INTELLIGENT
LED SOLUTIONS

Intelligent 12x8 RGB LED Rigid Tile 6mm LED Pitch

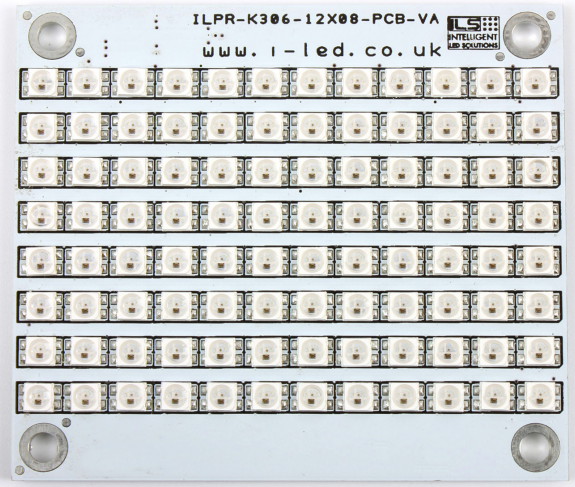
ILPR-K306-RGB1-12X08-SK105-01.

Product Overview

The Intelligent LED Pixel (ILP) range of products are based around the industry standard SK6812 LED driver IC. Each of the RGB LEDs has one of these tiny devices built in, enabling you to drive the whole 12x8 LED tile with just 3 wires and having individual control over each and every one of the LEDs. Each LED can be set to any 8-bit RGB combination giving 24-bit colour depth. The LEDs are controlled by internal drivers that are chained together on the panel so there is no complicated wiring required. These ILP rigid tiles have solder pads for easy linking of multiple devices.

Applications

- LED Advertising Screens
- Point of Sale
- Back Lighting
- Accent Lighting
- Task Lighting
- Back Lighting
- Desk Lighting
- Garage Lighting
- Bar Lighting
- Industrial Applications
- Photography



Technical Features

- Panel size: 67.5mm x 58.5mm x 4mm
- LED Pitch - 6mm
- Working Voltage - 5V DC constant voltage
- Full control over each LED with serial data
- Beam Angle - 120 Degrees
- Ability to link multiple tiles

DATASHEET

Intelligent LED Solutions, Unit 2, Berkshire Business Centre, Berkshire Drive, Thatcham, Berkshire, RG19 4EW
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Important Information and Precautions

- The Intelligent LED Pixel's, when powered up, are very bright. Thus it is advised that you do not look directly at it. Turn the Intelligent LED pixel's away from you and do not shine into the eyes of others.
- Do not operate Intelligent LED Pixel's with a Power Supply with unlimited current. Connection to constant voltage Power
- Supplies that are not current limited may cause the Intelligent LED Pixel's to consume current above the specified maximum and cause failure or irreparable damage. Intelligent LED Pixel's, when operated, can reach high temperatures thus there is risk of injury if they are touched.
- DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.
- DO NOT TOUCH or PUSH on the LED as this can cause irreparable damage.

Product Options

ILS PART NUMBER	LED Type	Driver IC	Drive Voltage*	Typical Current – RGB §	Typical Current – single colour §
ILPR-K306-RGB1-12X08-SK105-01.	3535 RGB	SK6812	5V	5760mA	1920 mA

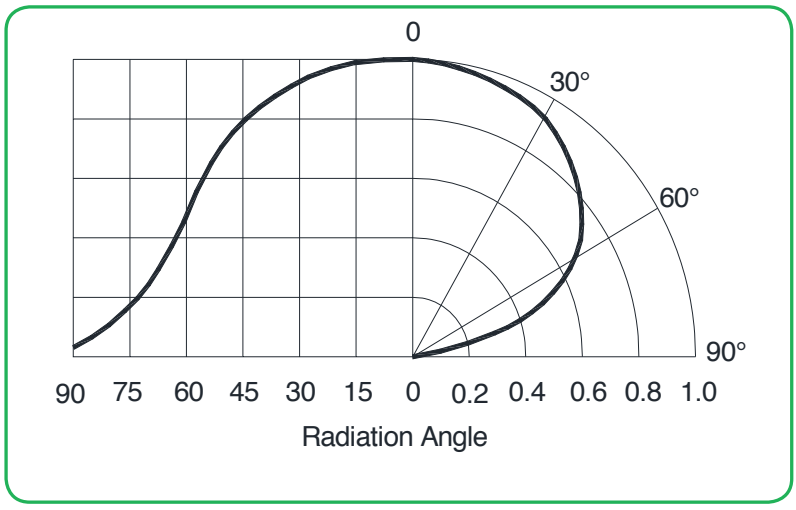
*Due to the special conditions of the manufacturing processes of LEDs, the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.
§ Tolerance +/- 10%

Minimum and Maximum Ratings

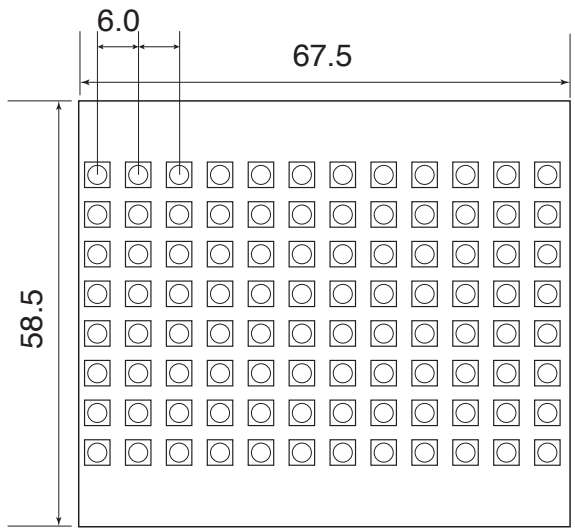
ILS PART NUMBER	Operating Temperature at Tc-Point [°C]*	Storage Temperature [°C]*	Voltage (Vdc)	Reverse Voltage [Vdc]*
ILPR-K306-RGB1-12X08-SK105-01.	70°C max	- 20 to 90°C	5.5V max	not designed for reverse voltage

* Exceeding maximum ratings for operating and storage temperature will reduce expected life time or 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.

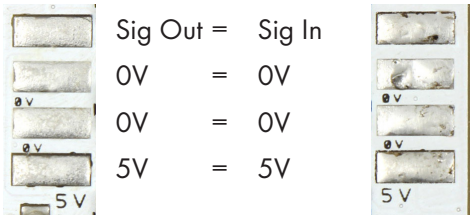
Radiation of Single LED



Technical Drawing (mm)



Pin Out



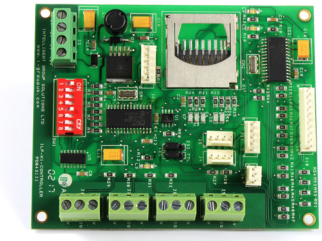
Controllers

Built-in Plug & Play controller

Part Number: ILPA-DRIVER-SP103E-01

Simple controller, with built in routines, to simply control our ILP products.

Please refer to ILPA-DRIVER-SP103E-0x datasheet



SD card based controller

Part number: ILPA-DRIVER-SD-01.

SD card based controller you can programme to display colours, text or animations

Please refer to ILPA-DRIVER-SD-01. datasheet

Safety Information

- 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.
- The Intelligent LED Pixel's tile and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.
- Observe correct polarity!
- Pay attention to standard ESD precautions when installing the Intelligent LED Pixel's.
- 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.
- 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.
- 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
- The Intelligent LED Pixel strip, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.

For further information please contact ILS

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.

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