Z60 LED Controller

D.T.S. Code
03.LA.053 (RJ12 OUTPUT)
03.LA.076 (PLUG-IN OUTPUT)

User's Manual Rel 1.1 **GB**

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

DTS
The Lighting Company

Made in Italy

DESCRIPTION

Overview

Z60 is a power supply / DMX LED controllers designed to control the following D.T.S. LED products:
FOCUS LED projectors, MR16 LED lamps , DIVE 3

System

Z60 is fitted with 20 groups of 3 output channels each; max power of each channel is 5W.
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 3 x MR16 RGB LED lamps
* max 1 x MR16 Full Color LED lamps
* max 3 x FOCUS RGB LED projectors
* max 1 x FOCUS Full Color LED projectors
* max 1 x DIVE 3 FULL COLOUR

Interface

Z60 is fitted with a LED interface that lets you enter all functions of the internal menu.

DMX

Z60 LED CONTROLLER can be used in 2 DMX mode: 60 ch or 9 ch mode.

Operating system update

Z60 internal operating system can be updated via computer, through the dedicated D.T.S. RED BOX interface

Control

Z60 can be controlled by any DMX console.
Moreover, Z60 can be used in Master or Slave mode (max 32 slaves).

Construction

Z60 is housed in a sturdy metal case, that offers high resistance to knocks and mechanical stress.
Z60 is rack mountable.
The protection rating against external agents is Ip20.

Connections

DMX IN / OUT connectors: 2 XLR 5-pole by Neutrik (03.LA.053) / 2 XLR 5-pole by Neutrik and 2 XLR 3-pole by Neutrik (03.LA.076)
LEDs connector output:
Two models available; RJ12 female connector (03.LA.053) / 6 poles plug-in screw connector (03.LA.076) .
(The Maximum distance between the Z60 and the last LED unit in the line should not exeed 60 meters).

MAIN ELECTRICAL CHARACTERISTICS

Input Voltage Range
Vin 90 - 260 Vac
Frequency
50 - 60 HZ
Power Consumption Range
32 - 400 W
Power Factor (Pf)
0.95 electronic PFC controller
Efficiency
90% typical

Output
Power Output Range : 20 groups of 3 output channels each (1,5 - 5W per channel)
Output Current : 350 mA @ 100% per channel
Output Voltage : Vout 12V
Max Load (output) per group : 3 x MR16 RGB LED lamps, 1 x MR16 Full Color LED lamps, 3 x FOCUS RGB LED projectors, 1 x FOCUS Full Color LED projectors, 1 x DIVE 3 full colour.
Min Load (output) per 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 Z60.
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 exeed 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 exeed 40°C and should not be lower than -10°C

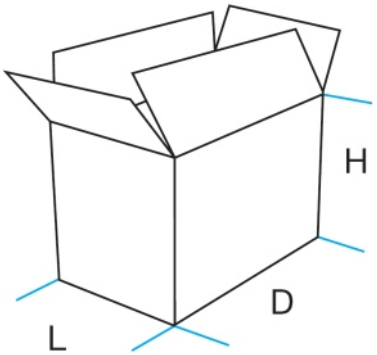
UNIT DIMENSION

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



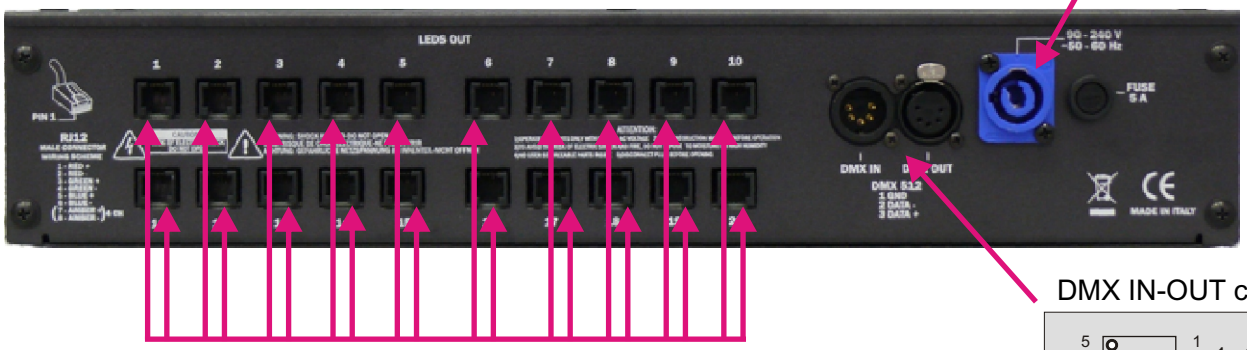
INPUT/OUTPUT CONNECTIONS

03.LA.053 (RJ12 OUTPUT)

Mains Switch

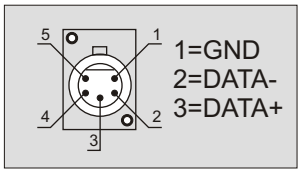
Displays

Mains 90-260 Vac
50-60 Hz

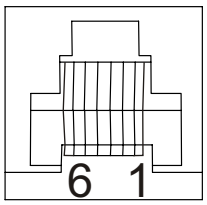


20 x LEDs output
RJ12 Female panel connector

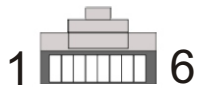
DMX IN-OUT connectors

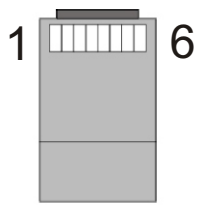


Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -



6-pin Female (RJ12)





6-pin Male (Rj12)
Modular Plug

RJ12 : 6P6C

6P6C indicates 6 positions 6 cables

For application where IP65 rating is not necessary, Z60 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 60meters.

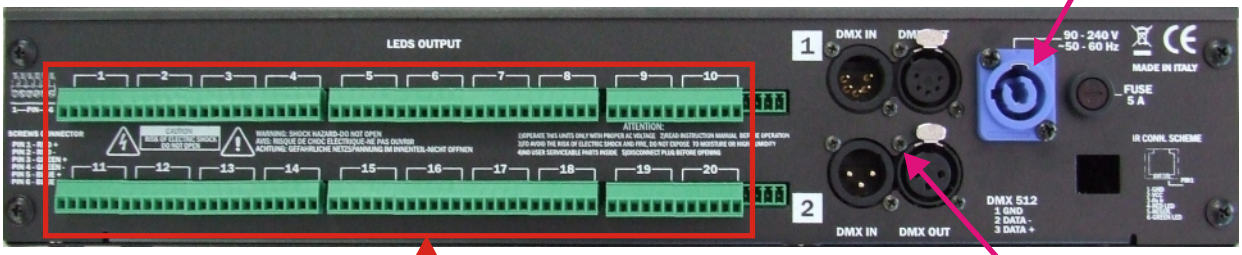
INPUT/OUTPUT CONNECTIONS

03.LA.076 (PLUG-IN OUTPUT)

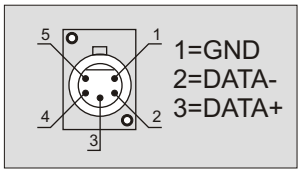
Mains Switch

Displays

Mains 90-260 Vac
50-60 Hz

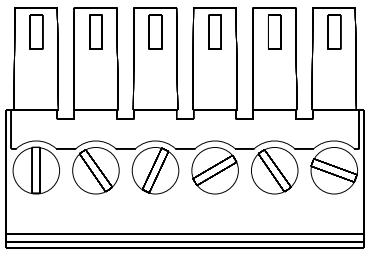


DMX IN-OUT connectors



20 x LEDs output
6 poles plug-in screw connector

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



1-----PIN-----6

6 poles plug-in screw connector

For application where IP65 rating is not necessary, Z60 LEDs cabling connection can be done with a standard UTP TIA/EIA 568-B2 category 5E cable.
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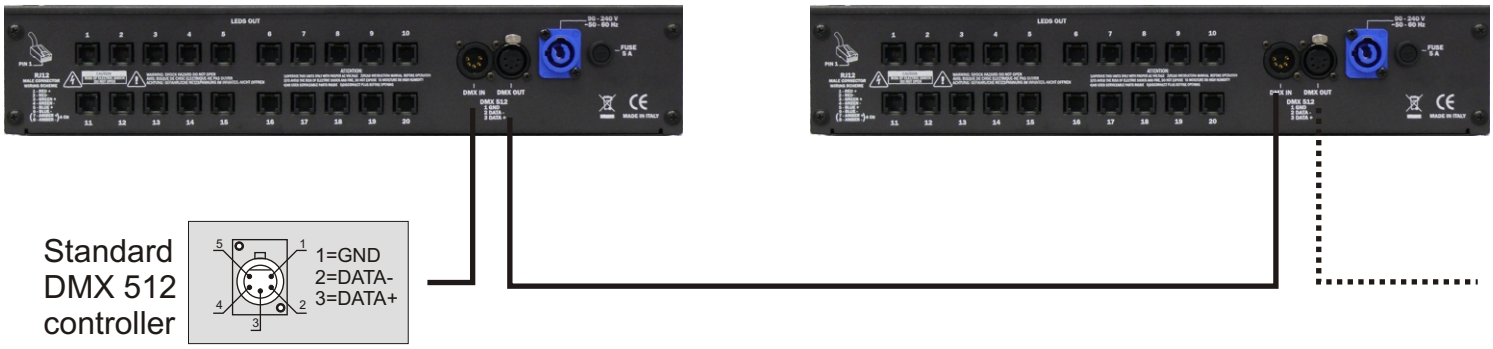
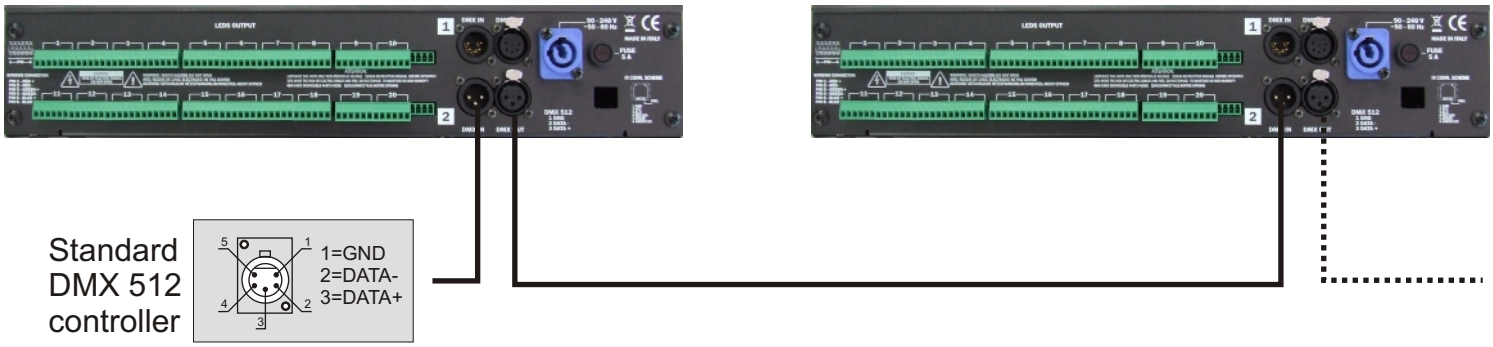
DMX SIGNAL CONNECTION:

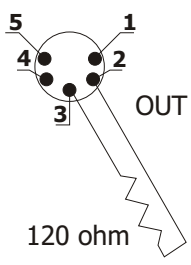
The unit operates using a digital DMX 512 signal. Connection between the controller and the unit or between units must be carried out using a two pair screened ø 0.5 mm cable and a CANNON XLR 5 pins connector.
Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassis. The plug housing must be isolated. Connect the mixer signal to the DMX IN of the Z60 plug and connect it to the next unit by connecting the DMX OUT plug on the first Z60 to the DMX IN plug of the second one.
This way, all the projectors are cascade connected.



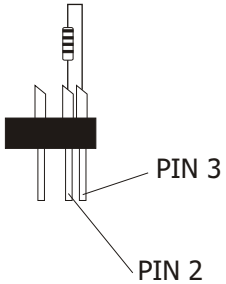


P.S:
If the display showing the DMX address flashes, then one of the following errors has occurred:
- DMX signal not present
- DMX reception problem

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

Z60 LED CONTROLLER can be used in 2 DMX mode: 60 ch or 9 ch mode.

If you want to use the Z60 in 60 channels mode, select the 60 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001
Projector 2 A0061
Projector 3 A0121
….. A….
projector 6 A301

If you want to use the Z60 in 9 channels mode, select the 9 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001

Projector 2 A010 If you want to select the next projector, just add "9"

Projector 3 A019

….. A….

projector 6 A046

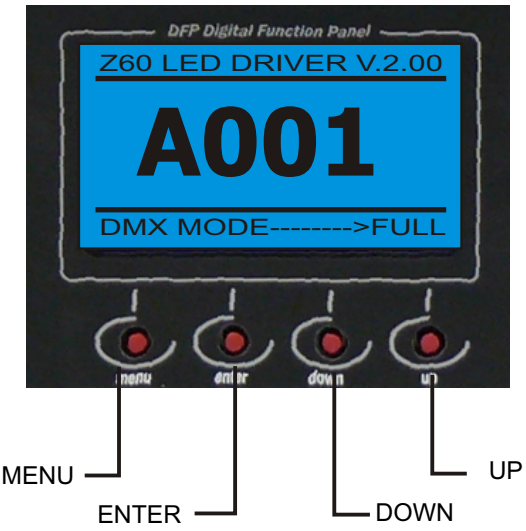
Selelcting the DMX address

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

Z60



DISPLAY FUNCTIONS

The Z60 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.

Z60 Software version 2.00

☞ Menu ☞ Up-Down Global setting ☞ ENTER ☞ Up-Down

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

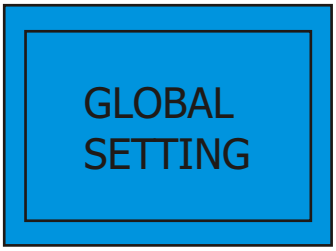
Security
This menu allow to select a security password to lock the user's settings

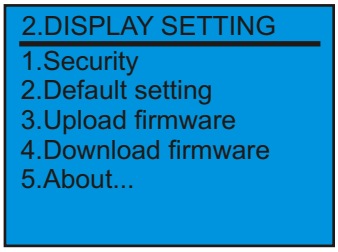
Default Setting:
To restore main settings

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

Default setting: ☞ ENTER
To restore main settings

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

Download firmware ☞ ENTER
This menu allow to save unit's programs into computer

About
Master pcb code, pcb revision, SW version

☞ ENTER

Display Setting

Menu Up-Down ENTER Up-Down

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

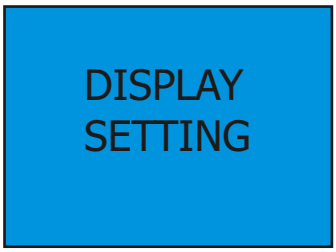
Flip visual:
Reverses display's reading depending on the mounting position
(On the ground or suspended).

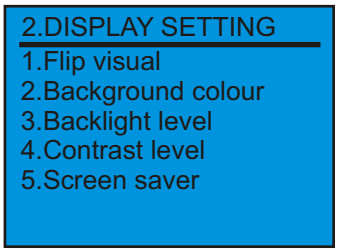
Background color:
To select the colour of the display background

Backlight level:
Default=95%.

Contrast level:
Display contrast

Screen saver
This menu allow to activate the screen saver.





Flip visual:
Flip visual OFF (Default)
Flip visual ON

ENTER

Background color:
Background NORMAL (Default)
Background REVERSE

ENTER

Backlight level:
Back light intensity from 0% to 100% default 95%

ENTER

Contrast level

ENTER

Page under construction

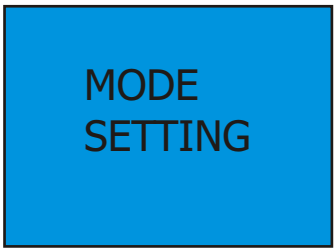
Screen saver:
Screen saver TYPE (default disabled)
Screen saver TIME (default 10 sec.)

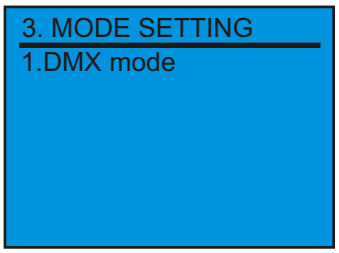
ENTER

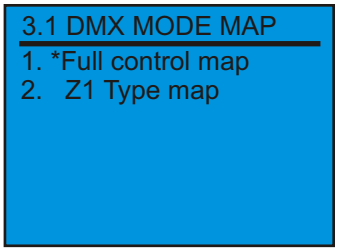
Mode setting

Menu Up-Down ENTER Up-Down

DMX MODE
To select DMX mode :
60 DMX ch or 9 DMX channel control







MODE SETTING

ENTER

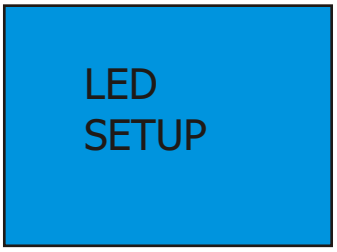
DMX mode setting
Full control map = 60 DMX ch (default)
Z1 type map = 9 DMX ch mode

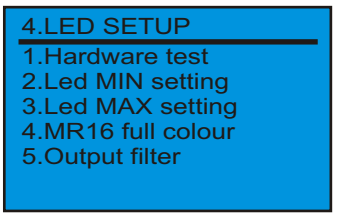
Menu Up-Down LED Setup

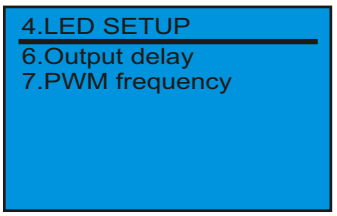
Hardware test\ LED min setting\ LED max setting\ MR16 full color\ Output filter\ output delay\ PWM Frequency.

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

ENTER Up-Down







ENTER

HARDWARE TEST:
Hardware test OFF (default)
Hardware test ON

ENTER

LED MIN SETUP

MIN level RED
MIN level GREEN
MIn level BLUE

ENTER

LED MAX SETUP

MAX level RED
MAX level GREEN
MAX level BLUE

ENTER

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

ENTER

OUTPUT FILTER
Output filter OFF
Output filter ON (Default)

ENTER

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

PWM frequency

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

Menu Up-Down Measure

Lifetime\ voltage level \ temperature \ DMX tester

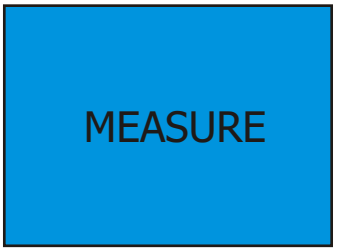
Lifetime
This menu show the total UNIT LIFE TIME (reset not possible) and the RGB life TIME (reset possible)

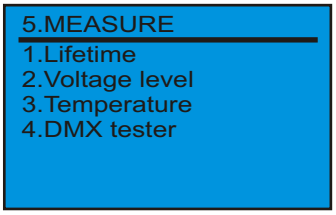
Voltage level
Internal voltage measure

Temperature
Internnal / External temperature measure

DMX tester
DMX channels tester

ENTER Up-Down





LIFETIME
Unit lifetime
LED Lifetime

ENTER

Voltage level

ENTER

Internal voltage measure

Temperature

ENTER

Internnal / External temperature measure

DMX tester

ENTER

DMX channels tester

DMX PROTOCOL

Z60 RGB

60 CHANNELS
MODE (Default)

1	RED	1	21	BLUE	7	41	GREEN	14
2	GREEN	1	22	RED	8	42	BLUE	14
3	BLUE	1	23	GREEN	8	43	RED	15
4	RED	2	24	BLUE	8	44	GREEN	15
5	GREEN	2	25	RED	9	45	BLUE	15
6	BLUE	2	26	GREED	9	46	RED	16
7	RED	3	27	BLUE	9	47	GREEN	16
8	GREED	3	28	RED	10	48	BLUE	16
9	BLUE	3	29	GREEN	10	49	RED	17
10	RED	4	30	BLUE	10	50	GREEN	17
11	GREEN	4	31	RED	11	51	BLUE	17
12	BLUE	4	32	GREEN	11	52	RED	18
13	RED	5	33	BLUE	11	53	GREEN	18
14	GREEN	5	34	RED	12	54	BLUE	18
15	BLUE	5	35	GREED	12	55	RED	19
16	RED	6	36	BLUE	12	56	GREEN	19
17	GREED	6	37	RED	13	57	BLUE	19
18	BLUE	6	38	GREEN	13	58	RED	20
19	RED	7	39	BLUE	13	59	GREEN	20
20	GREEN	7	40	RED	14	60	BLUE	20

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: **GREEN**1

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: **RED 2**

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

DMX CHANNEL	5	Parameter: **GREEN 2**

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

DMX CHANNEL	6	Parameter: **BLUE 2**

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

DMX CHANNEL	7	Parameter: **RED 3**

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

DMX CHANNEL	8	Parameter: **GREEN 3**

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

DMX CHANNEL	9	Parameter: **BLUE 3**

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

DMX CHANNEL	**10**	Parameter: **RED 4**

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

DMX CHANNEL	**11**	Parameter: **GREEN 4**

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

DMX CHANNEL	**12**	Parameter: **BLUE 4**

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

DMX CHANNEL	**13**	Parameter: **RED 5**

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

DMX CHANNEL	**14**	Parameter: **GREEN 5**

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

DMX CHANNEL	**15**	Parameter: **BLUE 5**

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

DMX CHANNEL	**16**	Parameter: **RED 6**

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

DMX CHANNEL	**17**	Parameter: **GREEN 6**

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

DMX CHANNEL	**18**	Parameter: **BLUE 6**

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

DMX CHANNEL	**19**	Parameter: **RED 7**

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

DMX CHANNEL	**20**	Parameter: **GREEN 7**

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

DMX CHANNEL	**21**	Parameter: **BLUE 7**

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

DMX CHANNEL	22	Parameter: **RED 8**

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

DMX CHANNEL	23	Parameter: **GREEN 8**

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

DMX CHANNEL	24	Parameter: **BLUE 8**

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

DMX CHANNEL	25	Parameter: **RED 9**

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

DMX CHANNEL	26	Parameter: **GREEN 9**

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

DMX CHANNEL	27	Parameter: **BLUE 9**

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

DMX CHANNEL	28	Parameter: **RED 10**

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

DMX CHANNEL	29	Parameter: **GREEN 10**

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

DMX CHANNEL	30	Parameter: **BLUE 10**

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

DMX CHANNEL	31	Parameter: **RED 11**

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

DMX CHANNEL	32	Parameter: **GREEN 11**

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

DMX CHANNEL	33	Parameter: **BLUE 11**

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

DMX CHANNEL	**34**	Parameter: **RED 12**

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

DMX CHANNEL	**35**	Parameter: **GREEN 12**

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

DMX CHANNEL	**36**	Parameter: **BLUE 12**

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

DMX CHANNEL	**37**	Parameter: **RED 13**

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

DMX CHANNEL	**38**	Parameter: **GREEN 13**

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

DMX CHANNEL	**39**	Parameter: **BLUE 13**

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

DMX CHANNEL	**40**	Parameter: **RED 14**

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

DMX CHANNEL	**41**	Parameter: **GREEN 14**

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

DMX CHANNEL	**42**	Parameter: **BLUE 14**

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

DMX CHANNEL	**43**	Parameter: **RED 15**

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

DMX CHANNEL	**44**	Parameter: **GREEN 15**

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

DMX CHANNEL	**45**	Parameter: **BLUE 15**

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

DMX CHANNEL	**46**	Parameter: **RED 16**

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

DMX CHANNEL	**47**	Parameter: **GREEN 16**

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

DMX CHANNEL	**48**	Parameter: **BLUE 16**

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

DMX CHANNEL	**49**	Parameter: **RED 17**

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

DMX CHANNEL	**50**	Parameter: **GREEN 17**

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

DMX CHANNEL	**51**	Parameter: **BLUE 17**

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

DMX CHANNEL	52	Parameter: **RED 18**

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

DMX CHANNEL	53	Parameter: **GREEN 18**

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

DMX CHANNEL	54	Parameter: **BLUE 18**

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

DMX CHANNEL	55	Parameter: **RED 19**

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

DMX CHANNEL	56	Parameter: **GREEN 19**

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

DMX CHANNEL	57	Parameter: **BLUE 19**

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

DMX CHANNEL	**58**	Parameter: **RED 20**

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

DMX CHANNEL	**59**	Parameter: **GREEN 20**

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

DMX CHANNEL	**60**	Parameter: **BLUE 20**

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

DMX PROTOCOL

9 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE (Pre-programmed whites at different color temperatures)
7 CTC
8 COLOURS MACRO
9 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 RGB 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: **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 9 (FUNCTIONS) = CUSTOM WHITE RECALL (Dmx range value 0 - 79)

156-205	**180**	**Custom White Recall**
206-255	**225**	**White CTC (Channel 7 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)**

IF CHANNEL 9 (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 7 CTC enabled 43 color temp. Correction Macros: 2000°K-7200°K)**

DMX CHANNEL	7	Parameter: **CTC (Color temperature correction)**

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

IF CHANNEL 6 (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 6 (White) = NO FUNCTION (Dmx range value 0 - 43)

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

DMX CHANNEL	8	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**

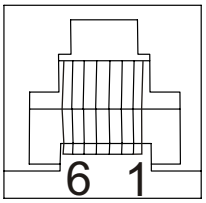
DMX CHANNEL	9	Parameter: **FUNCTIONS (Recall,Create and Store the Custom white)**

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-79		**Custom White Recall (Enable CH 6 for Custom white Recall)**			
80-160		**Custom White Create (Enable CH 6 for Custom white Creation)**			
161-255		**Custom White Store (Store the Custom White created)**			

WIRING DIAGRAMS

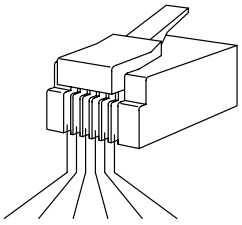
Z60 is available in 2 version with different LED output connectors:
RJ12 female connectors (03.LA.053) and 6 poles plug-in screw connectors (03.LA.076) .

RJ12 Female panel connector on board : Z60 LED CONTROLLER (03.LA.053)



6-pin Female (RJ12)

RJ12 LED input male cable connector on board : Focus, Helios, MR16 led lamps

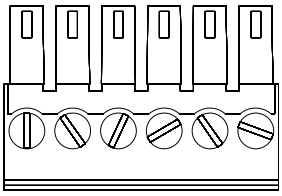


1 2 3 4 5 6

LEDS CONNECTOR PINOUT (Rj12)

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

6 poles plug-in screw connector on board : Z60 LED CONTROLLER (03.LA.076)



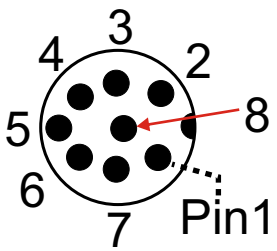
1-----PIN-----6

6 poles plug-in screw connector

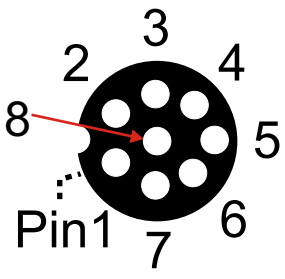
LEDS CONNECTOR PINOUT 6 poles plug-in screw connector

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

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



M12 LED output Female panel connector on board : Z10 / Z1 outdoor led controller

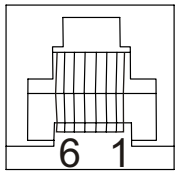


LEDS CONNECTOR PINOUT (M12)

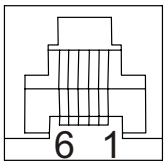
Pin 1 = RED +
Pin 2 = RED -
Pin 3 = GREEN +
Pin 4 = GREEN -
Pin 5 = BLUE +
Pin 6 = BLUE -
Pin 7 = Amber -
Pin 8 = Amber +

LED UNITS WIRING CONNECTION

03.LA.053 (RJ12 OUTPUT)



6-pin Female (RJ12)

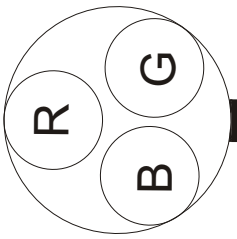


6-pin Female (RJ12)

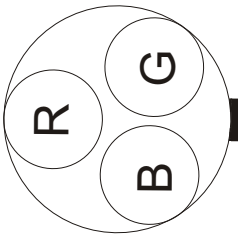
LEDs OUT 5

LEDs OUT 4

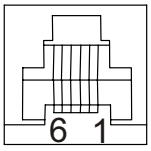
LEDs OUT 3



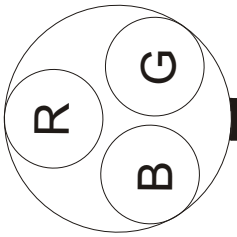
MR16 RGB



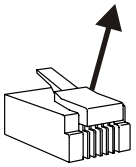
MR16 RGB



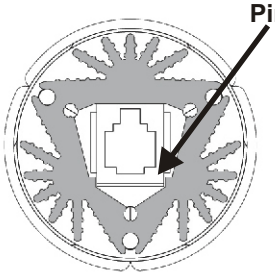
6-pin Female (RJ12)



MR16 RGB



6-pin Male (RJ12)
Modular Plug



D.T.S. T-BOX
CODE 03.LA.001

INPUT

OUT 2

OUT 1

IMPORTANT:

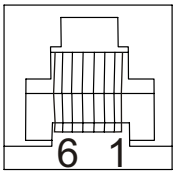
The maximum number of MR16 / FOCUS RGB LED lamps connectable to each Z60 LEDs output is 3 pcs.

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

Never plug in a new MR16 lamp when the power supply is turned on.

LED UNITS WIRING CONNECTION

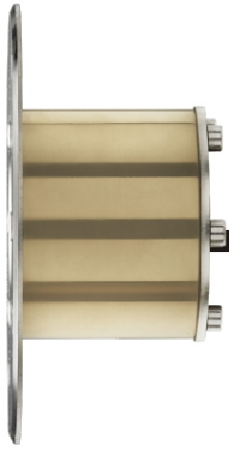
03.LA.053 (RJ12 OUTPUT)



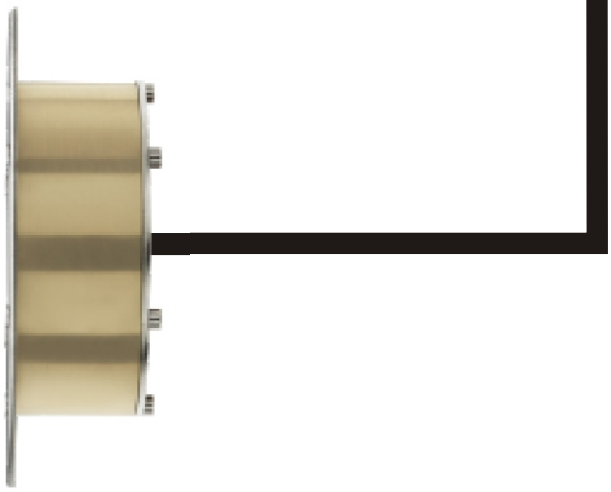
6-pin Female (RJ12)

LEDs OUT 5

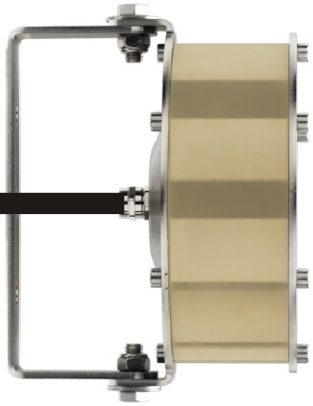
FOCUS FULL COLOUR



DIVE3 FULL COLOUR R



DIVE9 RGB R



DIVE9 RGB

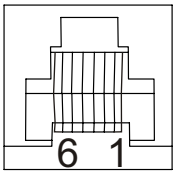
IMPORTANT:

The maximum number of MR16 / FOCUS FULL COLOUR LED lamps, DIVE3 FULL COLOUR, DIVE9 RGB connectable to each Z60 LEDs output is 1 pcs.

Never plug in a new unit when the power supply is turned on.

LED UNITS WIRING CONNECTION

03.LA.053 (RJ12 OUTPUT)



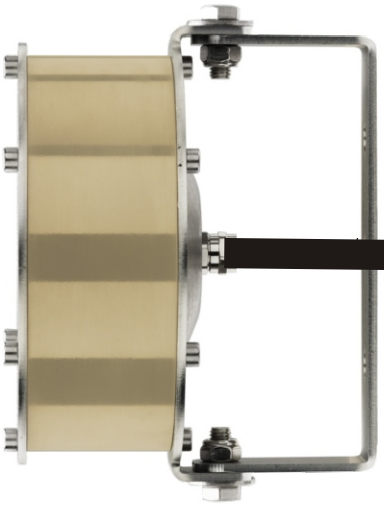
6-pin Female (RJ12)

2 X LED's output

DIVE6 FULL COLOUR R

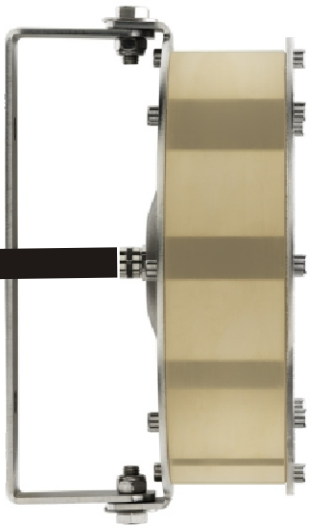
2 X LED's output

DIVE18 RGB R



2 X LED's output

DIVE6 FULL COLOUR



2 X LED's output

DIVE18 RGB

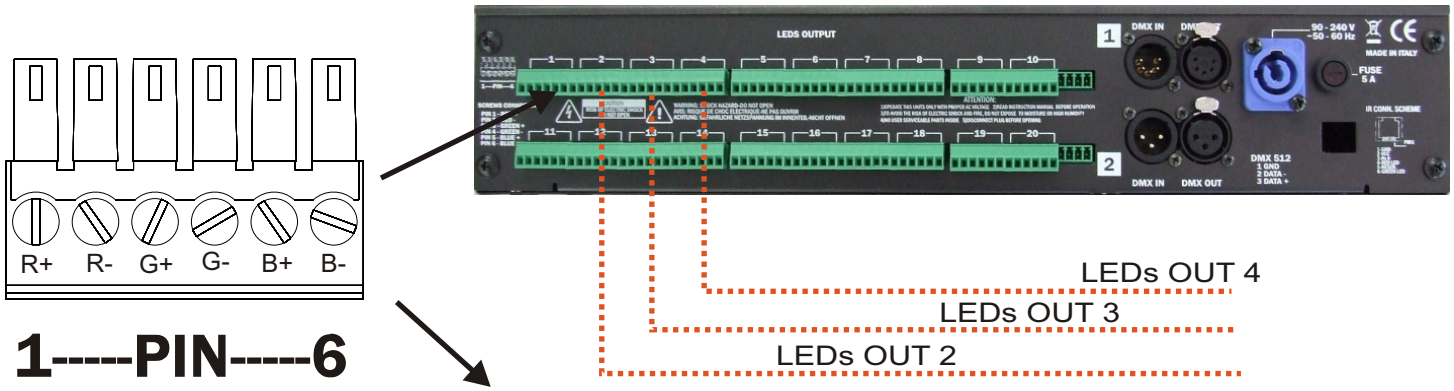
IMPORTANT:

DIVE6 FULL COLOUR and DIVE18 RGB unit are provided with 2 separeted LED's input lines.
DIVE6 FULL COLOUR and DIVE18 RGB unit need 2 x Z60 LED's output each.

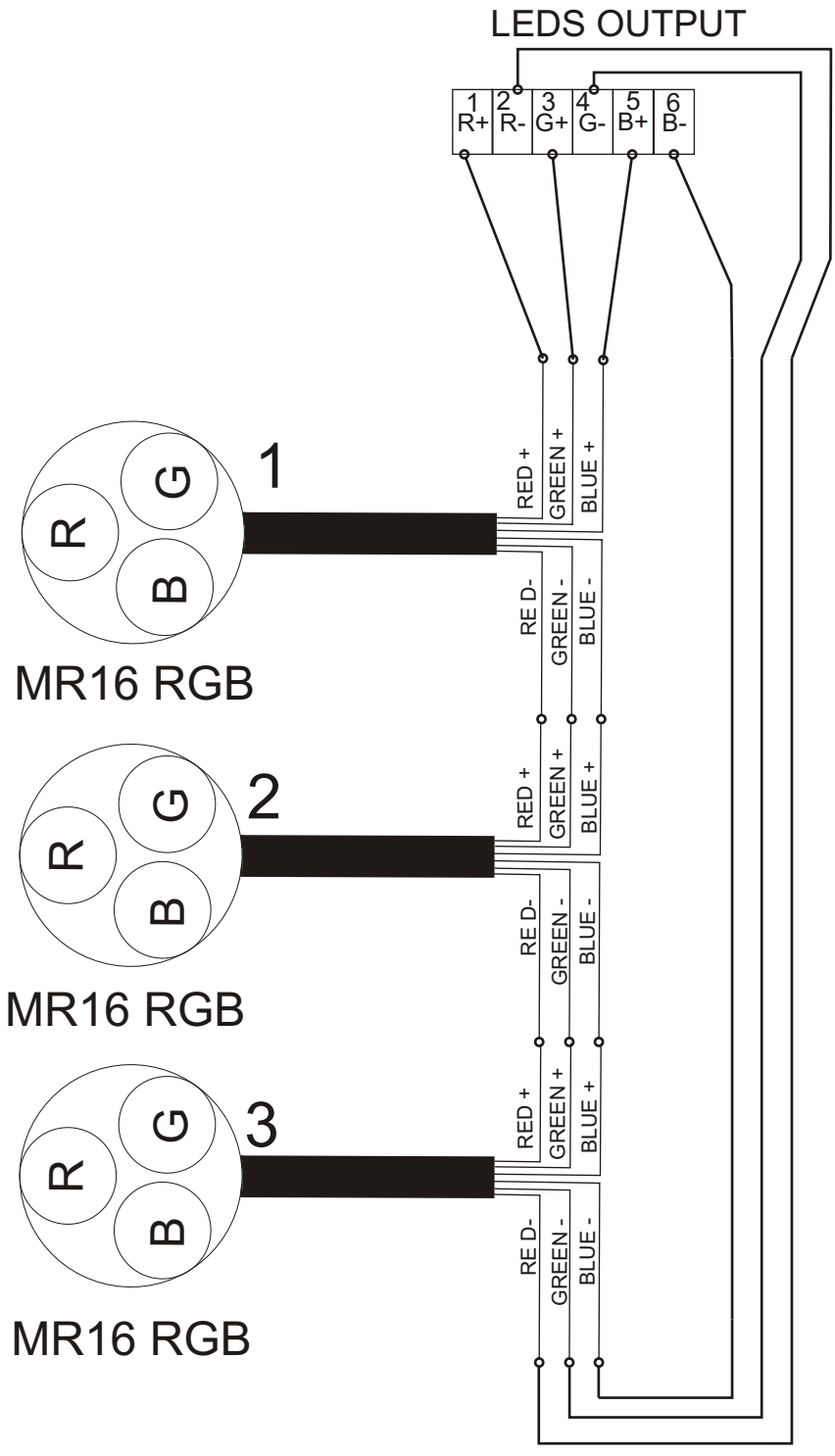
Never plug in a new unit when the power supply is turned on.

LED UNITS WIRING CONNECTION

03.LA.076 (PLUG-IN OUTPUT)



1-----PIN-----6



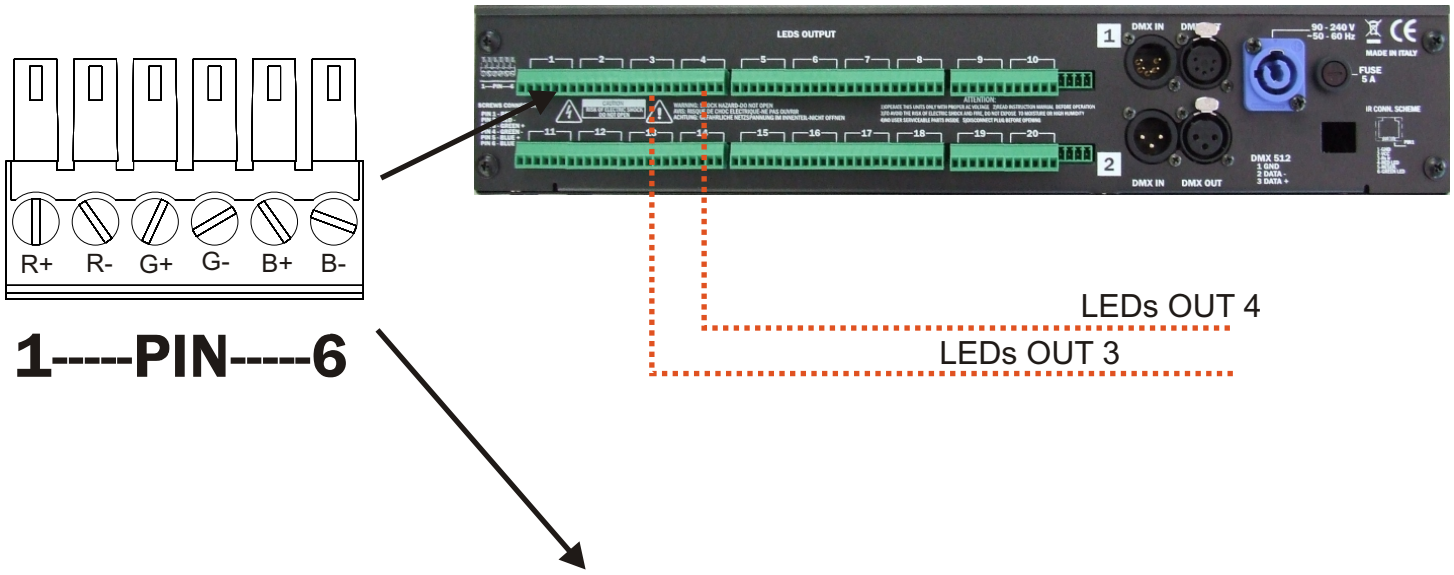
IMPORTANT:

The maximum number of MR16 / FOCUS RGB LED lamps connectable to each Z60 LEDs output is 3 pcs.

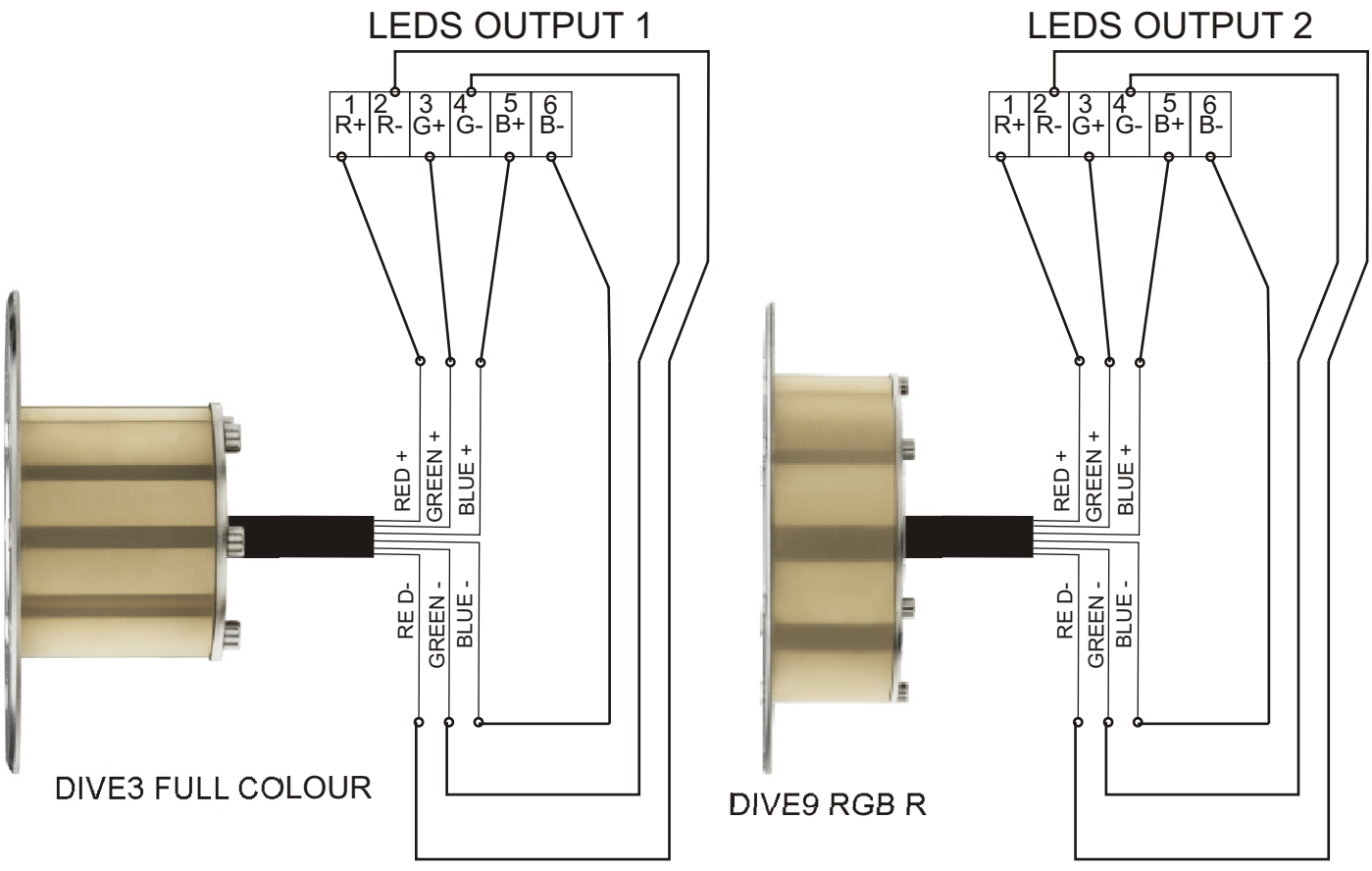
Never plug in a new MR16 lamp when the power supply is turned on.

LED UNITS WIRING CONNECTION

03.LA.076 (PLUG-IN OUTPUT)



1-----PIN-----6



IMPORTANT:

The maximum number of MR16 / FOCUS FULL COLOUR LED lamps, DIVE3 FULL COLOUR, DIVE9 RGB connectable to each Z60 LEDs output is 1 pcs.

Never plug in a new unit when the power supply is turned on.

NOTE

NOTE

MADE IN ITALY CE

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

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