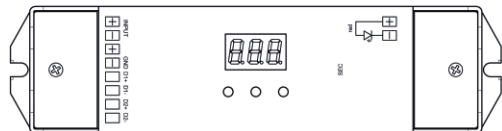




LC2012S

User's manual



DMX interface single channel for voltage driven LED devices

WARNINGS

This instruction manual contains important information about the installation and use of the projector. Please read and follow these instructions carefully.

The security of this device is guaranteed only with the proper use of the following instructions, therefore they must be kept carefully.

Never install the device in locations easily accessible by people who ignore the existence of this user's manual and safety instructions.

Disconnect the unit from any power supply before attempting any operation in contact or inside the unit, and when not in use.

It is essential that electrical installation conforms to all relevant standards.

Prior to connect the unit to the mains supply, check the output voltage fits the technical requirements on the label.

Never let the power cord come into contact with other cables.

Never touch the electrical contacts, either directly with your fingers, or indirectly by means of sharp or metal objects.

Make sure that cables cannot cause trip hazard.

Do not attempt to dismantle and modify the unit.

Due to the high technological level of this unit,

any service maintenance should be performed by specialised operators. Please contact your Arena Luci dealer for any operation.

Always ensure that the structure to which you are attaching the unit is secure and is able to support the weight of each unit.

Do not allow contact with water or any other fluids, or metallic objects (IP 20).

Do not install the projector in areas of high humidity. The unit is intended only for indoor purposes.

Avoid installing the unit close to heat sources.

Allowed to be mounted directly on inflammable surfaces.

Install the unit where it can be easily aerated.

Do not use any solvent based cleaning agents.

Use only a soft, dry anti-static cloth.

The installation of LED modules (including power supplies) should be done according to current technical rules and regulations. The installation should be performed only by a qualified operator.

Avoid contact with either corrosive agents or humidity and moisture on delicate elements: damages from corrosion are not refunded as component defects.

Please note that as part of Arena Luci's ongoing commitment to continuous product development, specifications are subject to change in the course of product improvement without notice. Arena Luci is not responsible for damages resulting from improper or different use than expected.

TRANSPORT AND SHIPPING

Open the shipping carton and verify that all equipment necessary to operate the system has arrived intact.

Refer to the following packing list for information on what items are included with your model. If any equipment is missing or damaged, contact your Arena Luci dealer immediately.

No. 1 unit LC2102S

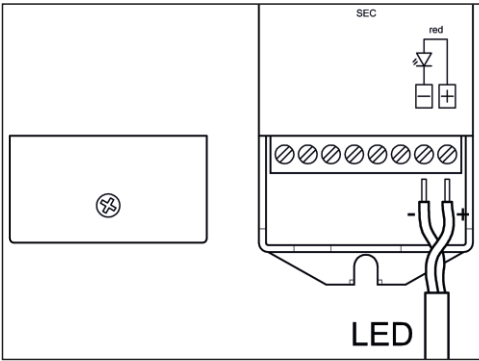
Before beginning initial setup of your LED

controller, make sure that there is no evident damage caused by transportation. In the event that the unit's housing is damaged, do not plug it in and do not attempt to use it until after contacting your Arena Luci dealer for assistance.

INSTALLATION AND CONNECTION

Before carrying out any operation, disconnect the unit from any power supply.

Remove the cover from the output connectors and connect the LED devices to their respective terminals.



The terminals allow to connect one line of LED devices, all connected in parallel; respect the polarity of the anode-cathode LED devices. Connect to the "+" terminal the positive supply line of the LED device, connected to the "-" terminal the negative power line of the LED device.

The terminal block can accept conductors of cross section between 0.5 and 1.5 mm²; for fixing remove approximately 6-7 mm of insulation from the wires.

Close the lid on the output connectors, passing the cables through rounding on the edge of the box.

The choice of power supply for the interface must be carried out according to the total power absorption of all LED equipments connected; once you have this value, you can choose among the wide range of power supplies that Arena Luci provides.

It is recommended to leave a margin of at least the 25% less than the driving capability of the supply unit.

The interface can operate either with supply voltages from 12V to 36V.

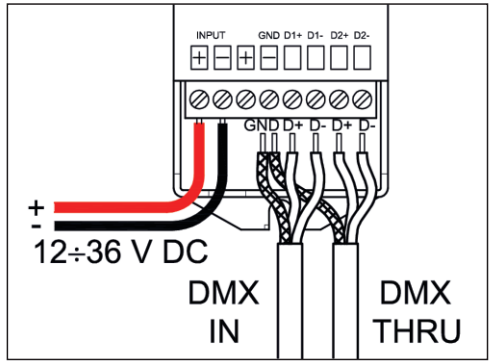
Remove the cover from the input connectors of the interface and connect the input terminals to the supply line, check that the power supply output voltage is compatible with the interface specifications and the LED devices connected.

Connect the power supply outputs marked "+V" and "-V" to the power terminals of the control unit marked with a "+" and "-", being careful not to reverse the two wires; a wrong polarity can permanently damage the device. For multiple units connections, it is recommended to use cables with at least 4mm² cross-section or larger, according to the voltage drop calculations.

Before closing the cover, proceed to make the connection of the DMX control signals.

Then close the lid on the output connectors, passing the cables through rounding on the edge of the box.

When connecting the power supply unit to the

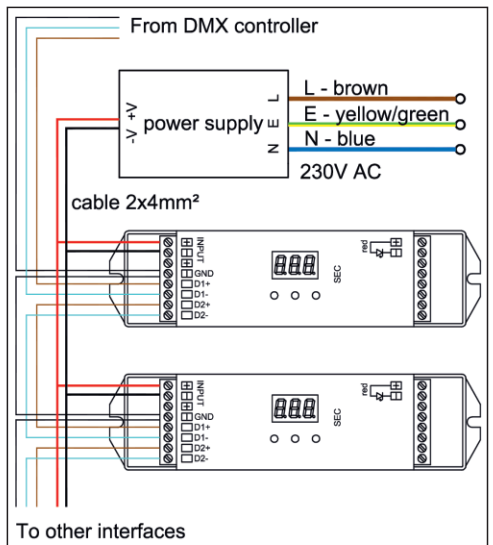


mains outlet, pay attention to the right polarity L-N-E labelled on the wiring terminals (colours: brown = L, blue = N, yellow / green = E).

CONNECTING CONTROL SIGNAL

The interface works with digital control signal DMX 512 (1990). The connection between controller and interface and between interface and interface must be made with two-core shielded cable with a section of at least 0.5mm² through the appropriate terminal block. Care should be taken to ensure that none of the connections touch each other and objects as possible sources of interference.

Connect the signal "DMX IN" from the DMX control unit to the terminals labeled GND, D1+ and D1-. Be very careful to follow the order of three wires as shown in the diagram, as a reversal may give rise to malfunction or damage to the unit. Refer to the manual of your DMX control unit to identify the arrangement of the signals GND, D+ and D- in the cable. Continue connecting the next interface using the terminals labeled GND, D2+, D2- (line

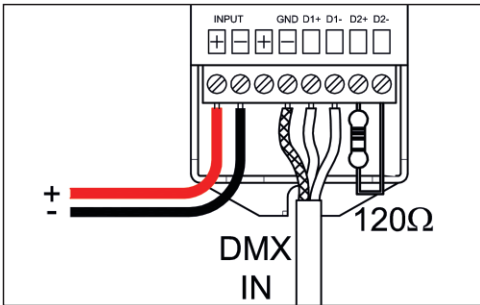


"DMX THRU"), connecting these terminals to the GND, D1+, D1- terminals of the next interface.

As you can see, the input and output lines "DMX IN" and "DMX THRU" share the GND terminal, this means that you must connect the metallic screen of the two IN and THRU cables to the same GND terminal.

Termination of the DMX signal

For installations where the cable signal must travel long distances or where there are electrical noises, for example a discotheque, it is recommended to use a DMX terminator. The DMX terminator is simply a resistor of 120Ω (Ohm) between pins D2+ and D2-. The resistor is then plugged directly on terminals D2+, D2- of the last interface in the chain.

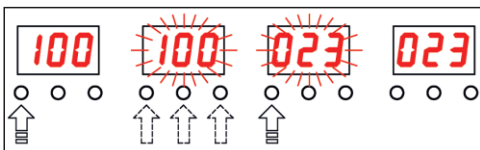


INTERFACE CODING

The interface, to be controlled, requires 1 DMX channel. Each interface must be given a digital start address number so that the correct interface responds to the correct control signals. This digital start address is the channel number from which the unit starts to "listen" to the digital control information being sent out from the controller. This digital encoding must be done on each projector.

Using interface LC2012S with Arena Luci controllers series LC5001, LC5002, LC5003 requires to set the base address to the value 001.

Press and hold any of the three pushbuttons on the interface body (below the display): after three seconds the digits start blinking. Now press the buttons to increase the digits, until you read the desired number on the display. For example, interface 1 address 001, interface 2 address 011, interface 3 address 035, etc.



The selected digit advances one unit each press and restarts from 0 once it reaches the 9. Please note that the hundreds digit can reach a maximum

value of 5, since DMX protocol reserves a maximum of 512 addressable channels.

It is not essential to respect the order of hundreds-tens-units, but it is possible to act on any of the three buttons.

To complete the addressing procedure, press and hold any of the three buttons until the display stops blinking.

Adjust the brightness of LED devices connected by acting on the sliders of your DMX controller. The correspondence between DMX value and brightness is illustrated in the diagram on the last page.

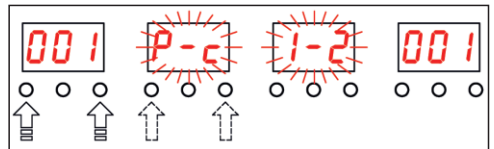
OPERATING MODE

The LC2012S interface can be configured so as to drive the LED connected according to two different driving curves and with two different driving frequencies.

Remember that in case there are multiple interfaces in your installation it is important to set the same operating mode on all interfaces, otherwise the various LED devices may appear at different levels of intensity in correspondence with the same DMX signal level.

Press and hold for more than three seconds the two outermost buttons simultaneously. The display shows the P-c blinking text.

Do the selection of the operating mode as described below, and finally wait 5 seconds without touching any button: the interface stores the settings and returns to normal operation, showing the DMX address.



Driving frequency P

Press the left button to toggle the choice between 1 and 2, which corresponds to the following driving frequencies:

- 1 - 1500 Hz
- 2 - 200 Hz

The human eye does not perceive any difference between the two frequencies relatively to the intensity of the emitted light, however there may be situations where a choice allows to reduce certain artifacts (eg. stroboscopic effects).

Driving curve c

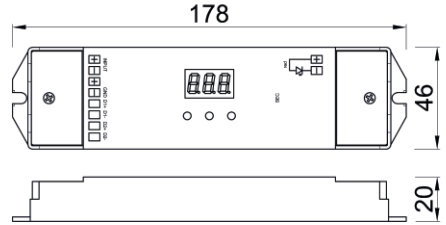
Press the right button to toggle the choice between 1 and 2, which corresponds to the following driving curves:

- 1 - Exponential curve
- 2 - Linear curve

The exponential curve slowly increases the light

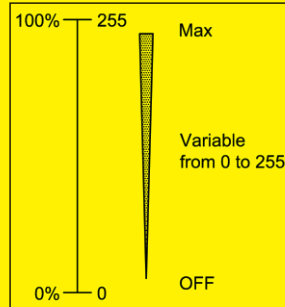
intensity for lower intensity values (DMX level up to about 180), while increases the intensity faster for high intensity values.

The linear curve increases the luminous intensity in proportion to the DMX values.



TECHNICAL SPECIFICATIONS

V	Power supply	from 12V DC to 36V DC (input and output)
A	Driving current	1 x 5A max
W	Power	60W max @ 12V - 120W max @ 24V - 180W max @ 36V
DMX	Control	DMX 512, 1 control channel and digital display
L	Material	Polycarbonate
C	Colour	White
KG	Weight	99 g
SIZE	Dimensions	178x46x20 mm
IP	Protection	IP20
Ta	Ambient temperature	from -20°C to +50°C
△	Suitable to be fitted on normally inflammable surfaces	



Applied standards

RoHS **CE**

LC2012S EN-R0

WARRANTY CONDITIONS

The unit is guaranteed for 24 months from the date of purchase against defects in workmanship or materials that compose it.

This warranty does faults due to incorrect or improper use of the device.

The warranty is immediately void if the unit has been tampered with or opened by unauthorized personnel.

The warranty provides, at the discretion of Arena Luci, repair or replacement of faulty equipment.

The serial number and model of the device are required to obtain information or assistance from the dealer. We invite you to transcribe them in time: for any request of information or services, this will result in a quick and effective operation.


CE RULES

The device meets the essential requirements of the Directives *LVD 2014/35/UE*, *EMC 2014/30/UE*, *RAEE 2012/19/UE*, *RoHS 2011/65/UE*, *Ecodesign*

2009/125/CE - reg. (UE) 1194/2012, *GPSD 2001/95/CE*.

Warnings

Disposal of Old Electrical & Electronic Equipment (applicable in the European Union and other European countries with separate collection systems).

 The product shall not be treated as household waste but must be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is correctly disposed, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your city office, your household waste disposal service or your supplier.

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