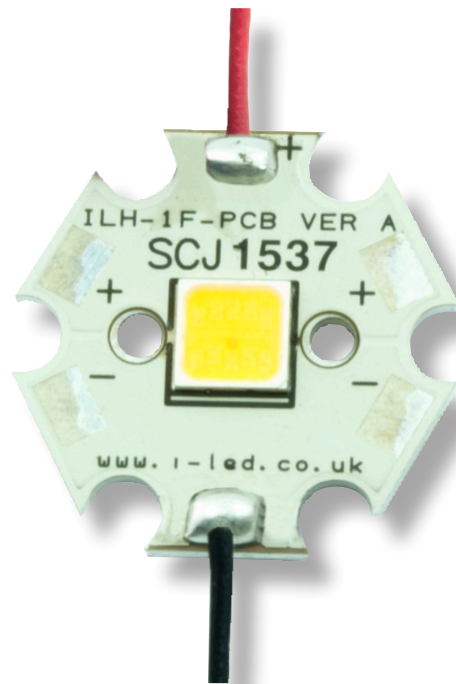


# OSCONIQ® S5050 Horti White PowerStar

IHH-F601-HORW-SC221-WIR200.

At the heart of each PowerStar is an OSCONIQ® S5050 Horti White LED. The OSCONIQ® S5050 Horti White enables luminaires to maximize system level photon efficacy performance for horticulture applications. Unlike conventional white LEDs, OSRAM's Horti White LEDs utilizes a customized phosphor solution designed to facilitate the increase of non-converted red photons to deliver superior fixture level efficacy. OSCONIQ® S5050 can be driven up to 1050mA while OSRAM's latest power chip technology remains efficient even at the highest drive currents. A low thermal resistance of 2.1K/W ensures cool running and a highly efficient product. PowerStars are compact, powerful LED light sources built on aluminium substrates for optimal thermal management. Available with 200mm wires as standard.



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## APPLICATIONS INCLUDE

- » Horticultural lighting
- » General lighting
- » Environmental chambers
- » Propagators
- » Vertical farms
- » Indoor farming
- » Schools and universities
- » Research institutes

## SPECIFICATIONS

LED/s	OSCONIQ® S5050
Lifetime	Up to 100,000 Hour lifetime to 70% of original brightness
Mounting	Mounting holes using M3 screws allows easy installation
Dimensions	(L x W x H) 20 x 20 x 2.6 mm
Wiring	Available with 200mm connecting wires
Secondary Optics	Secondary Lens can be fitted. Suitable options on <a href="#">page 6</a> or visit <a href="#">our website</a> for a full range.
Heatsinks	Required over 350mA. Suitable options on <a href="#">page 8</a> or visit <a href="#">our website</a> for a full range
Power Supply	4 - 75W dimming and non dimming. Suitable options on <a href="#">page 7</a> or visit <a href="#">our website</a> for a full range.
Chain	PowerStars can be linked together to produce longer chains
Current Range	40 to 1050 mA
Thermal Resistance	2.1K/W

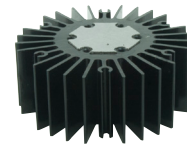
## ACCESSORIES

### Lenses and Reflectors

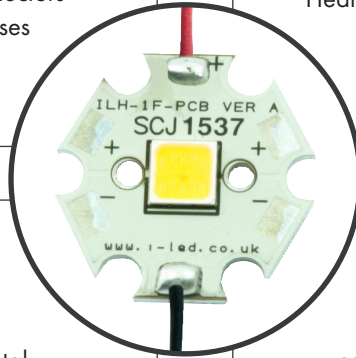


LEDiL precision-engineered Lenses and Reflectors allow for rapid deployment of all types of light fixtures, including street lights, wall-wash, high-bay, sconces, emergency beacons, parking garage/low-bay, MR and AR downlights, and dock lights. Precision-engineered for maximum efficiency and durability, LEDiL Lenses and Reflectors are released alongside the latest product releases from our LED suppliers. Visit [our website](#) for a full range.

### Heatsinks



ILS has a series of Aluminium Alloy Heatsinks to be used with our standard range of PowerFlex. These Heatsinks are supplied with end caps, mounting brackets and 2 diffusers - clear or diffused. ILS is continually expanding its Heatsink range and we are equally happy to manufacture custom Heatsinks upon your request. Suitable options on [page 8](#) or visit [our website](#) for a full range.



### Power Supplies

ILS has a comprehensive range of standard Power Supplies. The table below shows the total number of ILS products each Power Supply can drive. Additional Power Supplies are being introduced so please call us or [check our website](#) for the latest offering. Suitable options on [page 9](#)



### Thermal Interface Material (TIM)

ILS have produced a range of High-performance, cost effective Thermal Interface Materials to match perfectly their standard products. Our product fills the air pockets between the two surfaces, forming a continuous layer to conduct heat away from the LED to the Heatsink. These strips have 3M thermal tape already attached for perfect thermal bonding.



## PRODUCT OPTIONS

ILS Part Number	Colour	Colour Temp* (Degrees Kelvin)	Typical Wattage at 180mA §	Forward Voltage	Flux † at 180mA	Radiance Angle	Relevant OSRAM LED Data
IHH-F601-HORW-SC221-WIR200.	Horti-Whitw	>8000K	1.0W	5.2-5.8V	609mW	120° (+/- 60°)	GW Q9LR32.HW

\* Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.

§ Tolerance +/- 10%

† Measured with 20mS 180mA pulse at 85 °C

## MICROMOLES

ILS Part Number	PF (φp) [μmol/s]		PF/W	Luminous Flux	
	min.	max.		min.	max.
IHH-F601-HORW-SC221-WIR200.	2.73umol/s	2.87umol/s	2.82umol/s	229lm	241lm

## MINIMUM AND MAXIMUM RATINGS

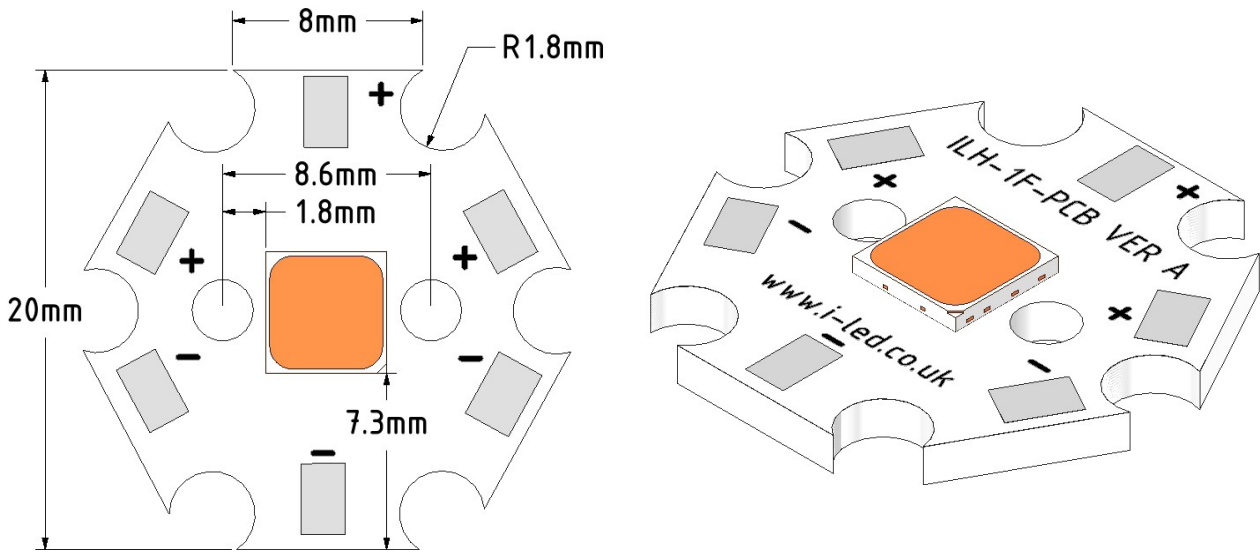
ILS Part Number	Operating Temperature at Tc-Point [ ° C]*	Storage Temperature [ ° C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
IHH-F601-HORW-SC221-WIR200.	-40 ... 100 (°C)	-40 ... 100 (°C)	40mA ... 1050mA	Not designed for reverse voltage

\* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module.

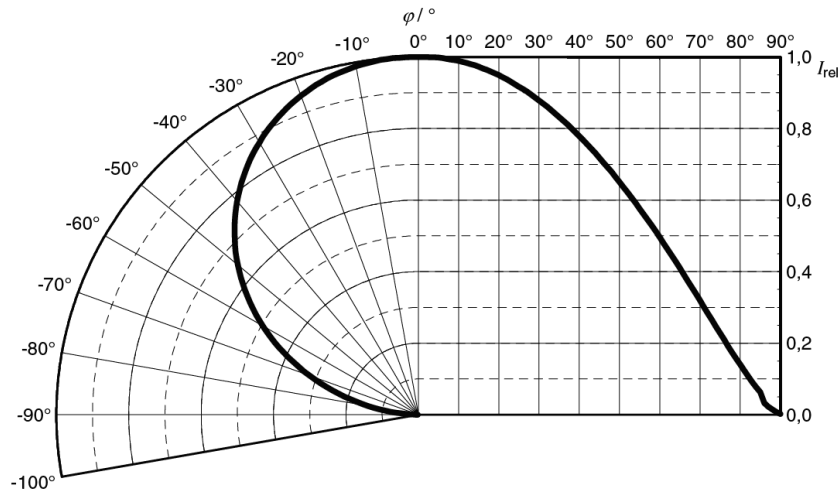
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module.

The temperature of the LED module must be measured at the Tc-Point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

TECHNICAL DRAWING (MM)









RADIATION OF SINGLE LED







## SECONDARY OPTICS OPTIONS

Ordering Code	Beam	Diameter	Height	Family	FWHM	Material	Colour	Fastening
CA11174_TINA2-M	Medium	16.1mm	11.0mm	TINA2	31°	Lens PMMA Holder PC	Black	Tape
CA11176_TINA2-WW	Wide	16.1mm	11.0mm	TINA2	49°	Lens PMMA Holder PC	Black	Tape
CA11847_TINA2-RS	Spot	16.1mm	11.0mm	TINA2	25°	Lens PMMA Holder PC	White	Tape
CA11931_LR2-M	Medium	22.0mm	14.8mm	LEILA	30°	Lens PMMA Holder PC	White	Tape and Pin
FA10613_LM1-RS	Spot	22.0mm	14.0mm	LEILA	25°	Lens PMMA Holder PC	Black	Tape and Pin
FA10614_LM1-M	Medium	22.0mm	14.0mm	LEILA	22°	Lens PMMA Holder PC	Black	Tape and Pin
FA10650_LM1-D	Diffused Spot	22.0mm	14.0mm	LEILA	24°	Lens PMMA Holder PC	Black	Tape and Pin
FA10750_LO2-M	Medium	22.0mm	14.0mm	LEILA	30°	Lens PMMA Holder PC	Black	Tape and Pin

## HEATSINK OPTIONS





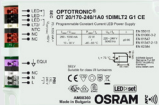

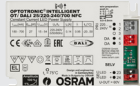


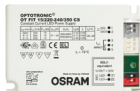

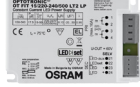
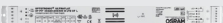

ILS Product		45mA	150mA	250mA
No Heatsink, in free air		Green	Yellow	Red
ILA-HSINK-STAR-50X20MM		Green	Yellow	Red
ILA-HSINK-STAR-50X40MM		Green	Green	Red
ILA-HSINK-STAR-50X60MM		Green	Green	Green
ILA-HSINK-STAR-50X80MM		Green	Green	Green
ILA-HSINK-70X70X55MM		Green	Green	Green
ILA-HSINK-78X46X25MM		Green	Green	Green

## KEY

	Operates under the recommended ILS junction temperature
	Operates under the recommended LED maximum junction temperature
	Not suitable for use
	Heatsink not designed for use with this product

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## POWER SUPPLY OPTIONS

	ILS Driver Part Number	Rating	Current	Output Voltage	Dimming
	ELEMENT-LD-8/220-240/180	8	180mA	21-42	None
	OTi-DALI-10/220-240/700-NFC	10W	150-700mA	2.5-45V	DALI
	OT-FIT-15/220-240/500-LT2-LP	15W	150-500mA	15-50V	DALI
	OTi-DALI-15/220-240/1A0-LT2	15W	150-1050mA	7.5-54V	DALI
	OT-20/170-240/800-1DIMLT2-G1-CE	20W	200-1050mA	10-38V	ASTRO
	OTi-DALI-25/220-240/700-LT2	25W	180-700mA	12-54V	DALI
	OTi-DALI-25/220-240/700-NFC	25W	180-700mA	15-54V	DALI
	OT-FIT-25/220-240/500-NFC-L	25W	100-500mA	20-51V	None
	OT-FIT-15/220-240/350-CS-S-MINI	15W	225-350mA	20-51V	None
	OT-FIT-35/220-240/350-D-CS-L	35W	200-350mA	40-160V	None
	OT-FIT-65/220-240/350-D-CS-L	65W	200-350mA	700-220V	None
	OT-FIT-25/220-240/300-D-LT2-L	25W	35-300mA	54-216V	None
	OT-FIT-35/220-240/400-D-LT2-UF-L	35W	75-400mA	54-240V	None
	OT-FIT-100/220...240/700-D-NFC-IND-L	100W	200-700mA	64-300V	None

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## THERMAL INTERFACE MATERIAL OPTIONS

Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
ILA-TIM-STAR-0A	ILA-TIM-STAR-1A	ILA-TIM-STAR-2A.

Other sizes are available, including customised parts

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## ASSEMBLY INFORMATION

- » The mounting of the PowerStar has to be on a metal Heatsink.
- » In order to optimise the thermal management, the metal surface needs to be clean (dirt and oil free) and planar for the best contact with the LED module. A thermal grease or heat transfer material is highly recommended.

## IMPORTANT INFORMATION AND PRECAUTIONS



The PowerStar's LED, when powered up, is very bright. Thus it is advised that you do not look directly at it. Turn the PowerStar away from you and do not shine into the eyes of others.



PowerStars, when operated, can reach high temperatures thus there is risk of injury if they are touched.



PowerStars will overheat in operation if not attached to a suitable Heatsink. Over heating can cause failure or irreparable damage.



DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.



Do not operate PowerStars with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the PowerStar to consume current above the specified maximum and cause failure or irreparable damage.



DO NOT TOUCH or PUSH on the LED as this can cause irreparable damage.

## SAFETY INFORMATION



The LED module itself and all its components must not be mechanically stressed.



Assembly must not damage or destroy conducting paths on the circuit board.



To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.



Observe correct polarity! Depending on the product, incorrect polarity will lead to emission of red or no light. The module can be destroyed!



Pay attention to standard ESD precautions when installing the PowerStar.



Damage by corrosion will not be accepted as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.



For outdoor usage, a housing is definitely required to protect the board against environmental influences. The design of the housing must correspond to the IP standards in the application. It is also the responsibility of the user to ensure any housings or modifications keep the Tc junction temperature to within stated ranges.



To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards: CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.



The evaluation of eye safety occurs according to the standard IEC 62471:2006 ("photobiological safety of lamps and lamp systems"). Within the risk grouping system of this CIE standard, the LED specified in this data sheet falls into the class "moderate risk" (exposure time 0.25s). Under real circumstances (for exposure time, eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. As is also true when viewing other bright light sources (e.g. headlights), temporary reduction in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment and even accidents, depending on the situation.

## FURTHER INFORMATION

The values contained in this datasheet can change due to technical innovation. Any such changes will be made without separate notification. Intelligent Horticultural Solutions is a division of Intelligent Group Solutions, delivering LED solutions to the rapidly evolving and highly important horticultural lighting market.

All trademarks recognised.



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## ABOUT IHS

LEDs are producing revolutionary advancements in many areas of technology and life, but none more important than in horticulture. The complexities and knowledge required are growing daily, with different plants requiring different spectral illumination and control.

Intelligent Horticultural Solutions (IHS) was formed in 2017 to support the development of products in the fast moving and exciting area of LED lighting. We have brought together key horticultural LED manufacturers, leveraging their 20+ years of experience in general LED lighting in order to offer development platforms and custom growing solutions.

IHS is part of the [Intelligent Group Solutions Ltd](#) (IGS) group of companies founded in 2001 which operate from the head office in Thatcham, Berkshire. Sister divisions specialise in a variety of opto and mainstream electronics distribution, design as well as prototyping and assembly services. The horticultural specialism has evolved, due to market demand in the LED division, Intelligent LED Solutions (ILS).

## INTELLIGENT GROUP SOLUTIONS DIVISIONS

