

Z8 LED Controller



D.T.S. Code
03.LA.074 (RJ45 OUTPUT)
03.LA.075 (M12 OUTPUT)
03.LA.080 (PLUG-IN OUTPUT)

User's Manual Rel 1.0 **GB**

D.T.S. Illuminazione srl - ITALY
<http://www.dts-lighting.it>



The Lighting Company

Made in Italy

Le informazioni contenute in questo documento sono state attentamente redatte e controllate. Tuttavia non è assunta alcuna responsabilità per eventuali inesattezze. Tutti i diritti sono riservati e questo documento non può essere copiato, fotocopiato, riprodotto per intero o in parte senza previo consenso scritto della D.T.S .

D.T.S. si riserva il diritto di apportare senza preavviso cambiamenti e modifiche estetiche , funzionali o di design a ciascun proprio prodotto. D.T.S. non assume alcuna responsabilità sull'uso o sull'applicazione dei prodotti o dei circuiti descritti.

The information contained in this publication has been carefully prepared and checked. However, no responsibility will be taken for any errors. All rights are reserved and this document cannot be copied, photocopied or reproduced, in part or completely, without prior written consent from D.T.S.

D.T.S. reserves the right to make any aesthetic, functional or design modifications to any of its products without prior notice. D.T.S. assumes no responsibility for the use or application of the products or circuits described herein.

Les informations contenues dans le présent manuel ont été rédigées et contrôlées avec le plus grand soin. Nous déclinons toutefois toute responsabilité en cas d'éventuelles inexactitudes. Tous droits réservés. Ce document ne peut être copié, photocopié ou reproduit, dans sa totalité ou partiellement, sans le consentement préalable de D.T.S.

D.T.S. se réserve le droit d'apporter toutes modifications et améliorations esthétiques, fonctionnelles ou de design, sans préavis, à chacun de ses produits. D.T.S. décline toute responsabilité sur l'utilisation ou sur l'application des produits ou des circuits décrits.

Las informaciones contenidas en este documento han sido cuidadosamente redactadas y controladas. Con todo, no se asume ninguna responsabilidad por eventuales inexactitudes. Todos los derechos han sido reservados y este documento no puede ser copiado, fotocopiado o reproducido, total o parcialmente, sin previa autorización escrita de D.T.S.

D.T.S. se reserva el derecho a aportar sin previo aviso cambios y modificaciones de carácter estético, funcional o de diseño a cada producto suyo. D.T.S. no se asume responsabilidad de ningún tipo sobre la utilización o sobre la aplicación de los productos o de los circuitos descritos.

DESCRIPTION

Overview

Z8 is a power supply / DMX LED controllers designed to control the following D.T.S. LED products: FOS 100, FOS 33, TITAN, HELIOS, FOCUS, MINIFOCUS, MR16 LED Range

System

Z8 is fitted with 8 groups of 4 output channels each; max power of each channel is 15W. Each group can supply and control an independent set-up of D.T.S. LED products at the same time, like one of the following:

- * max 15 x MR16 RGB LED lamps
- * max 5 x MR16 Full Color LED lamps
- * max 15 x FOCUS RGB LED projectors
- * max 5 x FOCUS Full Color LED projectors
- * max 3 x FOS 33 LED bars
- * max 1 x HELIOS Full Colour LED projector
- * max 1 x FOS 100 led bar
- * max 1 x TITAN LED projector

Interface

Z8 is fitted with a DISPLAY interface that lets you enter all functions of the internal menu.

DMX

Z8 LED CONTROLLER can be used in 3 DMX mode: 32 ch, 9 ch or CUSTOM channels mode.

Operating system update

Z8 internal operating system can be updated via computer, through the dedicated D.T.S. RED BOX interface

Control

Z8 can be controlled by any DMX console.
Moreover, Z8 can be used in Master or Slave mode (max 32 slaves).

Construction

Z8 is housed in a sturdy metal case, that offers high resistance to knocks and mechanical stress.
Z8 is rack mountable.
The protection rating against external agents is Ip20.

Connections

DMX IN / OUT connectors: 2 XLR 5-pole by Neutrik and 2 XLR 3-pole by Neutrik
LEDs connector output:

Three models available; RJ45 female connector (03.LA.074) /

8 poles plug-in screw connector (03.LA.080) / M12 connector (03.LA.075).

(The Maximum distance between the Z8 and the last LED unit in the line should not exceed 100 meters).

MAIN ELECTRICAL CHARACTERISTICS

Input Voltage Range

Vin 90 - 260 Vac

Frequency

50 - 60 HZ

Power Consumption Range

48 - 500 W

Power Factor (Pf)

0.95 electronic PFC controller

Efficiency

90% typical

Output

Power Output Range : 8 outputs of 4 channels each.

Max power of each output is 60W (15W per channel).

Max power of each channel is 15W (15W Red, 15W Green, 15W Blue, 15W Amber).

Output Current : 350 mA @ 100% per channel (1,5 - 15W per channel)

Output Voltage : Vout 48V (Constant Current PWM)

Max Load each output: 15 x MR16 RGB LED lamps or 5 x MR16 Full Color LED lamps or 15 x FOCUS RGB LED projectors or 5 x FOCUS Full Color LED projectors or 3 x FOS 33 LED bars or 1 x HELIOS Full Color LED projector or 1 x FOS 100 LED bar or 1 x TITAN LED projector.

Min Load each group: 1 x MR16 RGB LED lamp

Control Input

Control Signal : DMX 512

Dimming System :Constant Current PWM

Address Range : DMX 512 channels addressable by display

IMPORTANT SAFETY INFORMATION**Fire prevention:**

Never locate the fixture on any flammable surface.
 Minimum distance from flammable materials: 10 cm
 Replace any blown or damaged fuses only with those of identical value

Prevention from electric shock:

High voltage is present inside the unit.
 Unplug the unit prior to performing any operation which involves touching the inside of the unit.
 This equipment must be grounded, do not connect to non-grounded supplies.
 The use of a thermal magnetic circuit breaker is recommended for each Z8.
 Use only AC supplies 90-260V, 50-60Hz
 The unit should never be located in position exposed to rain or in areas of extreme humidity.
 A good air ventilation is essential for proper equipment work.

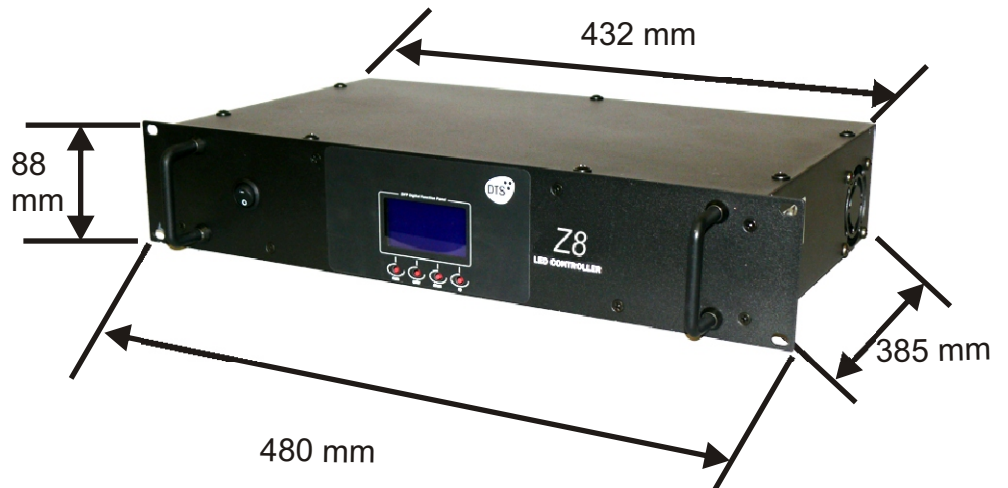
Safety:

The external surface of the unit may exceed 50°C; never handle the unit until at least 5 minutes have elapsed since the unit was turned off.
 Never install the unit in an enclosed area lacking sufficient air flow.
 The ambient temperature should not exceed 40°C and should not be lower than -10°C

UNIT DIMENSION

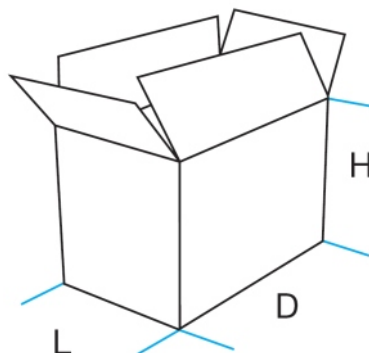
Unit Dimensions
 (LxDxH)
 480 x 385 x 88 mm

Weight
 7,5 Kg



Packing Dimensions
 (LxDxH)
 490 x 390 x 90 mm

Weight
 8,5 Kg



INPUT/OUTPUT CONNECTIONS

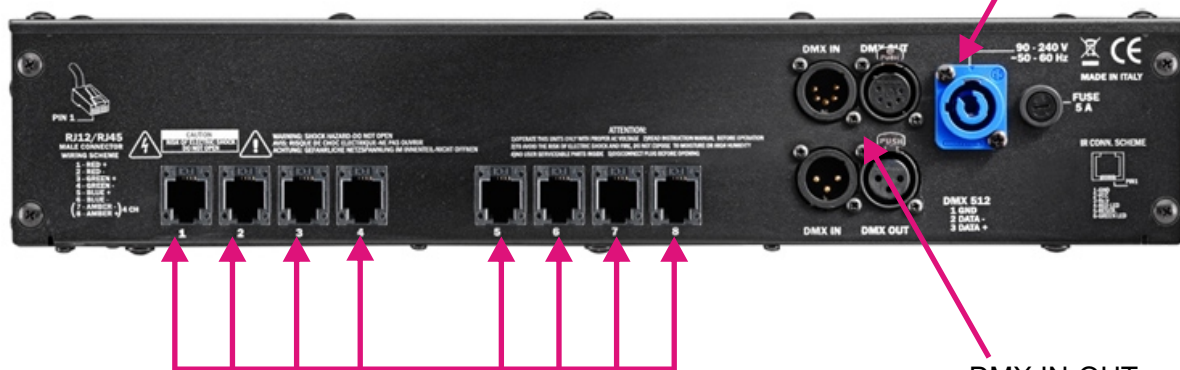
03.LA.074 (RJ45 OUTPUT)



Mains Switch

Displays

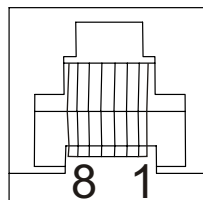
Mains 90-260 Vac
50-60 Hz
Powercon female panel
connector



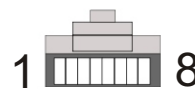
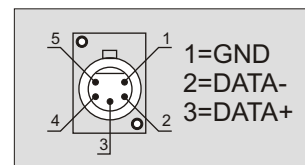
8 x LEDs output
RJ45 Female panel connector

DMX IN-OUT connectors

Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER +
Pin 8 = AMBER -



8-pin Female (RJ45)



8-pin Male (RJ45)
Modular Plug

RJ45 : 8P8C

8P8C indicates 8 positions 8 cables

For application where IP65 rating is not necessary, Z8 LEDs cabling connection can be done with a standard UTP TIA/EIA 568-B2 category 5E cable.

The maximum distance between power supply and the last unit on the line should not exceed 60meters.

For IP65 rating application, D.T.S. reccomed the use of a IP65/68 cable as the 4X2XAWG24 multipolar black outdoor cable (D.T.S. Code: 0509C062).

The maximum distance between power supply and the last unit on the line should not exceed 100 meters.

INPUT/OUTPUT CONNECTIONS

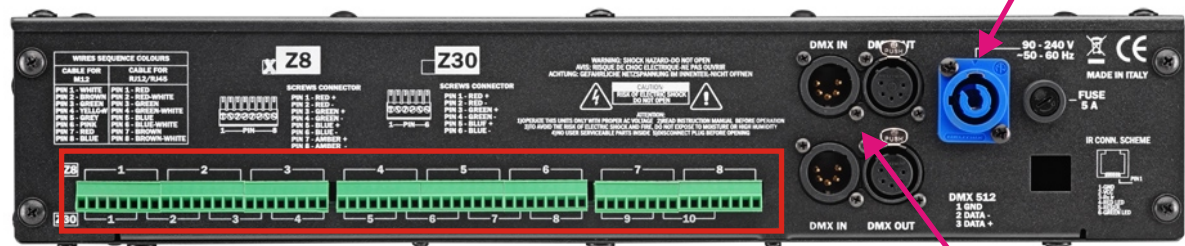
03.LA.080 (PLUG-IN OUTPUT)



Mains Switch

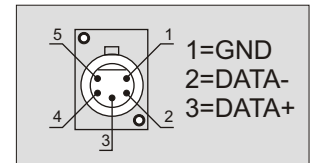
Displays

Mains 90-260 Vac
50-60 Hz
Powercon female panel
connector

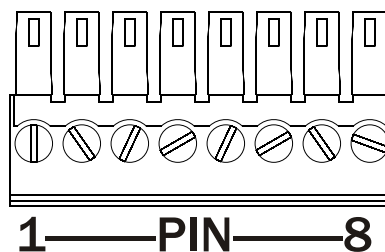


8 x LEDs output
8 poles plug-in screw connector

DMX IN-OUT connectors



Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER +
Pin 8 = AMBER -



8 poles plug-in screw connector

For application where IP65 rating is not necessary, Z8 LEDs cabling connection can be done with a standard UTP TIA/EIA 568-B2 category 5E cable.

The maximum distance between power supply and the last unit on the line should not exceed 60meters.

For IP65 rating application, D.T.S. reccomed the use of a IP65/68 cable as the 4X2XAWG24 multipolar black outdoor cable (D.T.S. Code: 0509C062).

The maximum distance between power supply and the last unit on the line should not exceed 100 meters.

INPUT/OUTPUT CONNECTIONS

03.LA.075 (M12 OUTPUT)



Mains Switch

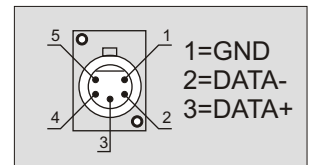
Displays

Mains 90-260 Vac
50-60 Hz
Powercon female panel
connector



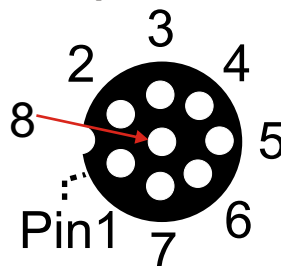
8 x LEDs output
M12 Female panel connector

DMX IN-OUT connectors

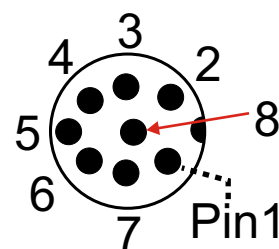


Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER -
Pin 8 = AMBER +

**M12 LED output
Female panel connector**



**M12 LED input
Male cable connector**



For application where IP65 rating is not necessary, Z8 LEDs cabling connection can be done with a standard UTP TIA/EIA 568-B2 category 5E cable.

The maximum distance between power supply and the last unit on the line should not exceed 60meters.

For IP65 rating application, D.T.S. reccomed the use of a IP65/68 cable as the 4X2XAWG24 multipolar black outdoor cable (D.T.S. Code: 0509C062).

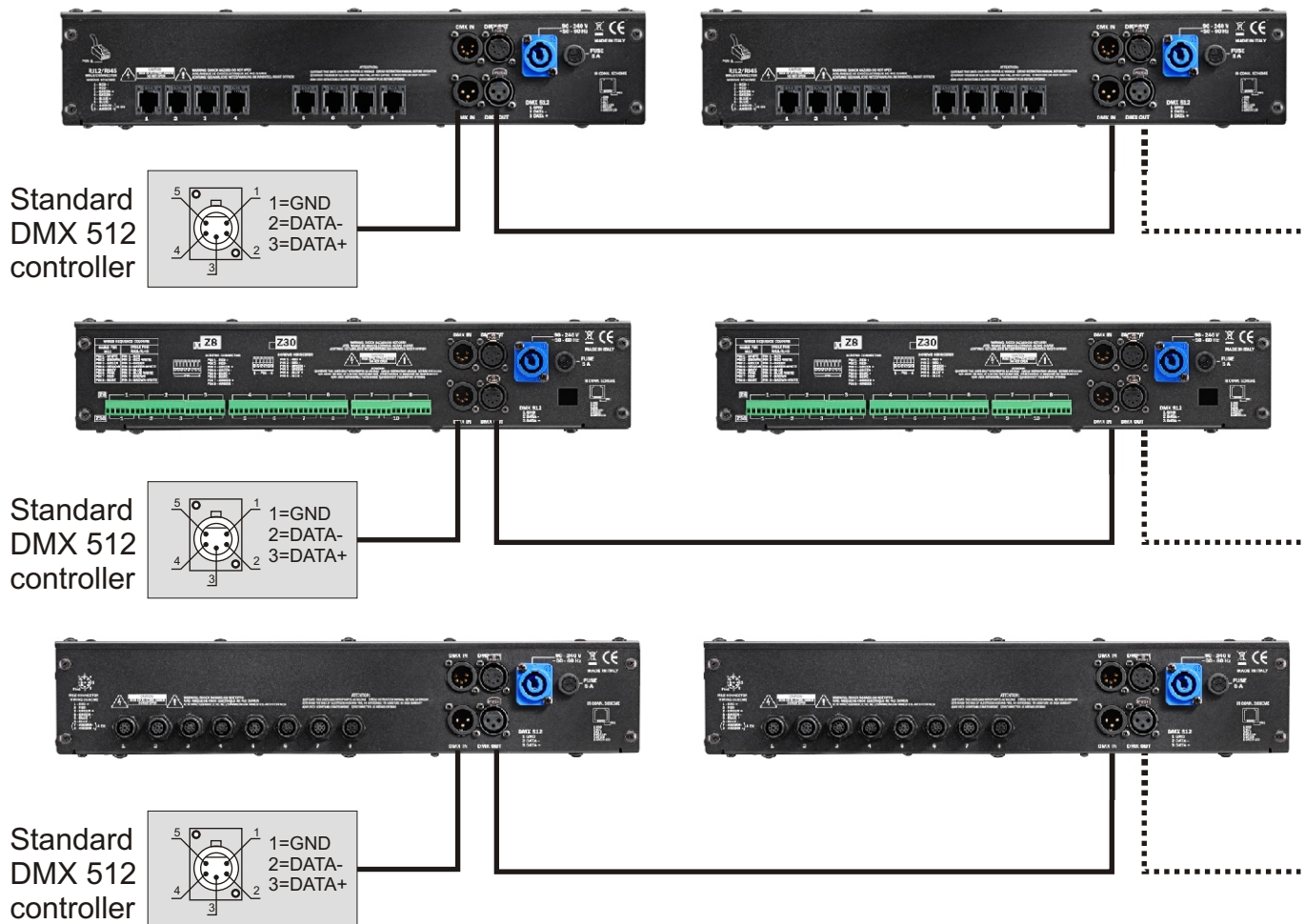
The maximum distance between power supply and the last unit on the line should not exceed 100 meters.

DMX SIGNAL CONNECTION:

The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened $\varnothing$ 0.5 mm cable and a CANNON XLR 5 pins connector.

Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN of the Z8 plug and connect it to the next unit by connecting the DMX OUT plug on the first Z8 to the DMX IN plug of the second one.

This way, all the projectors are cascade connected.

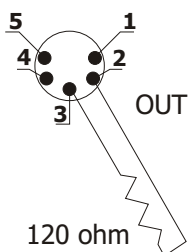


P.S: If the display showing the DMX address flashes, then one of the following errors has occurred:

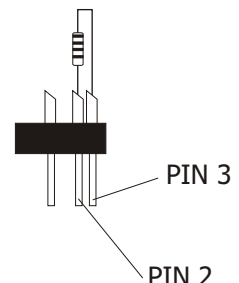
- DMX signal not present
- DMX reception problem

For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor Between pin 2 and 3. The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XRL CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



DMX ADDRESS

Z8 LED CONTROLLER can be used in 3 different DMX mode: 32 ch, 10 ch or CUSTOM Channels mode.

If you want to use the Z8 in 32 channels mode, select the " Full control map " mode from the DMX MODE menu under MODE SETTINGS and set the following addresses on the mixer:

Projector 1	A001	
Projector 2	A033	If you want to select the next projector, just add "32"
Projector 3	A065	
.....	A....	
projector 6	A161	

If you want to use the Z8 in 10 channels mode, select the " Z1 type map " mode from the DMX MODE menu under MODE SETTINGS and set the following addresses on the mixer:

Projector 1	A001	
Projector 2	A011	If you want to select the next projector, just add "10"
Projector 3	A021	
.....	A....	
projector 6	A051	

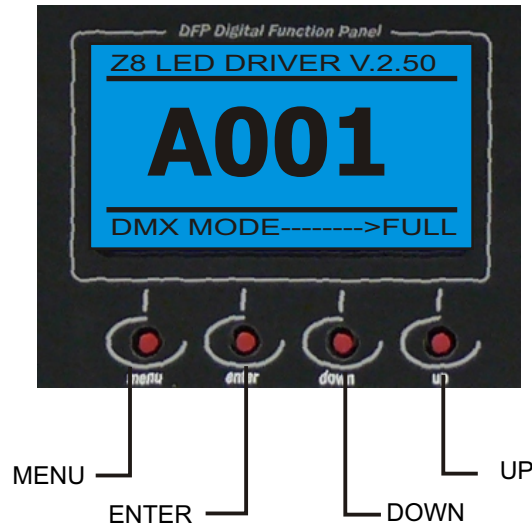
Selecting the DMX address

- 1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start flashing (but the new DMX address hasn't yet been set).
- 2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now controlled by the new DMX address.

TIPS: if you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

DISPLAY FUNCTIONS

Z8



DISPLAY FUNCTIONS

The Z8 display panel shows all the available functions . Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 signal used to control it. Carefully follow the instructions below before carrying out any variations or selections.

NOTE: the symbol  shows which key has to be pushed to obtain the desired function.

Z8 Software version 2.50



Global setting

SECURITY\ DEFAULT SETTING\ UPLOAD FIRMWARE\
DOWNLOAD FIRMWARE\ ABOUT

SECURITY

This menu allow to select a security password to lock the user's settings

DEFAULT SETTING

To restore main settings

UPLOAD FIRMWARE

Upload the firmware by DMX

This menu allow to upgrade the unit's software by computer

DOWNLOAD FIRMWARE

This menu allow to save unit's programs into computer

ABOUT

Master pcb code, pcb revision, SW version



SECURITY

This menu allow to select a security password to lock the user's settings



2.DISPLAY SETTING

- 1.Security
- 2.Default setting
- 3.Upload firmware
- 4.Download firmware
- 5.About...

DEFAULT SETTING

To restore Factory settings



UPLOAD FIRMWARE

Upload the firmware via DMX

This menu allow to upgrade the unit's software by computer

DOWNLOAD FIRMWARE

This menu allow to save unit's programs into computer



ABOUT

Master pcb code, pcb revision, SW version





Display Setting

Flip visual / Background colour / Backlight level / contrast level / Screen saver

FLIP VISUAL

Reverses display's reading depending on the mounting position (On the ground or suspended).

BACKGROUND COLOR

To select the colour of the display background

BACKLIGHT LEVEL

Default=95%.

CONTRAST LEVEL

Display contrast

SCREEN SAVER

This menu allow to activate the screen saver.



DISPLAY SETTING

2.DISPLAY SETTING

- 1.Flip visual
- 2.Background colour
- 3.Backlight level
- 4.Contrast level
- 5.Screen saver

FLIP VISUAL

Flip visual OFF (Default)
Flip visual ON



BACKGROUND COLOR

Background NORMAL (Default)
Background REVERSE



BACKLIGHT LEVEL

Back light intensity from 0% to 100%.
Default 95%



CONTRAST LEVEL

Page under construction



SCREEN SAVER

Screen saver TYPE (default disabled)
Screen saver TIME (default 10 sec.)



Mode setting

DMX MODE

To select DMX mode :
32 DMX ch, 10 DMX channel or
Custom map control.

CUSTOM MODE SETUP

DMX mode channels configuration selectable by user.

This menu let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Amber, Ctc, Macro and Function to the desired DMX channels. (Custom map control)

INFRARED MODE

Infrared remote control.
By activating INFRARED MODE, it will be possible to navigate through the unit functions by using the D.T.S. infrared remote control.
D.T.S. Code :0514L008
(Internal hardware interface not yet implemented)

EMERGENCY SETUP

Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 5 preprogrammed WHITE cues that will then run if DMX signal is missing or not available.
(Dimmer level also selectable by user)
Usefull for Emergency EXIT illumination on public areas.



MODE SETTING

3. MODE SETTING

1. DMX mode
2. Custom mode setup
3. InfraRed mode
4. Emergency setup

DMX MODE MAP

Full control map = 32 DMX ch (default)

Z1 type map = 10 DMX ch mode

Custom map = DMX mode channels configuration programmed by user under Custom mode setup menu



CUSTOM MODE SETUP

SET dmx order = DMX mode channels configuration selectable by user.

Block set wizard = let you select the DMX starting address on every single output block, 8 output blocks in total.

(Example: block 1 DMX 001, block 2 DMX 006, Block 3 DMX 011....)

Clear block setup = DMX starting address reset.

INFRARED MODE

Infrared disabled (default)

Infrared enabled

NOTE:

Internal hardware interface not yet implemented

External infrared remote sensor needed.

D.T.S. Code :03.LA.016

EMERGENCY SETUP

Mode selection = ON/OFF (default = OFF)

White selection = White COLD, NATURAL, WARM, FULL, DMX.

Dimmer level = 0-255 (default = 255)

LED Setup

Hardware test\ LED min setup\ LED max setup\ MR16 full colour\ Output filter\ output delay\ PWM Frequency.

HARDWARE TEST
Complete hardware test

LED MIN SETUP
This menu allow to select the minimum levels for Red, Green, Blue and Amber

LED MAX SETUP
This menu allow to select the maximum levels for Red, Green, Blue and Amber

MR16 FULL COLOUR
Preprogrammed RGB values for MR16 full colour led lamp

OUTPUT FILTER
Output filter OFF
Output fileter ON (default)

OUTPUT DELAY
This menu allow to select the value of the delay (in milliseconds) for RGBA and Dimmer channels reaction to DMX or Program variation.
No output delay = 25 ms delay
Short output delay = 80 ms delay
Long output delay = 250 ms delay

PWM FREQUENCY
This menu allow to adjust the PWM frequency value (Hz) in order to reduce flickering in the process of your camera recordings




LED SETUP

4.LED SETUP
1.Hardware test
2.Led MIN setting
3.Led MAX setting
4.MR16 full colour
5.Output filter

4.LED SETUP
6.Output delay
7.PWM frequency

HARDWARE TEST
Hardware test OFF (default)
Hardware test ON

LED MIN SETUP

MIN level RED (default = 0)
MIN level GREEN (default = 0)
MIn level BLUE (default = 0)
MIN level AMBER (default = 0)

LED MAX SETUP

MAX level RED (default = 255)
MAX level GREEN (default = 255)
MAX level BLUE (default = 255)
MAX level AMBER (default = 255)

MR16 FULL COLOUR
MR16 limit OFF (Default)
MR16 limit ON

OUTPUT FILTER
Output filter OFF
Output filter ON (Default)

OUTPUT DELAY
No output delay
Short delay (default)
Long delay

PWM FREQUENCY

490Hz
1000Hz (default)
2000Hz
3000Hz
4000Hz
5000Hz
6000Hz
7000Hz
8000Hz
9000Hz
10000Hz









Measure

Lifetime \ voltage level \
temperature \ DMX tester

LIFETIME
This menu show the total UNIT LIFE
TIME (reset not possible) and the
RGB life TIME (reset possible)

VOLTAGE LEVEL
Internal voltage measure

TEMPERATURE
Internnal / External temperature
measure

DMX TESTER
DMX channels tester




MEASURE

5.MEASURE

- 1.Lifetime
- 2.Voltage level
- 3.Temperature
- 4.DMX tester

LIFETIME
Unit lifetime
LED Lifetime

VOLTAGE LEVEL
Internal voltage measure

TEMPERATURE
Internal / External temperature measure

DMX TESTER
DMX channels tester






DMX PROTOCOL**Z8 RGBA FULL CONTROL MAP (32 DMX CHANNELS)****32 CHANNELS MODE
(Default)**

1	RED	1	17	RED	5
2	GREEN	1	18	GREEN	5
3	BLUE	1	19	BLUE	5
4	AMBER	1	20	AMBER	5
5	RED	2	21	RED	6
6	GREEN	2	22	GREEN	6
7	BLUE	2	23	BLUE	6
8	AMBER	2	24	AMBER	6
9	RED	3	25	RED	7
10	GREEN	3	26	GREEN	7
11	BLUE	3	27	BLUE	7
12	AMBER	3	28	AMBER	7
13	RED	4	29	RED	8
14	GREEN	4	30	GREEN	8
15	BLUE	4	31	BLUE	8
16	AMBER	4	32	AMBER	8

DMX CHANNEL	1	Parameter: RED 1
-------------	----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	2	Parameter: GREEN1
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	3	Parameter: BLUE 1
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	4	Parameter: AMBER 1
-------------	----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	5	Parameter: RED 2
-------------	----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	6	Parameter: GREEN 2
-------------	----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	7	Parameter: BLUE 2
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	8	Parameter: AMBER 2
-------------	----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	9	Parameter: RED 3
-------------	----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	10	Parameter: GREEN 3
-------------	-----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	11	Parameter: BLUE 3
-------------	-----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	12	Parameter: AMBER 3
-------------	-----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	13	Parameter: RED 4
-------------	----	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	14	Parameter: GREEN 4
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	15	Parameter: BLUE 4
-------------	----	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	16	Parameter: AMBER 4
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	17	Parameter: RED 5
-------------	----	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	18	Parameter: GREEN 5
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	19	Parameter: BLUE 5
-------------	----	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	20	Parameter: AMBER 5
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	21	Parameter: RED 6
-------------	----	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	22	Parameter: GREEN 6
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	23	Parameter: BLUE 6
-------------	----	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	24	Parameter: AMBER 6
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	25	Parameter: RED 7
-------------	----	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	26	Parameter: GREEN 7
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	27	Parameter: BLUE 7
-------------	----	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	28	Parameter: AMBER 7
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	29	Parameter: RED 8
-------------	----	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	30	Parameter: GREEN 8
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	31	Parameter: BLUE 8
-------------	----	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX CHANNEL	32	Parameter: AMBER 8
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
000-255					Proportional colour

DMX PROTOCOL**Z8 RGBA Z1 TYPE MAP (10 DMX CHANNELS)****10 CHANNELS MODE**

- 1 SHUTTER**
- 2 DIMMER**
- 3 RED**
- 4 GREEN**
- 5 BLUE**
- 6 AMBER**
- 7 WHITE (Pre-programmed whites at different colour temperatures)**
- 8 CTC**
- 9 COLOURS MACRO**
- 10 FUNCTIONS**

DMX CHANNEL	1	Parameter: SHUTTER
-------------	----------	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	5				Black-out
10-19	14				Open
20-29	24				Black-out
30-119					Strobe at variable speed from slow to fast (3400ms-20ms)
120-149					Pulse open at variable speed from slow to fast (43s-100ms)
150-179					Pulse close at variable speed from slow to fast (43s-100ms)
180-204	192				Random Strobe (Master and RGBA active)
205-229	218				Random Strobe (Full)
230-255	240				Open

DMX CHANNEL	2	Parameter: DIMMER
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Proportional dimmer

DMX CHANNEL	3	Parameter: RED
-------------	----------	-----------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Proportional colour

DMX CHANNEL	4	Parameter: GREEN
-------------	----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Proportional colour

DMX CHANNEL	5	Parameter: BLUE
-------------	----------	------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Proportional colour

DMX CHANNEL	6	Parameter: AMBER
-------------	----------	-------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					Proportional colour

DMX CHANNEL	7	Parameter: WHITE (Pre-programmed White at diff. color temperature)
-------------	----------	---

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-55	23				No Function
56-105	80				Full (Red-Green-Blue at Full)
106-155	130				White DTS

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	180	Custom White Recall			
206-255	225	White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)			

IF CHANNEL 10 (FUNCTIONS) = CUSTOM WHITE CREATE (Dmx range value 80 - 160)

156-205	180	Custom White Create (RGB levels selectable by DMX)			
206-255	225	White CTC (Channel 8 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)			

DMX CHANNEL	8	Parameter: CTC (Color temperature correction)
-------------	----------	--

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
-----------------	---------------------	----------------------	------	--------	----------

IF CHANNEL 7 (White) = WHITE CTC (Dmx range value 206 - 255)

0-255	43 color temp. Correction Macros: 0 = 2000°K / 128 = 5500°K / 255 = 7200°K				
--------------	---	--	--	--	--

IF CHANNEL 7 (White) = NO FUNCTION (Dmx range value 0 - 43)

0-255	Smooth RGB linear Hue correction				
--------------	---	--	--	--	--

DMX CHANNEL	9	Parameter: COLOUR MACROS
-------------	----------	---------------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					No Function
15-29					Macro 1
30-44					Macro 2
45-59					Macro 3
60-74					Macro 4
75-89					Macro 5
90-104					Macro 6
105-119					Macro 7
120-134					Macro 8
135-149					Macro 9
150-164					Macro 10
165-179					Macro 11
180-194					Macro 12
195-209					Macro 13
210-225					Macro 14
226-239					Macro 15
240-255					Macro 16

DMX CHANNEL	10	Parameter: FUNCTIONS (Recall, Create and Store the Custom white)
-------------	-----------	---

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		Custom White Recall (Enable CH 7 for Custom white Recall)			
80-160		Custom White Create (Enable CH 7 for Custom white Creation)			
161-255		Custom White Store (Store the Custom White created)			

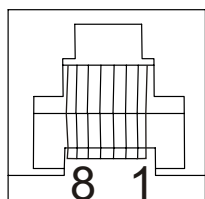
WIRING DIAGRAMS

Z8 is available in three versions with different LED output connectors:

RJ45 female connector (03.LA.074), 8 poles plug-in screw connector (03.LA.080)

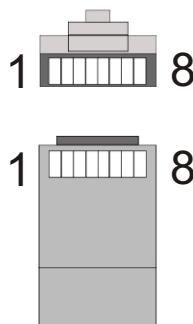
and M12 connector (03.LA.075).

RJ45 Female
panel connector
on board :
Z8 LED
CONTROLLER
(03.LA.074)



8-pin Female (RJ45)

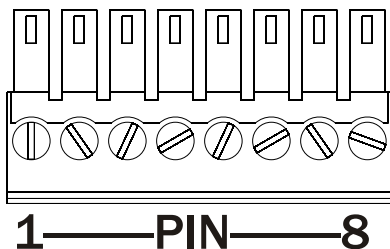
RJ45 LED input
male cable connector
on board:
HELIOS R / RA7 HEAD



LEDS
CONNECTOR PINOUT (Rj45)

Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER +
Pin 8 = AMBER -

8 poles plug-in
screw connector
on board :
Z8 LED
CONTROLLER
(03.LA.080)

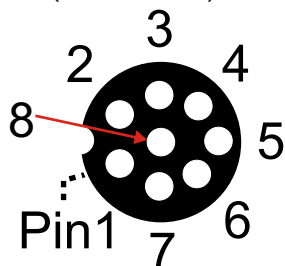


8 poles plug-in screw connector

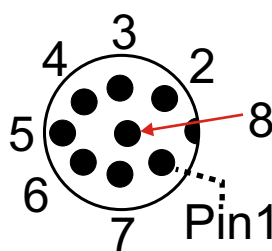
LEDS
CONNECTOR PINOUT
8 poles plug-in
screw connector

Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER +
Pin 8 = AMBER -

M12 LED output
Female panel connector
on board :
Z8 LED
CONTROLLER
(03.LA.075)



M12 LED input
Male cable connector
on board:
FOS 100 - FOS 33
TITAN

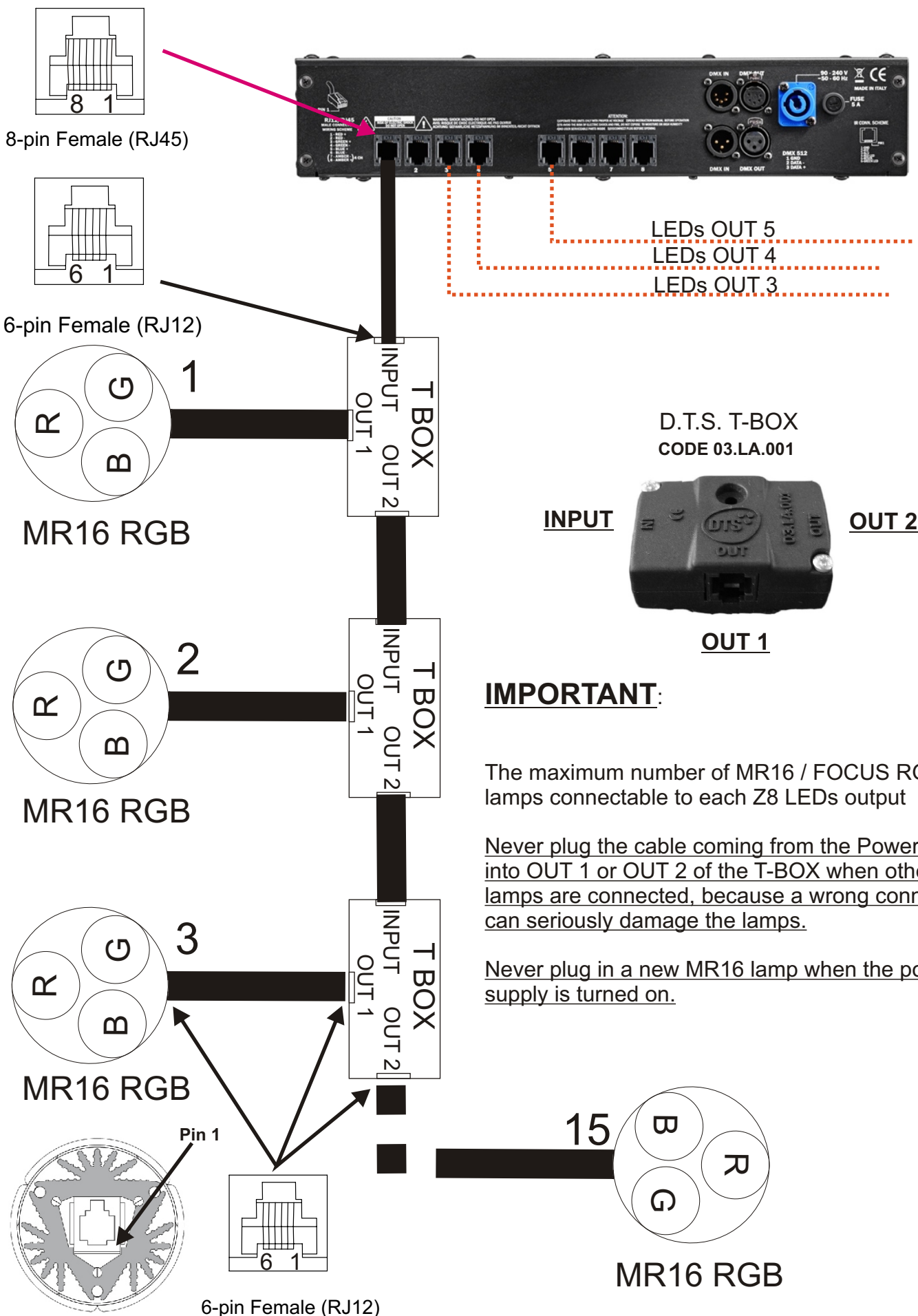


LEDS
CONNECTOR PINOUT (M12)

Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = AMBER -
Pin 8 = AMBER +

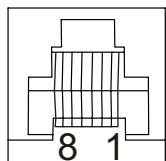
LED UNITS WIRING CONNECTION

03.LA.074 (RJ45 OUTPUT)

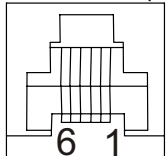


LED UNITS WIRING CONNECTION

03.LA.074 (RJ45 OUTPUT)



8-pin Female (RJ45)



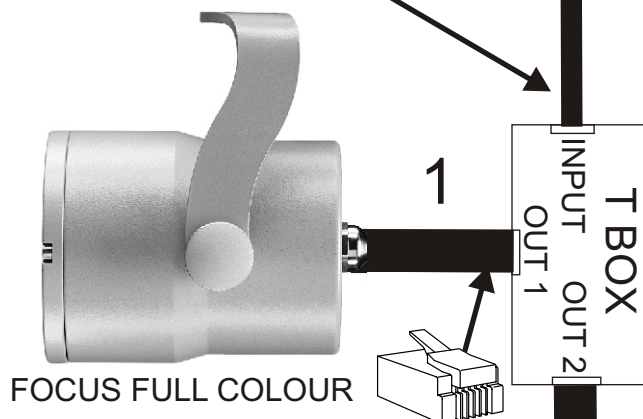
6-pin Female (RJ12)



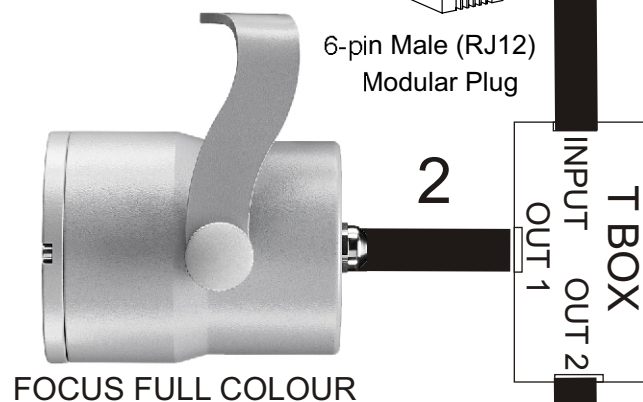
LEDs OUT 5

LEDs OUT 4

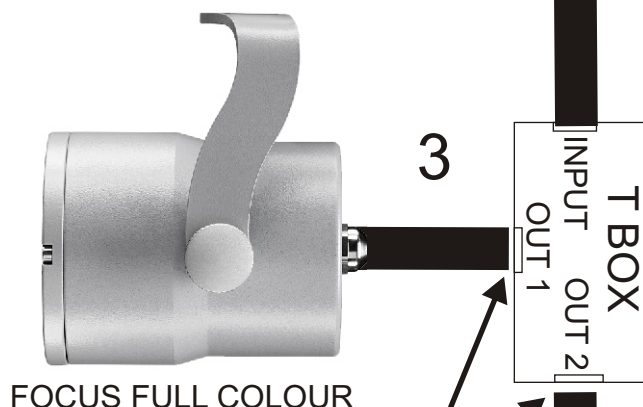
LEDs OUT 3



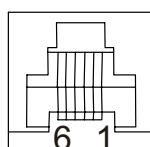
FOCUS FULL COLOUR

6-pin Male (RJ12)
Modular Plug

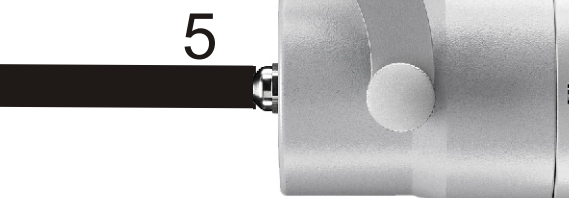
FOCUS FULL COLOUR



FOCUS FULL COLOUR



6-pin Female (RJ12)



FOCUS FULL COLOUR

D.T.S. T-BOX
CODE 03.LA.001INPUTOUT 2OUT 1**IMPORTANT:**

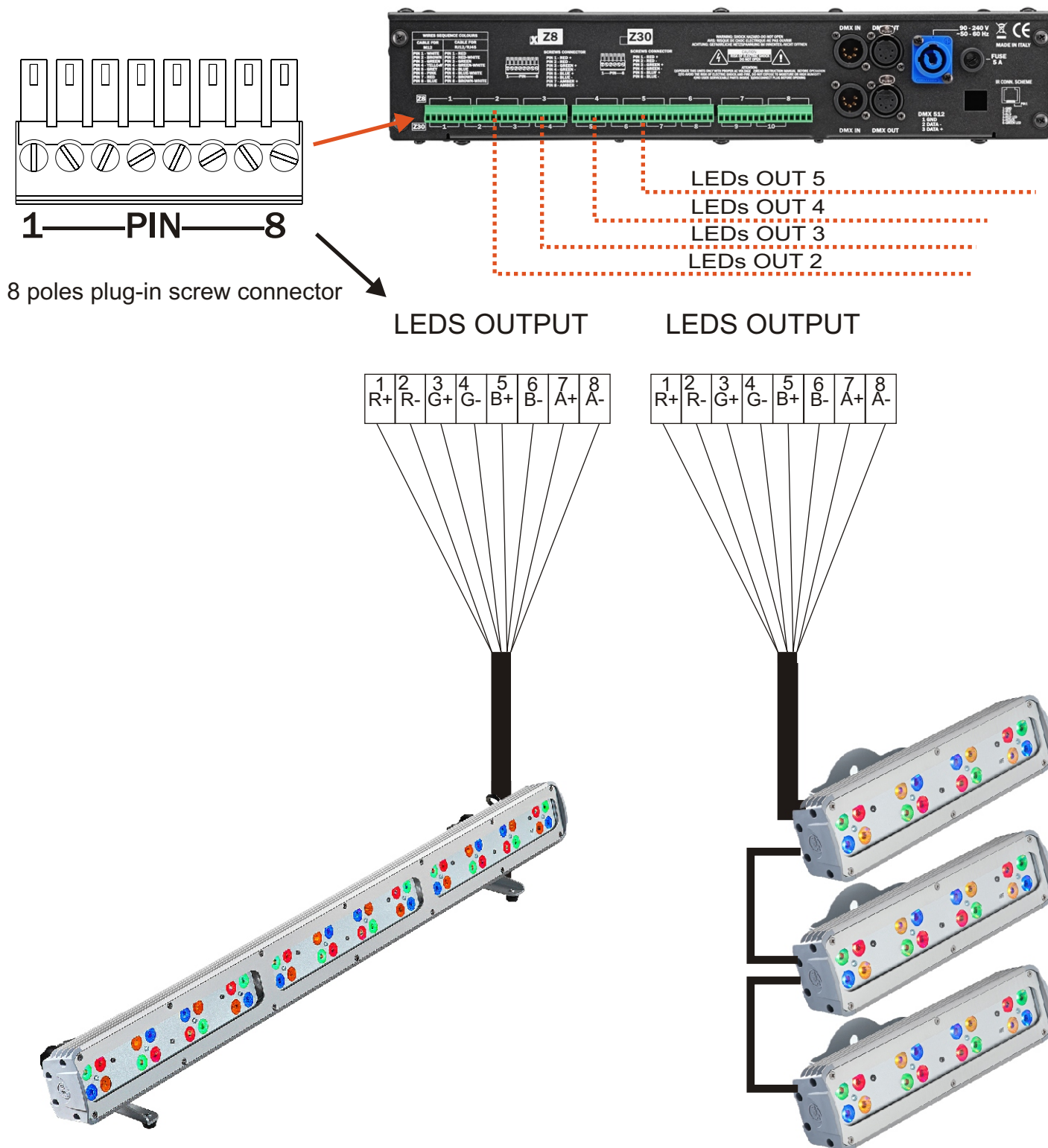
The maximum number of MR16 / FOCUS FULL COLOUR LED projectors connectable to each Z8 LEDs output is 5 pcs.

Never plug the cable coming from the Power supply into OUT 1 or OUT 2 of the T-BOX when other MR16 / FOCUS FULL COLOUR units are connected, because a wrong connection can seriously damage the lamps.

Never plug in a new MR16 / FOCUS FULL COLOUR lamp when the power supply is turned on.

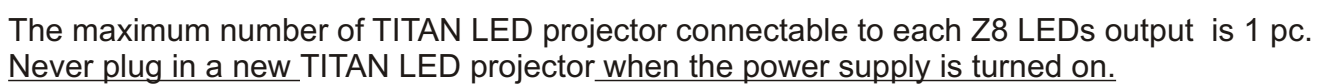
LED UNITS WIRING CONNECTION

03.LA.080 (8 POLES PLUG-IN OUTPUT)

**IMPORTANT:**

The maximum number of FOS 100 LED bar connectable to each Z8 LEDs output is 1 pc.
 The maximum number of FOS 33 LED bars connectable to each Z8 LEDs output is 3 pc.
Never plug in a new FOS LED BAR when the power supply is turned on.

03.LA.075 (M12 OUTPUT)



The information contained in this publication has been carefully prepared and checked. However, no responsibility will be taken for any errors. All rights are reserved and this document cannot be copied, photocopied or reproduced, in part or completely, without prior written consent from D.T.S.

D.T.S. reserves the right to make any aesthetic, functional or design modifications to any of its products without prior notice. D.T.S. assumes no responsibility for the use or application of the products or circuits described herein.

MADE IN ITALY



The Lighting Company

ISO 9001:2000

D.T.S quality system

Is certified to the

ISO 9001:2000 standard



D.T.S. Products are designed
And manufactured at the D.T.S
Plants in Italy