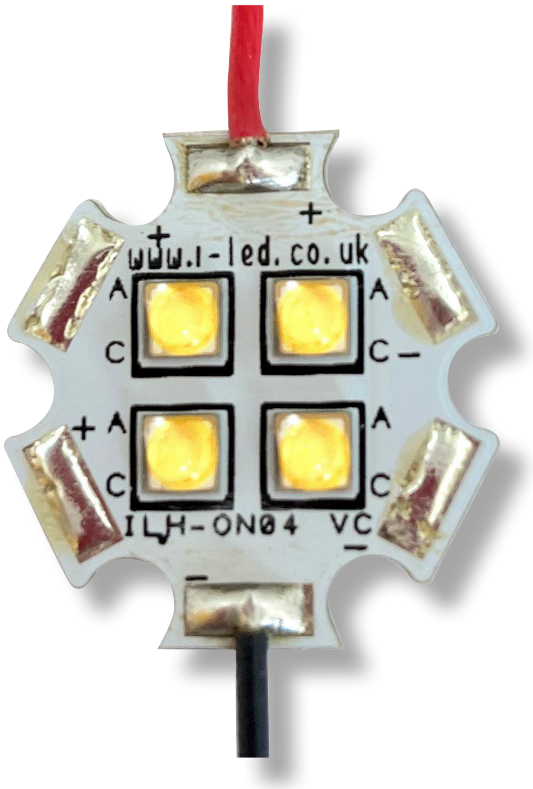
OSLON® 80 SSL 4 PowerStar Whites

ILH-ON04-xxxx-SC211-WIR200.

At the heart of each PowerStar are 4 OSLON® SSL 80 ThinGan (UX:3) LEDs. OSLON® SSL can be driven up to 1300mA while OSRAM's latest power chip technology remains efficient even at the highest drive currents. PowerStars are compact, powerful LED light sources built on aluminium substrates for optimal thermal management.



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APPLICATIONS INCLUDE

- » General Lighting
- » Decorative Lighting
- » Task Lighting
- » Spot Lighting
- » Downlighters
- » Retail and Entertainment Lighting

TECHNICAL FEATURES

LED/s	4 OSLON® SSL 80 LED
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)	20mm x 20mm x 3.85mm
Wiring	200mm connecting wires
Lenses and Reflectors	Integral 80 degree silicone resin Lenses. Secondary Lens can be fitted. Suitable options on page 6 or visit our website for a full range.
Heatsinks	Required over 350mA. Suitable options on page 7 or visit our website for a full range
Power Supply	4 - 75W Dimming and non dimming. Suitable options on page 9 or visit our website for a full range.
Chain	Yes. OSLON® SSL 80 LED PowerStars can be linked together to produce longer chains
Current Range	100 to 1,300mA
Thermal Resistance	4.2K/W

PRODUCT OPTIONS

ILS Part Number	Colour	Dominant Wavelength*	Typical Power W §		Forward Voltage	Flux † at 350mA	Radiance Angle	Relevant OSRAM LED Data
			at 350mA	at 700mA				
ILH-ON04-HWWH-SC211-WIR200.	Hot White	2700K	4.34W	8.68W	10.8 to 14.0V	< 448 lm	80° (±40°)	GWCS8PM1.xM
ILH-ON04-WMWH-SC211-WIR200.	Warm White	3000K	4.34W	8.68W	10.8 to 14.0V	< 448 lm	80° (±40°)	GWCS8PM1.xM
ILH-ON04-NUWH-SC211-WIR200.	Neutral White	4000K	4.34W	8.68W	11.2 to 13.0V	< 484 lm	80° (±40°)	GWCS8PM1.xM
ILH-ON04-STWH-SC211-WIR200.	Street White	5700K	4.34W	8.68W	10.8 to 14.0V	< 520 lm	80° (±40°)	GWCS8PM1.xM
ILH-ON04-ULWH-SC211-WIR200.	Cool White	6500K	4.34W	8.68W	10.8 to 14.0V	< 520 lm	80° (±40°)	GWCS8PM1.xM

*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 350mA pulse at 85°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-ON04-HWWH-SC211-WIR200.	70°C max	- 40 to 125°C	1300mA max	not designed for reverse voltage
ILH-ON04-WMWH-SC211-WIR200.	70°C max	- 40 to 125°C	1300mA max	not designed for reverse voltage
ILH-ON04-NUWH-SC211-WIR200.	70°C max	- 40 to 125°C	1300mA max	not designed for reverse voltage
ILH-ON04-STWH-SC211-WIR200.	70°C max	- 40 to 125°C	1300mA max	not designed for reverse voltage
ILH-ON04-ULWH-SC211-WIR200.	70°C max	- 40 to 125°C	1300mA max	not designed for reverse voltage

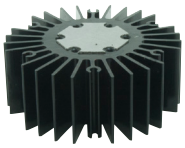
* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED module.
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED module.
The temperature of the LED module must be measured at the Tc-Point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label.

ACCESSORIES

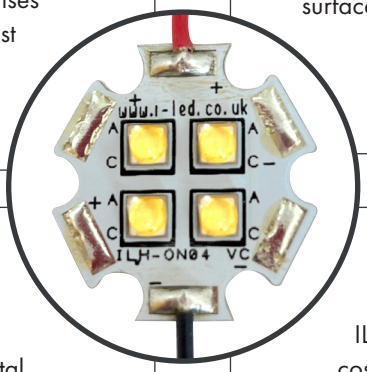
Lenses and Reflectors

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.



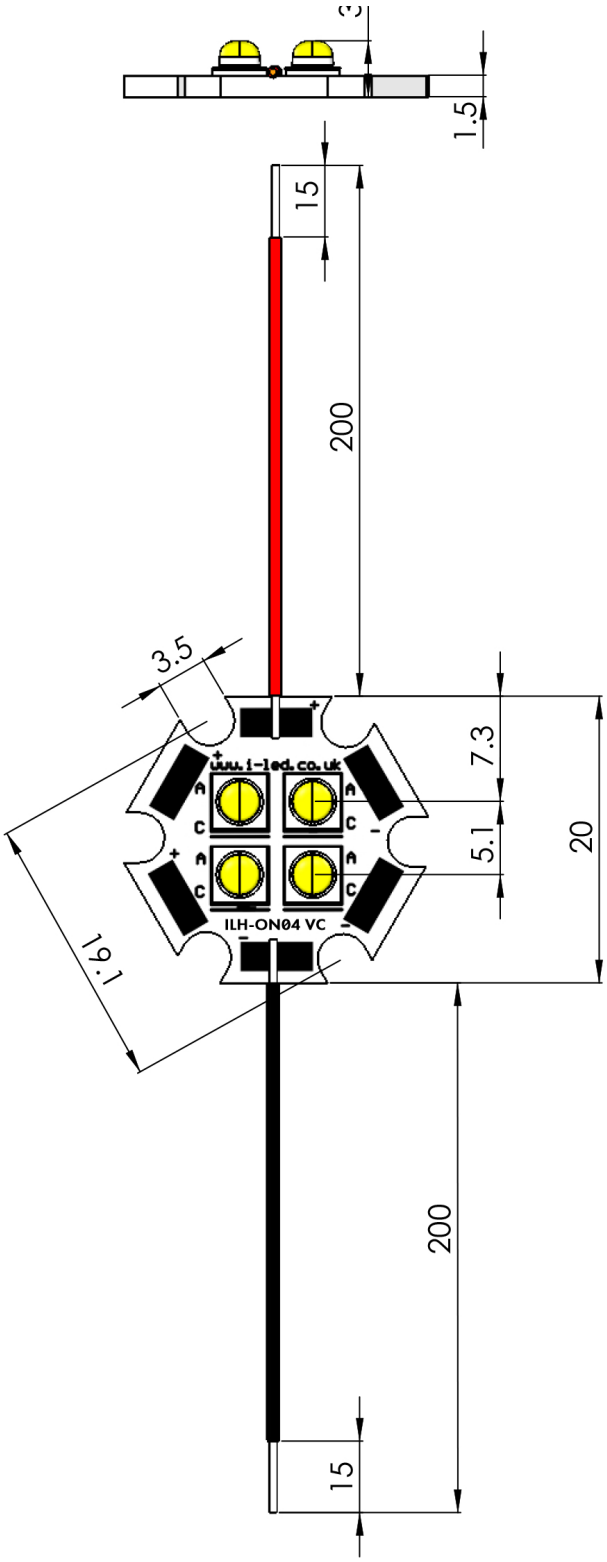
Power Supplies

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.

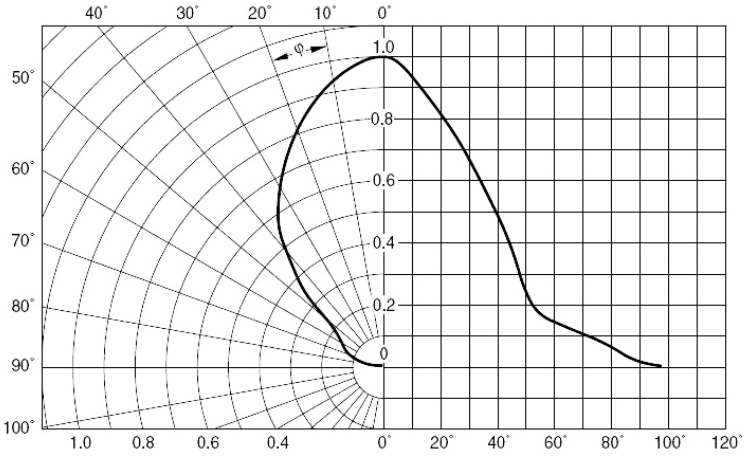
TECHNICAL DRAWINGS (MM)



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

RADIATION OF SINGLE LED

Radiation Characteristic
$I_{rel} = f(\varphi)$; $T_S = 25$ °C



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

Currently there are no Lens options for the OSLON® SSL 4 range of products. Although there are currently no optics designed for 4 OSLON SSL PowerStars ILS have introduced a range of adaptor plates to complement their range of star and cluster products.

ILS Part Number : ILA-REF-ADP-STAR-01.

Click here to visit our website for our latest range

POWERSTAR HEATSINK OPTIONS

ILS Product		OSLON® SSL 4 PowerStars		
		350mA	700mA	1000mA
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

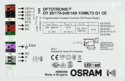
- Operates under the recommended ILS junction temperature
- Operates under the recommended LED maximum junction temperature
- Not suitable for use
- Heatsink not designed for use with this product

Click here to visit our website for our latest range

POWERSTAR POWER SUPPLY OPTIONS

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.

	ILS Driver Part Number	Rating	Current	Output Voltage	Dimming
	IZC035-008F-5065C-SAL	8W	350mA	3-36V	None
	OTE-10/220-240/700-PC	10W	700mA	7-14V	Phase Cut
	OTi-DALI-10/220-240/700-NFC	10W	150-700mA	2.5-45V	DALI
	OTi-DALI-15/220-240/1A0-LT2	15W	150-1050mA	7.5-54V	DALI
	OTi-DALI-15/220...240/1A0-LT2-NFC	15W	150-1050mA	7.5-54V	DALI
	IZC035-017F-0067A-SAL	17W	350mA	6-48V	None
	IZC050-018T-9500A-SAL	18W	500mA	9-36V	Triac
	IZC070-018T-9500A-SAL	18W	700mA	6-26V	Triac
	OT-20/170-240/800-1DIMLT2-G1-CE	20W	200-1050mA	10-38V	ASTRO
	OT-20/170-240/800-4DIMLT2-G2-CE	20W	200-1050mA	10-38V	4 Dim
	OTi-30/120-277/1A0-DX-L	30W	150-1050mA	10-56V	DALI
	IZC070-035F-0067C-SAL	35W	700mA	9-48V	None
	IZCVAR-040M-9020C-SAL	40W	350-1050mA	350mA 2-100V, 500mA 2-80V, 600mA 2-67V, 700mA 2-57V,900mA 2-45V, 1050mA 2-40V	0-10V, PWM and Resistance
	OTi-50/120-277/1A4-DX-L	50W	600-1400mA	10-56V	DALI

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THERMAL INTERFACE MATERIAL OPTIONS

Product	Non Adhesive	Single Sided Adhesive	Double Sided Adhesive
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 PowerFlex 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 OSLON® 80 4 PowerStars.

The OSLON® 80 4 PowerStars, 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.

ILS INTELLIGENT LED SOLUTIONS

Unit 2, Berkshire Business Centre,
Berkshire Drive, Thatcham,
Berkshire, RG19 4EW

+44 (0)1635 294606

info@i-led.co.uk

www.i-led.co.uk

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.

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