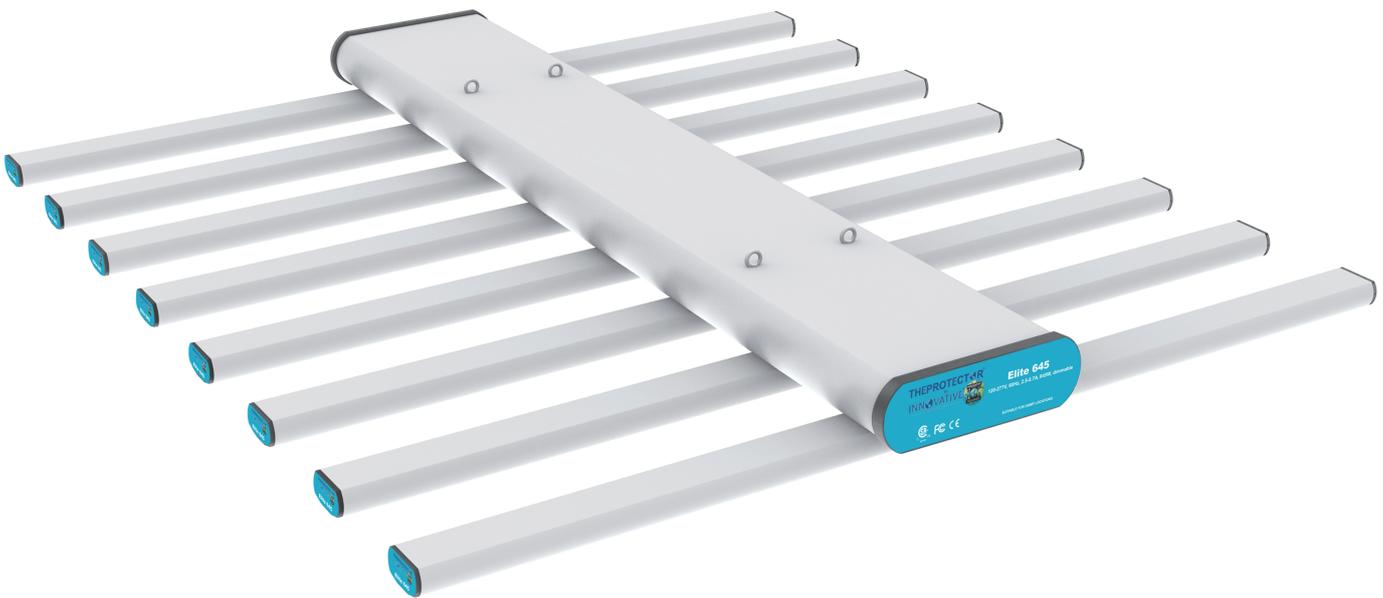


THEPROTECTOR®

by
INNOVATIVE®
—tool and design inc.—



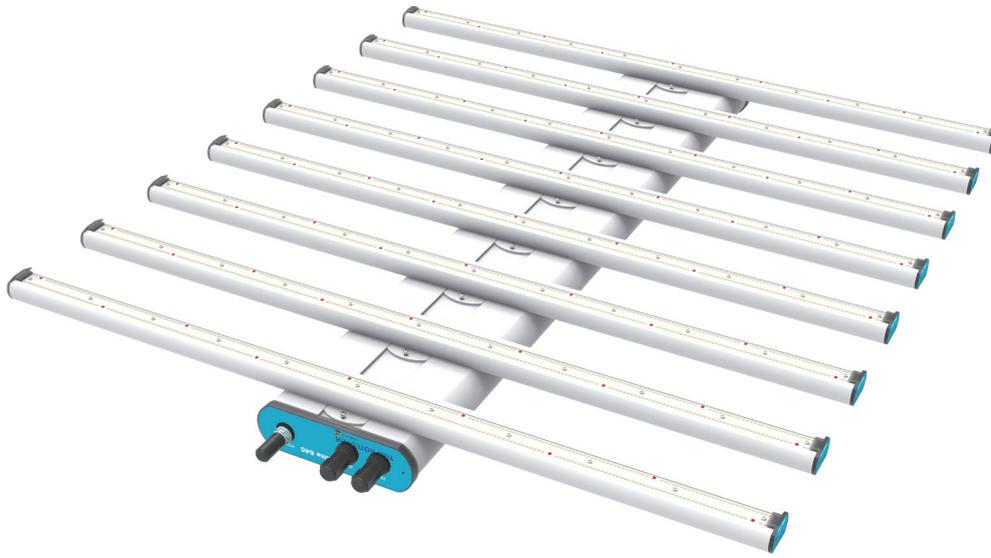
Elite 645 LED Growing Light



User Manual



Elite 645W LED Growing Light



Full Spectrum

- 380nm-780nm.
- Improve active ingredient contents

1750 μmols^{-1}

- Over 2.7 $\mu\text{mol}/\text{J}$ at 645w
- Saving more energy while produce more

Wet location / IP65

- Make planting easier.
- Easily sterilized.

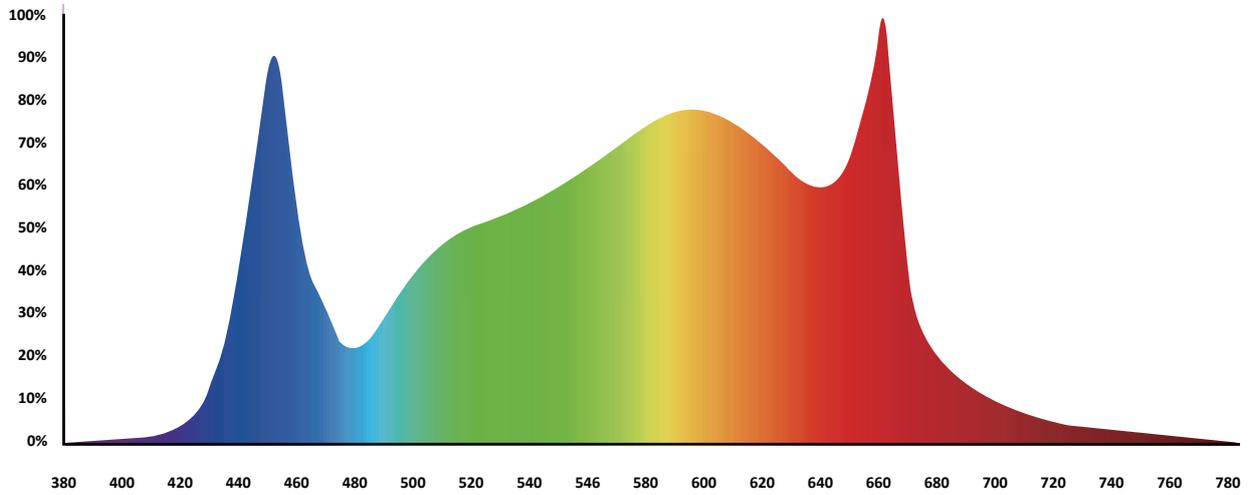
>97% light transmission

- With silicone conformal coa

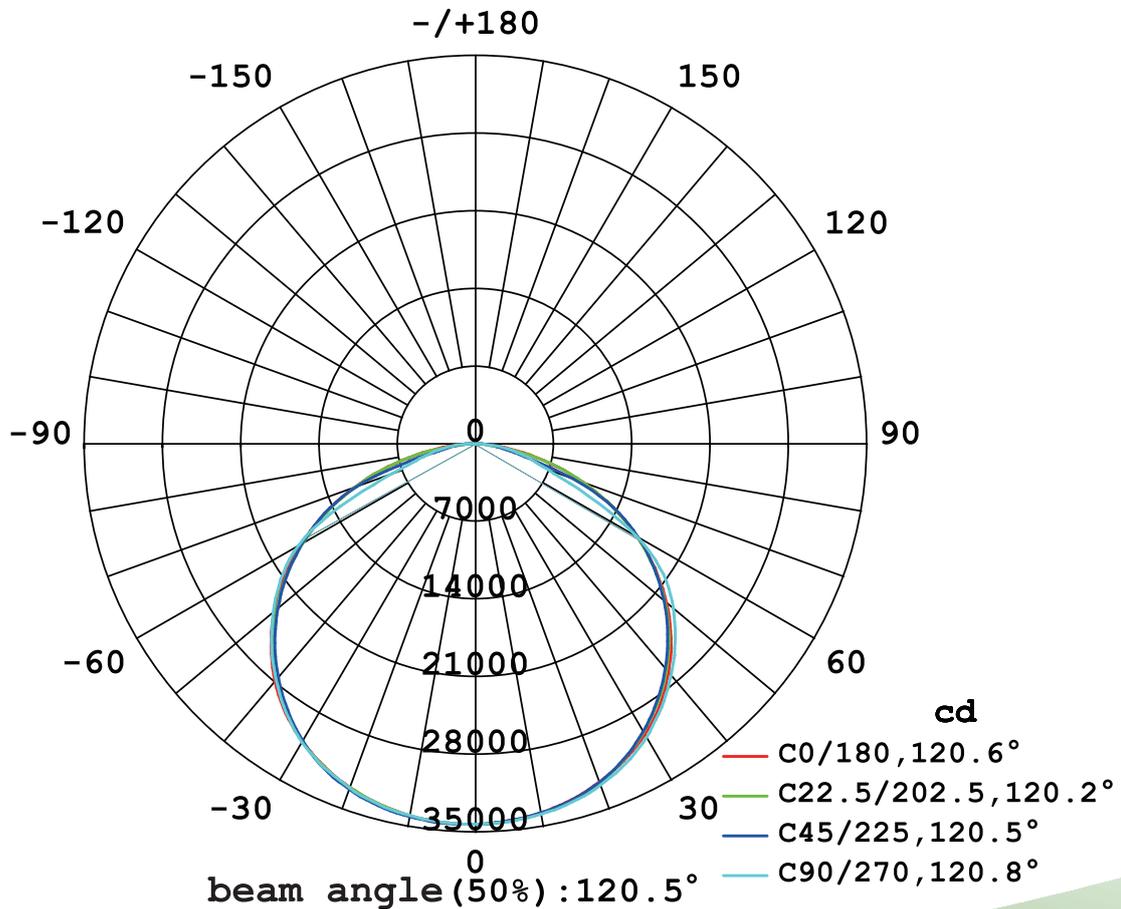
Suitable for GMP & GACP facility

- Sealed shut.
- No fans.

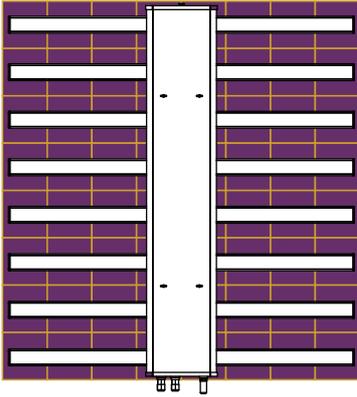
SPECTRUM



LUX DISTRIBUTION



PPFD MAP



Map Size: 4' x 4' (1.2m x 1.2m)

≥1000	800-1000	700-800	600-700	450-600	300-450	250-300
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729	1140	1111	1067	1067	1111	1140	729
799	1325	1289	1246	1246	1289	1325	799
842	1305	1281	1258	1258	1281	1305	842
823	1278	1256	1254	1254	1256	1278	823
823	1278	1256	1254	1254	1256	1278	823
842	1305	1281	1258	1258	1281	1305	842
799	1325	1289	1246	1246	1289	1325	799
729	1140	1111	1067	1067	1111	1140	729

PPFD MAP at 0.5ft

Clearance	0.5	ft
Qty	1	U
Average PPFD	1125	μmol/m ² /s
Max PPFD	1325	μmol/m ² /s
Min PPFD	729	μmol/m ² /s
Min/Average	64.8	%
Watts	645	W

489	701	778	757	757	778	701	489
602	877	967	965	965	967	877	602
658	925	1030	1041	1041	1030	925	658
665	944	1057	1068	1068	1057	944	665
665	944	1057	1068	1068	1057	944	665
658	925	1030	1041	1041	1030	925	658
602	877	967	965	965	967	877	602
489	701	778	757	757	778	701	489

PPFD MAP at 1ft

Clearance	1	ft
Qty	1	U
Average PPFD	845	μmol/m ² /s
Max PPFD	1068	μmol/m ² /s
Min PPFD	489	μmol/m ² /s
Min/Average	57.9	%
Watts	645	W

404	522	591	620	620	591	522	404
488	652	739	761	761	739	652	488
541	707	808	839	839	808	707	541
565	737	844	873	873	844	737	565
565	737	844	873	873	844	737	565
541	707	808	839	839	808	707	541
488	652	739	761	761	739	652	488
404	522	591	620	620	591	522	404

PPFD MAP at 1.5ft

Clearance	1.5	ft
Qty	1	U
Average PPFD	668	$\mu\text{mol}/\text{m}^2/\text{s}$
Max PPFD	873	$\mu\text{mol}/\text{m}^2/\text{s}$
Min PPFD	404	$\mu\text{mol}/\text{m}^2/\text{s}$
Min/Average	60.5	%
Watts	645	W

330	412	467	488	488	467	412	330
388	493	565	592	592	565	493	388
426	546	624	659	659	624	546	426
443	548	654	674	674	654	548	443
443	548	654	674	674	654	548	443
426	546	624	659	659	624	546	426
388	493	565	592	592	565	493	388
330	412	467	488	488	467	412	330

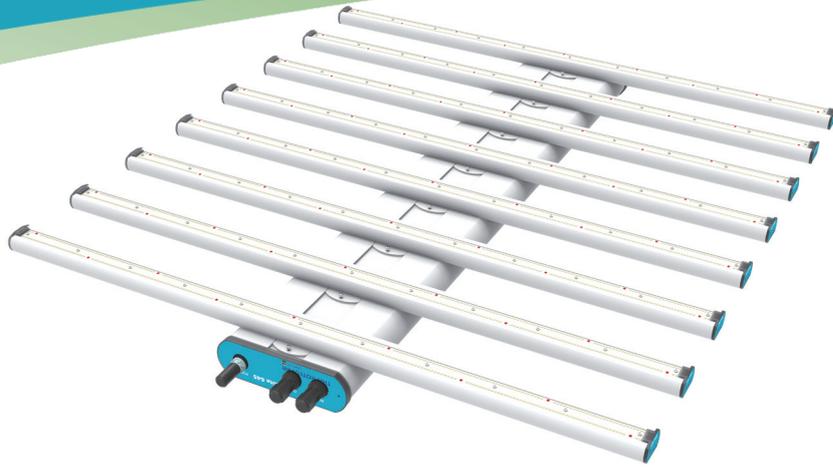
PPFD MAP at 2.0ft

Clearance	2.0	ft
Qty	1	U
Average PPFD	519	$\mu\text{mol}/\text{m}^2/\text{s}$
Max PPFD	674	$\mu\text{mol}/\text{m}^2/\text{s}$
Min PPFD	330	$\mu\text{mol}/\text{m}^2/\text{s}$
Min/Average	63.6	%
Watts	645	W

251	292	319	330	330	319	292	251
289	334	365	379	379	365	334	289
312	364	400	416	416	400	364	312
327	377	414	434	434	414	377	327
327	377	414	434	434	414	377	327
312	364	400	416	416	400	364	312
289	334	365	379	379	365	334	289
251	292	319	330	330	319	292	251

PPFD MAP at 3.0ft

Clearance	3.0	ft
Qty	1	U
Average PPFD	350	$\mu\text{mol}/\text{m}^2/\text{s}$
Max PPFD	434	$\mu\text{mol}/\text{m}^2/\text{s}$
Min PPFD	251	$\mu\text{mol}/\text{m}^2/\text{s}$
Min/Average	71.7	%
Watts	645	W



Specifications

Type	Elite 645
Amp Draw	5.4A @ 120V \ 2.7A @ 240V\ 2.3A @ 277V
Wattage	645W
Power factor	>0.9
PPF	1,750 µmol/s
Efficacy	2.7 µmol/J
BTU	2200 BTU/h
Driver Brand	Moso
Light source	Osram 660nm +Samsung 301b
Dimming	Daisy Chain Digital signal(RS485): 0-100%; Analog signal (0-10Vdc): 35%-100%
Material	6063 Aluminum
Thermal Management	Passive Cooling
Mounting Height	≥ 6" (15.2cm) Above Plant Canopy
Warranty	5 years
Certifications	DLC & CSA Listed, Compliance with FCC / UL / CE /RoHS standards
IP rating	UL 8800 – suitable for wet locations, IP 65
Ambient operating temperature	14 ° F ~ 104°F (-10°C ~ 40 °C)
Lifespan	L90: >54,000 hrs
Fixture Dimension Net Weight	L1252 x W1101 x H110mm 13.7kg
Packing Dimension Gross Weight	L1265 x W395 x H225mm 16.6kg

In the Box

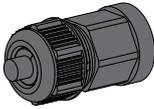
LED Bars
x8 pce



Central Mast
x 1 pce



Waterproof Connector
x2 pce



Network Cable
x1 pce



Power Cable
x1 pce



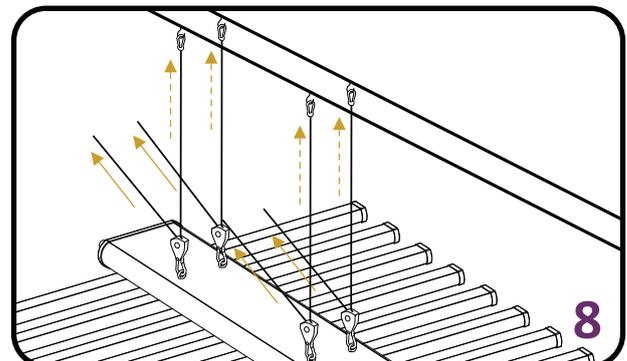
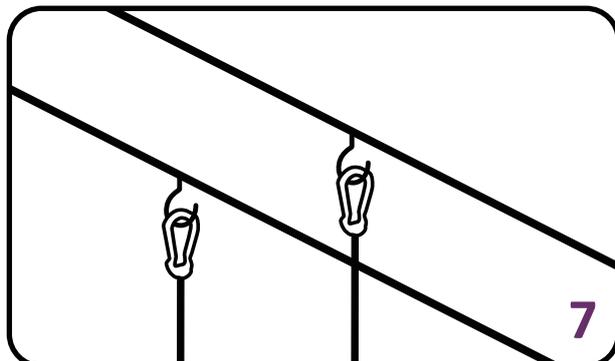
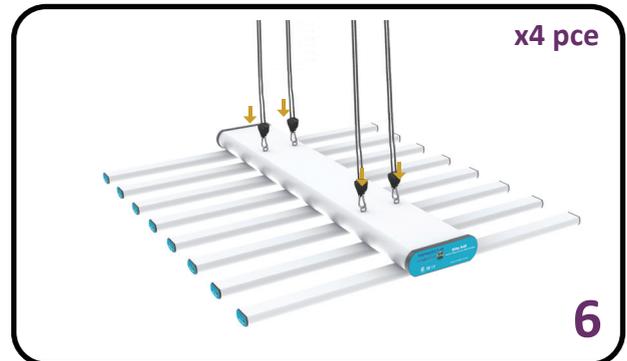
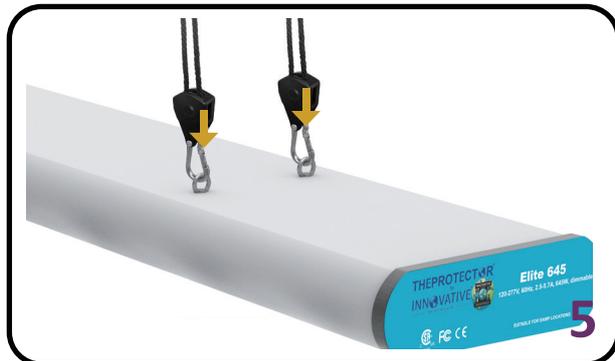
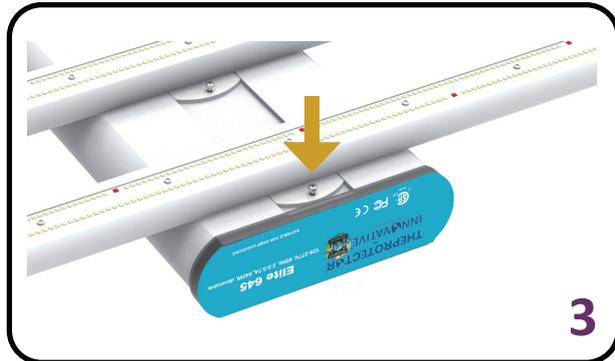
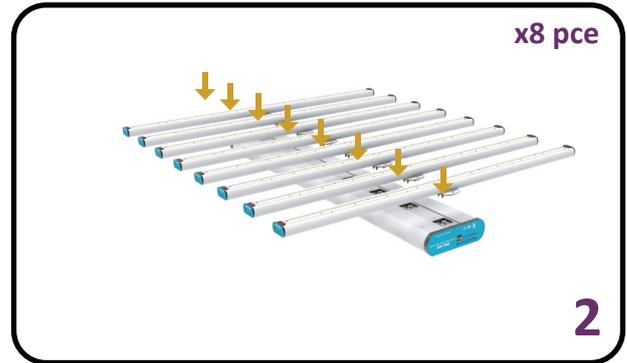
Rope Slings
x4 pce



Dummy Plug
x1 pce

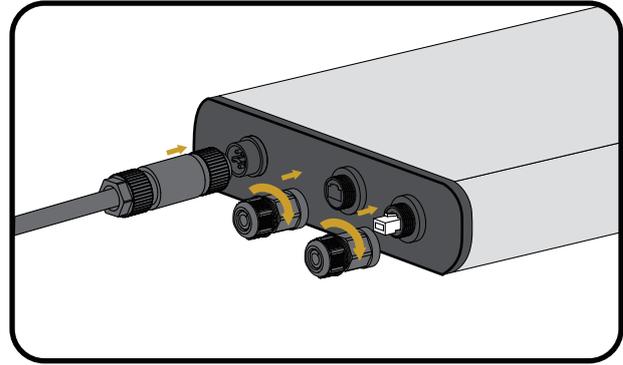
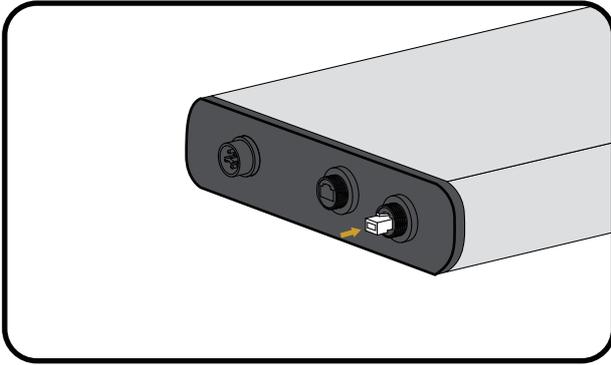


Installation Instructions



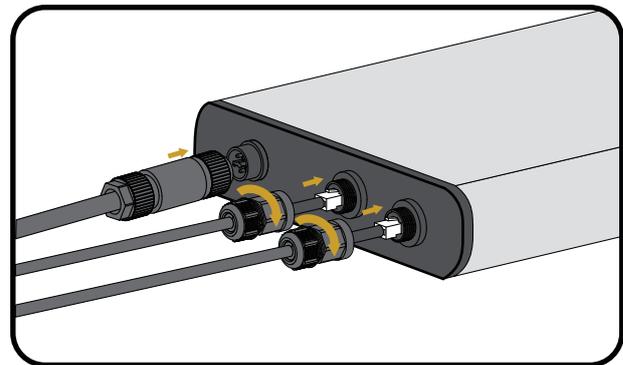
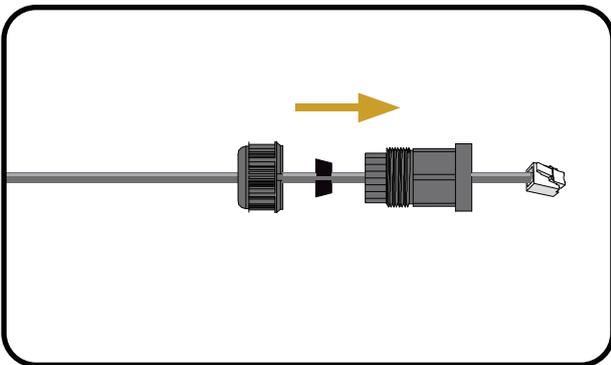
When handling your Nova Fixture. The LED array should NOT come in contact with sharp objects. DO NOT touch diodes or apply direct force to the diodes as this can/will cause permanent damage.

Non-controlled



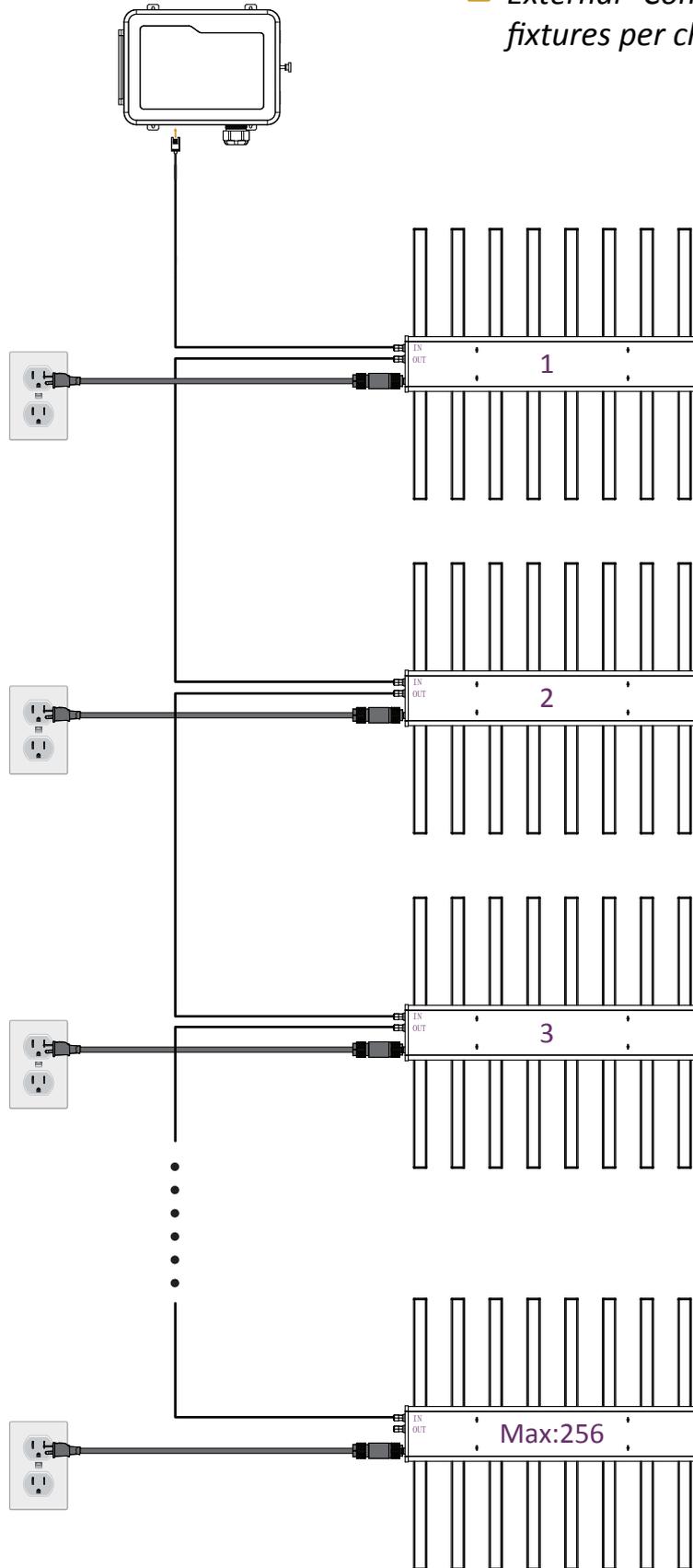
- *Non-controlled fixtures simply operate at 100% when inserting the dummy plug into the IN terminal.*

Dimmable



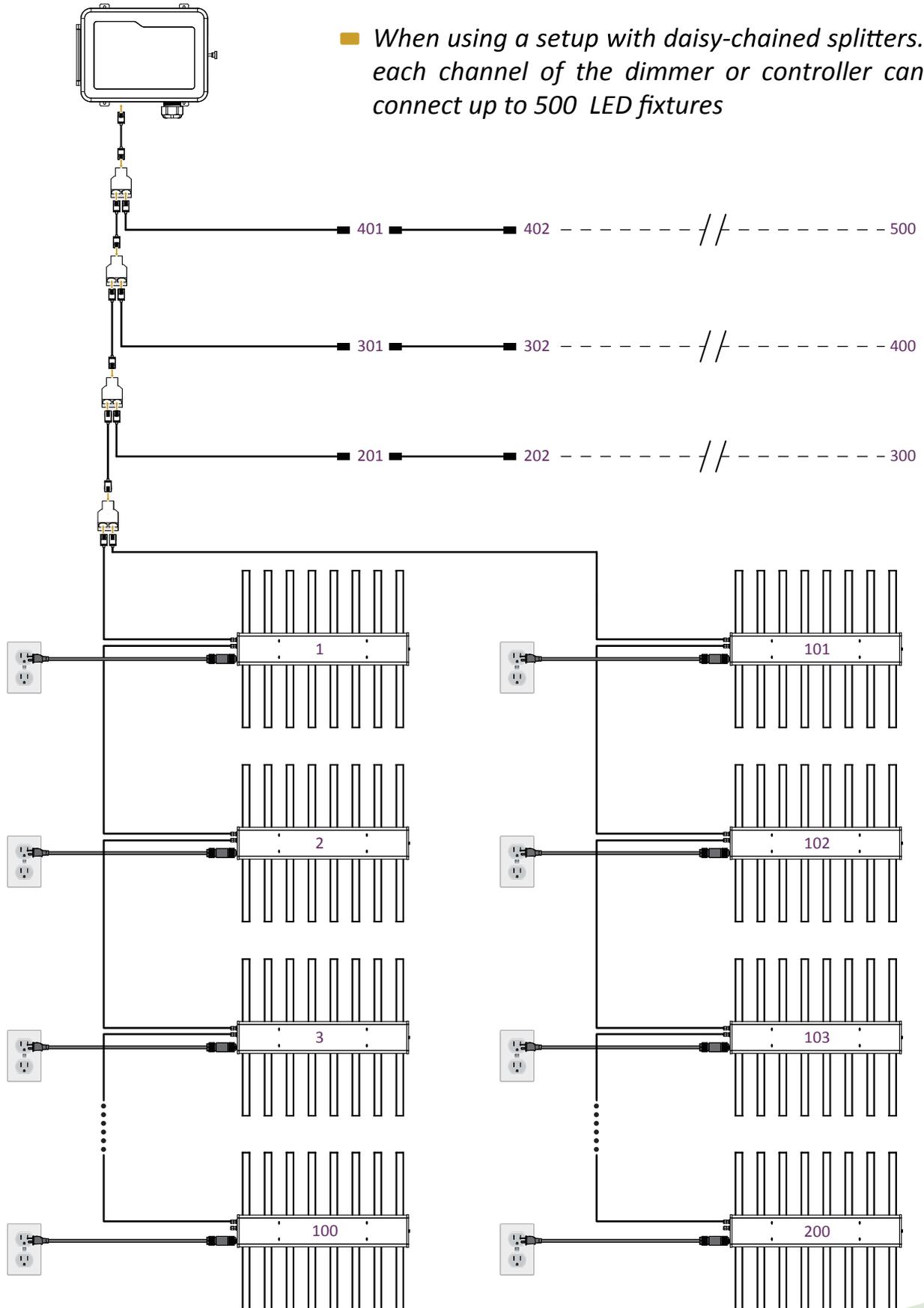
Digital signal

■ External Controllability with 256 fixtures per channel.



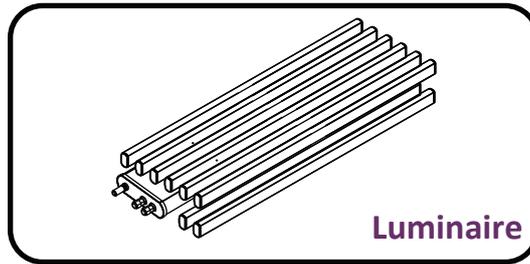
Analog signal

- When using a setup with daisy-chained splitters, each channel of the dimmer or controller can connect up to 500 LED fixtures

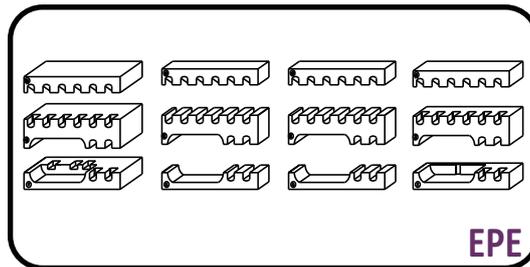




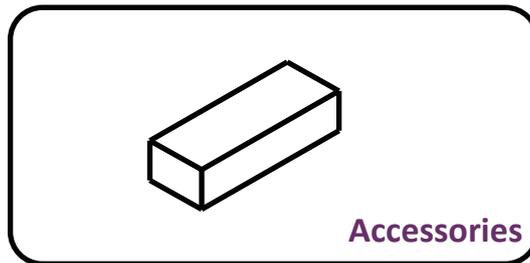
Package Diagram



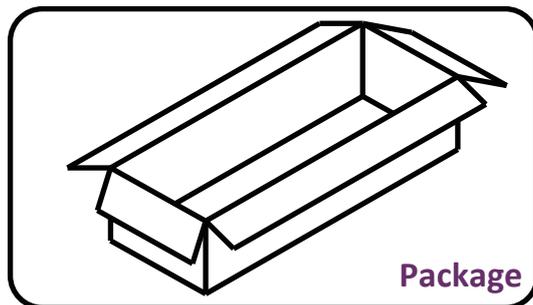
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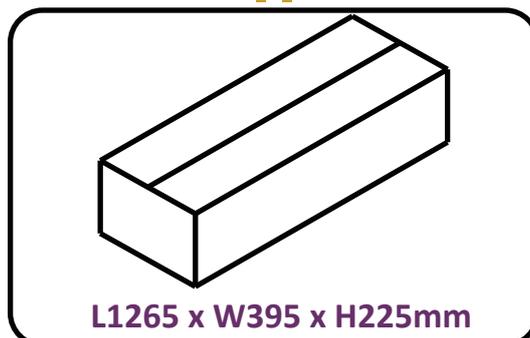
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THEPROTECTOR LIMITED PRODUCT WARRANTY

Please take the time to read through our Standard Terms and Conditions of the THEPROTECTOR Limited Product Warranty.

How Long Does The Coverage Last?

The product warranty becomes effective from the date of purchase by the purchaser. Coverage terminates if you sell or otherwise transfer the product. The repair of your product under warranty will not extend the period of the warranty. Each part has its own warranty. Please check the warranty list before you place an order.

How Do You Get Service?

Products are to be returned to THEPROTECTOR Tech Support Center under your express account. Address: 10725 Capital St. Oak Park. MI +1 248-542-1831

What is Covered?

Normal wear and tear. We will repair or replace your product if your product is found, within the warranty period, to be defective due to defective materials or workmanship existing at the time of purchase. If any part is no longer available or out of manufacture, THEPROTECTOR will replace it with a functionally-equivalent replacement part.

What is Not Covered?

THEPROTECTOR shall NOT be liable for costs of repair or replacement of a product incurred as a result of:

1. Accidental damage, faults caused by negligent use or care, neglect, careless operation or handling of the product which is not in accordance with the THEPROTECTOR Instruction Manuals.
2. Use of the parts not assembled or installed in accordance with the instructions of THEPROTECTOR.
3. Use of parts or accessories other than those produced or recommended by THEPROTECTOR.
4. External sources such as transit damage or weather.
5. Repairs or alterations carried out by parties other than THEPROTECTOR or its authorized agents.
6. Serial numbers defaced or missing.

THEPROTECTOR warrants the mechanical and electronic components of all THEPROTECTOR series to be free of defects in material and workmanship if used under normal operating conditions for a period from the original date of purchase. If the product shows any defects within this period and that defect is not due to user error or improper use THEPROTECTOR shall, at its discretion, either replace or repair the product using suitable new or refurbished parts. In case THEPROTECTOR decides to replace the entire product, this limited warranty shall apply to the replacement product for the remaining initial warranty period.

THEPROTECTOR DISCLAIMS ANY AND ALL LIABILITY, INCLUDING ANY EXPRESS OR IMPLIED WARRANTIES, WHETHER ORAL OR WRITTEN, FOR SUCH THIRD PARTY HARDWARE. THE CUSTOMER ACKNOWLEDGES THAT THEPROTECTOR HAS MADE ITS BEST EFFORTS TO MATCH ITS PRODUCTS TO WORK WITH THIRD PARTY HARDWARE OR THE ABILITY TO CONNECT TO AND CONTROL THIRD PARTY HARDWARE FOR THE CUSTOMER'S INTENDED PURPOSE. THEPROTECTOR ADDITIONALLY AND SPECIFICALLY DISCLAIMS ANY AND ALL LIABILITY FOR CHANGES, ADDITIONS OR UPDATES IN ANY WAY TO A THIRD PARTY MANUFACTURES PRODUCTS.

