



OSRAM PowerFlex LED Strips 16mm LED Pitch

ILX-E516-xx10-5000-SD2xx

The PowerFlex range are densely populated, flexible LED strips using the OSRAM DURIS E5/E2835 LED at its heart. Unlike standard flexible LED strips, the ILX range of strips from ILS incorporate constant current drivers, protection diodes and the latest 3M thermal tape. This combination gives unparalleled performance with brightness in excess of 3000 lumens per metre whilst still achieving 50,000 hours working life. Combined with a full range of accessories including extrusions and connectors, the ILX family of flexible LED reels finally offers a solution for the industrial as well as consumer markets.



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APPLICATIONS INCLUDE

- » General and decorative lighting
- » Task lighting
- » Back lighting
- » Desk lighting
- » Garage lighting
- » Accent lighting
- » Under cabinet lighting
- » Bar lighting
- » Refrigeration
- » Industrial applications
- » Photography

TECHNICAL FEATURES

LED/s	DURIS E5/E2835 LEDs
Reel Length	5000mm
LED Pitch	16mm
Working Voltage	24V DC constant voltage
Strip Width	8mm
Dimmable	Fully dimmable with external controller
Beam Angle	120 Degrees
Cut	Cut lines every 100mm
Mounting	3M double sided thermal tape
Consistency	Precise LED binning selection enables 100% consistent colour temperature from batch to batch
Heatsinks	These Heatsinks are supplied with end caps, mounting brackets and 2 diffusers - clear or diffused. Suitable options on page 6 or visit our website for a full range
Power Supply	Product Family 16mm Pitch - Reel Length 5000mm, 100mm Cut Point. Suitable options on page 7 or visit our website for a full range.

PRODUCT OPTIONS

ILS Part Number	Colour	Colour Temp* (Degrees Kelvin)	Typical Power W §		Drive Voltage	Flux † per 5000mm reel	Radiance Angle	Relevant OSRAM LED Data
			per 5000mm	per 100mm cut				
ILX-E516-WM10-5000-SD201	Warm White	(3000K) 80CRI High Bright	48.00W	0.96W	24V	5850lm	120° (±60°)	GWJDSH / GWJTLMS1
ILX-E516-NW10-5000-SD201	Neutral White	(4000K) 80CRI High Bright	48.00W	0.96W	24V	5850lm	120° (±60°)	GWJDSH / GWJTLMS1
ILX-E516-SW10-5000-SD201	Street White	(3000K) 80CRI High Bright	48.00W	0.96W	24V	5850lm	120° (±60°)	GWJDSH / GWJTLMS1
ILX-E516-WM10-5000-SD211	Warm White	(4000K) 80CRI Super Bright	72.00W	1.44W	24V	8100lm	120° (±60°)	GWJDSH / GWJTLMS1
ILX-E516-NW10-5000-SD211	Neutral White	(5500K) 80CRI Super Bright	72.00W	1.44W	24V	8100lm	120° (±60°)	GWJDSH / GWJTLMS1
ILX-E516-SW10-5000-SD211	Street White	(5500K) 80CRI Super Bright	72.00W	1.44W	24V	8100lm	120° (±60°)	GWJDSH / GWJTLMS1

* 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 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]*
ILX-E516-WM10-5000-SD201	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-E516-NW10-5000-SD201	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-E516-SW10-5000-SD201	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-E516-WM10-5000-SD211	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-E516-NW10-5000-SD211	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-E516-SW10-5000-SD211	70°C max	- 40 to 110 °C	24V 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 is likely to 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. 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.

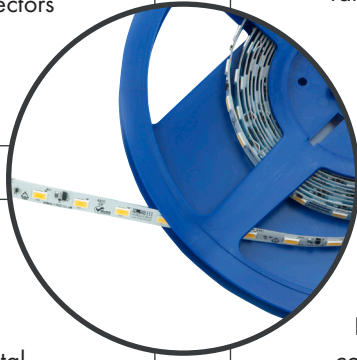
Power Supplies

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 7](#)



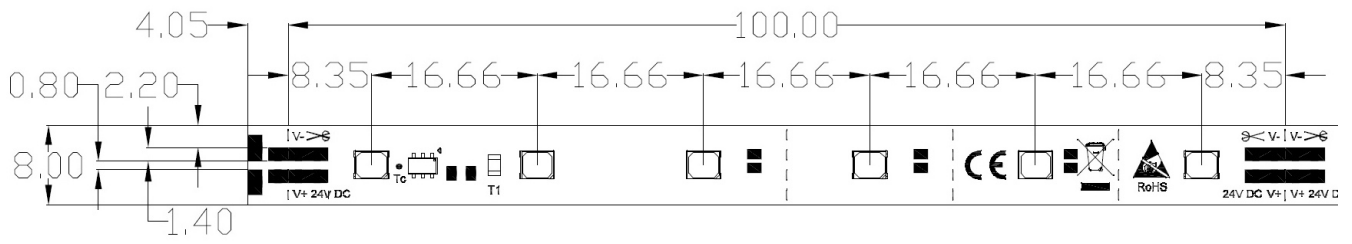
Thermal Interface Material (TIM)

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.



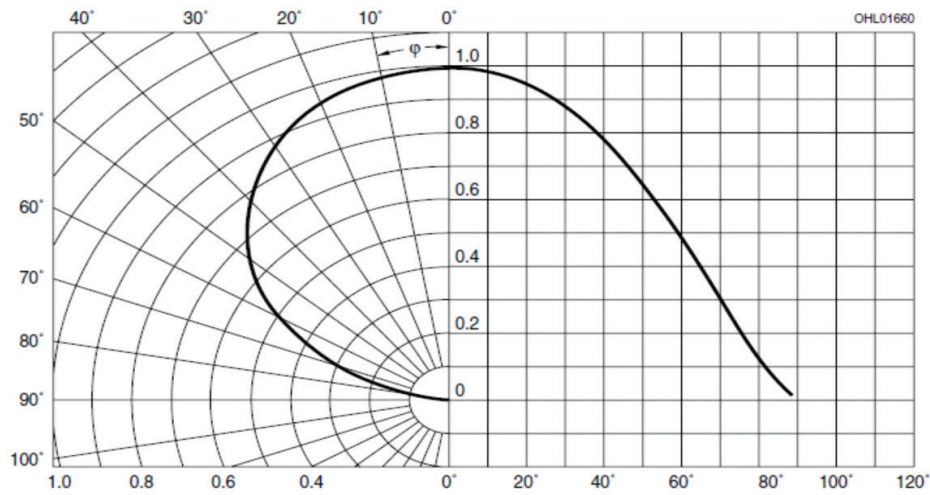
TECHNICAL DRAWINGS (MM)

PRODUCT DATASHEET » ILX-E516-xx10-50000-SD2xx



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

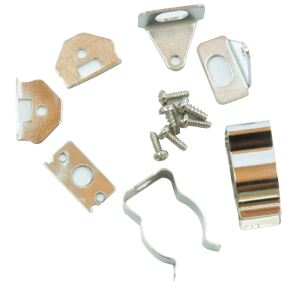
RADIATION OF SINGLE LED



POWERFLEX HEATSINK OPTIONS

ILS has recently introduced 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. More versions will be introduced over the coming months and we are also happy to manufacture custom Heatsinks to your request.

ILS Product	
ILK-FLEXEXT-0310-001.	310mm Accessory Kit including Square Extrusion, End Caps, 2 Diffusers and Mounting Clips
ILK-FLEXEXT-1000-001.	1000mm Accessory Kit including Square Extrusion, End Caps, 2 Diffusers and Mounting Clips
ILK-FLEXEXT-1500-001.	1500mm Accessory Kit including Square Extrusion, End Caps, 2 Diffusers and Mounting Clips
ILK-FLEXEXT-0310-002.	310mm Accessory Kit including Corner Extrusion, End Caps, 2 Diffusers and Mounting Clips
ILK-FLEXEXT-1000-002.	1000mm Accessory Kit including Corner Extrusion, End Caps, 2 Diffusers and Mounting Clips
ILK-FLEXEXT-1500-002.	1500mm Accessory Kit including Corner Extrusion, End Caps, 2 Diffusers and Mounting Clips







[Click here to visit our website for our latest range](#)









POWERFLEX POWER SUPPLY OPTIONS

Product Family 16mm Pitch – Reel Length 5000mm, 100mm Cut Point

High Bright = ILX-E516-xx10-5000-SD201

Super Bright = ILX-E516-xx10-5000-SD211

	Part Number	Wattage	Voltage	Dimming	High Bright Flex 0.96W per cut 70.00W per reel		Super Bright Flex 1.44W per cut 104.00W per reel	
					Reels per Driver	Cuts per Driver	Reels per Driver	Cuts per Driver
	OT 6/200...240/24 CE	6W	24V	None	0	6	0	4
	OT 20/220...240/24	20W	24V	None	0	20	0	13
	OT 20/220...240/24 P	20W	24V	None	0	20	0	13
	OT 20/220...240/24 DIM P	20W	24V	1-10V	0	20	0	13
	ELEMENT 30/220-240/24 G2	30W	24V	None	0	31	0	20
	OT SLIM 30/220-240/24	30W	24V	None	0	31	0	20
	IZV024-040M- 9767C-SAL	40W	24V	0-10V, PWM Signal or Resistance	0	41	0	27
	OT 40/220...240/24 P	40W	24V	None	0	41	0	27
	OT 40/220...240/24 DIM P	40W	24V	1-10V	0	41	0	27
	OT 50/220...240/24	50W	24V	None	1	52	0	34
	IZV024-060M- 9767C-SAL	60W	24V	0-10V, PWM Signal or Resistance	1	62	0	41
	ELEMENT 60/220-240/24 G2	60W	24V	None	1	62	0	41
	OT 60/220...240/24 P	60W	24V	None	1	62	0	41
	OT SLIM 60/220-240/24	60W	24V	None	1	62	0	41
	OT 60/220...240/24 DIM P	60W	24V	1-10V	1	62	0	41

	Part Number	Wattage	Voltage	Dimming	High Bright Flex 0.96W per cut 70.00W per reel		Super Bright Flex 1.44W per cut 104.00W per reel	
					Reels per Driver	Cuts per Driver	Reels per Driver	Cuts per Driver
	OT 75/220...240/24	75W	24V	None	1	78	1	52
	IZV024-090M- 9767C-SAL	90W	24V	0-10V, PWM Signal or Resistance	1	93	1	62
	OT 100/220...240/24 P	100W	24V	None	2	104	1	69
	OT 100/220...240/24 DIM P	100W	24V	1-10V	2	104	1	69
	IZV024-120M- 9767C-SAL	120W	24V	0-10V, PWM Signal or Resistance	2	125	1	83
	ELEMENT 120/220-240/24 G2	120W	24V	None	2	125	1	83
	OT 130/220...240/24 P	130W	24V	None	2	135	1	90
	OT 130/220...240/24 DIM P	130W	24V	1-10V	2	135	1	90
	OT SLIM 160/220-240/24	160W	24V	None	3	260	2	111
	ELEMENT 180/220-240/24 G2	180W	24V	None	3	187	2	125
	OT 250/220...240/24 P	250W	24V	None	5	260	3	173
	OT 250/220...240/24 DIM P	250W	24V	1-10V	5	260	3	173
	OT SLIM 250/220-240/24	250W	24V	None	5	260	3	173

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POWERFLEX THERMAL INTERFACE MATERIAL OPTIONS

These strips have 3M thermal tape already attached for perfect thermal bonding.

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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 PowerFlex LEDs, when powered up, are very bright. Thus it is advised that you do not look directly at them. Turn the PowerFlex product away from you and do not shine into the eyes of others.



DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY



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



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



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

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 to 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 PowerFlex.



The PowerFlex, as manufactured, has no conformal coating and therefore offers 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.

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