

Z1 PLUS IP65 DMX-512 LED CONTROLLER



Code 03.LA.009P.IP65

User's Manual Rel 2.0 **GB**

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



The Lighting Company

Made in Italy

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 Z1 PLUS IP65.

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

DESCRIPTION:

Z1 PLUS IP65 is a full-range AC 90-260 V, 50-60 Hz power supply unit dedicated specifically for use with DTS products featuring LED technology.

Z1 PLUS IP65 can control set-ups of D.T.S. LED products in various combinations.

Z1 PLUS IP65 can be used in Master or Slave mode; ample networks of interconnected Z1 units can be created: * max 32 slave units for each master.

Z1 PLUS IP65 can also be remote-controlled using the USITT DMX 512 standard digital communication protocol.

Z1 PLUS IP65 guarantees a full level of IP65 protection against infiltrations of solids and liquids, allowing it to be used safely both indoors and outdoors.

MAIN ELECTRICAL CHARACTERISTICS:

Input Voltage Range : V_{in} 90 - 260 Vac

Frequency : 50 - 60 HZ

Power Consumption Range : 8 - 100 W

Power Factor (Pf) : 0.95 electronic PFC controller

Efficiency : 90% typical

IP protection grade: IP 65

Output:

Power Output Range : 6 - 100W per output, 1,5 - 25W per channel

Output Current : 350 mA @ 100% per channel (500mA @ 100% per channel in BOOST Mode)

Output Voltage : V_{out} 48V

Max Load (output) : 15 x FOCUS RGB LED projectors or 15 x MR16 RGB LED lamps or 5 x FOCUS

FULL RGBW / FULL WHITE LED projector or 5 x MR16 FULL RGBW / FULL WHITE LED lamp or

1 x HELIOS R all models LED projector or 1 x TITAN HEAD all models LED projector or 1 x RA7 HEAD all models LED projector or 1 x HORUS all models LED projector or 1 x FOS 100 Plus all models led bar, or 3 x FOS 33 Plus all models led bars.

Min Load (output) : 1 x MR16 RGB LED lamp

Control Input:

Control Signal : DMX 512

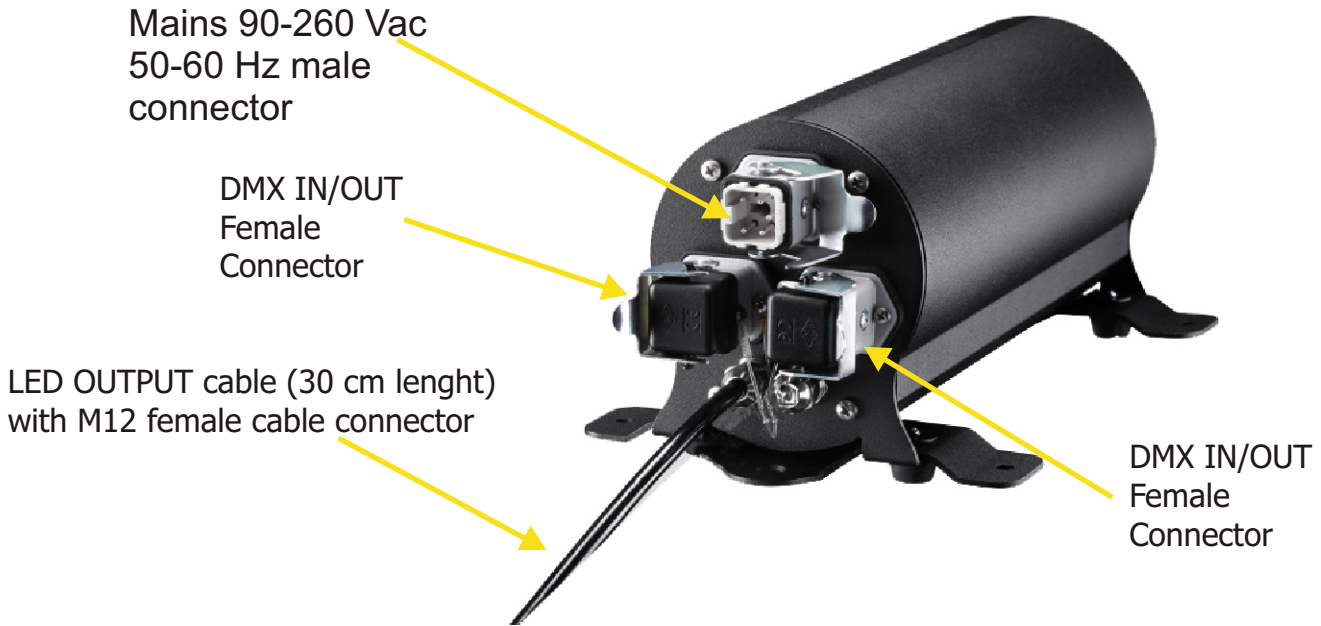
Dimming System : Constant Current PWM

Address Range : DMX 512 channels addressable by display

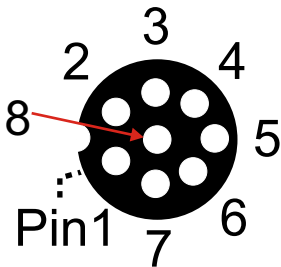
APPLICATIONS:

Cinemas - Restaurants and pubs - Discoteques - Architectural - Interior and Exterior.

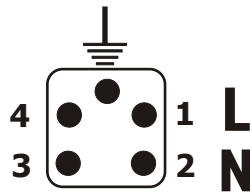
INPUT/OUTPUT CONNECTIONS



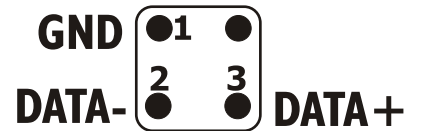
**M12 LED output
Female connector
on board Z1 PLUS IP65**



**MAINS
MALE CONNECTOR**



**DMX IN-OUT
FEMALE CONNECTOR**



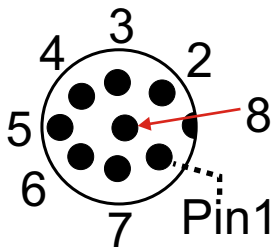
Display



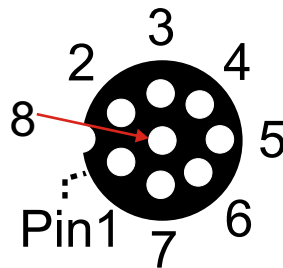
WIRING DIAGRAM

Z1 PLUS IP65 is provided with an M12 female cable connector (30cm cable length).

M12 LED input
Male cable connector
on board FOS /
TITAN HEAD /
RA7 HEAD UNITS



M12 LED output
Female cable connector
on board Z1 PLUS IP65



M12 LEDS
CONNECTOR PINOUT

- 1-RED + (FC / RGBA / WHITE)
- 2-RED - (FC / RGBA / WHITE)
- 3-GREEN + (FC / RGBA / WHITE)
- 4-GREEN - (FC / RGBA / WHITE)
- 5-BLUE + (FC / RGBA / WHITE)
- 6-BLUE - (FC / RGBA / WHITE)
- 7-AMBER -** (RGBA / WHITE)
- 8-AMBER +** (RGBA / WHITE)

For application where IP65 rating is not necessary, Z1 PLUS IP65 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 100 meters.

For IP65 rating application, D.T.S. recommended the use of an IP65/68 cable as the 8XAWG24 multipolar black outdoor cable (IP68) (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.

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

In this way, all the projectors are cascade connected.

**P.S:**

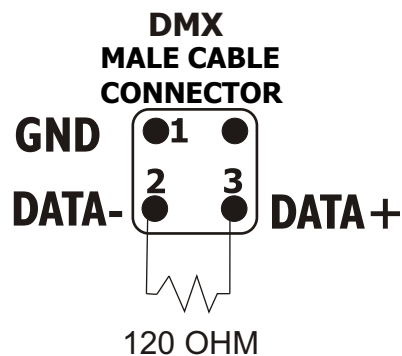
If the display showing the DMX address flashes, then one of the following errors has occurred:

- 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 DMX cable connector with a 120 ohm resistor Between pin 2 and 3.

The DMX terminator must be plugged into the DMX out panel connector of the last unit connected to the DMX line.



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

DMX ADDRESS

Z1 PLUS IP65 can be used in seven different modes: 10 DMX channels mode (default), 15 DMX channels mode (Dimmer + RGBW channels 16 bit), 6 DMX channels mode (Shutter + Dimmer + RGBA), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M4CH mode (5 DMX channels; Dimmer + RGBA), RGBA mode (4 channels), 1 DMX channel mode.

If you want to use the Z1 RGB in 6 channels mode, select the 6 CH mode from the MODE menu and set the following addresses on the mixer: **(To be used only with DTS Wall mounted DMX controller 0514L007)**

Projector 1 A001
 Projector 2 A009
 Projector 3 A017
 A....
 projector 6 A041

If you want to select the next projector, just add "8"
DTS Wall mounted DMX controller 0514L007 assign 8 DMX channels per unit also if some channels are not used

If you want to use the Z1 PLS IP65 in 10 channels mode, select the 10 CH mode from the MODE menu and set the following addresses on the mixer:

Projector 1 A001
 Projector 2 A011
 Projector 3 A021
 A....
 projector 6 A051

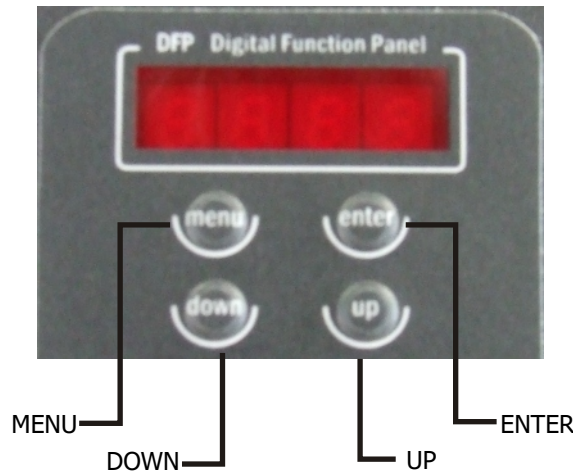
If you want to select the next projector, just add "10"

Selelcting the DMX address

- 1) Press the UP-DOWN key until you reach the required DMX address. The numbers on the display will start to flash (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



DISPLAY FUNCTIONS

The Z1 PLUS IP65 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.

Software version 5.09

MENU Up-Down	ENTER Up-Down	ENTER Up-Down	ENTER Up-Down	ENTER	Floor position	ENTER
001	DISP	POS1	AA		Suspension position	ENTER
<p>REVERSE DISPLAY Reverses display's reading depending on the mounting position (on the ground or suspended).</p>		Up-Down	ENTER Up-Down	ENTER	Display OFF	ENTER
<p>DISPLAY STAND BY To turn off the display (after 5 seconds) or leave it always on.</p>		Stby	off	on	Display always ON	ENTER

MENU Up-Down	ENTER Up-Down	Up-Down	Up-Down	ENTER	Default DMX Mode = 10 CH
node	10CH	10 CHANNELS	WALL	ENTER	
<p>DMX MODE To select DMX mode : 10 DMX channels mode (default),15 DMX channels mode (Dimmer + RGBW channels 16 bit), 6 DMX channels mode (Shutter + Dimmer + RGBA), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M4CH mode (5 DMX channels; Dimmer + RGBA), RGBA mode (4 channels), 1 DMX channel mode.</p>		Up-Down	Up-Down	ENTER	
<p>CUSTOM DMX mode let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Amber, Ctc, Macro and Function to the desired DMX channels. (not yet implemented)</p>		Up-Down	Up-Down	ENTER	Dimmer + RGBA
<p>AUX mode let you activate an external ON -OFF control on IR connector. (not implemented on Z1 PLUS IP65)</p>		Up-Down	Up-Down	ENTER	Dimmer + RGBW channels 16 bit
<p>MACRO MACRO Function, enable channel mapping macro rainbow effects STD (default)</p>		Up-Down	Up-Down	ENTER Up-Down	Custom mode enabled (not yet implemented)
		Up-Down	Up-Down	ENTER	External ON - OFF control on IR connector (not implemented on z1 plus ip65)
		Up-Down	Up-Down	ENTER	Standard mode enabled: (Default). Extended mode enabled: Rainbow effects on MACRO channel.
		Up-Down	Up-Down	SEL	
		Up-Down	Up-Down	std	
		Up-Down	Up-Down	EXT	



LED

RGBa Min/Max, Smooth, Compression, Sync and Boost level values settings

RGBa MINIMUM VALUES

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

RGBa MAXIMUM VALUES

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

These settings have priority on Master Dimmer

SMOOTH VALUE

This menu allow to select the value of the delay (in milliseconds) for RGBa and Dimmer channels reaction to DMX or Program variation.
Off = 25 ms delay (Fast response)
20 = 250 ms delay (Slow response)

COMPRESSION

This menu allow to select between Linear current output or quadratic current output for LEDs
Default = Linear

SYNC

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

BOOST DRIVING

This menu allow to increase the LED's current from 350 mA to 500 mA



rEd



GrEE



blUE



Ambr



SMth



COMP



54nc

bst



Min



MAX



Min



MAX



4



Line



610



On



OFF

Default = 0

Default = 100

Default = 0

Default = 100

Default = 0

Default = 100

Default = 0

Default = 100

Range = Off - 20
Default = 4

Off = 25 ms
Istant response to DMX variation

20 = 250 ms
Smooth response to DMX variation

Linear = Linear current output

Quadratic = Linear light output

Range = 610 Hz -10 KHz
Default = 610 Hz

Boost mode activated

Boost mode deactivated

Whit BOOST active,the LED's current is set to 500 mA (30%more gain).
Default = Activated



AUTO
AUTOMATIC MODE
 Automatic demo game without DMX controller

ChPr
 Chase with 16 steps previously created in REC MODE
 Speed and Wait time selectable by user

CUPr
 RGBA values selectable by user

rAI n
 Rainbow colours effect.
 Speed time selectable by user

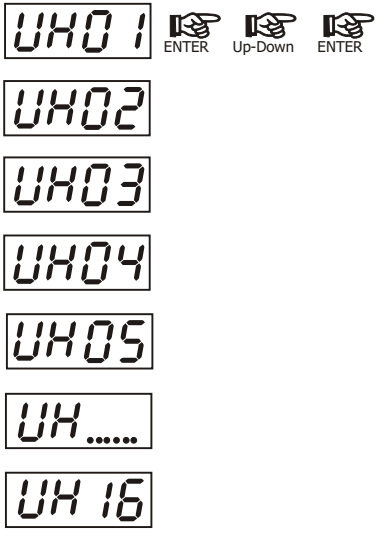
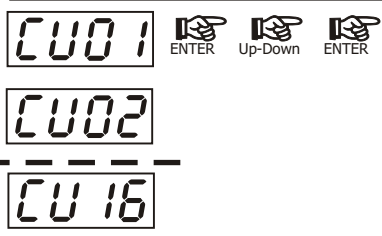
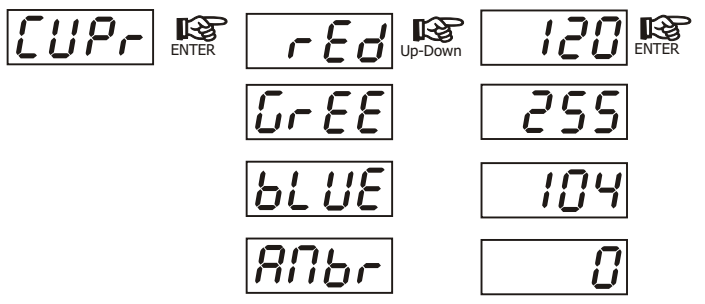
CU01-CU16
 Color Macros as on DMX channel 8 (Macro)

WHITE MACROS
 16 macros for White color from 2800 to 6500 ° K

DIMMER
 Dimmer level selectable by user as on DMX channel 2 (Dimmer)
 Dimmer level is active for all the programs and macros

SHUTTER
 Shutter level selectable by user as on DMX channel 1 (Shutter)
 Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
 Exit from Automatic Mode Menu





REC



10CH



r001

REC MODE

In DMX Recorder Mode, it is possible to create and store the scenes of the ChPr by using an external DMX controller. The unit must be set to 10 channels MODE

n001

n002

no.....

no 16

DMX Recorder Mode

For the programming of ChPr by using a DMX controller, besides the 10 channels necessary to control the unit a further 3 DMX channels are needed.

So that in RECORDER mode (via DMX) the unit will need 13 channels to be correctly programmed. The three new DMX channels are:

DMX channel 11 = SCENES channel

From 0-10 = no function (r001)

From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:

-From 0-19 = no function

-From 20-234 the unit runs the configuration given by the received input DMX values.

With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.

-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.

With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel

Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded). It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed



SLAVE



SURE



SLU



SLAVE MODE

Slave mode for ChPr program.

All slave units will be synchronised with master unit, running their own Chpr program.

ESC



Ir



On



INFRARED MODE

Infrared remote control.

By activating Ir 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

OFF

NOTE:

External infrared remote sensor needed.

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

Important: IR function is not Implemented on Z1 PLUS IP65



FAN



24V



FAN SPEED CONTROL

Internal Fan Speed control selectable by user.

Range: OFF /12-24 volt

Default : 18 Volt

OFF

Fan Speed Control

Range: OFF / 12-24 volt

Default = 18 Volt



EMER



SEL



On



EMERGENCY

Emergency operating mode.

By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then run if DMX signal is missing or not available. Useful for Emergency EXIT illumination on public areas.

OFF

Default = OFF

White



Default = White 1

di nn



Default = 255



dfSE

SUrE

DEFAULT
To restore default settings



tENP

0250

TEMPERATURE
Internal Unit temperature
visualisation

Internal Unit temperature.
(° Celsius)



tI nE

rEd

GrEE

bLUE

ANbr

Unit

LIFE TIME
This menu show the total UNIT life time
and the RGBA life time



tEST

tEST

TEST MODE
RGB colours test with rainbow



SOFT

v.5.09

SOFTWARE
Software version

SERVICE MENU

For technical personnel only

To operate this menu:

-Connect the unit to the main

-While reset is running, press the MENU and ENTER keys at the same time.

ChAn

CHANNELS

This menu allow to set 3 channels or 4 channels LEDs output mode

3 LEDs channels output mode = RGB

4 LEDs channels output mode = RGBA / RGBW

PrOd

PRODUCT MODEL SELECTION:

TITAN PLUS = Default for Z1 PLUS IP65

FOS 100 POWER = only for FOS 100 POWER unit

DELTA 8 = only for DELTA 8 unit

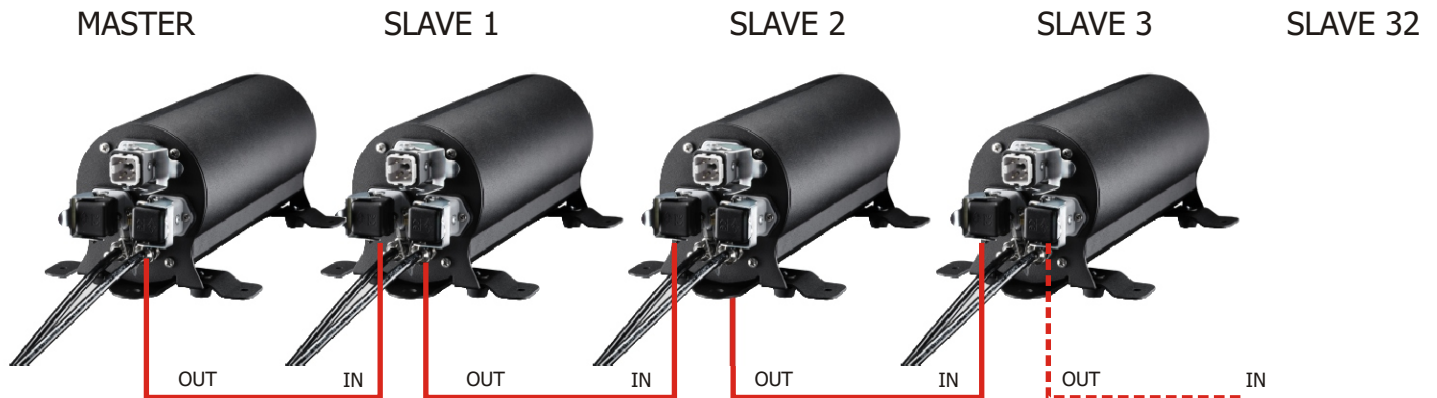
ESC

EXIT

Exit from hidden menu.

AUTOMATIC OPERATION (AUTO):

Z1 PLUS IP65 can work in automatic mode without a DMX controller. First of all connect the projectors with a DMX cable (picture below). A maximum quantity of 32 slave units can be connected to the same Master unit.



To activate Auto mode on the first unit, use the menu to run through the different modes until AUTO appears on the display, and press enter.

Now it is possible to choose between the different pre-programmed games (CUPr-RAIn-CU01/CU16-Wh01/Wh16) or ChPr which is user programmable through REC mode. To confirm game activation press ENTER on the selected GAME.

CUPr-RAIn-CU01/CU16-Wh01/Wh16

The first unit that will work as a Master should be placed in Automatic mode (AUTO), the other units have to be placed in 10 channels DMX mode (MODE 10 CH) and the DMX address should be set at A001. For RaIn (rainbow) game it is possible to select the speed for the colour changing (SPEE). DIMMER function (in AUTOMATIC MODE) is active for all the programs. SHUTTER function (in AUTOMATIC MODE) is active only for CU01/CU16 and Wh01/Wh16 macros.

ChPr MASTER/SLAVE

The first unit that will function as a Master must be set to Automatic mode (AUTO), the other units must be set to Slave mode (SLAV), selectable through the menu. In this way all the Slave units will be synchronised with the master and running their own ChPr game.

On the master unit it is possible to vary the Speed time (SPEE) for the colour changing and the Wait time (UAIt) between the steps.

Speed time and Wait time on the Master, have priority on the slave units.

NB: It is possible to run Ch.Pr on the other units even though these do not have Ch.Pr programmed. You can do this by setting the units to 10 channels DMX and selecting DMX address A001.

Rec mode

It is possible to program your own game on the Z1 PLUS IP65 that will then run it in AUTO mode (ChPr). Each unit can have its own programmed game.

In REC mode the unit must be set to 10 channels mode.

To program the ChPr by using a DMX controller, you need 3 more channels in addition to the 10 channels necessary to control the unit.

So that in RECORDER mode (via DMX) the unit will need 13 DMX channels to be correctly programmed.

The three new DMX channels are:

DMX channel 11 = SCENES channel

From 0-10 = no function (r001)

From 11-255 are displayed the programmable scenes (max 16 scenes from M001 to M0016)

DMX channel 12 = EDIT channel:

-From 0-19 = no function

-From 20-234 the unit runs the configuration given by the received input DMX values.

With the channel SCENES it is possible to pass from one step to the next while with REC it is possible to record the selected scene.

-From 235-255 the unit runs the configuration given by the received input DMX values closing the sequence as last scene.

With the channel REC it is possible to record the selected scene as last scene.

DMX channel 13 = RECORDING channel

Records the set scene with a variation between 0 to 255 (the display flashes indicating that the scene has been recorded). It is advised that you keep the REC channel set to 0 and to run through the 255 only once you have decided to save the scene. If ChPr is not closed, by indicating the last scene (Edit channel between 235-255), in playback mode all 16 scenes will be played through even if not programmed

DMX PROTOCOL**10 CHANNELS MODE (Default)**

- 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 (3700ms-20ms)			
120-149		Pulse open at variable speed from slow to fast (42,6s-100ms)			
150-179		Pulse close at variable speed from slow to fast (42,6s-100ms)			
180-204	192		Random Strobe (Master and RGB active)		
205-229	218		Random Strobe (Full)		
230-234		Red, Yellow, Cyan and Blue colour effects at variable speed			
235-255	245				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 256 color temp. Correction Macros: 2800°K-6500°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 256 color temp. Correction Macros: 2800°K-6500°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	256 color temp. Correction Macros: 0 = 2800°K / 128 = 4500°K / 255 = 6500°K				
--------------	--	--	--	--	--

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

0-255	No Function				
--------------	--------------------	--	--	--	--

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

IF:  **node**  **MAC**  **Std**  **PLEASE CHECK PAGE 7**

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: COLOUR MACROS
-------------	----------	---------------------------------

IF:  MENU Up-Down

node

 ENTER Up-Down

MACR

 ENTER Up-Down

EHL  ENTER

PLEASE CHECK PAGE 7

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-14					No Function
15-22					Macro 1
23-30					Macro 2
31-38					Macro 3
39-46					Macro 4
47-54					Macro 5
55-62					Macro 6
63-70					Macro 7
71-78					Macro 8
79-86					Macro 9
87-94					Macro 10
95-102					Macro 11
103-110					Macro 12
111-118					Macro 13
119-126					Macro 14
127-134					Macro 15
135-142					Macro 16
143-150					Rainbow Speed 1 (1 Sec.)
151-158					Rainbow Speed 2 (5 Sec.)
159-166					Rainbow Speed 3 (10 Sec.)
167-174					Rainbow Speed 4 (20 Sec.)
175-182					Rainbow Speed 5 (30 Sec.)
183-190					Rainbow Speed 6 (60 Sec.)
191-198					Rainbow Speed 7 (120 Sec.)
199-206					Rainbow Speed 8 (180 Sec.)
207-214					Random Speed 1 (0.5 sec.)
215-222					Random Speed 2 (1 Sec.)
223-230					Random Speed 3 (2 Sec.)
231-238					Random Speed 4 (5 Sec.)
239-246					Random Speed 5 (10 Sec.)
247-255					Random Speed 6 (30 Sec.)

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 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)

DMX PROTOCOL**6 CHANNELS MODE (Shutter + Dimmer + RGBA)**

- 1 SHUTTER**
- 2 DIMMER**
- 3 RED**
- 4 GREEN**
- 5 BLUE**
- 6 AMBER**

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 (3700ms-20ms)			
120-149		Pulse open at variable speed from slow to fast (42,6s-100ms)			
150-179		Pulse close at variable speed from slow to fast (42,6s-100ms)			
180-204	192		Random Strobe (Master and RGB active)		
205-229	218		Random Strobe (Full)		
230-234		Red, Yellow, Cyan and Blue colour effects at variable speed			
235-255	245				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 PROTOCOL

M4CH mode M4CH (5 DMX channels; Dimmer + RGBA)

- 1 DIMMER**
- 2 RED**
- 3 GREEN**
- 4 BLUE**
- 5 AMBER**

DMX CHANNEL	1	Parameter: DIMMER
-------------	----------	--------------------------

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

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

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

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

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

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

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

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

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

DMX PROTOCOL**RGBA mode (4 DMX channels)**

- 1 RED**
- 2 GREEN**
- 3 BLUE**
- 4 AMBER**

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

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

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

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

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

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

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

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

DMX PROTOCOL**"WALL" 6 CHANNELS MODE (For use with DTS Wall mounted DMX controller 0514L007)**

- 1 GREEN**
- 2 RED**
- 3 BLUE**
- 4 DIMMER**
- 5 NOT USED**
- 6 SHUTTER**

**node****WALL**

6 CHANNELS

DMX CHANNEL	1	Parameter: GREEN
-------------	----------	-------------------------

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

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

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

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

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

DMX CHANNEL	4	Parameter: DIMMER
-------------	----------	--------------------------

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

DMX CHANNEL	5	Parameter: NOT USED
-------------	----------	----------------------------

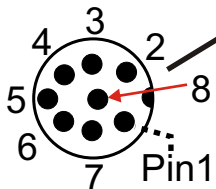
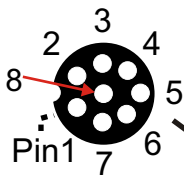
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-255					No Function

DMX CHANNEL	6	Parameter: SHUTTER
-------------	----------	---------------------------

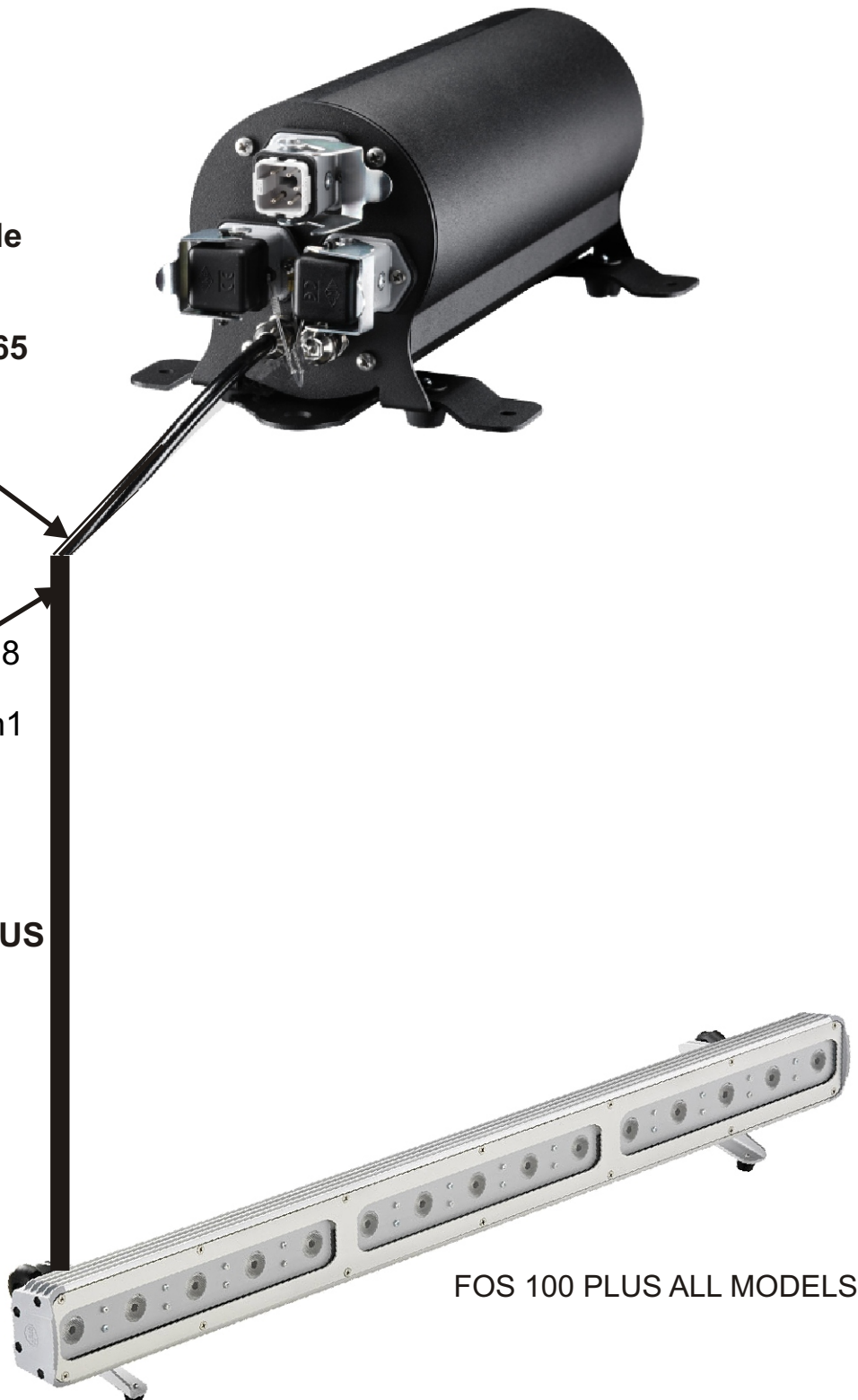
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9	5				Black-out
10-19	14				Open
20-29	24				Black-out
30-119					Strobe at variable speed from slow to fast (3700ms-20ms)
120-149					Pulse open at variable speed from slow to fast (42,6s-100ms)
150-179					Pulse close at variable speed from slow to fast (42,6s-100ms)
180-204	192				Random Strobe (Master and RGB active)
205-229	218				Random Strobe (Full)
230-234					Red, Yellow, Cyan and Blue colour effects at variable speed
235-255	245				Open

LED UNITS WIRING CONNECTIONS

**M12 LED
Female cable
connector
on board:
Z1 PLUS IP65**



**M12 LED
Male cable
connector
on board:
FOS 100 PLUS**



FOS 100 PLUS ALL MODELS

IMPORTANT:

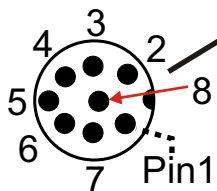
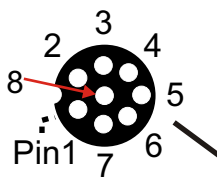
The maximum number of FOS 100 Plus Led projector connectable to the Z1 PLUS IP65 Power supply is 1 pcs.

The Maximum distance between the Z1 PLUS IP65 and FOS 100 Plus all models should not exceed 100 meters

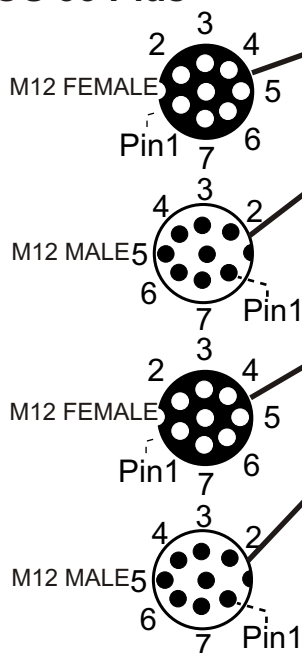
NEVER CONNECT NOR DISCONNECT A LED UNIT WHEN THE POWER SUPPLY IS TURNED ON.

LED UNITS WIRING CONNECTIONS

**M12 LED
Female cable
connector
on board:
Z1 PLUS IP65**



**M12 LED
Male cable
connector
on board:
FOS 33 Plus**



FOS 33 ALL MODELS

IMPORTANT:

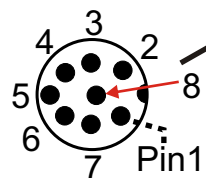
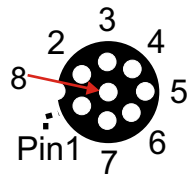
The maximum number of FOS 33 Plus Led projector connectable to the Z1 PLUS IP65 Power supply is 3 pcs.

The Maximum distance between the Z1 PLUS IP65 and the last FOS 33 Plus on the line should not exceed 100 meters

NEVER CONNECT NOR DISCONNECT A LED UNIT WHEN THE POWER SUPPLY IS TURNED ON.

LED UNITS WIRING CONNECTIONS

**M12 LED
Female cable
connector
on board:
Z1 PLUS IP65**



**M12 LED
Male cable
connector
on board:
HELIOS R**



HELIOS R ALL MODELS

**IMPORTANT:**

The maximum number of HELIOS R Led projector connectable to the Z1 PLUS IP65 Power supply is 1 pcs.

The Maximum distance between the Z1 PLUS IP65 and HELIOS R should not exceed 100 meters
NEVER CONNECT NOR DISCONNECT A LED UNIT WHEN THE POWER SUPPLY IS TURNED ON.

NOTES

NOTES

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 9001:2008

D.T.S. quality system
is certified to the
ISO 9001:2008 standard



D.T.S. products are designed
and manufactured at the D.T.S.
plants in Italy



05171185