

Intelligent LED Pixel Matrix Controller

ILPA-DRIVER-SD-01.

Product Overview

The ILS Intelligent LED Pixel Matrix Controller helps with the development of intelligent LED pixel products, enabling fast implementation of high density arrays for both graphics and text-based images.

Its simple SD card based interface enables bitmaps and animations to be displayed on the target system, whilst the controller handles all power and data communications. The ILPA-DRIVER-SD-01 is based on the industry standard K-1000C controller, which is the updated version of the T1000s controller.

Using LEDedit or Glediator freeware, users can design and implement their own LED patterns and effects, preview them online and then upload to the SD card. Amongst other things, the system is capable of capturing and playing videos, recording GIFs and creating moving message panels with no programming or coding required.



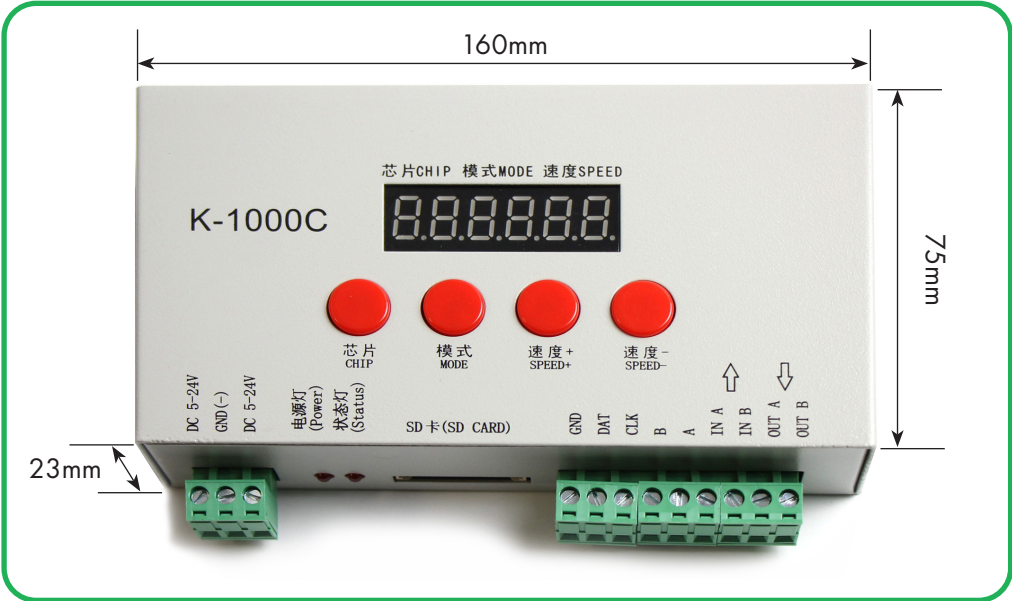
Technical Features

- Compact 160mm x 75mm x 23mm
- Input voltage 5V to 24V dc
- SD card can store up to 32 routines
- Each controller can drive up to 2048 pixels
- Controllers can be daisy-chained to drive bigger LED arrays
- Compatible with all industry standard drive ICs e.g. WS2821, WS2812B, UCS512
- Controller has built-in test routines even without an SD card installed

Important Information and Precautions

- LEDs are very bright when powered. It is therefore advised that you do not look directly at them. All LED product must be turned away from you. Do not shine into the eyes of others
- Powered LEDs will overheat if not attached to a suitable heatsink and without a suitable thermal interface material. Overheating can cause failure or damage
- Do not operate LED products with a power supply with unlimited current. Connection to constant voltage power supplies that are not current limited may cause the LED product to consume current above the specified maximum and cause failure or irreparable damage
- LED products, when operated, can reach high temperatures thus there is risk of injury if they are touched
- The LEDs, when powered up not visible to the naked eye. Thus it is advised that you do not look directly at it. Turn the LED away from you and do not shine into the eyes of others
- DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY
- DO NOT TOUCH THE LEDS

Technical drawing with cables (mm)



DXF Drawing files are available on request from ILS. Please call or email

Choice of Power Supply

The controller will operate 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 12V 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 LEDs

The following power supplies are recommended

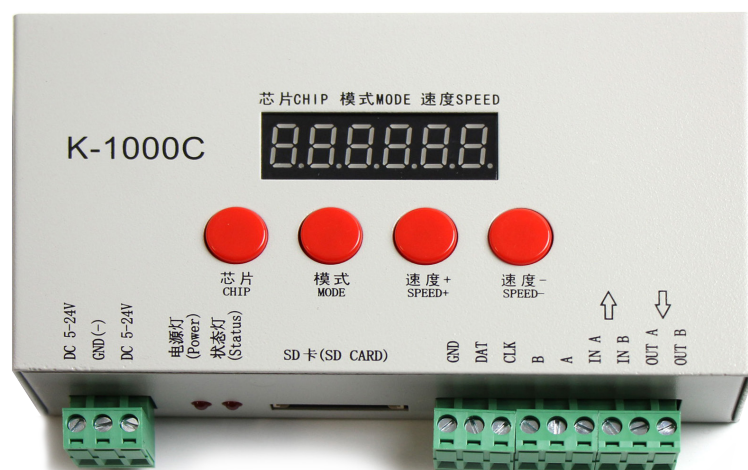
Power Supply Description	RS Part Number
12V 3A	904-8486
15V 4A	904-8474

Precautions

- Voltages higher than 24V may cause permanent damage
- Reverse polarity may cause permanent damage

Products

ILS Part Number	Description	RS Article
ILPN-K508-BLU1-2M0-SK12410-I1	ILP Neon Flexible Blue LED Strip, 120LEDs per metre, DC24V, IP65	1921704
ILPN-K508-GRN1-2M0-SK12410-I1	ILP Neon Flexible Green LED Strip, 120LEDs per metre, DC24V, IP65	1921703
ILPN-K508-RED1-2M0-SK12410-I1	ILP Neon Flexible Red LED Strip, 120LEDs per metre, DC24V, IP65	1921702
ILPN-K508-WHT1-2M0-SK12410-I1	ILP Neon Flexible White LED Strip, 120LEDs per metre, DC24V, IP65	1921701
ILPN-K517-RGB1-2M0-SK10510-I1	ILP Neon Flexible RGB LED Strip, 120LEDs per metre, DC5V, cuttable every 20mm , IP65	1921705
ILPN-K517-RGB1-2M0-SK11210-I1	ILP Neon Flexible RGB LED Strip, 120LEDs per metre, DC12V, cuttable every 50mm, IP65	1921707
ILPN-K517-RGB1-2M0-SK12410-I1	ILP Neon Flexible RGB LED Strip, 120LEDs per metre, DC24V, cuttable every 100mm, IP65	1921708
ILPR-K306-RGB1-12X08-SK105-01.	ILP 12x8 rigid tile, RGB 3535 LEDs, 4mm Pitch, 5V, SK6812, No IP rating	1807520
ILPR-K306-RGB1-18X08-SK105-01.	ILP 18x8 rigid tile, RGB 3535 LDs, 4mm Pitch, 5V, SK6812, No IP rating	1807519
ILPR-K506-RGB1-08X08-SK105-01.	ILP 8x8 rigid tile, RGB 5050 LEDs, 6mm Pitch, 5V, SK6812, No IP rating	1807515
ILPR-K506-RGB1-32X08-SK105-01.	ILP 32x8 rigid tile, RGB 5050 LEDs, 6mm Pitch, 5V, SK6812, No IP rating	1807516
ILPS-K506-RGB1-46X01-SK105-01.	ILP 46x1 rigid strip, RGB 5050 LEDs, 6mm pitch, 5V, SK6182, No IP rating	1807507
ILPX-K307-RGB1-2M0-SK15V07-01.	ILP 2m flexible strip, 288x RGB 3535 LEDs, 7mm width, 5V, SK6812, No IP rating	1807503
ILPX-K307-RGB1-2M0-SK15V10-I1.	ILP 2m flexible strip, 288x RGB 3535 LEDs, 10mm width, 5V, SK6812, IP67	1807504
ILPX-K317-RGB1-2M0-SK15V04-01.	ILP 2m flexible strip, 120x RGB 3535 LEDs, 4mm width, 5V, SK6812, No IP rating	1807502
ILPX-K517-RGB1-2M0-SK15V10-01.	ILP 2m flexible strip, 120x RGB 5050 LEDs, 10mm width, 5V, SK6812, No IP rating	1807500
ILPX-K517-RGBW-2M0-IC65V10-01.	ILP 2m flexible strip, 120x RGB 5050 LEDs, 10mm width, 5V, IC6812, No IP rating	1807501
ILPX-KS11-RGB1-2M0-SK10508-01.	ILP 2m flexible strip, 120x RGB side LEDs, 8mm width, 5V, SK6812, No IP rating	1807505
ILPX-KS11-RGB1-2M0-SK10512-I1.	ILP 2m flexible strip, 120x RGB side LEDs, 12mm width, 5V, SK6812, IP67	1807506
ILPY-K510-RGB1-08X32-SK105-01.	ILP flexible 8x32 tile, RGB 5050 LEDs, 10mm Pitch, 5V, SK6812, No IP rating	1807513
ILPY-K510-RGB1-16X16-SK105-01.	ILP flexible 16x16 tile, RGB 5050 LEDs, 10mm Pitch, 5V, SK6812, No IP rating	1807512



Button Meaning

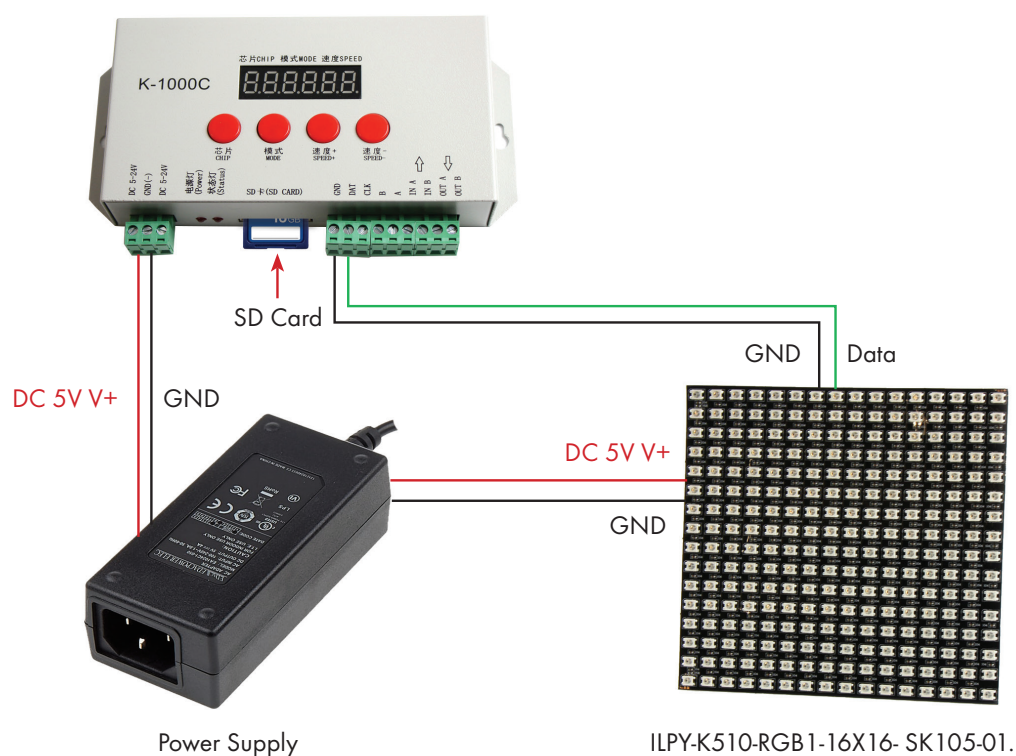
Button	Meaning	
CHIP	Switch chip	Press CHIP and them MODE button, can enter write code mode, 61 measn UCS512-A/B coding; 62 means UCS512-C coding
MODE	Switch file	
SPEED+	Speed up	Press SPEED+ and SPEED- the same time, would enter effect files looping mode.
SPEED-	Speed down	

Interface Meaning

DC 5-24V	5V-24V DC power positive input
GND	DC power supply negative input
POWER	Power indicator
SD card (SD CARD)	SD card slot
GND	Ground line
CLK	Clock line (Coding line if DMX lights)
DAT	Data line
B	Signal -
A	Signal +
IN A	Cascade sync signal, connect the frount OUT A
IN B	Cascade sync signal, connect the front OUT B
OUT A	Cascade sync signal, connec the next IN A
OUT B	Cascade sync signal, connect the next IN B

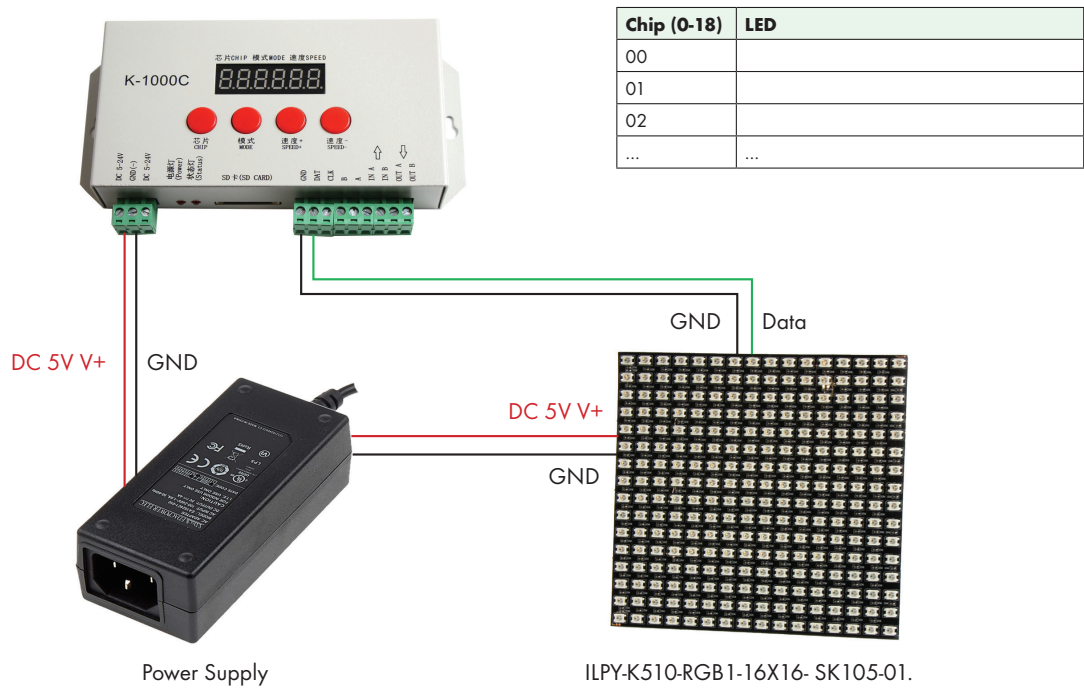
SD Card Mode

Copy the program file from a PC to the SD Card.

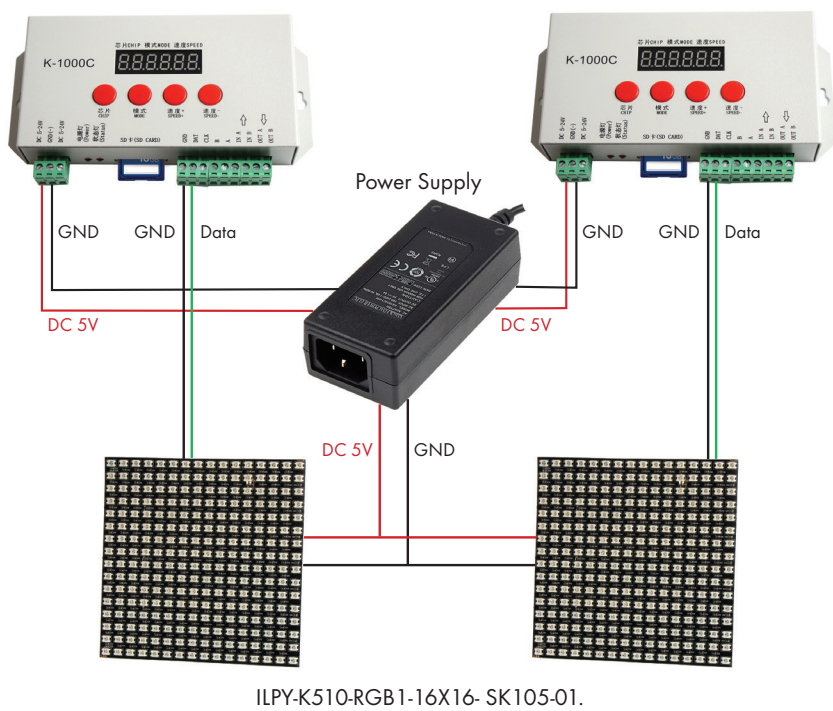


No SD Card Mode

22 pre-programmed lighting effects are available without an SD card.



Multiple Controllers



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 LEDs.
- The LED, 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 users 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.

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.