



ILS Flex LED Strips 12mm Pitch

ILX-EE12-xx10-5000-CR2xx

The ILS Flex range are densely populated, high bright, flexible LED strips using the OSRAM Duris E2825 LED at its heart. Unlike the PowerFlex range of products the ILS Flex range use ballast resistor to set the current from a 24V input and use the latest 3M thermal tape. Combined with a full range of accessories including extrusions and connectors, the ILX family of flexible LED reels offers a solution for consumer markets.



CONTENTS

Applications	page 2	Heatsink Options	page 6
Technical Features	page 2	Power Supply Options	page 7-8
Product Options	page 3	Thermal Interface Material Options	page 8
Minimum and Maximum Ratings	page 3	Assembly Information	page 9
Accessories	page 4	Important Information and Precautions	page 9
Technical Drawings	page 5	Safety Information	page 10
LED Radiation Diagram	page 5		

APPLICATIONS

- » General and decorative lighting
- » Garage lighting
- » Task lighting
- » Spotlighting
- » Accent lighting
- » Downlighters
- » Retail lighting
- » Entertainment lighting
- » Under cabinet lighting
- » Photography

TECHNICAL FEATURES

LED Family	Duris E2835 LEDs
Reel Length	5000mm
LED Pitch	12mm
Working voltage	24V DC constant voltage
Strip width	10mm
Dimmable	Full dimmable with external controller
Beam angle	120 degrees
Cut	Cut lines every 83mm
Mounting	3M double sided thermal tape
Heatsinks	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 12mm pitch - reel length 5000mm, 83mm 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 83mm cut				
ILX-EE12-HW10-5000-CR221	Hot White	2700K	60.5W	1.01W	24V	7500lm	120° (±60°)	GWJTLMS1
ILX-EE12-NW10-5000-CR221	Neutral White	4000K	60.5W	1.01W	24V	7500lm	120° (±60°)	GWJTLMS1
ILX-EE12-UL10-5000-CR211	Ultra White	6000K	39W	0.65W	24V	5000lm	120° (±60°)	GWJTLMS1
ILX-EE12-UL10-5000-CR221	Ultra White	6000K	60.5W	1.01W	24V	7500lm	120° (±60°)	GWJTLMS1

Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect overall 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 24V pulse at 25 °C

MINIMUM AND MAXIMUM RATINGS

ILS Part Number	Operating Temperature at Tc-Point [° C]	Storage Temperature [° C]	DC Voltage	Reverse Voltage [Vdc]
ILX-EE12-HW10-5000-CR221	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-EE12-NW10-5000-CR221	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-EE12-UL10-5000-CR211	70°C max	- 40 to 110 °C	24V max	Not designed for reverse voltage
ILX-EE12-UL10-5000-CR221	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 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

Secondary Optics Options



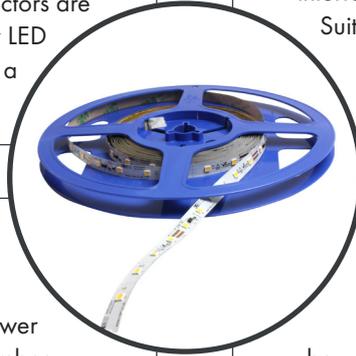
LEDiL precision-engineered lenses and reflectors allow for rapid deployment of all types of light fixtures, including street lights, wall-wash, high-bay, sconces, emergency beacons, parking garage/low-bay, MR and AR downlights, and dock lights. Precision-engineered for maximum efficiency and durability, LEDiL lenses and reflectors are released alongside the latest products from our LED suppliers. Suitable options 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 6](#) 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](#)

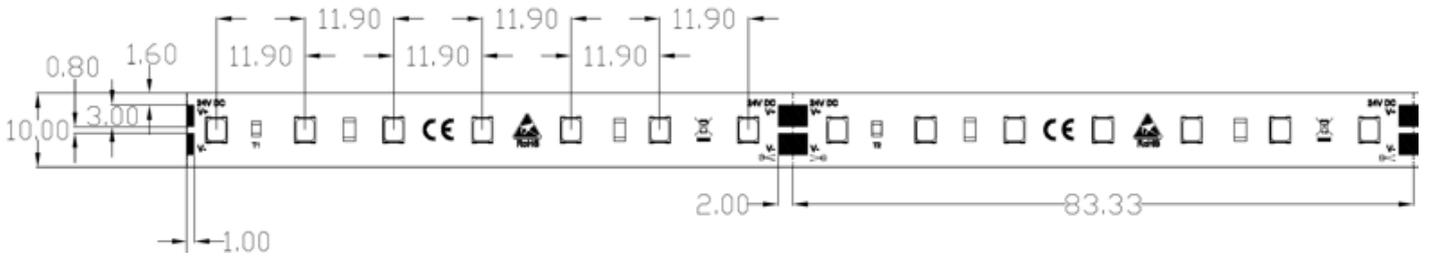


Thermal Interface Material (TIM)

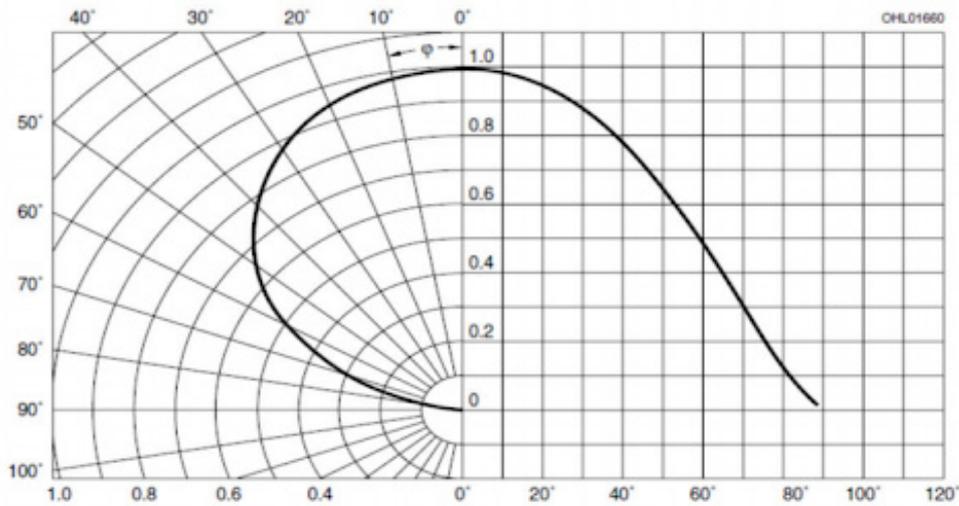
ILS has a series of aluminium alloy heatsinks to be used with our standard range of PowerFlex. These heatsinks are supplied with end caps, mounting brackets and 2 diffusers - clear or diffused. ILS are continually expanding its heatsink range and we are equally happy to manufacture custom Heatsinks upon your request. Suitable options on [page 7](#) or visit [our website](#) for a full range.



TECHNICAL DRAWINGS (MM)



RADIATION OF SINGLE LED



HEATSINK OPTIONS

ILS has a series of aluminium alloy heatsinks to be used with our standard range of ILS Flex. 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.

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](#)

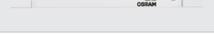
POWER SUPPLY OPTIONS

Product Family 12mm pitch – reel length 5000mm, 83mm cut point

Super Bright = ILX-EE12-xx10-5000-CR211

Ultra Bright = ILX-EE12-xx10-5000-CR221

	Part Number	Wattage	Voltage	Dimming	Super Bright Flex 0.65W per cut 35W per reel		Ultra Bright Flex 1.01W per cut 60.5W per reel	
					Reels per Driver	Cuts per Driver	Reels per Driver	Cuts per Driver
	OT 6/200...240/24 CE	6W	24V	No	0	9	0	5
	OT 20/220...240/24	20W	24V	No	0	30	0	19
	OT 20/220...240/24 P	20W	24V	No	0	30	0	19
	OT 20/220...240/24 DIM P	20W	24V	1-10V	0	30	0	29
	ELEMENT 30/220-240/24 G2	30W	24V	No	0	46	0	39
	IZV024-040M- 9767C-SAL	40W	24V	0-10V, PWM Signal or Resistance	1	46	0	29
	OT SLIM 30/220-240/24	30W	24V	No	1	46	0	29
	OT 40/220...240/24 P	40W	24V	No	1	61	0	39
	OT 40/220...240/24 DIM P	40W	24V	1-10V	1	61	0	39
	IZV024-060M- 9767C-SAL	60W	24V	0-10V, PWM Signal or Resistance	1	92	0	59
	ELEMENT 60/220-240/24 G2	60W	24V	No	1	92	0	59
	OT 60/220...240/24 P	60W	24V	No	1	92	0	59
	OT SLIM 60/220-240/24	60W	24V	No	1	92	0	59
	OT 60/220...240/24 DIM P	60W	24V	1-10V	1	92	0	59

	Part Number	Wattage	Voltage	Dimming	Super Bright Flex 0.65W per cut 35W per reel		Ultra Bright Flex 1.01W per cut 60.5W per reel	
					Reels per Driver	Cuts per Driver	Reels per Driver	Cuts per Driver
	OT 75/220...240/24	75W	24V	No	2	115	1	74
	IZV024-090M-9767C-SAL	90W	24V	0-10V, PWM Signal or Resistance	2	138	1	89
	OT 100/220...240/24 P	100W	24V	No	2	153	1	99
	OT 100/220...240/24 DIM P	100W	24V	1-10V	2	153	1	99
	IZV024-120M-9767C-SAL	120W	24V	0-10V, PWM Signal or Resistance	3	184	1	118
	ELEMENT 120/220-240/24 G2	120W	24V	No	3	184	1	118
	OT 130/220...240/24 P	130W	24V	No	3	200	2	128
	OT 130/220...240/24 DIM P	130W	24V	1-10V	3	200	2	128
	OT SLIM 160/220-240/24	160W	24V	No	4	246	2	158
	ELEMENT 180/220-240/24 G2	180W	24V	No	5	276	2	178
	OT 250/220...240/24 P	250W	24V	No	7	384	3	247
	OT 250/220...240/24 DIM P	250W	24V	1-10V	7	384	3	247
	OT SLIM 250/220-240/24	250W	24V	No	7	384	3	247

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

THERMAL INTERFACE MATERIAL OPTIONS

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

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

ASSEMBLY INFORMATION

- » The mounting of the ILS Flex 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 ILS Flex, 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.



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



ILS Flex will overheat in operation if not attached to a suitable heatsink. Overheating can cause failure or irreparable damage.



DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.



Do not operate ILS Flex with a power supply with unlimited current. Connection to constant voltage power supplies that are not current limited may cause the ILS Flex 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 ILS Flex 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 ILS Flex 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 ILS Flex.



The ILS Flex, 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 datasheet 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 a specific or custom enquiry, please contact the ILS team via email or phone. Alternatively please visit our website for more product information 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, and from providing design support and prototyping within the European market place. We can deliver production displays to wherever in the world that the customer's manufacturing or assembly is being undertaken.

INTELLIGENT GROUP SOLUTIONS DIVISIONS

