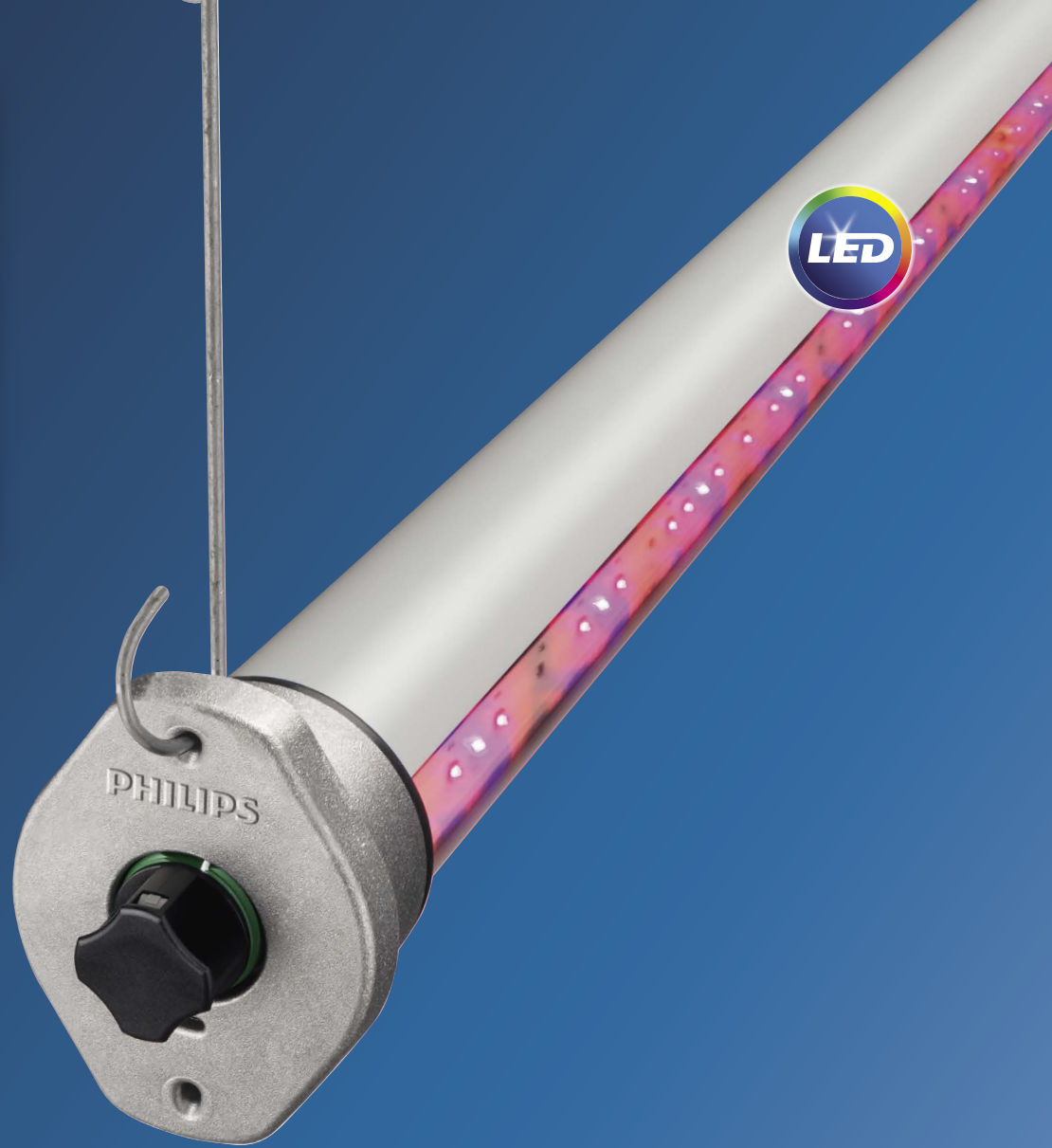


PHILIPS

Horticulture
LED Solutions

GreenPower LED
interlighting



Application Guide

The right light and energy efficiency
for year-round production

March 2020

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Introduction

A more energy-efficient lighting solution for growing right through the darker periods of the year

The GreenPower LED interlighting system allows you to grow and harvest fresh and flavoursome vegetables and fruits year round, no matter where you are or what energy prices you face.

Placing light between your plants lets you achieve the maximum value and return from your production and your electricity costs for lighting.

The GreenPower LED interlighting module comes with an easy plug-and-play connector and just a few cables and accessories. Connect up to 64* GreenPower LED interlighting modules with just one power connection, and save time, materials needed and installation costs, with cost savings up to 50%.

The GreenPower LED interlighting modules can easily be lifted one meter at a time, because of the flexible cable connection, which will also save time and hassle. With the sideways light-distribution pattern, the leaves will be optimally lit for highest yield.

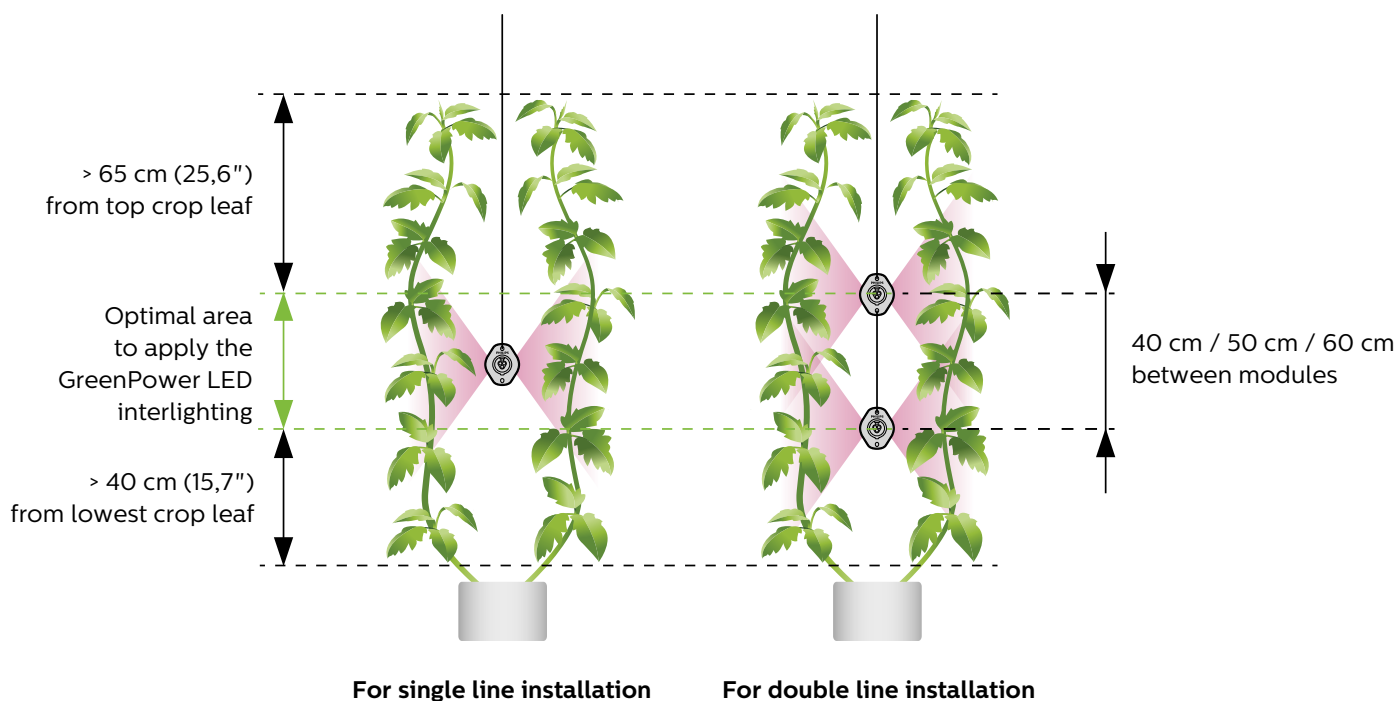
The GreenPower LED interlighting module is designed to minimise maintenance.

The GreenPower LED interlighting module comes in a regular and a high output version.

With a light output of up to 300 $\mu\text{mol/s}$ and a system efficacy of up to 3.3 $\mu\text{mol/J}$.

The GreenPower LED interlighting module comes in lengths of 2 and 2.5 meters, allowing you to tailor it to your specific situation and get uniform light distribution right to the end of each row.

* Based on 400 V usage in Europe



Product information


Technical specifications

Product description	Voltage	Nominal current @ 200V	Nominal current @ 400V	Power	Photon flux	Typical efficacy
	(V~)	(A)	(A)	(W)	($\mu\text{mol/s}$)	($\mu\text{mol/J}$)
GreenPower LED interlighting module (Europe & Asia)						
GP LED interlighting mod DR/B 250RO	200-400	0.42	0.21	79	220	2.8
GPL IL 300 DRB L250 200-400V G3.1 S	200-400	0.49	0.24	92	300	3.3
GP LED interlighting mod DR/B 200RO	200-400	0.34	0.17	64	175	2.7
GPL IL 240 DRB L200 200-400V G3.1 S	200-400	0.43	0.21	74	240	3.2
GreenPower LED interlighting module (North America)						
GP LED interlighting mod DR/B 250RO NA	200-400	0.42	0.21	79	220	2.8
GPL IL 300 DRB L250 200-400V G3.1 S NA	200-400	0.49	0.24	92	300	3.3
GP LED interlighting mod DR/B 200RO NA	200-400	0.34	0.17	64	175	2.7
GPL IL 240 DRB L200 200-400V G3.1 S NA	200-400	0.43	0.21	74	240	3.2
GreenPower LED interlighting module (Japan)						
GP LED interlighting mod DR/B 250RO JP	200	0.42	0.21	79	220	2.8
GPL IL 300 DRB L250 200V G3.1 S JP	200	0.49	0.24	92	300	3.3

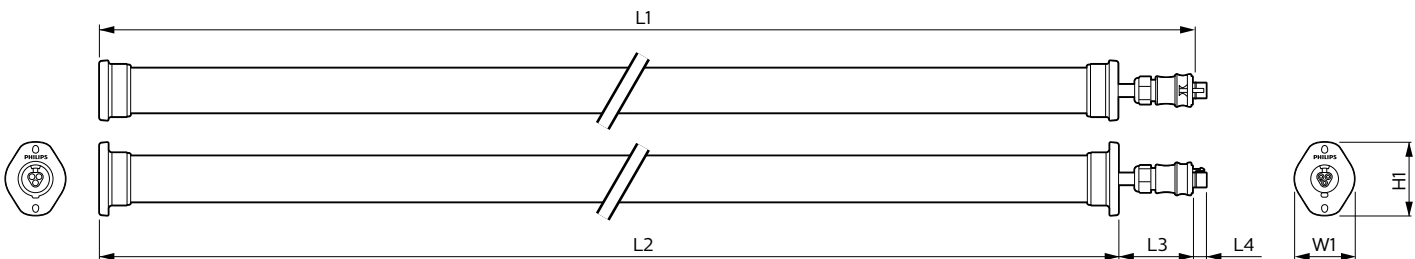
* Typical efficacy: @ $T_{\text{ambient}} = 25\text{ }^{\circ}\text{C} / 77\text{ }^{\circ}\text{F}$

Legend:

GP = GreenPower	G = Generation
GPL = GreenPower LED	S = Static
IL = Interlighting	RO = Regular Output
DR/B = Deep Red/Blue	NA = North America
L = Length	JP = Japan

Technical details	Parameter	Value
Frequency	f	50-60 Hz
Power factor	PF	> 0.9
Inrush current	I inrush	< I nominal / negligible
Residual current	RC	< 0.5 mA
Throughput current	I throughput	$\leq 20\text{ A}$
Through wiring	AWG / cross section	14 / 2.08 mm ²
Total impedance of through wiring	Z	< 60 m Ω per module
Total harmonic distortion	THD	< 20%
Protection against electric shock (IEC61140)		Class II / 

Dimensions



Product description	Product dimensions (mm)						Product weight
	L1 $\pm 10\text{mm}$	L2	L3 $\pm 10\text{mm}$	L4	W1	H1	
GP LED interlighting mod DR/B 200 / GPL IL 240 DRB L200	2028	1948	80	15	65	79	2.2
GP LED interlighting mod DR/B 250 / GPL IL 300 DRB L250	2500	2420	80	15	65	79	2.5

Environmental ratings

Description	Parameter	Value	
Ambient storage temperature	T _{storage}	-20 - 85 °C	-4 - 185 °F
Ambient operating temperature	T _{operating}	0 - 40 °C	40 - 104 °F
Max. case temperature @T _{ambient} = 25 °C / 77 °F	T _{case}	38 °C	100 °F
Relative humidity, non-condensing @ storage, operation and application	RH	5 - 95 %	
Product lifetime @T _{ambient} = 25 °C / 77 °F	L90	36000 hrs	
Ingress protection rating		IP66	
UL/CSA rating		wet locations	

Important

Influencing factors of light output

As ambient temperature increases, both the photon flux and the photon flux maintenance will decrease. Pollution or damage of optics will also impact the light output.

Thermal protection

The GreenPower LED interlighting module has a built-in thermal protection device. If the temperature of the module exceeds 65 - 70 °C / 149 - 158 °F, the module will blink a few times and then shut off. After cooling down, the module will switch on again automatically.

Photobiological hazard

Photobiological safety of lamps and lamp systems (IEC 62471) - class: Exempt.

IEC 62471 International Standard describes the photobiological safety of lamps and lamp systems including luminaires. According to this standard the GreenPower LED interlighting module falls into the Exempt Group for all radiation hazards. This means that no specific safety precautions are needed when installing and operating these luminaires. The basis for this classification is that the luminaire does not pose a hazard due to the aversion response to very bright light sources or due to the thermal discomfort.

Light source not replaceable

If the product becomes damaged, or the light source reaches its end-of-life, the whole fixture needs to be replaced. When the cord is damaged, the whole luminaire shall be destroyed.

Not for outdoor use

The interlighting modules are not suited to outdoor use and are not intended to be installed in stairways and horizontal travel paths.

Mechanical Installation

Important

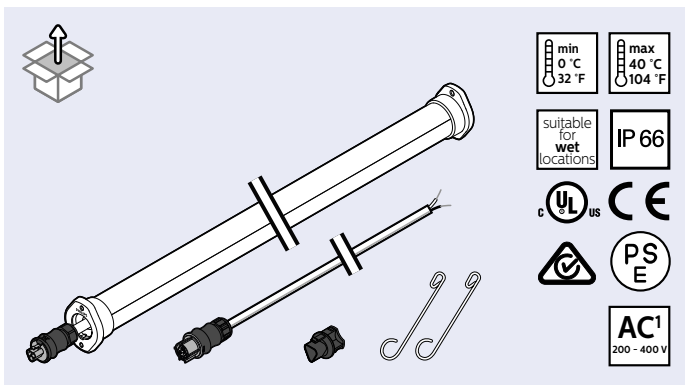
Turn off and disconnect the power before installation.

Installation must be performed by a qualified electrician in accordance with all national and local electrical and construction codes and regulations.

- **DO NOT** attempt to install or use until you have read and understood the installation instructions of this product contained in the Quick Installation Guide, this Application Guide and safety labels.
- Make sure that power cables are routed in a manner that will prevent incidental damage.
- Make sure all junction boxes are mounted to a rigid

structure.

- Use wet-rated (IP66) junction boxes which are also suitable for the power cables used in the application.
- Use a strain-relief or power cable grip if needed.
- Use a cord grip suitable for use with three conductor and type off cord suitable for the trade size of the junction box provided by others, if needed.
- **DO NOT** connect to live power until installation is complete.
- **DO NOT** modify or alter the product; doing so will void the warranty.



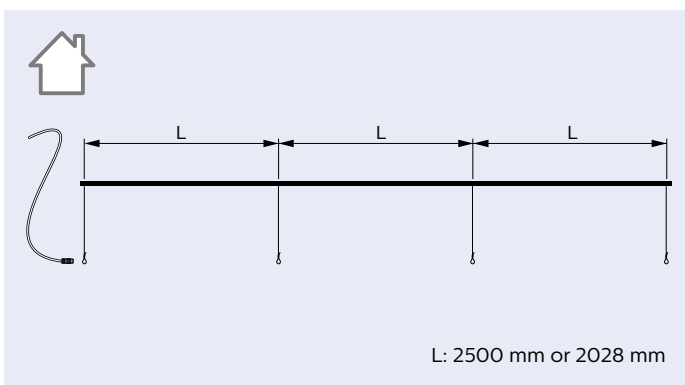
Unpacking

For the installation of the GreenPower LED interlighting you need the following Philips items:

- GreenPower LED interlighting module(s)
- GreenPower LED power cable(s)
- GreenPower LED interlighting mounting brackets
- GreenPower LED top-lighting end cap(s)

Depending on the application, you may need additional modules and/or accessories.

¹ For Japan/PSE, only 200V.



Preparation

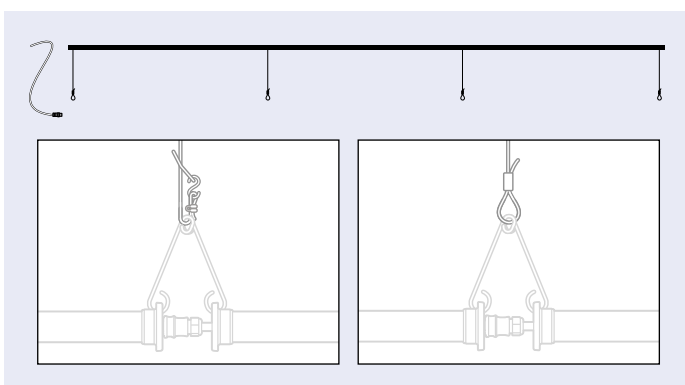
When installing the GreenPower LED interlighting, two steel suspension cables are required per GreenPower LED interlighting module, mounted onto the greenhouse structure at a distance L of 2500 mm or 2028 mm (based on the 250 or 200 version). The structure must be able to support the weight of the complete GreenPower LED interlighting installation. A GreenPower LED power cable must be present at the start of each GreenPower LED interlighting line.

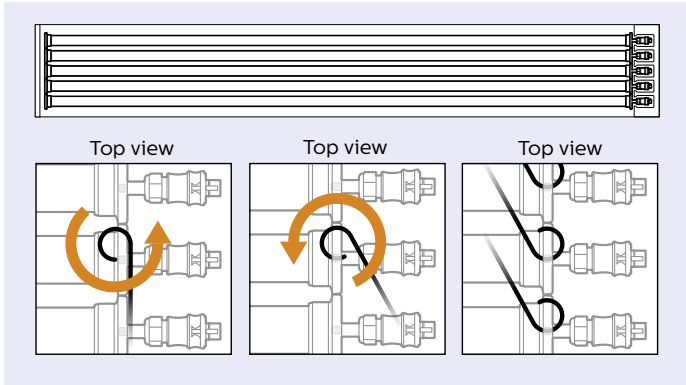
Additional information:

- | | |
|--|---|
| Calculating number and length | : Page 9 |
| Effect on length in case of a central power supply | : Page 8 |
| Max nr of interconnected modules | : Page 11 - Electrical installation |

Adaptable or fixed height

If the height of the GreenPower LED interlighting has to be adaptable to the growth of your crop, then additional mounting/suspension requirements apply. A steel cable adjuster (left figure) is an option. If the height of the GreenPower LED interlighting is fixed, a wire loop (right figure) is sufficient.



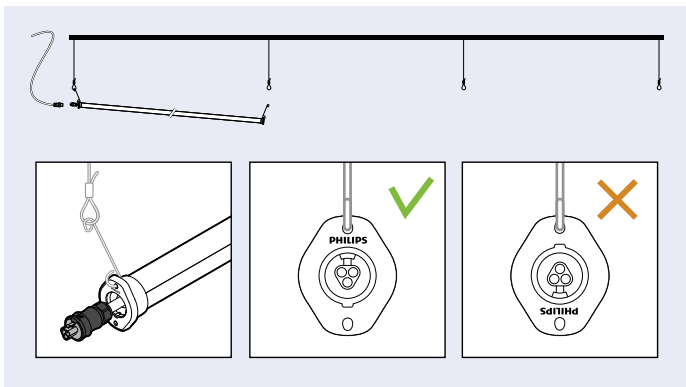


Installing the GreenPower LED interlighting bracket

The GreenPower LED interlighting modules arrive in a box, containing 5 pieces. Open the box and make sure that all Philips logos on the endcaps are located on top.

Insert one GreenPower LED interlighting mounting bracket in each top mounting hole.

Hold the mounting bracket in a horizontal position to the outside of the module, with the loop aligned with the mounting hole. Rotate the mounting bracket through the mounting hole.



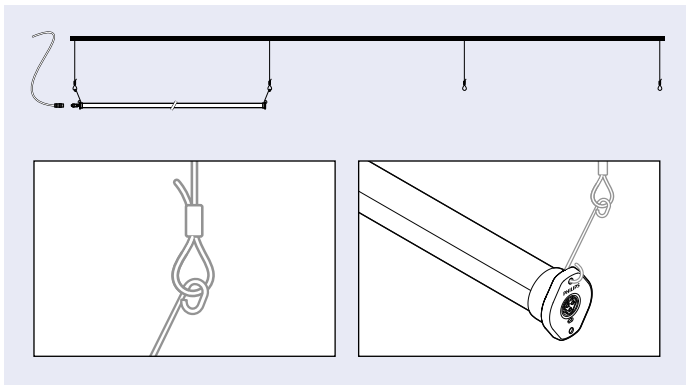
Mounting the first GreenPower LED interlighting module

Hook up the first GreenPower LED interlighting module to the first suspension cable, by pulling the first mounting bracket around the loop of the suspension cable.

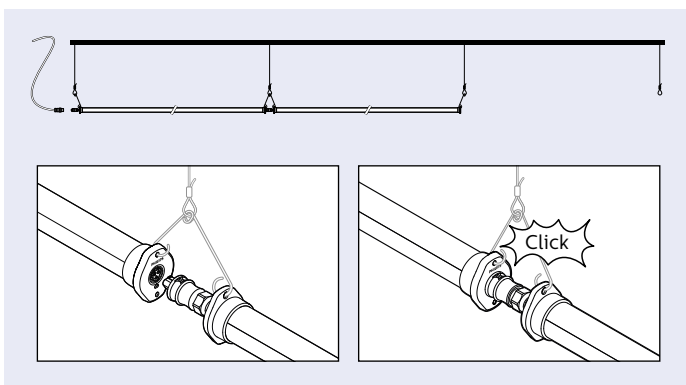
Make sure that the male connector of the GreenPower LED interlighting module is directed towards the GreenPower LED power cable.

Make sure that all Philips logos are located on top.

By locating all Philips logos on top, you ensure having an easy connector click-and-fit daisy chain installation method (no turning or twisting of connectors needed).



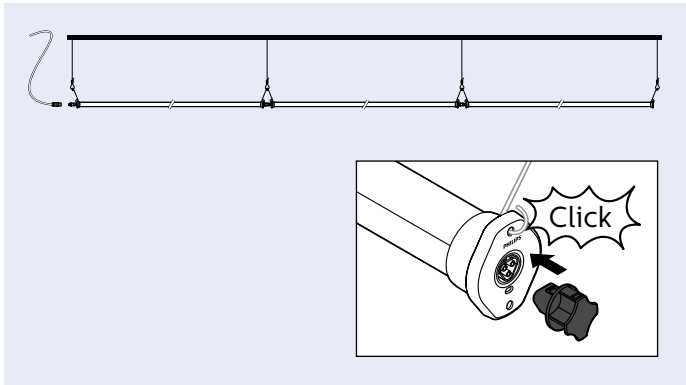
Hook up the other side of the first GreenPower LED interlighting module with the second mounting bracket around the loop of the second steel suspension cable.



Mounting subsequent GreenPower LED interlighting module(s)

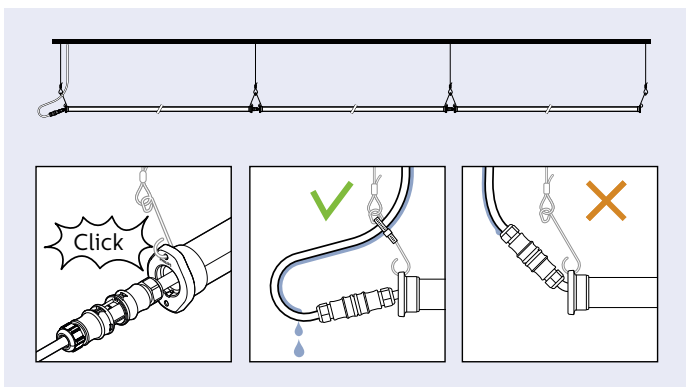
Hook up the second GreenPower LED interlighting module by means of the 3rd and 4th mounting bracket, to the 2nd and 3rd suspension cable. Connect both modules, verify that the male and female connector of these 2 modules are snapped together correctly (click).

Repeat the previous steps until you have reached the end of the continuous line.



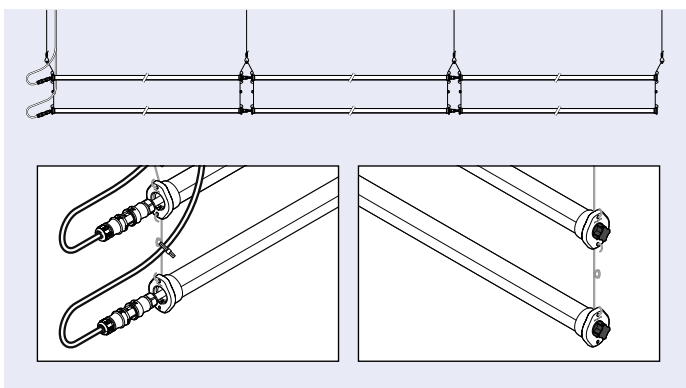
Closing the GreenPower LED interlighting line

Connect the plastic end cap to the female connector of the last module (click), to comply to IP66.



Electrical connection of the GreenPower LED interlighting line

Connect the female connector of the power cable to the male connector of the 1st interlighting module and verify that both connectors are snapped together correctly (click). Connect this power cable to the power grid. Make sure to relieve the stress from the cable connections by introducing a loop and using cable ties. Both connectors are positioned almost horizontally during operation, the lowest point of the power cable is just below the lowest point of the male connector.

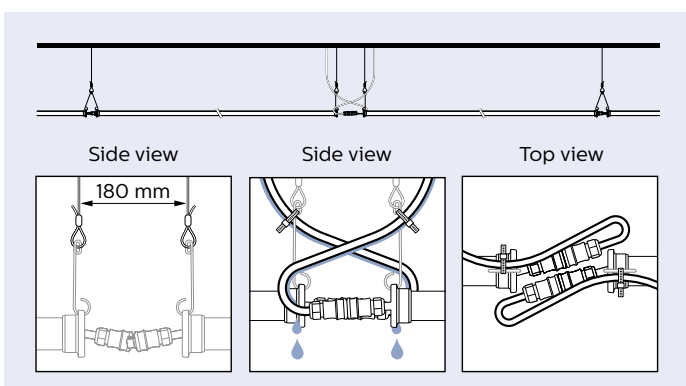


When mounting a double GreenPower LED interlighting line

After the single line is installed, hook up the mounting brackets on the bottom mounting holes of the end caps of the single line (Philips logos on top).

Hook up the interlighting bottom line, including brackets.

The vertical center to center distance between interlighting lines could be customized by choosing the preferred combination of mounting brackets: [Page 10](#)



If a central power supply is used

Install the left and right interlighting line with their own steel suspension cables and separate power cables. The horizontal distance between the first suspension cables of both interlighting lines must be 180mm.

Follow all previous applicable steps ([Page 7 & 8](#)) to build and complete both interlighting lines.

Mechanical layout

Calculating number and length

The GreenPower LED interlighting module is available in two lengths. By choosing the right combination of lengths, it is possible to light every row length in steps of 0.5 meters.

A	Start with the cultivated row length	L total	mtr	Total length of the cultivated row
B	Round down the L total to a whole or half meter	L rounded	mtr	Length of the cultivated row, rounded down
C	Divide L rounded by 2.5 and round down to a whole number	A	pcs	Number of GreenPower LED interlighting modules 250
D	Multiply A by 2.5	L A	mtr	Length of the line with GreenPower LED interlighting modules 250
E	Subtract L A from L rounded	D	mtr	Rest of the cultivated row length to fill
	For D = 0 meter			Number of GreenPower LED interlighting modules 250 is calculated
	For D = 0.5 meter			Replace 3 GreenPower LED interlighting modules 250 with 4 GreenPower LED interlighting modules 200
	For D = 1.0 meter			Replace 2 GreenPower LED interlighting modules 250 with 3 GreenPower LED interlighting modules 200
	For D = 1.5 meter			Replace 1 GreenPower LED interlighting module 250 with 2 GreenPower LED interlighting modules 200
	For D = 2.0 meter			Add 1 GreenPower LED interlighting module 200

Important

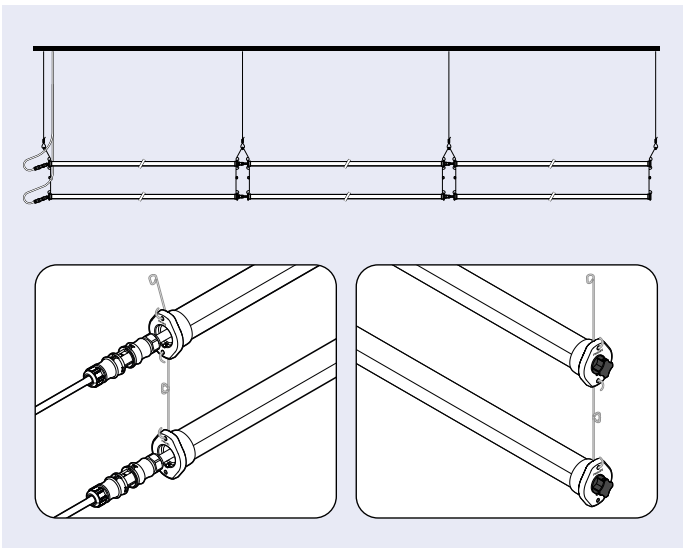
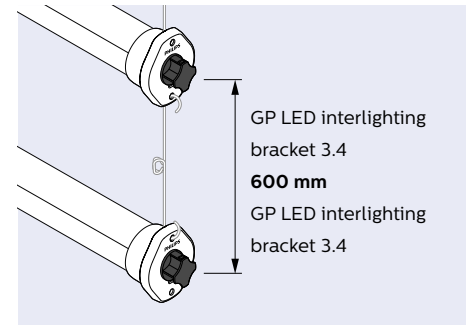
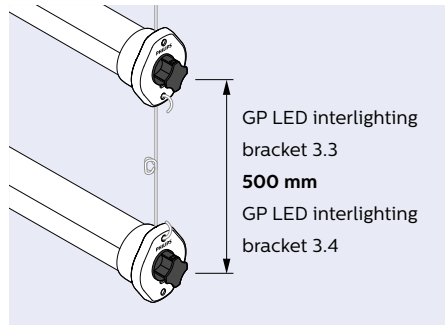
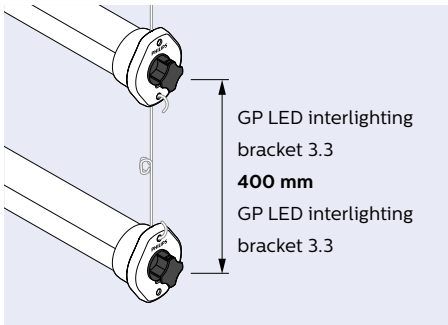
The almost horizontal position (see Installation chapter) of the GreenPower LED power cable connectors of the first GreenPower LED interlighting module results in an extra 0.1 meter to add to the length of the line.

When using the GreenPower LED interlighting module 200, the actual length (2.028 meter) of this module results in an extra 0.028 meters to add to the length of the line for each applied GreenPower LED interlighting module 200.

Check if the total length of the line including the GreenPower LED interlight modules, when taking the information above into account, still fits your application.

If it does not fit, shorten the total length of the line by 0.5 meter, by choosing a different combination of GreenPower LED interlighting modules.

Distance between GreenPower LED interlighting lines



For mounting the GreenPower LED interlighting lines, Signify has two mounting brackets available:

The GP LED interlighting bracket 3.3 has a total length of 171 mm.

The GP LED interlighting bracket 3.4 has a total length of 271 mm.

The GP LED interlighting bracket 3.3 is used for mounting a single line of GreenPower LED interlighting modules. When a double lines of GreenPower LED interlighting modules are installed, the lower line will be attached to the upper one.

The table below shows the vertical distances and their associated combination of mounting brackets.

GP LED interlighting bracket 1	GP LED interlighting bracket 2	Distance between GreenPower LED interlighting lines (center to center)
GP LED interlighting bracket 3.3 (171 mm)	GP LED interlighting bracket 3.3 (171 mm)	400 mm
GP LED interlighting bracket 3.3 (171 mm)	GP LED interlighting bracket 3.4 (271 mm)	500 mm
GP LED interlighting bracket 3.4 (271 mm)	GP LED interlighting bracket 3.4 (271 mm)	600 mm

If a customised distance is requested, please contact your Signify representative and ask about the options.

Electrical connection

Warning

There are several options for connecting the interlighting modules to the mains, between 200 V~ and 400V~, and determining the maximum number of interconnected modules, which mainly depends on the power consumption of the interlighting module, the number of circuit breakers, the circuit breaker type (1-pole/2-pole/3-pole or 4-pole), the tripping current of the circuit breakers, the cross-section (mm²) and material of the cable conductors, the total length of the cable conductors and the use of an earth leakage protection (RCD)¹. Examples for the maximum number of interconnected modules, are presented below. **These tables only give indication about the maximum allowed interconnected 2.5m version interlighting modules, without the use of power or jumper cables. This, based on the distinction between limitation by power and limitation by protected (against short-circuit) conductor length.**

Always check the maximum allowed/protected cable length¹. A certified electrical installer must make the final decision, in accordance with all applicable international, national and local electrical and construction codes, norms and regulations.

Examples of max nr. of interconnected modules

Europe & Asia					RO (79W)				HO (92W)			
					Limited by Power		Limited by Length		Limited by Power		Limited by Length	
Area	Mains voltage (V~)	System configuration	Circuit breaker (A)	Circuit breaker configuration type	Max nr mods/phase pair	Max nr mods total	Max nr mods/branch		Max nr mods/phase pair	Max nr mods total	Max nr mods/branch	
							B-type	C-type			B-type	C-type
Europe	230	L-N	16	1x4P	37	111	41	20	32	96	41	20
Europe	230	L-N	20	1x4P	46	138	33	16	40	120	33	16
Europe	400	L-L	16	1x3P	37	111	71	35	32	96	71	35
Europe	400	L-L	16	3x2P	64	192	71	35	55	165	71	35
Europe	400	L-L	20	1x3P	46	138	57	28	40	120	57	28
Europe	400	L-L	20	3x2P	81	243	57	28	69	207	57	28
Australia	240	L-N	15	1x4P	36	108	46	23	31	93	46	23

North America					RO (79W)			HO (92W)		
					Limited by Power		Limited by Length	Limited by Power		Limited by Length
Area	Mains voltage (V~)	System configuration	Circuit breaker (A) C-type	Circuit breaker configuration type	Max nr mods/phase pair	Max nr mods total	Max nr mods/branch	Max nr mods/phase pair	Max nr mods total	Max nr mods/branch
US	208	L-L	20	1x3P	24	72	14	20	60	14
US	208	L-L	15	3x2P	31	93	19	27	81	19
US	240	L-L	15	1x3P	21	63	23	18	54	23
US	240	L-L	15	3x2P	36	108	23	31	93	23
US	240	L-L	20	1x3P	28	84	17	24	72	17
US	277	L-N	15	1x4P	42	126	26	36	108	26
Canada	347	L-N	15	1x4P	52	156	33	45	135	33

Japan					RO (79W)			HO (92W)		
					Limited by Power		Limited by Length	Limited by Power		Limited by Length
Area	Mains voltage (V~)	System configuration	Circuit breaker (A) C-type	Circuit breaker configuration type	Max nr mods/phase pair	Max nr mods total	Max nr mods/branch	Max nr mods/phase pair	Max nr mods total	Max nr mods/branch
Japan	200	L-L	15	3x2P	30	90	19	26	78	19

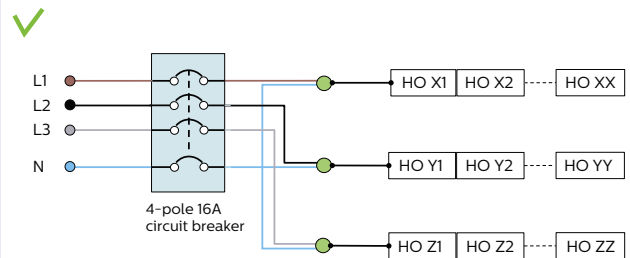
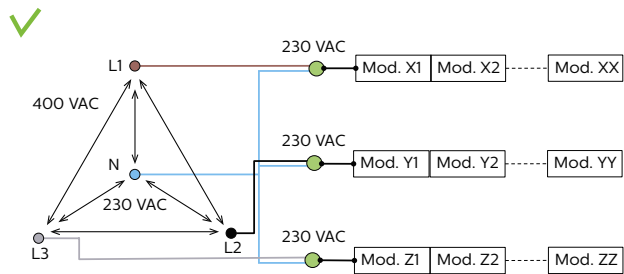
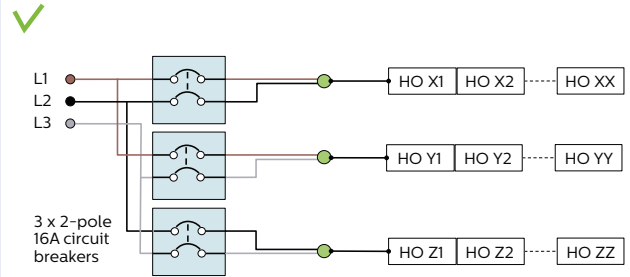
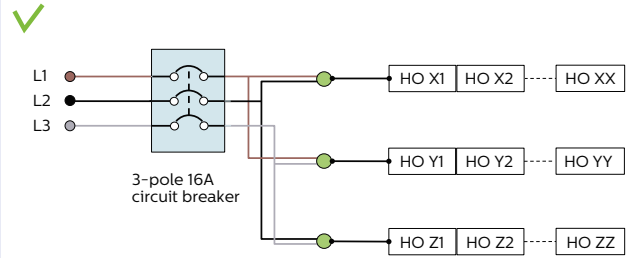
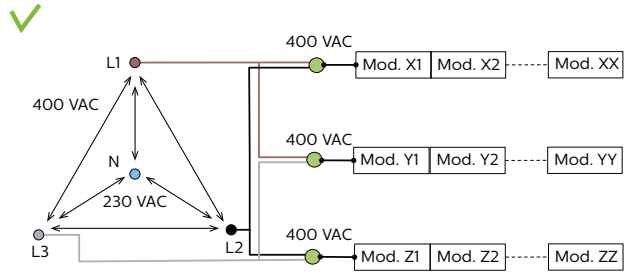
Legend:

L = Line 3P = 3 phase breaker type RCD = Residual-Current Device
P = Phase 2P = 2 phase breaker type
N = Neutra 4P = 3 phase + neutral breaker type

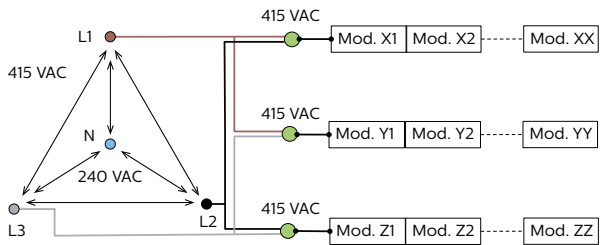
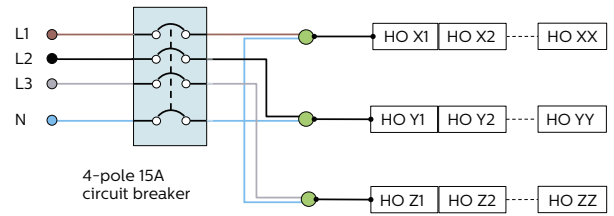
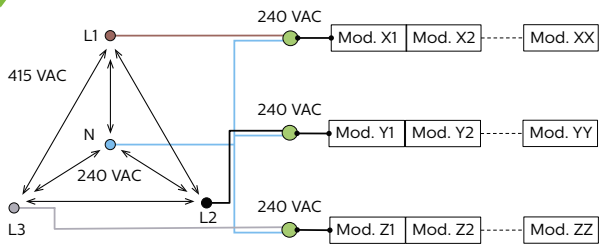
¹ A multiplication factor of $\sqrt{3}$ can be used for determining the maximum protected cable length, if short circuit between Line-Protective Earth or Line-Earth is not possible (IEC 60364).

Europe & Asia - Connection examples

400 VAC power grid

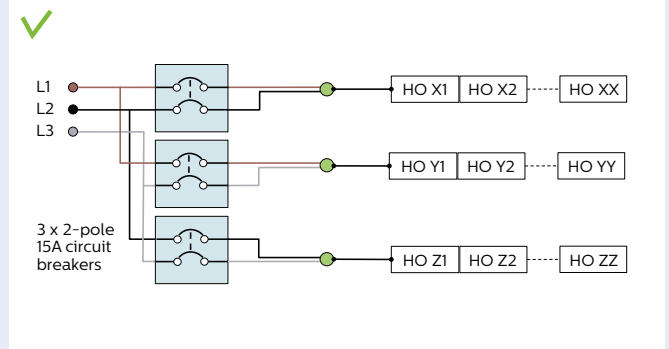
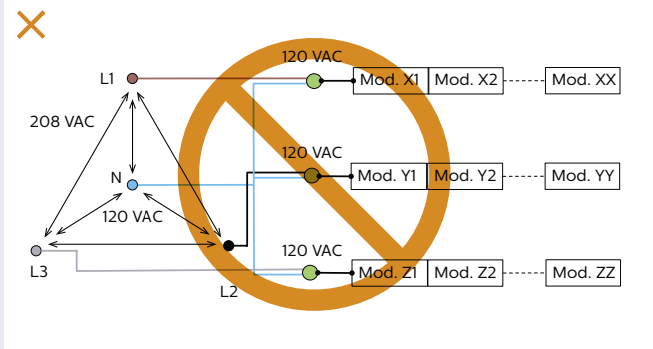
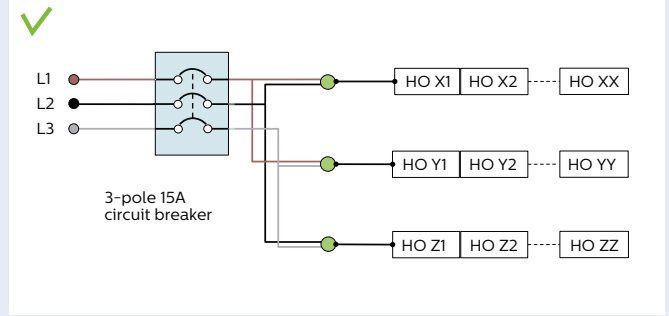
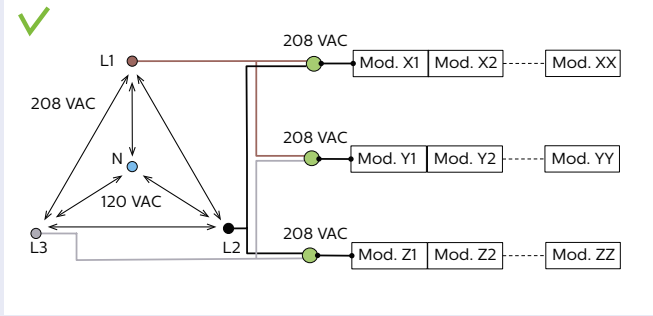


415 VAC power grid Australia

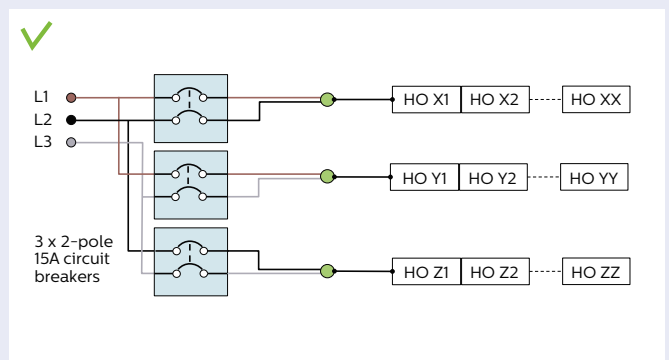
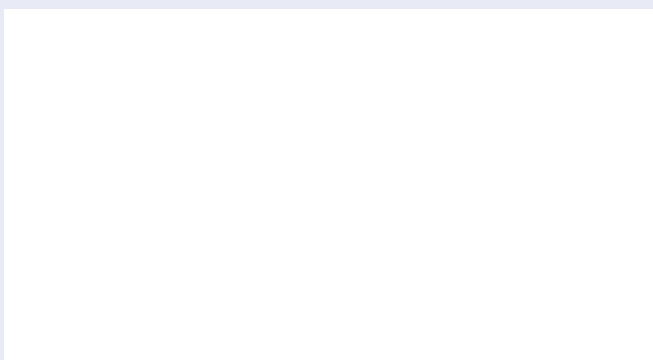
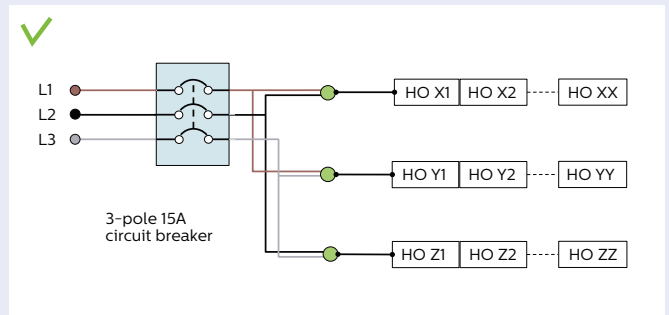
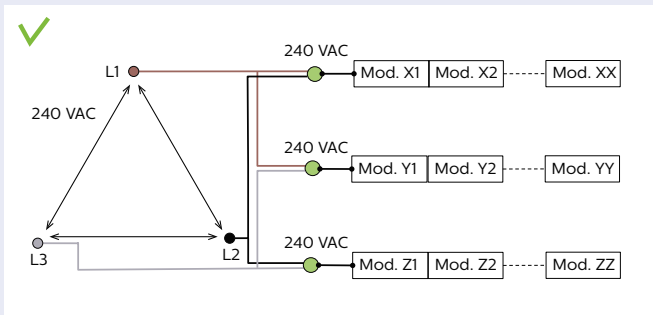


North America - Connection examples

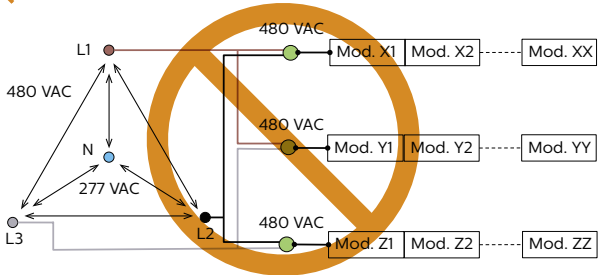
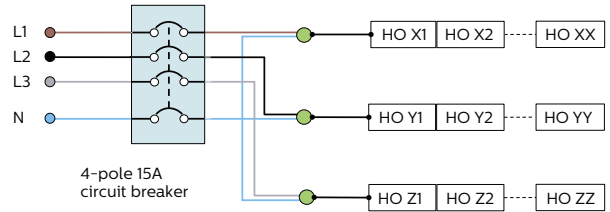
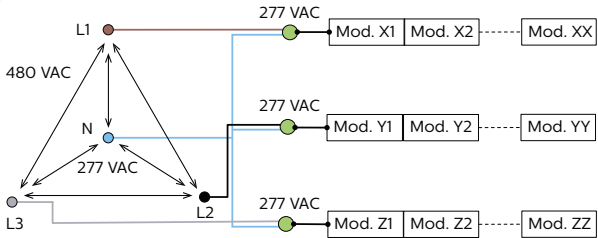
208 VAC power grid USA



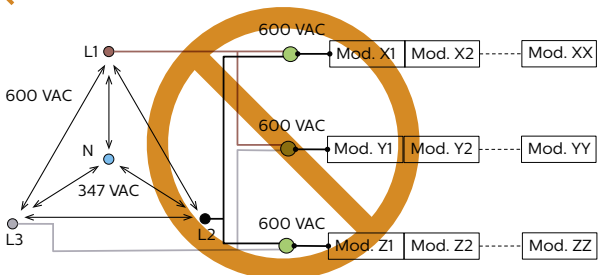
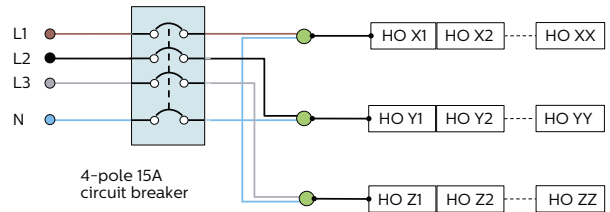
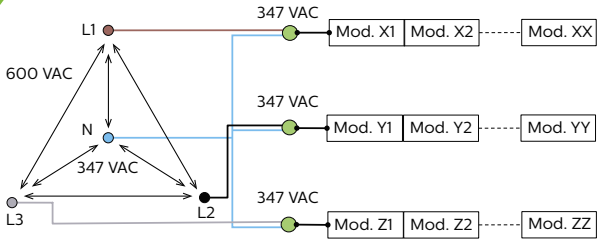
240 VAC power grid USA Canada



480 VAC power grid USA Canada

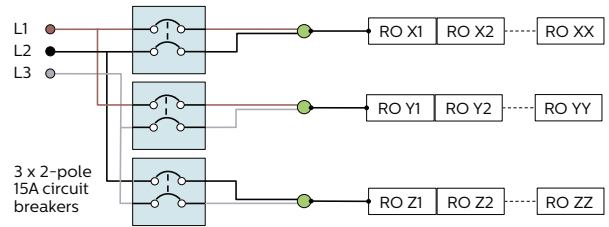
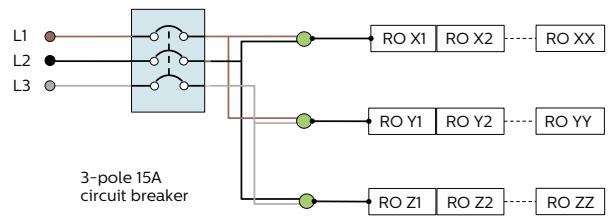
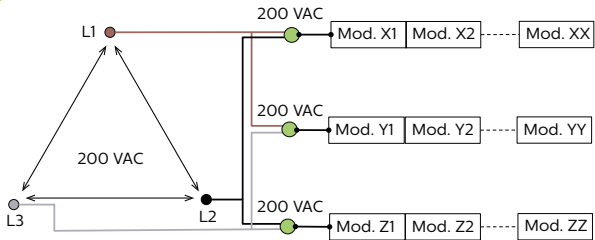


600 VAC power grid Canada



Japan - Connection examples

200 VAC power grid Japan



Europe & Asia - Ordering Data

Modules

Product description	12NC	MOQ (pcs)	Box dimensions (cm)
GP LED interlighting mod DR/B 250 RO	9290 015 54406	5	257x38.5x9
GPL IL 300 DRB L250 200-400V G3.1 S	9290 021 00151	5	257x38.5x9
GP LED interlighting mod DR/B 200 RO	9290 015 54706	5	207x38.5x9
GPL IL 240 DRB L200 200-400V G3.1 S	9290 021 00153	5	207x38.5x9

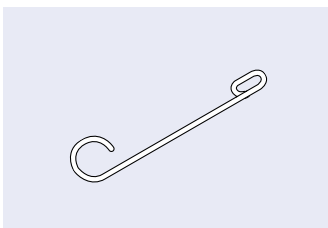
Accessories

Product description	12NC	MOQ (pcs)	Box dimensions (cm)
Mounting bracket for GreenPower LED interlighting module			
GP LED interlighting bracket 3.3	9290 016 13106	250	30x20x20
GP LED interlighting bracket 3.4	9290 016 13206	250	30x20x20
Female connector for GreenPower LED interlighting module			
GP LED female connector 1.5 (Ø 6-10mm)	9290 015 56306	100	29.6x24.4x19.4
GP LED female connector 1.6 (Ø 10-14mm)	9290 015 99406	100	29.6x24.4x19.4
Power cable for GreenPower LED interlighting module			
GP LED power cable 5.5.25L650	9290 015 56506	6	40x30x20
Jumper cable for GreenPower LED interlighting module			
GP LED jumper cable 4.5.25L100	9290 015 56806	15	40x30x20
End cap for GreenPower LED interlighting module			
GPL top-lighting end cap*	9290 009 15606	100	20.5x15.4x5.0

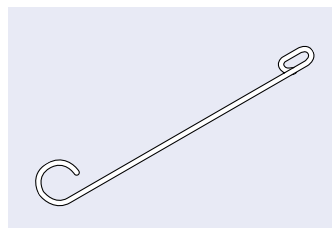
* This product can be used for both toplighting modules and interlighting modules

Legend:

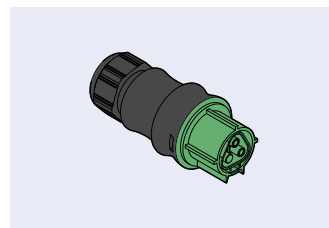
GP = GreenPower	G = Generation
GPL = GreenPower LED	S = Static
IL = Interlighting	RO = Regular Output
DR/B = Deep Red/Blue	MOQ = Minimum Order Quantity
L = Length	



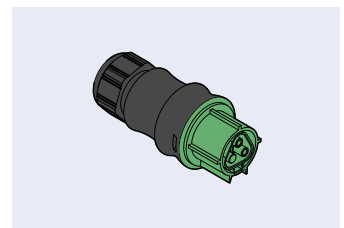
GP LED interlighting bracket 3.3



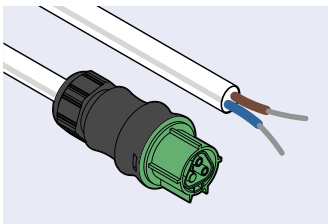
GP LED interlighting bracket 3.4



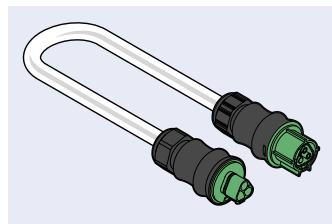
GP LED female connector 1.5
for cable diameter 6-10 mm



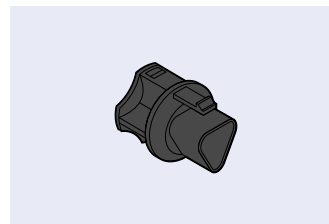
GP LED female connector 1.6
for cable diameter 10-14 mm



GP LED power cable 5.5.25L650
2 x 2.5 mm², length 6.5 meters
90 mm secondary insulation removed
8 mm primary insulation removed
pre-tinned wire ends



GP LED jumper cable 4.5.25L100
2 x 2.5 mm², length 1.0 meter



GPL top-lighting end cap

North America - Ordering data

Modules

Product description	12NC	6NC	MOQ (pcs)	Box dimensions (cm)
GP LED interlighting mod DR/B 250 RO NA	9290 015 55006	325837	5	257x38.5x9
GPL IL 300 DRB L250 200-400V G3.1 S NA	9290 021 00154	362327	5	257x38.5x9
GP LED interlighting mod DR/B 200 RO NA	9290 015 55306	325852	5	207x38.5x9
GPL IL 240 DRB L200 200-400V G3.1 S NA	9290 021 00155	362335	5	207x38.5x9

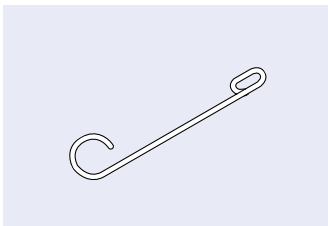
Accessories

Product description	12NC	6NC	MOQ (pcs)	Box dimensions (cm)
Mounting bracket for GreenPower LED interlighting module				
GP LED interlighting bracket 3.3	9290 016 13106	327080	250	30x20x20
GP LED interlighting bracket 3.4	9290 016 13206	327098	250	30x20x20
Power cable for GreenPower LED interlighting module				
GP LED power cable 5.5.3L650	9290 015 56606	325894	6	40x30x20
Jumper cable for GreenPower LED interlighting module				
GP LED jumper cable 4.5.3L100	9290 015 56906	325902	15	40x30x20
End cap for GreenPower LED interlighting module				
GPL top-lighting end cap*	9290 009 15606	303966	100	20.5x15.4x5.0

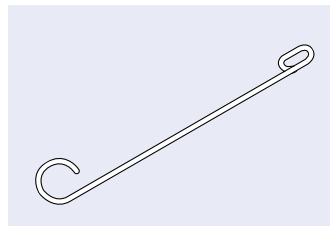
* This product can be used for both toplighting modules and interlighting modules

Legend:

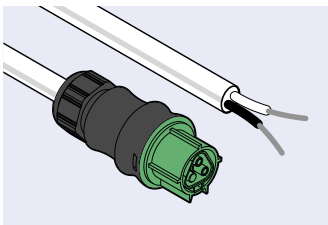
GP = GreenPower	G = Generation
GPL = GreenPower LED	S = Static
IL = Interlighting	RO = Regular Output
DR/B = Deep Red/Blue	MOQ = Minimum Order Quantity
L = Length	



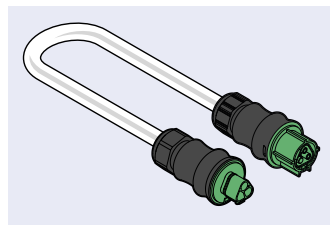
GP LED interlighting bracket 3.3



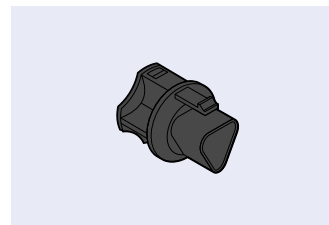
GP LED interlighting bracket 3.4



GP LED power cable 5.5.3L650
AWG 14, length 6.5 meters
90 mm secondary insulation removed
8 mm primary insulation removed
pre-tinned wire ends



GP LED jumper cable 4.5.3L100
AWG 14, length 1.0 meter



GPL top-lighting end cap

Japan - Ordering Data

Modules

Product description	12NC	MOQ (pcs)	Box dimensions (cm)
GP LED interlighting mod DR/B 250 RO JP	9290 015 55706	5	257x38.5x9
GPL IL 300 DRB L250 200V G3.1 S JP	9290 021 00156	5	257x38.5x9

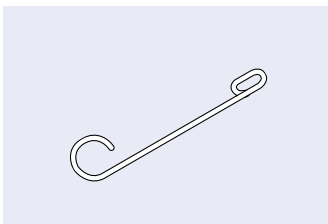
Accessories

Product description	12NC	MOQ (pcs)	Box dimensions (cm)
Mounting bracket for GreenPower LED interlighting module			
GP LED interlighting bracket 3.3	9290 016 13106	250	30x20x20
GP LED interlighting bracket 3.4	9290 016 13206	250	30x20x20
Female connector for GreenPower LED interlighting module			
GP LED female connector 1.5 (Ø 6-10 mm)	9290 015 56306	100	29.6x24.4x19.4
GP LED female connector 1.6 (Ø 10-14 mm)	9290 015 99406	100	29.6x24.4x19.4
Power cable for GreenPower LED interlighting module			
GP LED power cable 5.5.4L650	9290 015 56706	6	40x30x20
Jumper cable for GreenPower LED interlighting module			
GP LED jumper cable 4.5.4L100	9290 015 57006	15	40x30x20
End cap for GreenPower LED interlighting module			
GPL top-lighting end cap*	9290 009 15606	100	20.5x15.4x5.0

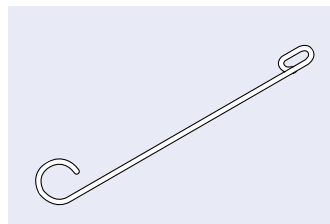
* This product can be used for both top-lighting modules and interlighting modules

Legend:

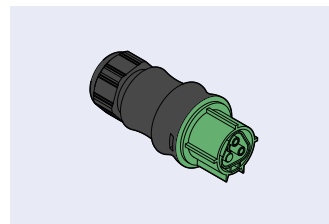
GP = GreenPower	G = Generation
GPL = GreenPower LED	S = Static
IL = Interlighting	RO = Regular Output
DR/B = Deep Red/Blue	MOQ = Minimum Order Quantity
L = Length	



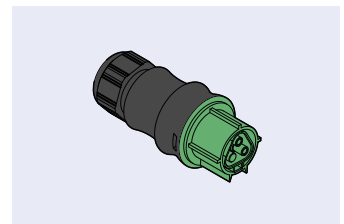
GP LED interlighting bracket 3.3



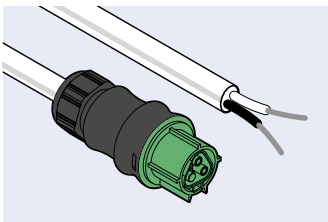
GP LED interlighting bracket 3.4



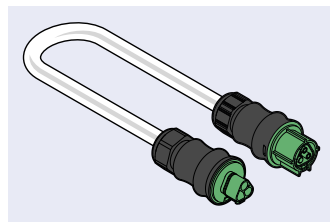
GP LED female connector 1.5
for cable diameter 6-10 mm



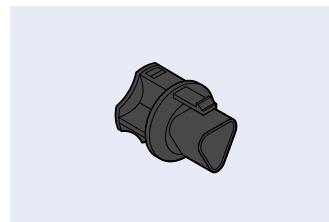
GP LED female connector 1.6
for cable diameter 10-14 mm



GP LED power cable 5.5.4L650
AWG 14, length 6.5 meters
90 mm secondary insulation removed
8 mm primary insulation removed
pre-tinned wire ends



GP LED jumper cable 4.5.4L100
AWG 14, length 1.0 meter



GPL top-lighting end cap

Crop-protection products and cleaning agents

Use of cleaning agents, crop-protection products and other chemicals (e.g. pesticides, fungicides and insecticides)

Philips Horticulture GreenPower LED products are engineered to meet the highest standards in daily usage and are compatible with the most commonly used crop-protection products and cleaning agents in the field. However, if crop-protection products and cleaning agents are used in concentrations above the values prescribed by the supplier(s) of such crop-protection products and/or cleaning agents, this may damage the protective surfaces of the GreenPower LED products, which will render the warranty invalid.

Please ensure that you take the following instructions into account when cleaning the GreenPower LED products and your facility or when using crop-protection products.

Cleaning GreenPower LED products

- Turn off and disconnect the power before cleaning the product.
- Use a soft damp cloth and a cleaning agent, e.g. green/soft soap or ethanol, to remove dust or dirt from the GreenPower LED product.
- Do not use rough or coarse-grained materials, scouring pads, bleach or solvents, as they could scratch or damage the GreenPower LED product.
- Do not wipe the GreenPower LED product with a dirty cloth as this may leave a residue, scratch the lenses or reduce the light output.

Compliance with international standards

The GreenPower LED interlighting module has been tested for and complies with the following international standards:

Test	Stress type	Standard
	Bump test	IEC 60068-2-29 Eb
	Vibration test	IEC 60068-2-6
Endurance	Cold-temperature storage	IEC 60068-2-1 Ab
	High-temperature storage	IEC 60068-2-2 Bb
	Damp heat (temp. humidity)	IEC 60068-2-30 Db
	Temperature shock	IEC 60068-2-14 Nb
	Ingress protection	IEC 60529 IP66
Quality/Environment	Environmental mgt	ISO 14001:2004
	ROHS	Directive 2011/65/EU
EMC		EN55015
		EN61547
		EN61000-3-2
		EN61000-3-3
		FCC part 15B, class B
		Ansi C63.4:2003
Safety		UL 8800
		EN62471
		IEC60598-1
		IEC60598-2-1
		CSA C22.2 No 250.0-08
Approval marks		UL-CSA-CE
		AS/NZS-PSE



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