

Intelligent RGB & RGBW Mini-RF Controller

ILPA-DRIVER-SP103E-0x

Product Overview

The ILPA-DRIVER-SP103E-0x has been designed to work seamlessly with all of our Intelligent LED Pixel products.

Built in industry standard connector allows for simple plug and play capabilities. An external power supply is required to power the controller and LEDs. The controller comes pre-paired with its remote control, and communications are over low power RF.

Applications

- Task Lighting
- Back Lighting
- Desk Lighting
- Garage Lighting
- Accent Lighting
- Under Cabinet Lighting
- Bar Lighting
- Refrigeration
- Industrial Applications
- Photography

Technical Features

- ILPA-DRIVER-SP103E-01 - RGB 5-24V
- ILPA-DRIVER-SP103E-02 - RGBW 5V only
- Works with almost all types of 1 and 2 wire LED driver ICs
- 300 built-in routines
- Can control up to 2048 pixels
- Easily adjust brightness
- Maximum working distance of 10 meters
- User routine saving function



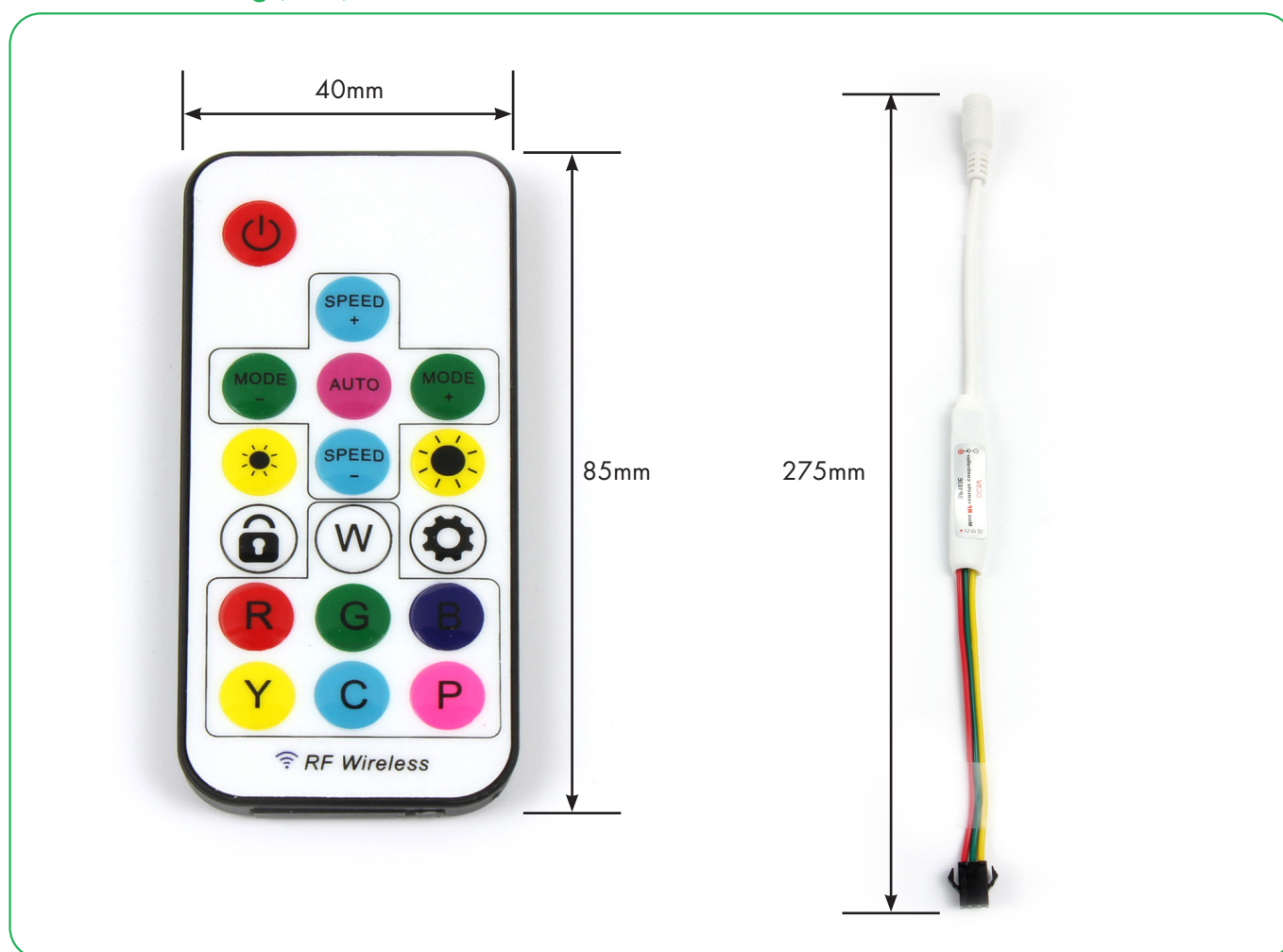
Important Information and Precautions

- 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	Description	Operating Voltage
ILPA-DRIVER-SP103E-01	Driver, Mini-RF, Remote, 2048 LEDs, RGB	5-24V
ILPA-DRIVER-SP103E-02	Driver, Mini-RF, Remote, 2048 LEDs, RGBW	5V Only

Technical Drawing (mm)



Pin Out - ILPA-DRIVER-SP103E-01

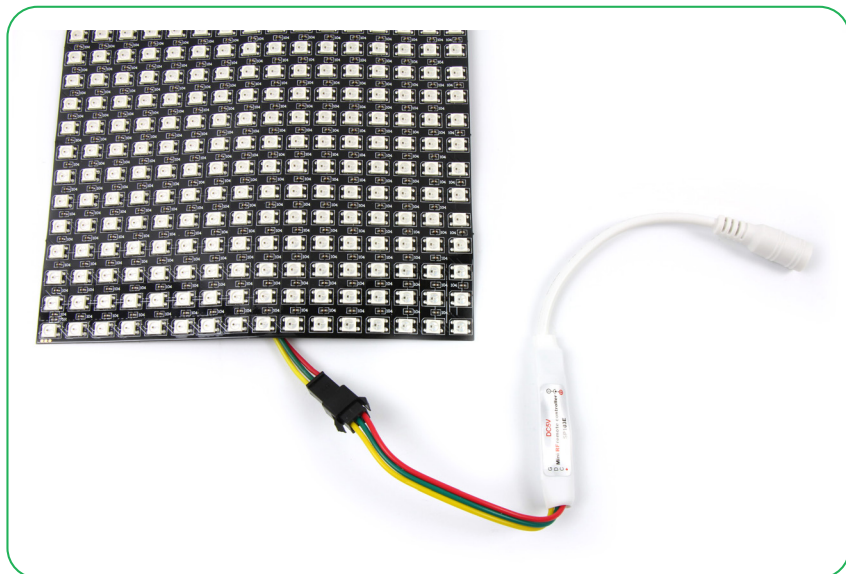


Pin Out - ILPA-DRIVER-SP103E-02



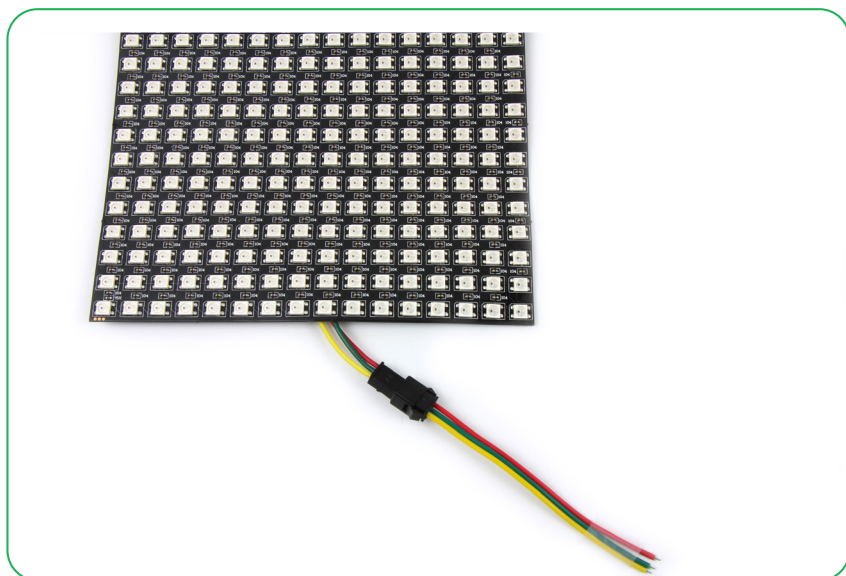
Attaching to our ILP products

With pre-assembled wires

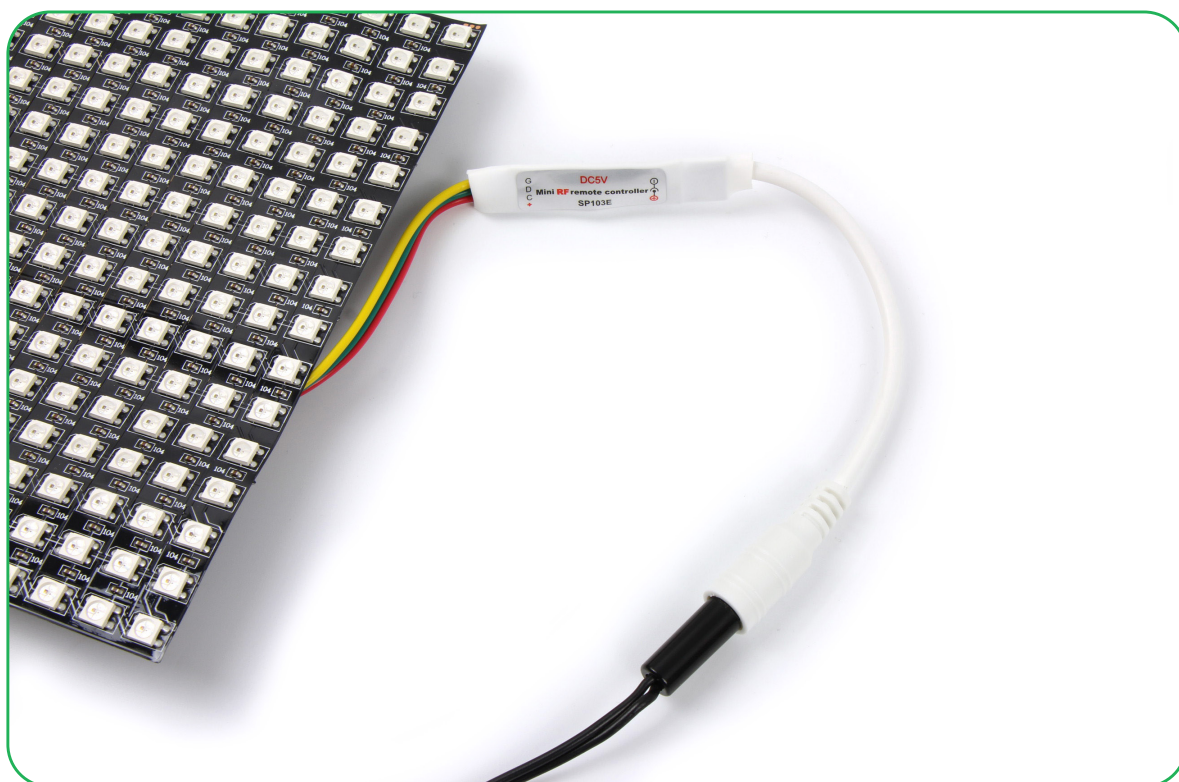
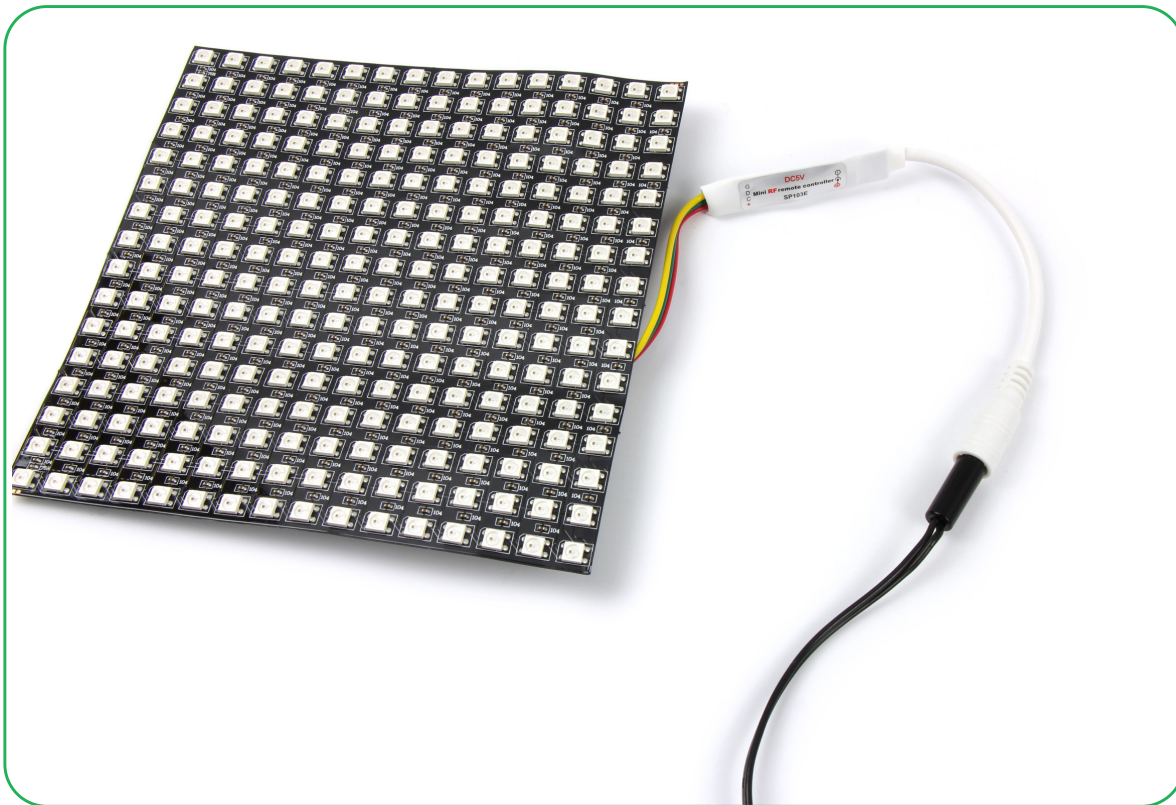


Products with no Pre-assembled Wires















You can use our input cable to connect with;
Part Number: ILPA-INPUT-CAB-3WAY-90MM




Please insert a power supply with a 6.5mm power jack, centre positive







Function of each button

													
ON/OFF	AUTO	SPEED UP	SPEED DOWN	MODE UP	MODE DOWN	BRIGHTNESS UP	BRIGHTNESS DOWN	MATCH	SETTING	RED	GREEN	BLUE	WHITE

After you have attached the power supply and the LEDs as described above, pressing the ON/OFF  button will power the LEDs and the routine being displayed will be the last one set when the unit was powered down.





Once powered you now have two modes of operation, single colour or built-in routines

Single colour mode

Pressing the RED , GREEN , BLUE  button or WHITE  button will set the attached LEDs to the corresponding colour (if these do not work in the correct order, you need to re-map the controller as explained below)

Pressing BRIGHTNESS UP  or BRIGHTNESS DOWN  will brighten or dim all of the LEDs at the colour set.





Pressing the AUTO  button will set the controller into a colour wheel mode and it will scroll through a set routine of colours.

In AUTO mode the BRIGHTNESS UP  or BRIGHTNESS DOWN  buttons work the same, and by pressing SPEED UP  or SPEED DOWN  buttons will cause the colours to cycle through quicker or slower.

Built-In routine mode


At any point if you press either the MODE UP  or MODE DOWN  buttons you will enter into the 300 built-in routines.

In Built-In routine mode pressing MODE UP  or MODE DOWN  buttons will change the routine to either the next one up, or the previous one


Also within Built-In Routine mode, the BRIGHTNESS UP  or BRIGHTNESS DOWN  buttons work the same, and by pressing SPEED UP  or SPEED DOWN  buttons will cause the colours of the routine to cycle through quicker or slower.

Setting up the Controller modes







Test Mode

Pressing the AUTO  button five times will put the controller into test mode. The attached LEDs will now switch between red, green, blue, yellow, purple, cyan and white





Controller/Remote Matching Mode

The controller comes pre-matched to the remote control, but should you need to re-establish connection, press the MATCH  button five times, the attached LEDs should flash white fast to confirm

Changing RGB mapping

Depending on the driver IC in the LEDs being driven, the RGB keys may not match to the LEDs attached. You may need to re-map the RGB position on the controller. To do this press the SETTING  button five times, the attached LEDs should now flash once white, then stay a solid white colour. Now press the  button to set the red colour, if it does not turn red straight away press the  button until it turns red. Once this has turned red then press the  button to set the green colour. Once again if this doesn't turn GREEN straight away press the  button until the LEDs do turn GREEN. Lastly do this again with the  button to set the blue colour. Once the LEDs turn BLUE press the SETTING button once to confirm the settings.

Adjust Number of Pixels being driven

The controller is capable of driving a maximum of 2048 pixels, but by default the controller is set to drive 600 pixels. You can change the number of pixels being driven to match the total number of LEDs you have attached. To do this press the SETTING  button five times, the attached LEDs should now flash once white, then stay a solid white colour. Pressing the MODE+  button will increase the number of pixels being driven by 60 i.e. it is now 660 pixels. Continually pressing the MODE+  button will increase the total number of LEDs being driven by 60 each time, up to the maximum of 2048. Conversely pressing the MODE-  button will decrease the number of driven LEDs by 60, down to the minimum of 60 leds. The driver can drive just 1 led, but some of the routines will not work correctly if the attached LEDs are less than 60.

Choice of Power Supply

The controller will work with a wide range of power supplies, however the following must be taken into account.

The DC voltage must be 5V when driving 5V LED based solutions

The DC voltage must be 12 V when driving 12V LED based solutions

The power rating must be at least the power rating of the combined LED strings, plus 30%

Voltages higher than those stated above will cause damage to the system and the LEDs.

The following power supplies are recommended:

Power Supply Description	RS Part Number
12V 3A	904-8486
12V 1A	828-0074

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 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, 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.