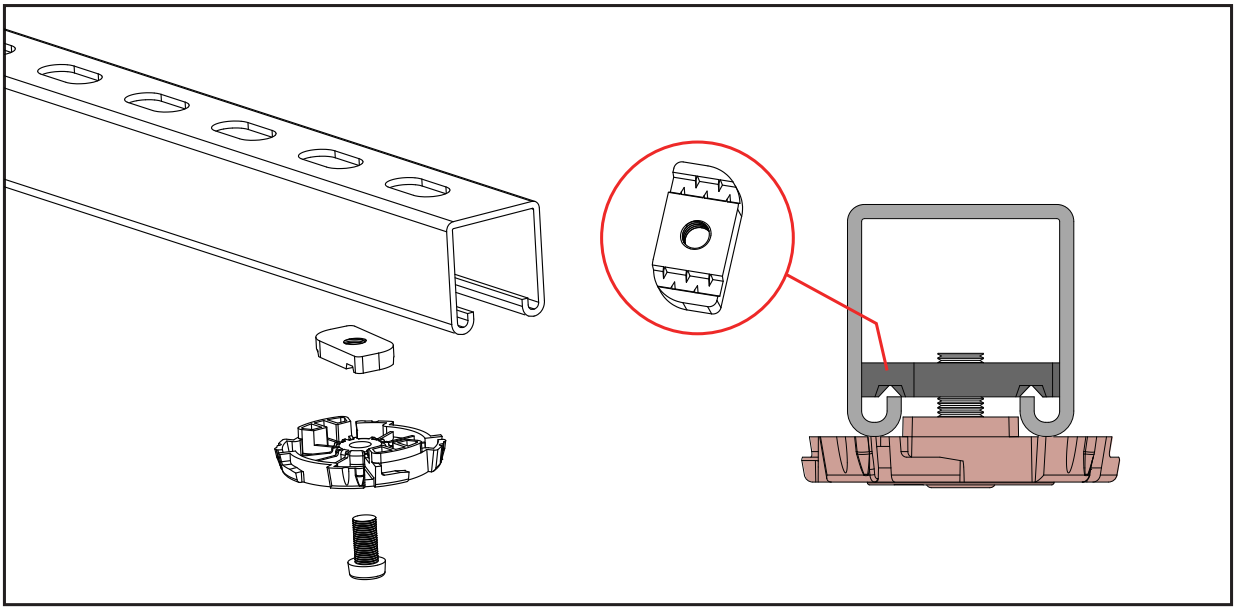


***NOTE:** For a smooth installation, ensure the Unistrut Nuts' teeth face outwards to properly lock onto the Unistrut.

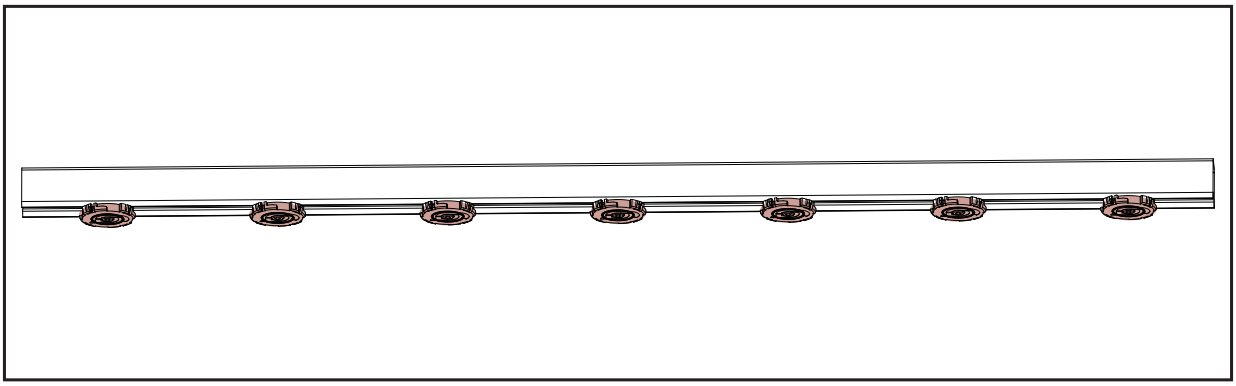
Option 1 - Direct Install to Unistrut



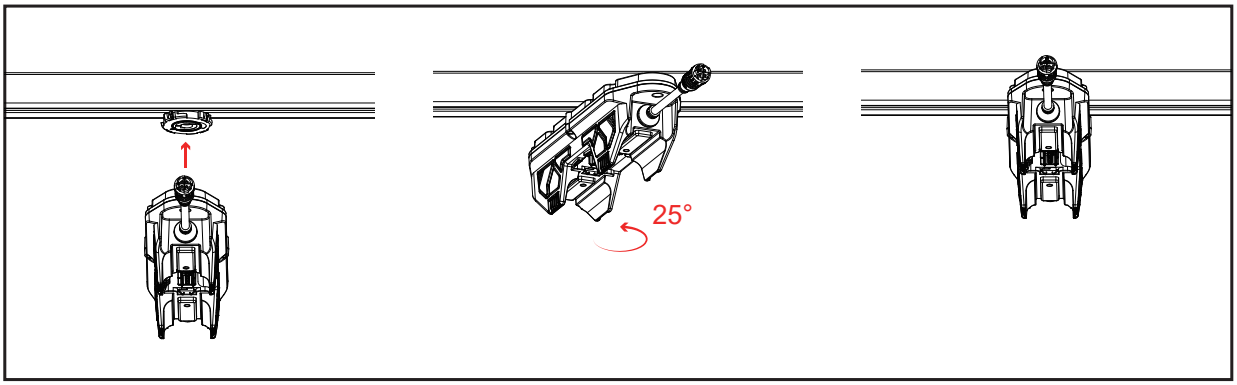
1. Before installation, precisely measure the intended spacing between LED drivers. This ensures uniform distribution, crucial for optimal performance.



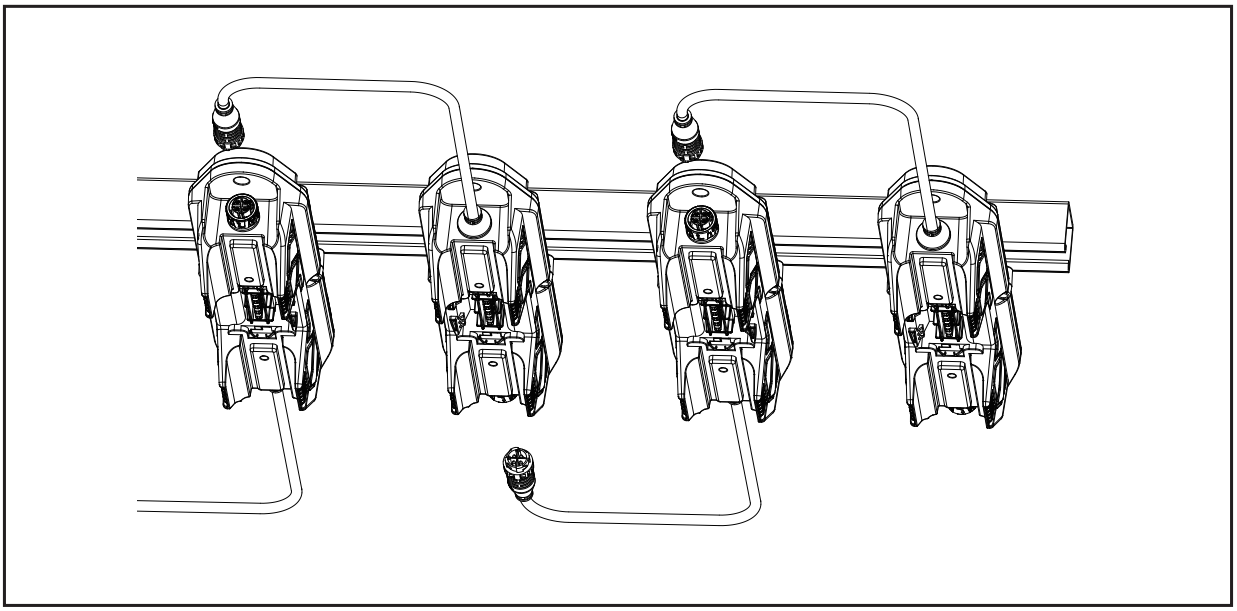
2. Install the unistrut nuts loosely onto the Twist Lock Plate, ensuring a central gap remains. This gap will facilitate screwing and locking the plate into the unistrut later. The Twist Lock Plate features a tongue design for a perfect fit within the unistrut's groove joint.



3. Install the Twist Lock Plates onto the unistrut. Screw and secure the unistrut nuts to the unistrut.

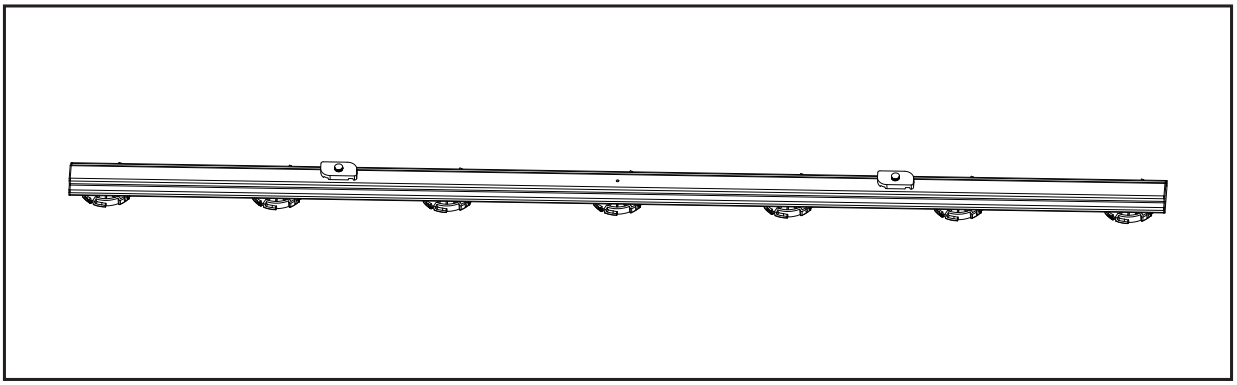


4. Twist and lock the TLD-2 / TLD-4 Light Drivers onto the Twist Lock Plate.



Important! - Ensure that the drivers are installed in an alternating pattern so that the male/female power cables will match up to the correct connection on the end of the Model One Drivers.

Option 2 - Install with Quick Release Mounting Bar (MB-4/7/8/9)

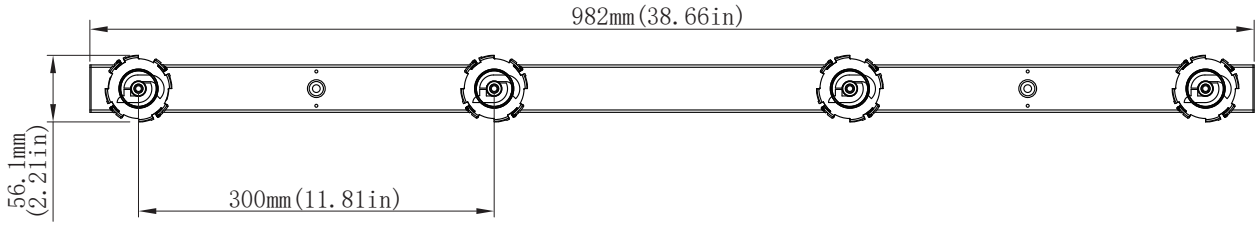


The Quick Release Mounting Bar offers an effective solution for simplifying installation. With four available options, you can precisely apply it for your desired LED configuration:

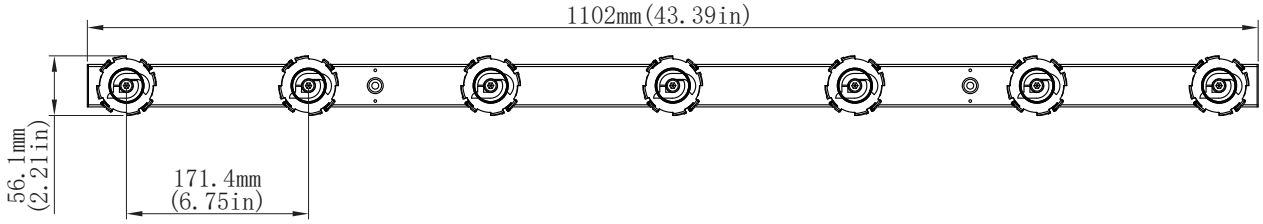
Name	Max #LED on Bar	Total Watts
MB-4	4	360W
MB-7	7	630W
MB-8	8	720W
MB-9	9	810W

Dimension

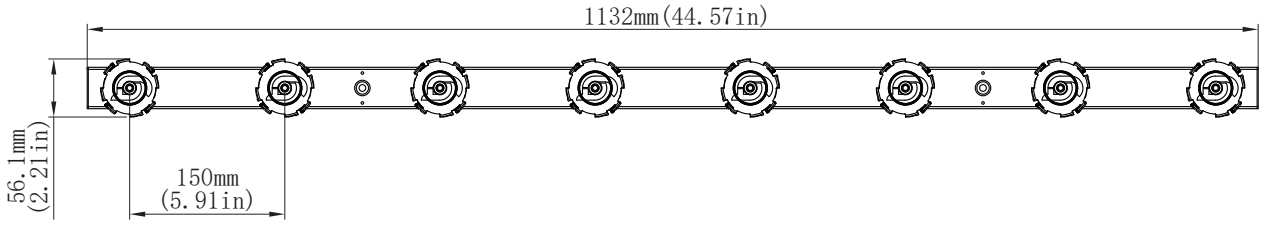
[MB-4]



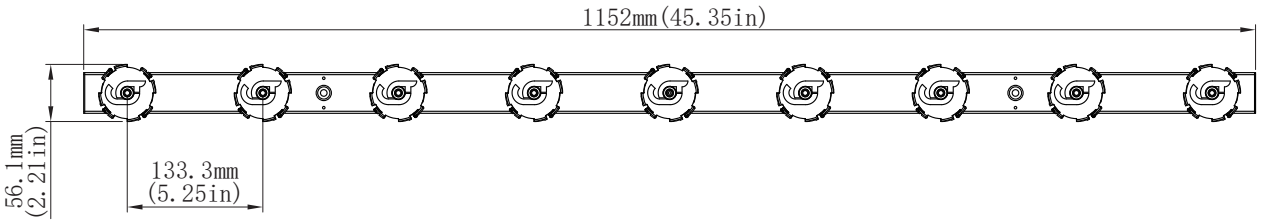
[MB-7]



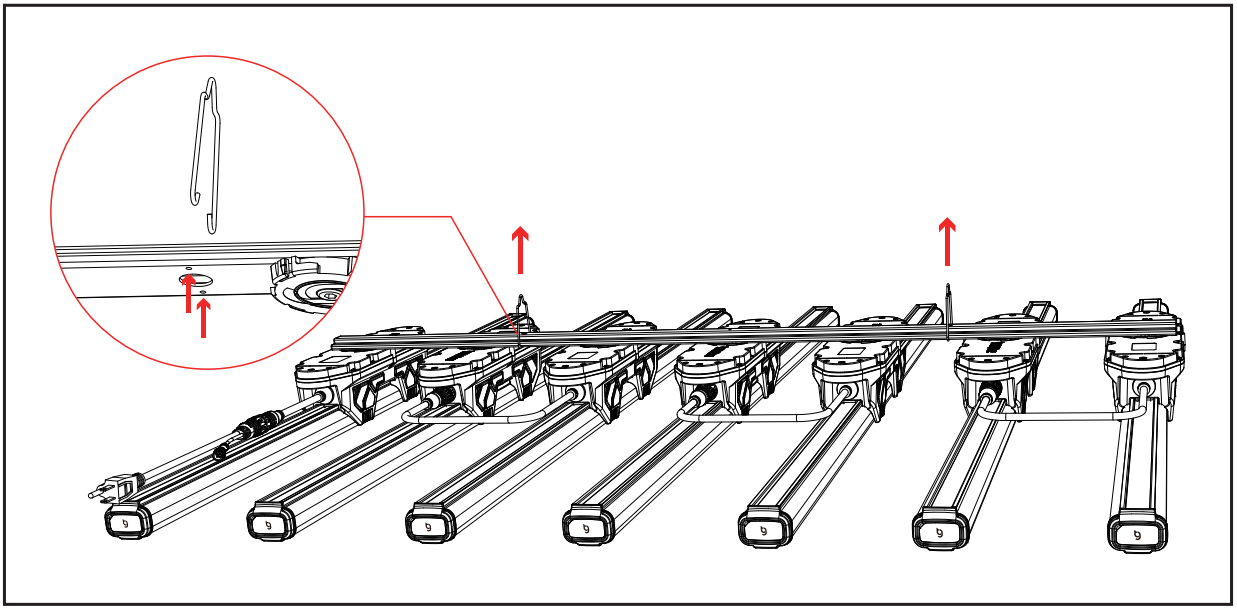
[MB-8]



[MB-9]

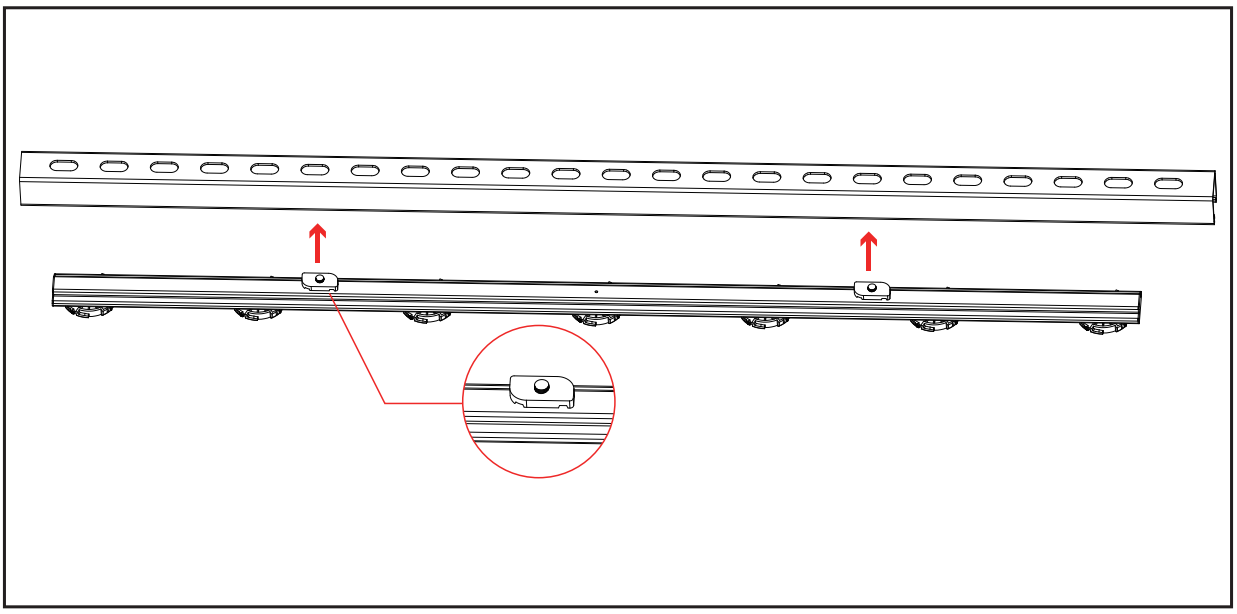


[Direct Hanging Option]

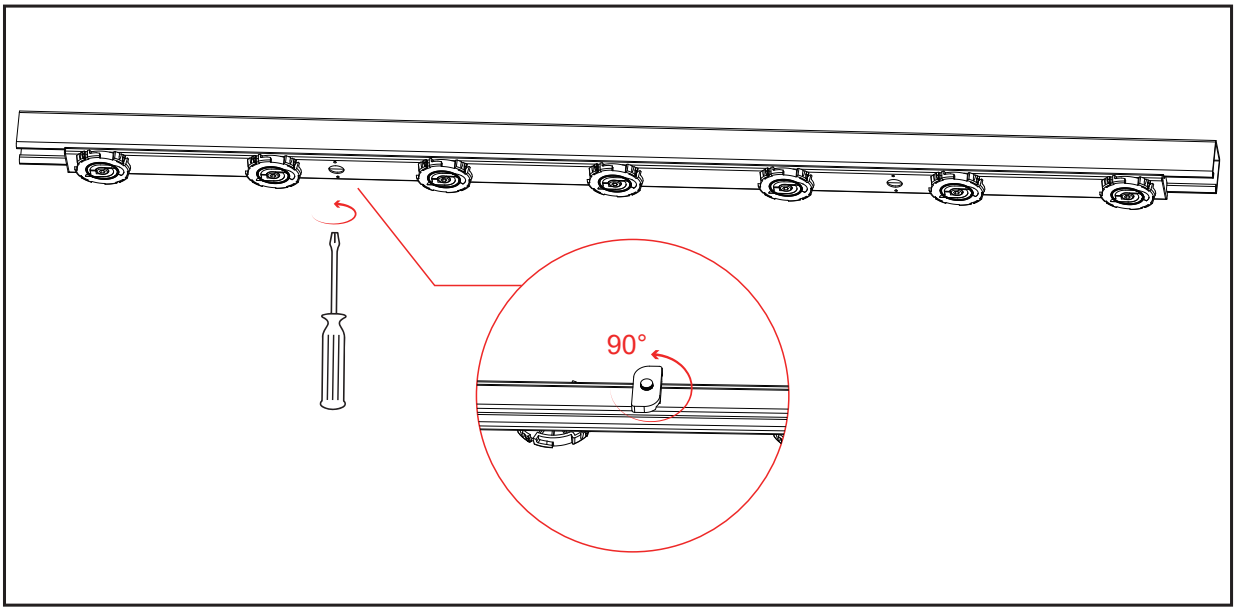


Attach the provided hangars to the Quick Release Mounting Bar, and hang the bar directly from the ceiling.

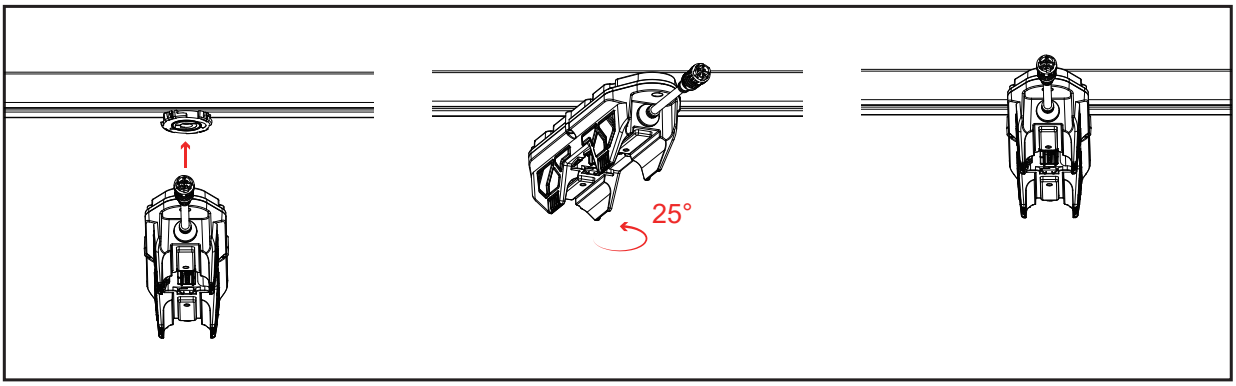
[Install to Unistrut Option]



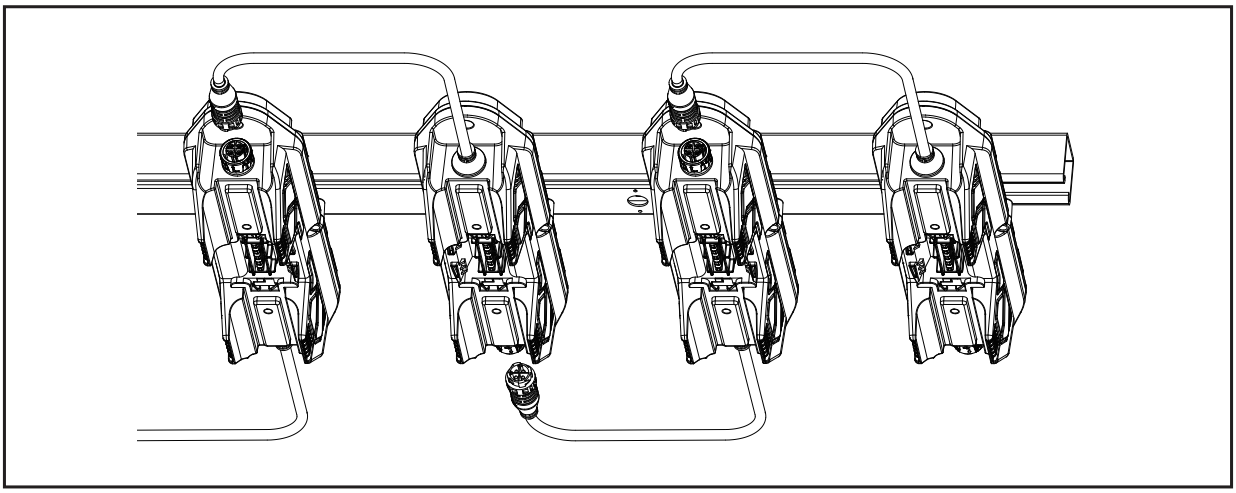
1. Loosely install two unistrut nuts onto the Quick Release Mounting Bar, ensuring the nuts are parallel with the bar. Insert the Quick Release Mounting Bar into the unistrut.



2. Fasten the nuts. Screw and secure the unistrut nuts to the unistrut.



3. Twist and lock the TLD-2 / TLD-4 Light Drivers onto the Twist Lock Plate.



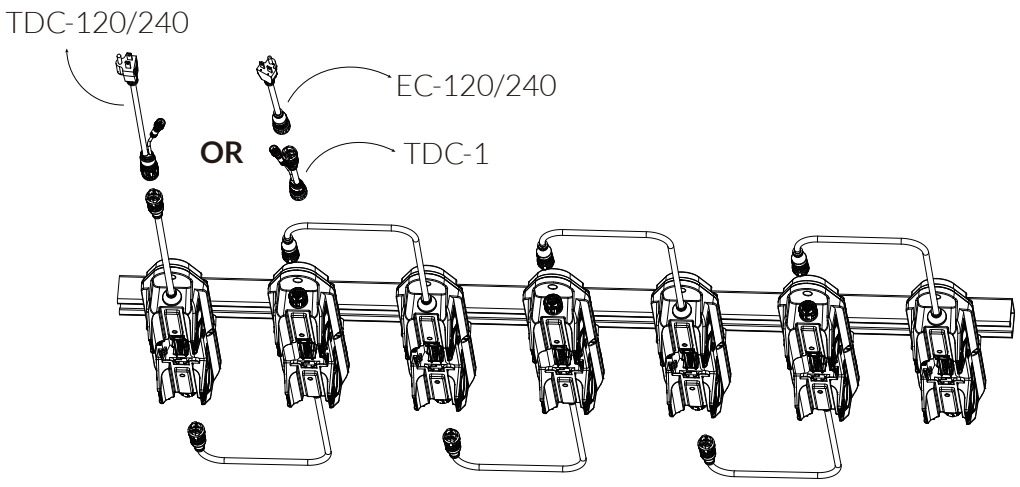
Important! - Ensure that the drivers are installed in an alternating pattern so that the male/female power cables will match up to the correct connection on the end of the Model One Drivers.

POWER CABLE INSTALLATION

***NOTE:** Each group of Model One drivers will be connected to the power source using one of the TDC-120/TDC-240 power cables. The maximum number of Model One drivers that can be connected to the TDC-120/240 is listed below by supply voltage. DO NOT EXCEED RECOMMENDATIONS.

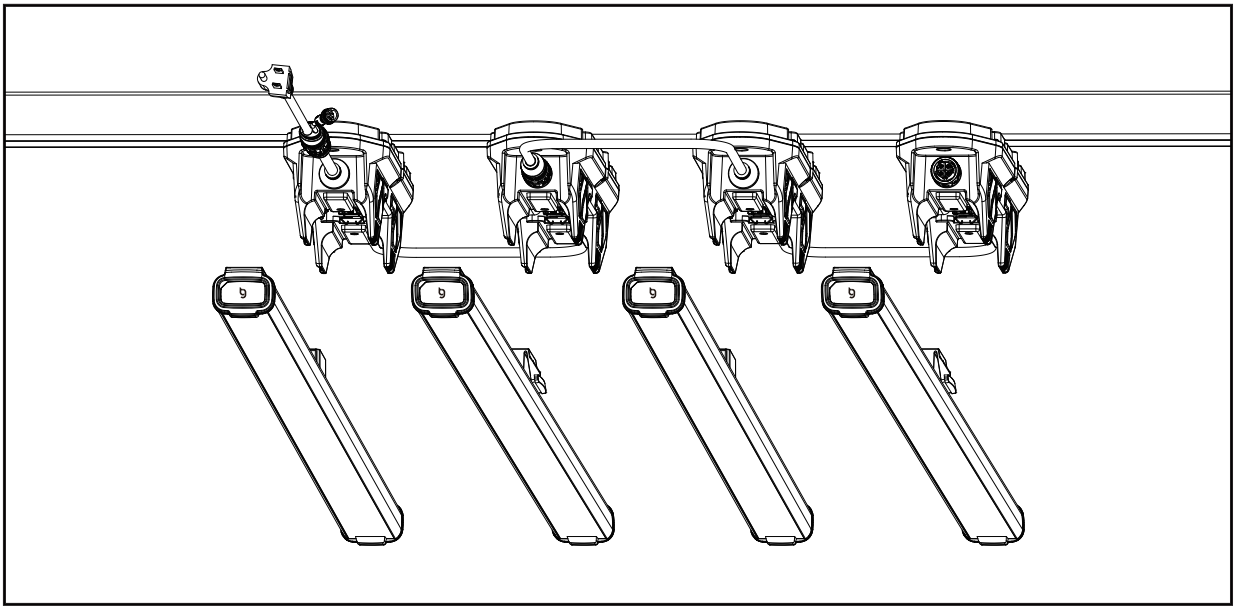
Maximum number of Model One drivers per different power cable:

Voltage	Max No. of TLD-2/4
120V	11 pcs
208V	19 pcs
230V	21 pcs
240V	22 pcs
277V	25 pcs

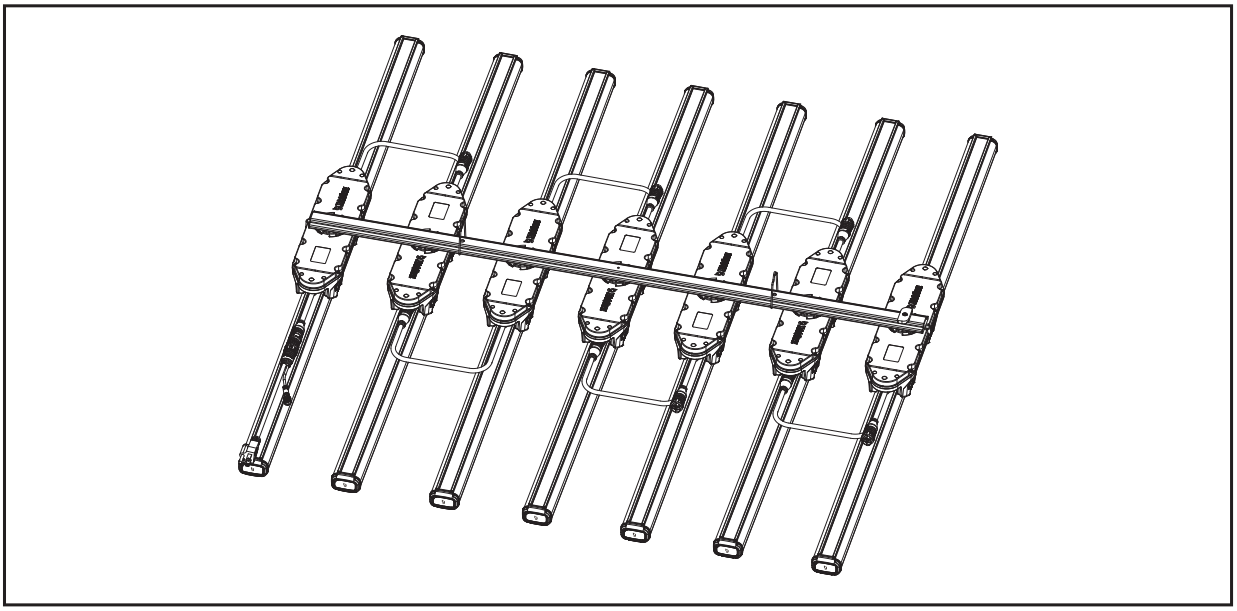


To establish a daisy chain configuration, begin by connecting either the TDC-120/240 or EC-120/240 and the TDC-1 to the input port of the initial driver. An ECS-9 cable can be utilized to link the split head of the TDC-120/240 to the controller. Subsequently, initiate the daisy chain using the appropriate TDC-2/3/4 cable, determined by the required length. Conclude the setup by plugging the TDC-120/240 cable into a power socket to supply power to all connected devices.

LIGHT BAR INSTALLATION



Attach the LED bars onto the drivers. Pay attention to the alignment & orientation of the male plug on the LED bar with the female socket on the driver. They must be properly aligned. Apply pressure on the LED bar until you hear a "click" sound confirming it is fully inserted. Ensure each LED bar is inserted fully into the Driver.



Once completed, your LED system should resemble the image above. Please ensure all connections and hardware are secure.

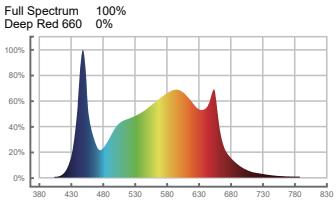
• MODEL ONE SYSTEM COMPONENTS

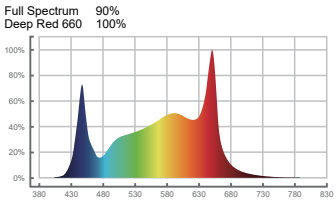
Light Drivers

Model One(TLD-2+DR-1)
Horticulture LED Grow Light



Spectrum





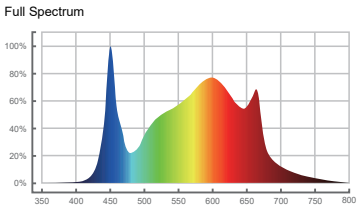
Specification

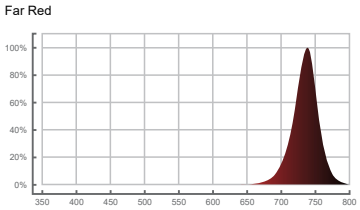
PPF:	243 μmol/s
Efficacy:	2.7 μmol/J
Input Power:	90 W
Input Voltage:	100~277VAC / 50/60Hz
Power Factor:	≥96%
Amperage Draw:	0.77A@120V / 0.39A@240V / 0.35A@277V
LED LM Rating and Lifetime:	L90: >54,000 hours
Ingress Protection (IP Rating):	IP56
Working Environments:	Temperature: 32~104°F (0~40°C) Humidity: ≤90%RH
Product Dimensions:	1143mm(L) x 52.2mm(W) x 102.5mm(H) 45"(L) x 2.05"(W) x 4.04"(H)
Package Weight:	3.92lbs / 1.78kg
Dimming mode:	RS485
Dimming range:	0-100%
Dimming protocol :	Modbus
Lighting Scheme:	Indoor Non-stacked and Greenhouse
Use Case:	Supplemental
Lighting Position:	Top Light

Model One(TLD-2+FR-1)
Horticulture LED Grow Light



Spectrum





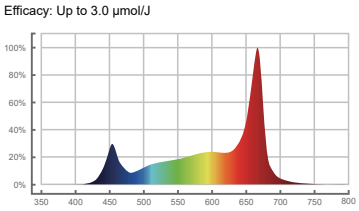
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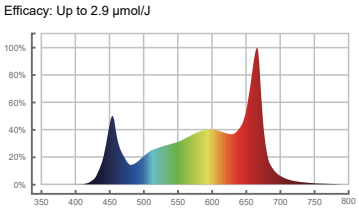
PPF:	234 μmol/s
Efficacy:	2.6 μmol/J
Input Power:	90 W
Input Voltage:	100~277VAC / 50/60Hz
Power Factor:	≥96%
Amperage Draw:	0.77A@120V / 0.39A@240V / 0.35A@277V
LED LM Rating and Lifetime:	L90: >54,000 hours
Ingress Protection (IP Rating):	IP56
Working Environments:	Temperature: 32~104°F (0~40°C) Humidity: ≤90%RH
Product Dimensions:	1143mm(L) x 52.2mm(W) x 102.5mm(H) 45"(L) x 2.05"(W) x 4.04"(H)
Package Weight:	3.92lbs / 1.78kg
Dimming mode:	RS485
Dimming range:	0-100%
Dimming protocol :	Modbus
Lighting Scheme:	Indoor Non-stacked and Greenhouse
Use Case:	Supplemental
Lighting Position:	Top Light

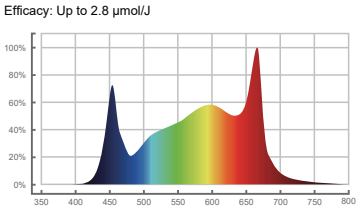
Model One(TLD-4+TLB-1)
Horticulture LED Grow Light



Spectrum



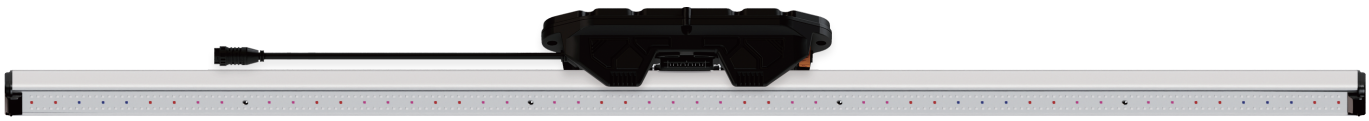




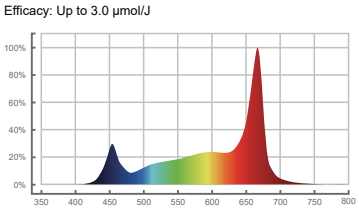
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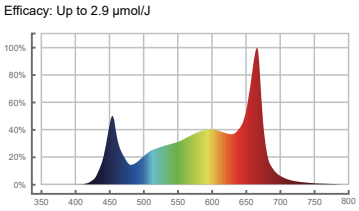
PPF:	Up to 270 μmol/s
Efficacy:	Up to 3.0 μmol/J
Input Power:	90 W
Input Voltage:	100-277V~ / 50/60Hz
Power Factor:	≥96%
Amperage Draw:	0.77A@120V / 0.39A@240V / 0.35A@277V
LED LM Rating and Lifetime:	L90: >54,000 hours
Ingress Protection (IP Rating):	IP56
Working Environments:	Temperature: 32~104°F (0~40°C) Humidity: ≤90%RH
Product Dimensions:	1142.6mm(L) x 52.2mm(W) x 102.5mm(H) 44.98"(L) x 2.05"(W) x 4.04"(H)
Package Weight:	3.92lbs / 1.78kg
Dimming mode:	RS485
Dimming range:	0-100%
Dimming protocol :	Modbus
Lighting Scheme:	Indoor Non-stacked and Greenhouse
Use Case:	Supplemental
Lighting Position:	Top Light

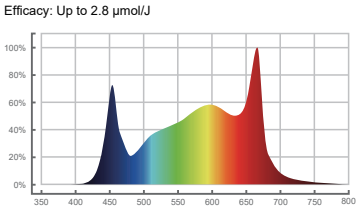
Model One(TLD-4+TLB-2)
Horticulture LED Grow Light



Spectrum



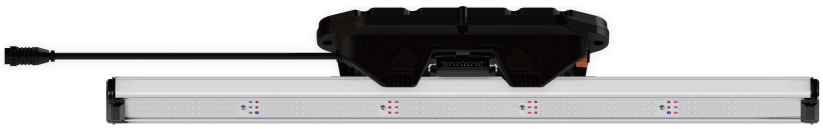




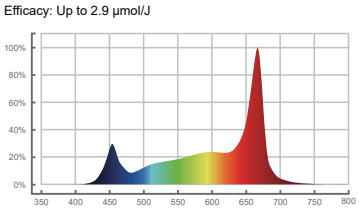
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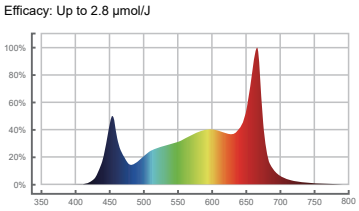
PPF:	Up to 270 μmol/s
Efficacy:	Up to 3.0 μmol/J
Input Power:	90 W
Input Voltage:	100~277VAC / 50/60Hz
Power Factor:	≥96%
Amperage Draw:	0.77A@120V / 0.39A@240V / 0.35A@277V
LED LM Rating and Lifetime:	L90: >54,000 hours
Ingress Protection (IP Rating):	IP56
Working Environments:	Temperature: 32~104°F (0~40°C) Humidity: ≤90%RH
Product Dimensions:	1448mm(L) x 52.2mm(W) x 102.5mm(H) 57"(L) x 2.05"(W) x 4.04"(H)
Package Weight:	4.14lbs / 1.88kg
Dimming mode:	RS485
Dimming range:	0-100%
Dimming protocol :	Modbus
Lighting Scheme:	Indoor Non-stacked and Greenhouse
Use Case:	Supplemental
Lighting Position:	Top Light

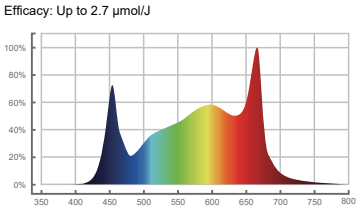
Model One(TLD-4+TLB-3)
Horticulture LED Grow Light



Spectrum



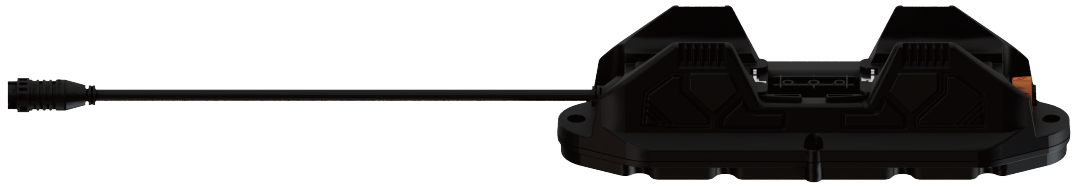




Specification

PPF:	Up to 261 μmol/s
Efficacy:	Up to 2.9 μmol/J
Input Power:	90 W
Input Voltage:	100~277VAC / 50/60Hz
Power Factor:	≥96%
Amperage Draw:	0.77A@120V / 0.39A@240V / 0.35A@277V
LED LM Rating and Lifetime:	L90: >54,000 hours
Ingress Protection (IP Rating):	IP56
Working Environments:	Temperature: 32~104°F (0~40°C) Humidity: ≤90%RH
Product Dimensions:	766mm(L) x 52.2mm(W) x 102.5mm(H) 30.15"(L) x 2.06"(W) x 4.04"(H)
Package Weight:	3.70lbs / 1.68kg
Dimming mode:	RS485
Dimming range:	0-100%
Dimming protocol :	Modbus
Lighting Scheme:	Indoor Non-stacked and Greenhouse
Use Case:	Supplemental
Lighting Position:	Top Light

90watt Model One LED Driver with 2 Spectrum Channels (TLD-2)



Input Power

Input Power	90W

Input Voltage

Voltage	100~277VAC, 50/60Hz

IP Water Resistance

IP	IP56

Amperage Draw

Amperage Draw	0.77A@120V / 0.39A@240V / 0.35A@277V

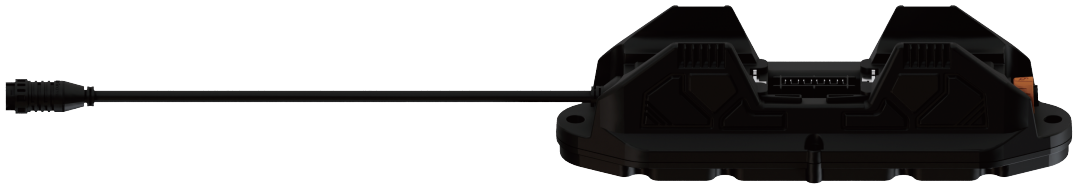
Dimensions/Weight

Size	25.98"(L) x 3.64"(W) x 3.44"(H)
Gross Weight	2.27lbs / 1.03kg

Package Content

Package Content	1x TLD-2 driver

90watt Model One LED Driver with 4 Spectrum Channels (TLD-4)



Input Power

Input Power	90W

Input Voltage

Voltage	100~277VAC, 50/60Hz

IP Water Resistance

IP	IP56

Amperage Draw

Amperage Draw	0.77A@120V / 0.39A@240V / 0.35A@277V

Dimensions/Weight

Size	25.98"(L) x 3.64"(W) x 3.44"(H)
Gross Weight	2.27lbs / 1.03kg

Package Content

Package Content	1x TLD-4 driver

*** For use with TrolMaster Agro Instruments Co., Ltd's horticultural LED tube model __ only.**
SUITABLE FOR DAMP LOCATIONS
CONVIENT AUX EMPLACEMENTS HUMIDES
ONLY CONNECT TO ADJACENT UNITS
Notice: This control circuit is not isolated-see installation instructions.
10 UNITS MAXIMUM

*** À utiliser avec le modèle de tube LED horticole __ de TrolMaster Agro Instruments Co., Ltd uniquement.**
CONNECTEZ SEULEMENT À DES UNITÉS ADJACENTES CAUTION – RISK OF SHOCK. DISCONNECT POWER BEFORE RELAMPING ATTENTION – RISQUE D' ÉLECTROCUTION. DÉBRANCHER L' ALIMENTATION AVANT DE REMPLACER LA LAMPE.
Remarque : Ce circuit de commande n'est pas isolé - voir les instructions d'installation.
MAXIMUM DE 10 UNITÉS

*Minimum distance between drivers should be longer than 115mm. A scale plate is attached for your reference

Light Bars

Model One 4' LED Bar with UV Light Spectrum Channel (UV-1)



Input Power

Input Power 90W

Mounting Height

Height >6" (15.2cm) Above Canopy

PPF

PPF 205 μmol/s

Dimensions/Weight

Size 45.35"(L) x 2.68"(W) x 2.20"(H)

Gross Weight 1.72lbs / 0.78kg

Lifetime

Lifetime L90:> 54,000 hrs

Package Content

Package Content 1x UV-1 light bar

4' LED Bar with 2x Spectrum Channels (Full Spectrum + Deep Red) for Model One System (DR-1)



Input Power

Input Power 90W

Mounting Height

Height >6" (15.2cm) Above Canopy

PPF

PPF 243 μmol/s

Dimensions/Weight

Size 45.35"(L) x 2.68"(W) x 2.20"(H)

Gross Weight 1.65lbs / 0.75kg

Lifetime

Lifetime L90:> 54,000 hrs

Package Content

Package Content 1x DR-1 light bar

4' LED Bar with 2x Spectrum Channels (Full Spectrum + Far Red) for Model One LED System (FR-1)



Input Power

Input Power 90W

Mounting Height

Height >6" (15.2cm) Above Canopy

PPF

PPF 234 μmol/s

Dimensions/Weight

Size 45.35"(L) x 2.68"(W) x 2.20"(H)

Gross Weight 1.65lbs / 0.75kg

Lifetime

Lifetime L90:> 54,000 hrs

Package Content

Package Content 1x FR-1 light bar

4' LED Bar with 4x Spectrum Channels (White+ Deep Red+ Far Red+ UV) for Model One LED System (TLB-1)



Input Power
Input Power 90W

Mounting Height
Height >6" (15.2cm) Above Canopy

PPF
PPF Up to 270 μmol/s

Dimensions/Weight
Size 45.35"(L) x 2.13"(W) x 2.68"(H)

Gross Weight 1.65lbs / 0.75kg

Lifetime
Lifetime L90:> 54,000 hrs

Package Content
Package Content 1x TLB-1 light bar

5' LED Bar with 4x Spectrum Channels (White+ Deep Red+ Far Red+ UV) for Model One LED System (TLB-2)



Input Power
Input Power 90W

Mounting Height
Height >6" (15.2cm) Above Canopy

PPF
PPF Up to 270 μmol/s

Dimensions/Weight
Size 57.36"(L) x 2.13"(W) x 2.68"(H)

Gross Weight 1.87lbs / 0.85kg

Lifetime
Lifetime L90:> 54,000 hrs

Package Content
Package Content 1x TLB-2 light bar

2.5' LED Bar with 4 Spectrum Channels (White+ Deep Red+ UV + FAR Red) for Model One LED System (TLB-3)



Input Power
Input Power 90W

Mounting Height
Height >6" (15.2cm) Above Canopy

PPF
PPF Up to 261 μmol/s

Dimensions/Weight
Size 31.1"(L) x 10.31"(W) x 13.5"(H)

Gross Weight 1.43lbs / 0.65kg

Lifetime
Lifetime L90:> 54,000 hrs

Package Content
Package Content 1x TLB-3 light bar

FOR USE WITH TROLMASTER AGRO INSTRUMENTS CO., LTD'S HORTICULTURAL LED DRIVER MODEL __ ONLY.
SUITABLE FOR DAMP LOCATIONS
CONVIENT AUX EMPLACEMENTS HUMIDES
CAUTION – RISK OF SHOCK. DISCONNECT POWER BEFORE RELAMPING

À UTILISER AVEC LE MODÈLE DE PILOTE DE LED HORTICOLE __ DE TROLMASTER AGRO INSTRUMENTS CO., LTD UNIQUEMENT.
ATTENTION – RISQUE D'ÉLECTROCUTION. DÉBRANCHER L'ALIMENTATION AVANT DE REMPLACER LA LAMPE.

HORTICULTURAL LIGHTING/ NOT SUITABLE FOR HOUSEHOLD ILLUMINATION.
CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR.

CONSULTER UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DÉRIVATION SONT ADÉQUATS.

Daisy Chain Power Cord

There are 5 cables that can be used with the Model One to make the connections and to provide power to each driver. Each of the TDC cables are used to interconnect drivers together. The EC-240 240-volt cable is a main power cable that connects to each group of drivers.

Splitter Power Cord for Model One LED System AWG #18 (TDC-1)

Each "group" of Model One drivers must be connected to power using one of the TDC-1 cables, and an EC-240 power cable. Cables are ordered separately as required for each installation.



AWG

AWG	18

Length

Length	5.9in (15cm)

Amp

Amp	10A

Input Voltage

Input Voltage	100-277V~, 50/60Hz

Temperature Range

Temp	32~104°F

Product Weight

Weight	0.15lbs / 0.07kg

1ft AWG #18 Daisy Chain Cord for Model One LED System (TDC-2)

The TDC-2 is a 1ft long interconnecting cable.



AWG

AWG 18

Length

Length 1ft (30.5cm)

Amp

Amp 10A

Input Voltage

Input Voltage 100-277V~, 50/60Hz

Temperature Range

Temp 32~104°F

Product Weight

Weight 0.20lbs / 0.09kg

2ft AWG #18 Daisy Chain Cord for Model One LED System (TDC-3)

The TDC-3 is a 2-ft long interconnecting cable.



AWG

AWG 18

Length

Length 2ft (61.0cm)

Amp

Amp 10A

Input Voltage

Input Voltage 100-277V~, 50/60Hz

Temperature Range

Temp 32~104°F

Product Weight

Weight 0.26lbs / 0.12kg

5ft AWG #18 Daisy Chain Cord for Model One LED System (TDC-4)

The TDC-4 is a 5-ft long interconnecting cable.



AWG

AWG 18

Length

Length 5ft (152.4cm)

Amp

Amp 10A

Input Voltage

Input Voltage 100-277V~, 50/60Hz

Temperature Range

Temp 32~104°F

Product Weight

Weight 0.51lbs / 0.23kg

4' AWG#18 Daisy Chain Coiled Cord with T Splitter for ThinkGrow Lifter systems (TDC-5)



AWG

AWG 18

Length

Length 4ft (121.9cm)

Amp

Amp 10A

Input Voltage

Input Voltage 100-277V~, 50/60Hz

Temperature Range

Temp 32~104°F

Product Weight

Weight 0.66lbs / 0.3kg

7ft Splitter Power Cord for Model One LED system AWG #18 with NEMA 5-15 plug (TDC-120)



Input Voltage

Input Voltage	120VAC, 50/60Hz

Length

Length	7ft (213.4cm)

Amp

Amp	10A

Temperature Range

Temp	32~104°F

Product Weight

Weight	0.71lbs / 0.32kg

7ft Splitter Power Cord for Model One LED system AWG #18 with NEMA 6-15 Plug (TDC-240)



Input Voltage

Input Voltage	240VAC, 50/60Hz

Length

Length	7ft (213.4cm)

Amp

Amp	10A

Temperature Range

Temp	32~104°F

Product Weight

Weight	0.88lbs / 0.40kg

7ft Splitter Power Cord for Model One LED system AWG #18 with CEE 7/7 Plug (for EU)



Input Voltage

Input Voltage	230VAC, 50/60Hz

Length

Length	7ft (213.4cm)

Amp

Amp	10A

Temperature Range

Temp	32~104°F

Product Weight

Weight	0.64lbs / 0.29kg

7ft Splitter Power Cord with Control Connection for 277V Power (NEMA L7-15P Plug) (TDC-277)



Input Voltage

Input Voltage	277VAC, 50/60Hz

Length

Length	7ft (213.4cm)

Amp

Amp	10A

Temperature Range

Temp	32~104°F

Product Weight

Weight	0.88lbs / 0.40kg

* The TDC-120/240/240E cable is required for the Model-One System, but it is not included in the package content, users need to order the TDC-120/240/240E cable separately. TDC-120 is optional for users who want to use 120V while TDC-240 is optional for users who want to use 240V. TDC-240E is designed for Europe plug type.

• SAFETY PRECAUTION

Read the installation and operation instructions carefully before installing and operating this system. Proper adherence to these instructions is essential.

• WARNING

Users are responsible for the connection and safe installation and usage of the system.

Before installing, servicing, or performing routine maintenance follow these general precautions

It is highly recommended to have a certified personnel or licensed electrician to install your system.

If you are unsure about the installation or maintenance of the fixture, consult certified personnel, licensed electrician and check your electrical code.

Tightly secure the system using appropriate mounting hardware to ensure the fixtures are safe to work under. Please read and follow the instructions.

Ensure the building structure, mounting solutions and components being used are rated to support the weight of the system.

DO NOT make or alter the enclosure of internal wiring or the electrical components during system installation.

Turn off the power and unplug the system when you perform any maintenance.

Verify if the electrical system can support the voltage and current requirements correctly by referring to the information on the specification labels.

Avoid hitting, bending or causing mechanical stress to the system.

DO NOT cover or block any part of the system during operation.

To clean the system, use a damp clean cloth and lukewarm water by gently using a clean soft damp cloth.

Always provide a well-ventilated environment where ambient temperatures do not exceed 104°F (40°C) regardless of whether the fixtures are in operation or not. Excessive temperatures can inhibit performance and may cause damage or shorten the life of the system and void the warranty.

• CAUTION

Read all instructions carefully before installation.

This system is not intended for use by any persons and children with reduced physical, sensory or mental capabilities or lack of experience and product knowledge.

The system is designed to be installed indoors in a space that is protected from rain and flooding.

General maintenance is not required. DO NOT clean the unit, with any chemicals that might cause damage. To clean the unit, use a damp cloth only.

• 5-YEAR LIMITED WARRANTY

ThinkGrow guarantees its LEDs to be free from defects in materials and workmanship. The product features a 5-year warranty from the date of purchase. Misuse, abuse, or failure to follow instructions is not covered under this warranty. The warranty liability extends only to the replacement cost of the product. ThinkGrow will not be liable for any consequential, indirect, or incidental damages of any kind, including lost revenues, lost profits, or other losses in connection with the product. Some states do not allow limitations on how long an implied warranty lasts or the exclusions may not apply to you. ThinkGrow will, at our discretion, repair or replace its products covered under this warranty.

WARNING : **DO NOT** allow the system to be exposed to water or excessive heat. DO NOT open or attempt to repair or disassemble the LED drivers, or light bar, as there are no user-serviceable parts inside. Opening the system will void the warranty.

If the surface of the system is dirty, wipe it with a dry or slightly damp towel. The system operated under natural ventilation conditions.

AVERTISSEMENT : **NE laissez PAS le** système être exposé à l'eau ou à une chaleur excessive. NE PAS ouvrir ni tenter de réparer ou de démonter les pilotes de LED ou la barre lumineuse, car il n'y a aucune pièce réparable par l'utilisateur à l'intérieur. L'ouverture du système annulera la garantie.

Si la surface du système est sale, essuyez-la avec une serviette sèche ou légèrement humide. Le système fonctionnait dans des conditions de ventilation naturelle.

For any issues or concerns with our products, DO NOT return them to the store. Please contact our tech support department at **support@thinkgrow.com** or call **877-420-9876**.

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