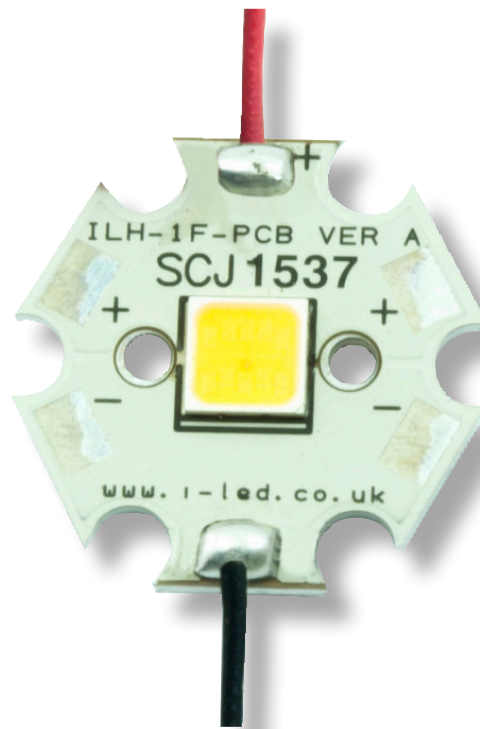




# OSCONIQ® S5050 1 PowerStar Whites

ILH-F601-xxxx-SC221-WIR200.

At the heart of each PowerStar is an OSCONIQ® S5050 LED from OSRAM Opto Semiconductors. OSCONIQ® S5050 can be driven up to 265mA while OSRAM's latest power chip technology remains efficient even at the highest drive currents. This OSCONIQ® S5050 leadframe package brings its robustness stability to another level with a superior corrosion protection that further enhances the suitability for outdoor professional lighting. A low thermal resistance of 1.5K/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

- » General lighting
- » Decorative lighting
- » Task lighting
- » Spot lighting
- » Downlighters
- » Retail lighting
- » Highbay Industrial
- » Street, tunnel and outdoor

## TECHNICAL FEATURES

LED/s	PowerStars contain OSCONIQ® S5050 LEDs
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)	20.0 x 20.0 x 2.3 mm
Wiring	Available with 200mm connecting wires
Lenses and Reflectors	Secondary Lens can be fitted. Suitable options. Suitable options on <a href="#">page 6</a> or visit <a href="#">our website</a> for a full range.
Heatsinks	Required over 100mA. Suitable options on <a href="#">page 8</a> or visit <a href="#">our website</a> for a full range
Power Supply	4 - 100W Dimming and non dimming. Suitable options on <a href="#">page 9</a> or visit <a href="#">our website</a> for a full range.
Chain	Yes. PowerStars can be linked together to produce longer chains.
Current Range	10 to 265mA
Thermal Resistance	1.5K/W

## PRODUCT OPTIONS

ILS Part Number	Colour	Colour Temp* (Degrees Kelvin)	Typical Wattage W § At 45mA	Forward Voltage	Flux † at 45mA	Radiance Angle	Relevant OSRAM LED Data
ILH-F601-WMWH-SC221-WIR200.	Warm White	3000K	1.0W	20.80-23.20V	200lm	120° (±60°)	GW Q9LR31.PM
ILH-F601-NUWH-SC221-WIR200.	Neutral White	4000K	1.0W	20.8-23.20V	210lm	120° (±60°)	GW Q9LR31.PM
ILH-F601-WHWH-SC221-WIR200.	White	5000K	1.0W	20.8-23.20V	210lm	120° (±60°)	GW Q9LR31.PM
ILH-F601-STWH-SC221-WIR200.	Street White	5700K	1.0W	20.8-23.20V	200lm	120° (±60°)	GW Q9LR31.PM
ILH-F601-ULWH-SC221-WIR200.	Ultra White	6500K	1.0W	20.8-23.20V	200lm	120° (±60°)	GW Q9LR31.PM

\* 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 45mA pulse at 25 °C

## MINIMUM AND MAXIMUM RATINGS

ILS Part Number	Operating Temperature at Tc-Point [ ° C]*	Storage Temperature [ ° C]*	Forward Current per chip [mA]*	Reverse Voltage [Vdc]*
ILH-F601-WMWH-SC221-WIR200.	-40°C to +105°C	-40°C to +105°C	10-265mA	not designed for reverse voltage
ILH-F601-NUWH-SC221-WIR200.	-40°C to +105°C	-40°C to +105°C	10-265mA	not designed for reverse voltage
ILH-F601-WHWH-SC221-WIR200.	-40°C to +105°C	-40°C to +105°C	10-265mA	not designed for reverse voltage
ILH-F601-STWH-SC221-WIR200.	-40°C to +105°C	-40°C to +105°C	10-265mA	not designed for reverse voltage
ILH-F601-ULWH-SC221-WIR200.	-40°C to +105°C	-40°C to +105°C	10-265mA	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.

## 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. Suitable options on [page 6](#) or visit [our website](#) for a full range.

### Heatsinks



ILS has a series of Aluminium Alloy Heatsinks to be used with our standard range of PowerStars and PowerClusters. These Heatsinks are supplied with fixing screws for the light engine and for fixing to a base plate. They also come with Thermal Interface Material (TIM) attached to the top surface. Suitable options on [page 7](#) or visit [our website](#) for a full range.

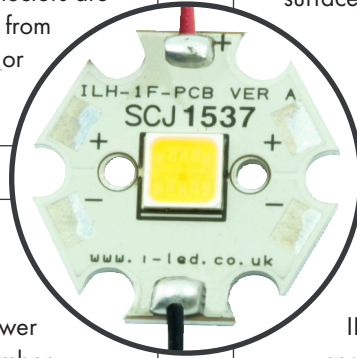
### Power Supplies

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 8](#)

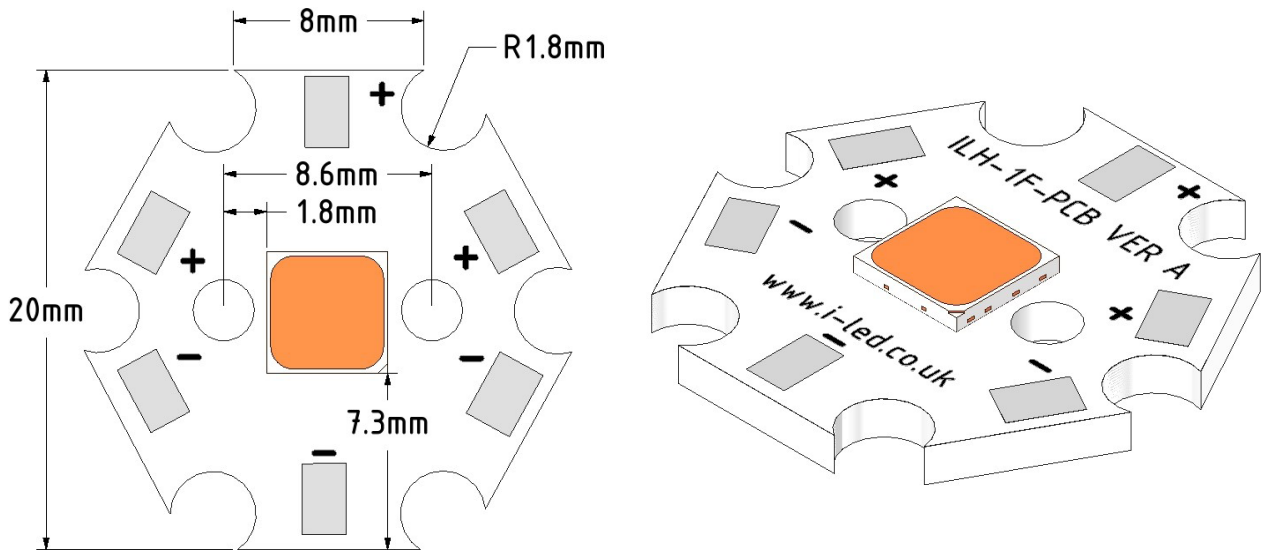


### Thermal Interface Material (TIM)

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. ILS offer our TIM in three options – double sided adhesive, single sided adhesive and non adhesive. Suitable options on [page 9](#) or visit [our website](#) for a full range.

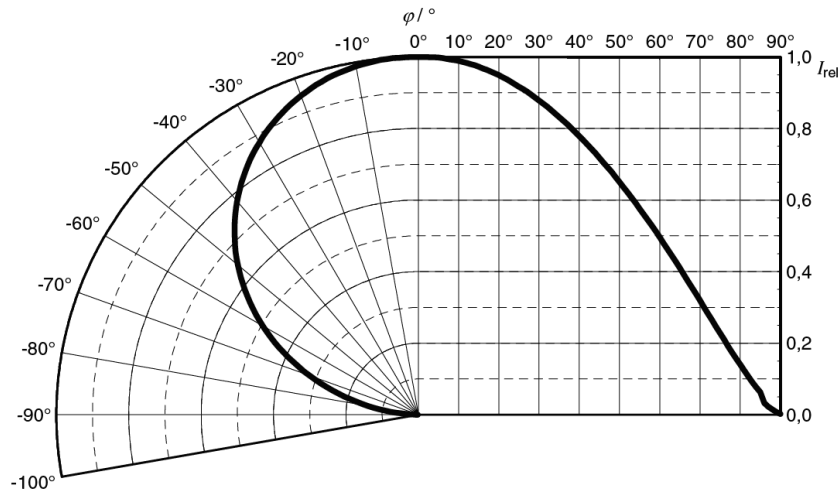


# TECHNICAL DRAWINGS (MM)



3D drawing files are available on request from ILS. Please call or email

## RADIATION OF SINGLE LED



## OSCONIQ® S5050 1 POWERSTAR LENS AND REFLECTOR OPTIONS







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. You select the best LED for the application; choose LEDiL and you're selecting the best optical solution as well.

### LENSES

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

# OSCONIQ® S5050 1 POWERSTAR HEATSINK OPTIONS

PRODUCT DATASHEET » ILH-OC01-xxxx-SC221-WIR200.

ILS Product		OSCONIQ® S5050 1 POWERSTAR		
		45mA	150mA	250mA
No Heatsink, in free air				
ILA-HSINK-STAR-50X20MM				
ILA-HSINK-STAR-50X40MM				
ILA-HSINK-STAR-50X60MM				
ILA-HSINK-STAR-50X80MM				
ILA-HSINK-70X70X55MM				
ILA-HSINK-78X46X25MM				

**KEY**










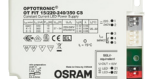




- Operates under the recommended ILS junction temperature
- Operates under the recommended LED maximum junction temperature
- Not suitable for use
- Heatsink not designed for use with this product

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## OSCONIQ® S5050 1 POWERSTAR POWER SUPPLY OPTIONS

ILS has a comprehensive range of standard Power Supplies.

Additional Power Supplies are being introduced so please call us or check our website for the latest offering.

	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

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
OSCONIQ® S5050 1 PowerStar	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.



The mounting of the module is carried out by attaching it at the mounting holes. Metal mounting screws must be insulated with synthetic washers to prevent circuit board damage and possible short circuiting.



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 OSCONIQ® S5050 PowerStar.



The OSCONIQ® S5050 PowerStar, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion. 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.

If you require further assistance or have an specific or custom enquiries, please contact the ILS team via email or phone. Alternatively please visit our website for more product info and to see our full ranges.



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## ABOUT ILS

ILS offers a high level of technical skill, professionalism and commercial understanding to companies requiring market leading optoelectronics solutions. Offering conceptual advice, electronics design and manufacturing capability, we use high quality production resources both in house and in Asia, providing project support from prototyping to mass production. We also understand the need to provide cost effective solutions and we do so using high quality components to ensure that the end product's reliability and quality is uncompromised. Apart from LEDs in the visible spectrum, we have a wide range of Infrared, UV LEDs, UV tubes, and Lasers.

ILS is a division of Intelligent Group Solutions Ltd (IGS) a well-established respected industry leading Optoelectronics solutions provider. Much of IGS' business comes from providing semi-custom or custom products both in component and sub-assembly form. This comes from providing design support and prototyping within the European market place. With the capability to deliver production displays to wherever in the world that the customer's manufacturing or assembly is being undertaken.

## INTELLIGENT GROUP SOLUTIONS DIVISIONS

