FOS 100 POWER FC

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FOS 100 POWER SOLO FC

User's Manual rel 1.4 **GB**

D.T.S. Illuminazione s.r.l. – ITALY
http://www.dts-lighting.it

DTS
The Lighting Company

Made in Italy

INDEX:

1- SYMBOLS

Graphic symbols used on this manual:

THIS SYMBOL INDICATES A HOT SURFACE

THIS SYMBOL INDICATES ELECTRIC SHOCK RISK

THIS SYMBOL INDICATES GENERAL RISK

THIS SYMBOL MEANS YOU CAN PLACE THE UNIT ON NORMALLY FLAMMABLE SURFACES

THIS SYMBOL INDICATES THE MINIMUM DISTANCE BETWEEN THE UNIT AND THE ILLUMINATED OBJECT

THIS SYMBOL INDICATES THE EUROPEAN COMMUNITY DIRECTIVE 2002/96/EC ON WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation, use and maintenance.
The unit is not for residential use and must be installed by a qualified electrician or experienced person. Do not open the unit. The level of technology inherent in the unit requires the assistance of specialised personnel for all servicing. Please refer to an authorised D.T.S. service centre. In case lenses sets replacement is needed, frontal gasket must be replaced so as to maintain IP 65 rate protection.
LEDs are not replaceable. The device must always be equipped with an efficient ground connection.

3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

4- TECHNICAL FEATURES

FOS 100 POWER SOLO FC

LED Technology
24 x FULL RGBW LEDs; 7.028 Lux / 3 m;
16 million colours; linear colour temperature 2700K – 6500K
LEDs average lifespan: 75.000 hours (70% lumen output)

Optical group
3 lenses sets available (Spot, Medium flood, Wide flood)

Control
Via any DMX lighting console

Protection level
IP20 or IP65

Construction
FOS units are made on extruded aluminium

Connections
FOS 100 POWER SOLO IP20: POWERCON In/Out + XLR 5 poles In/Out
FOS 100 POWER SOLO IP65: Power input cable with cable gland; HARTING power re-send panel connector; XLR 5 poles In/Out (IP20)

Power supply
Integrated Z10 POWER IP20 or IP65 PSU (FOS 100 POWER SOLO)
Electronic full range 90-260Vac 50-60 Hz

Power consumption
200W

4- TECHNICAL FEATURES

FOS 100 POWER FC

LED Technology
24 x FULL RGBW LEDs; 7.028 Lux / 3 m;
16 million colours; linear colour temperature 2700K – 6500K
LEDs average lifespan: 75.000 hours (70% lumen output)

Optical group
3 lenses sets available (Spot, Medium flood, Wide flood)

Control
Via any DMX lighting console (External power supply / LED Controller required)

Protection level
IP65

Construction
FOS units are made on extruded aluminium

Connections
M16 male connector + 30 cm cable connection system between Power supply and LED bar

Power supply
External dedicated Z40 power supply / LED controller
Electronic full range 90-260Vac 50-60 Hz

Max current
1600mA

Power consumption
200W

6- ACCESSORIES

As standard (IP20)

1 x User's Manual
1 x POWERCON IN male cable connector (FOS 100 POWER SOLO)
(D.T.S. Code: 0520P014)
1 x POWERCON OUT male cable connector (FOS 100 POWER SOLO)
(D.T.S. Code: 0520P029)
1 x XLR 5 poles male cable connector (D.T.S. Code: 0508B028)
1 x XLR 5 poles female cable connector (D.T.S. Code: 0508B027)
1 x Joint/spacer (D.T.S. Code: 00M09519.46 black finish; 00M09519.44 grey finish) with
2 x knobs (D.T.S. Code: 0511P014)

As standard (IP65)

1 x User's Manual
1 x HARTING 5 poles male cable connector (D.T.S. Code: 02LD0093.1)
1 x Joint/spacer (D.T.S. Code: 00M09519.46 black finish; 00M09519.44 grey finish) with
2 x knobs (D.T.S. Code: 0511P014)

Optional (on request)

Lenses set Spot (FOS 100 POWER FULLCOLOUR) (D.T.S. Code 03.LK.107)
Lenses set Medium flood (FOS 100 POWER FULLCOLOUR) (D.T.S. Code 03.LK.108)
Lenses set Wide flood (FOS 100 POWER FULLCOLOUR) (D.T.S. Code 03.LK.109)

Lenses set Medium flood (FOS 100 POWER RGBW) (D.T.S. Code 03.LK.114)
Lenses set Wide flood (FOS 100 POWER RGBW) (D.T.S. Code 03.LK.115)

G60 ''C'' Clamp (Max. load 50 Kg) *Black (D.T.S. Code 0521A004)
G50 ''C'' Clamp (Max. load 10 Kg) *Black (D.T.S. Code 0521A012)

M16 female (9 poles) cable connector (D.T.S. Code 0508B106)
M16 male (9 poles) cable connector (D.T.S. Code 0508B105)

Z40 Power supply / LED controller (FOS 100 POWER) (D.T.S. Code 03.LA.120)

DIMENSIONS

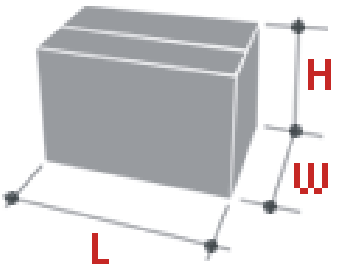
FOS 100 POWER SOLO

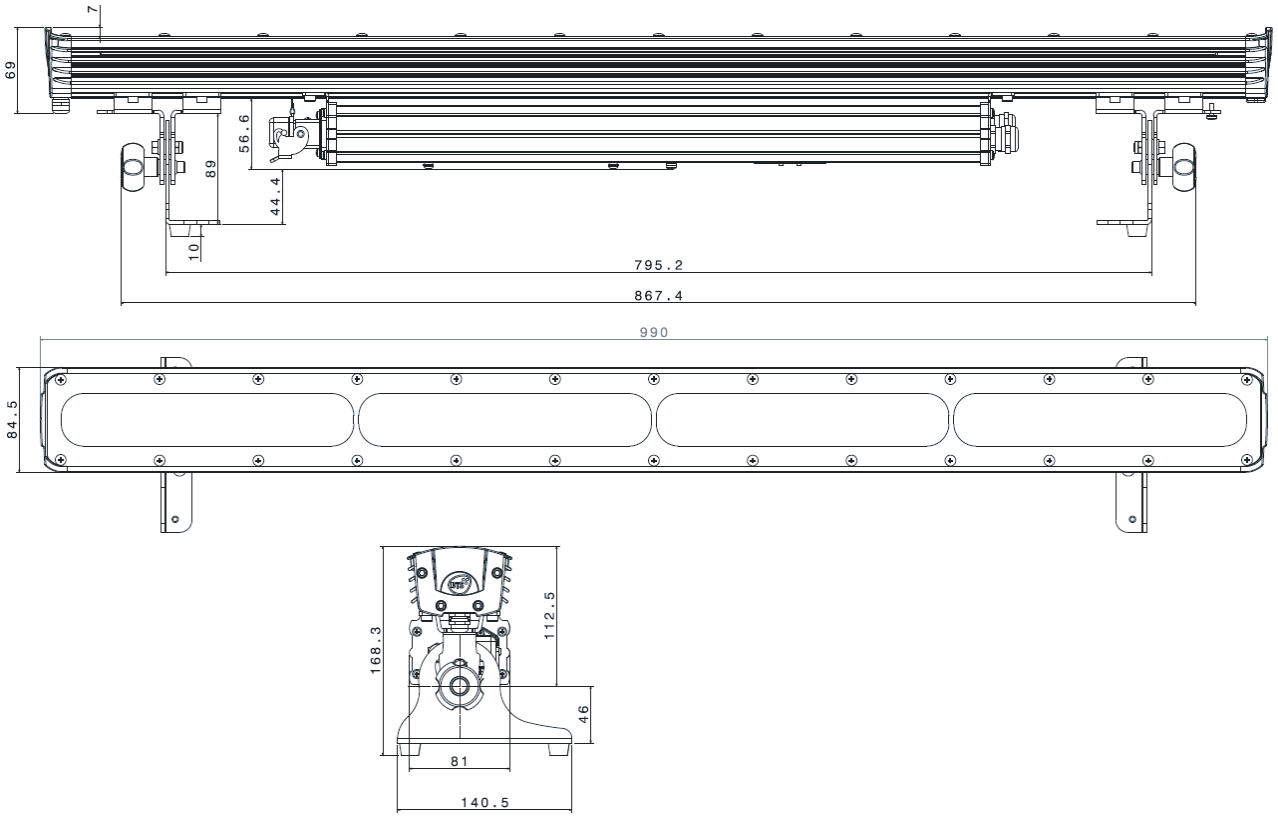
Unit Dimensions
(LxWxH)
990 x 81 x 168,3 mm

Weight
7 Kg

Packing Dimensions
(LxWxH)
1060 x 160 x 200 mm

Weight
8,5 Kg





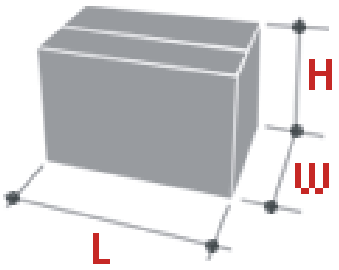
FOS 100 POWER

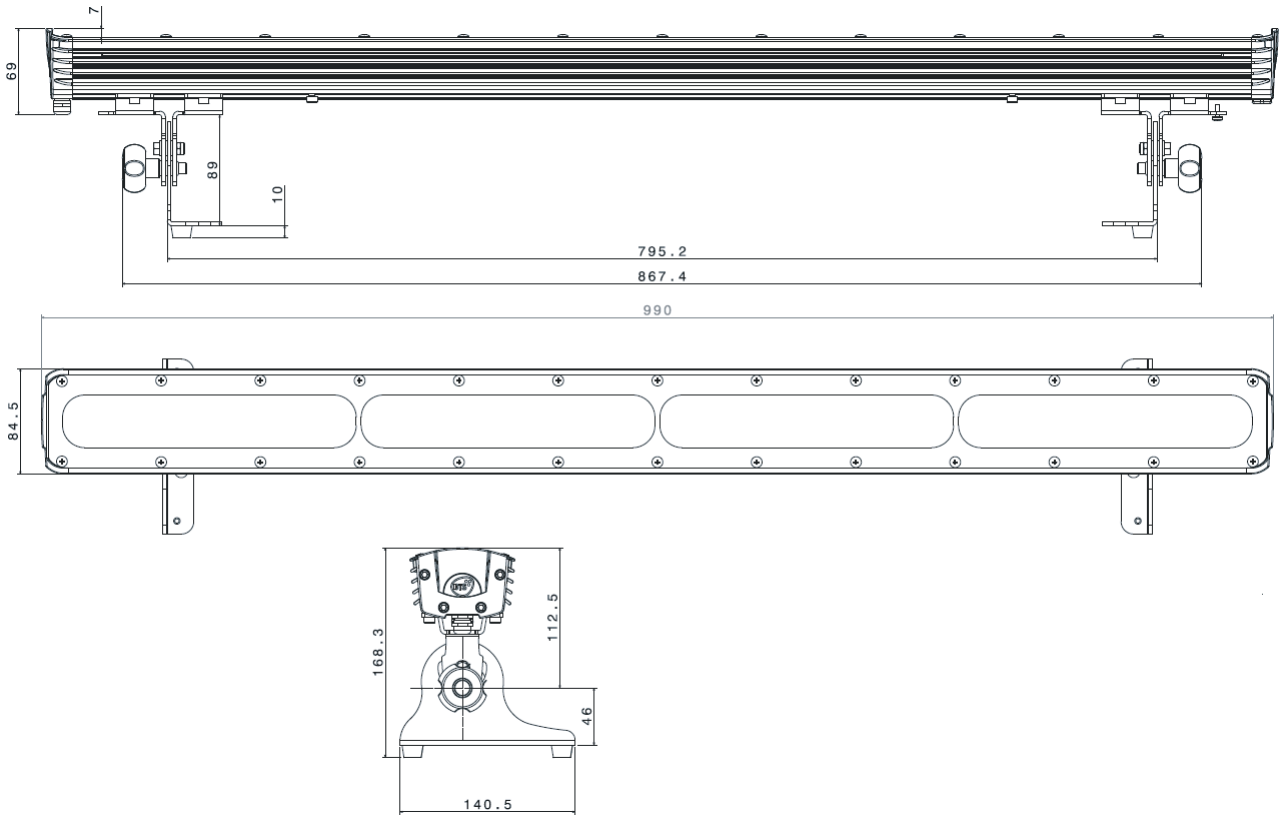
Unit Dimensions
(LxWxH)
990 x 56 x 84,5 mm

Weight
5,5 Kg

Packing Dimensions
(LxWxH)
1060 x 160 x 200 mm

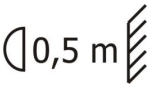
Weight
7 Kg





7- IMPORTANT SAFETY INFORMATION

7.1 Fire prevention:

It is permissible to place the unit on normally flammable surfaces.
Suitable for mounting on normally flammable materials surfaces greater than 200°C with some combustion time lag.
Minimum distance from the closest illuminable surface: 0,5 m. 

7.2 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 FOS 100 POWER SOLO unit.
Use only AC supplies 90-260V 50-60 Hz.
FOS 100 POWER SOLO IP20 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.

7.3 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.

7.4 Level of protection against the penetration of solid and liquid objects:

The unit is classified as an outdoor appliance and its protection level against the penetration of solid and liquid objects is IP 65 (FOS 100 POWER).

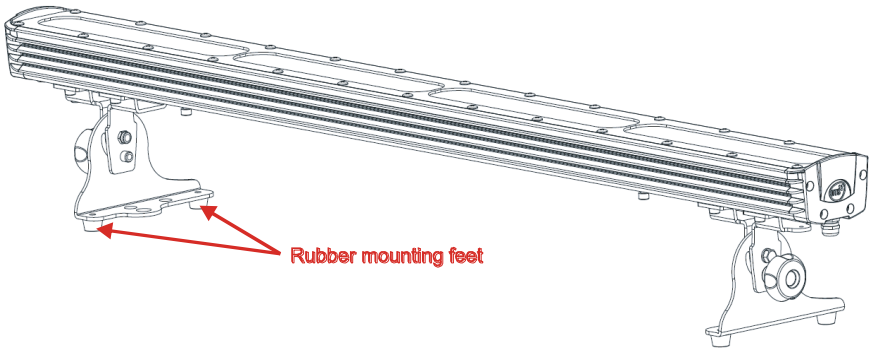
7.5 Waste Electrical and Electronic Equipment (WEEE) directive:

The LED bar, accessories and packaging should be sorted for environmental-friendly recycling.
For EC countries: according to the European Directive 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, luminaires that are no longer usable must be collected separately and disposed of in an environmentally correct manner.

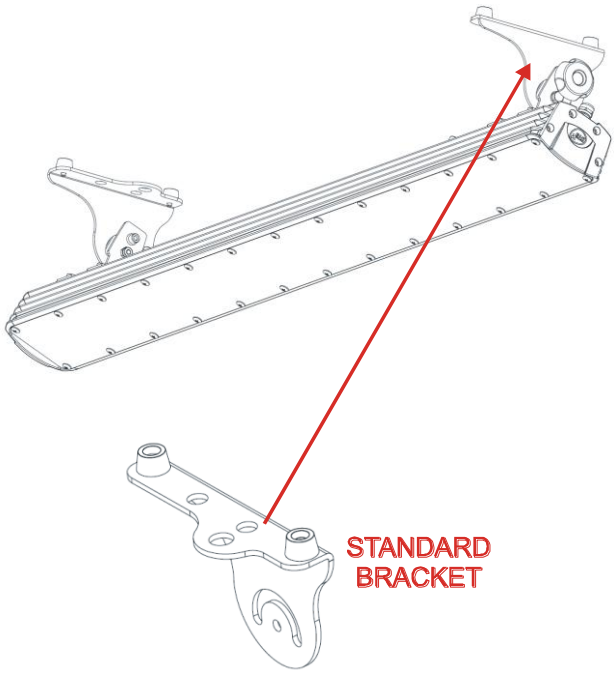
8- INSTALLATION

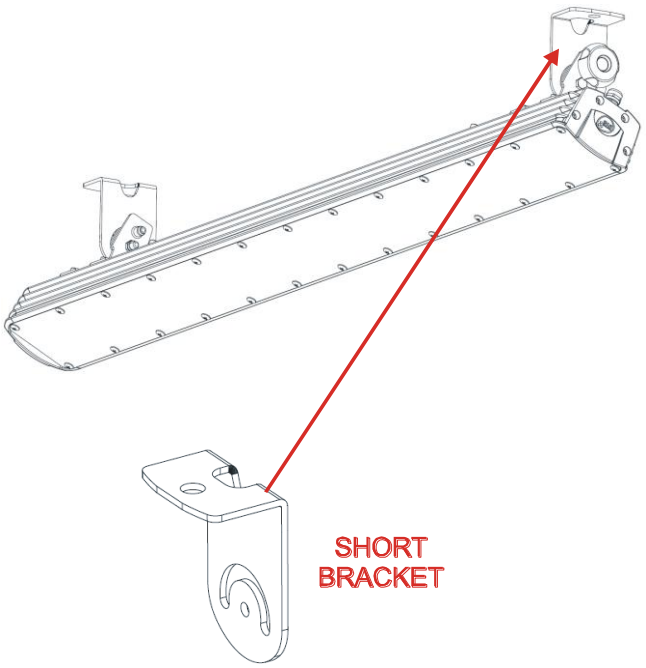
The unit is suitable for use in wet locations.
The unit may be either floor or ceiling mounted.

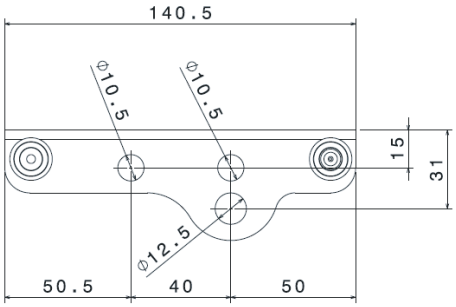
FLOOR MOUNTING INSTALLATION:

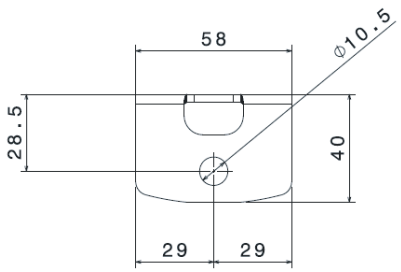


CEILING MOUNTING INSTALLATION:









9- INPUT / OUTPUT CONNECTIONS

FOS 100 POWER SOLO IP20

LED OUTPUT
M16 Female panel connector

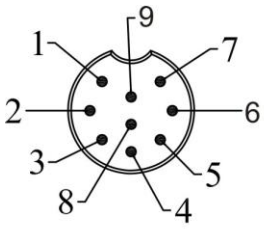
DMX IN / OUT
XLR 5 poles Male / Female panel connectors

MAINS INPUT
90-260Vac 50-60 Hz
POWERCON panel connector

MAINS OUTPUT
90-260Vac 50-60 Hz
POWERCON panel connector
Max 5 FOS 100 PWR SOLO @ 120Vac

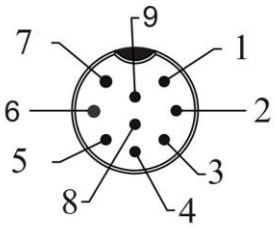
LED INPUT
M16 Male cable connector

M16 Female panel connector



Front View

M16 Male cable connector

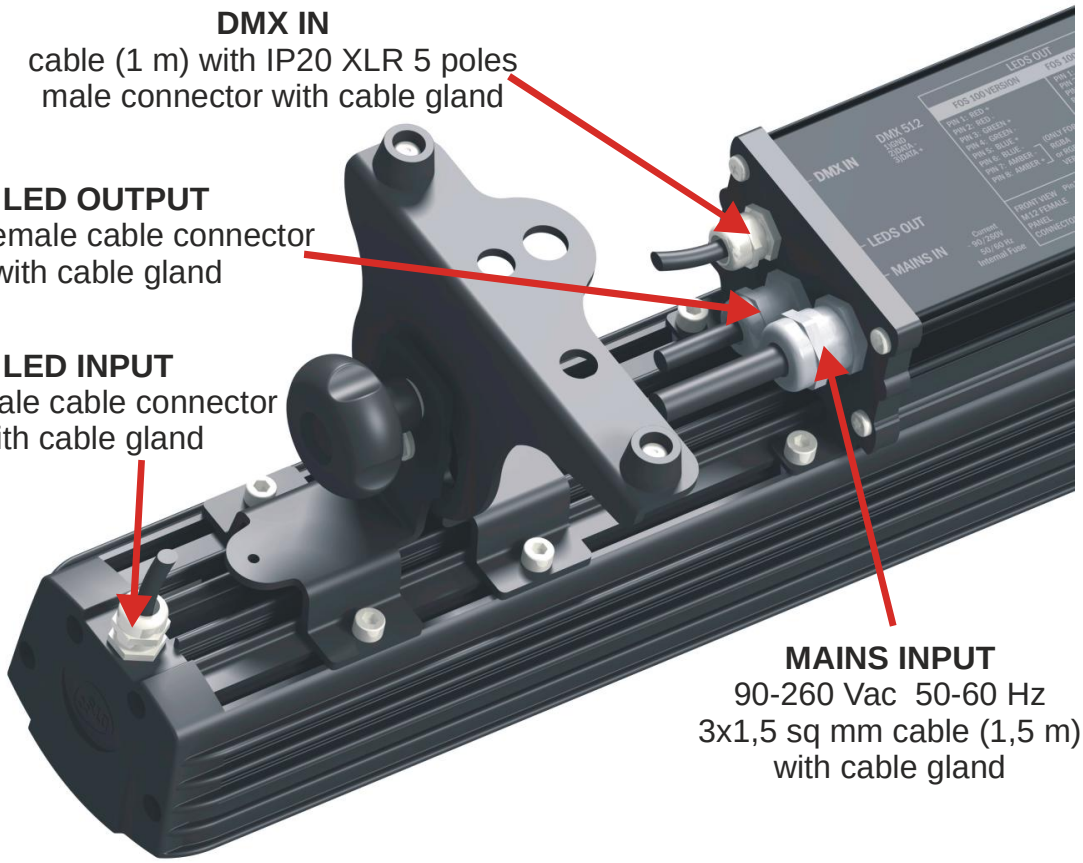


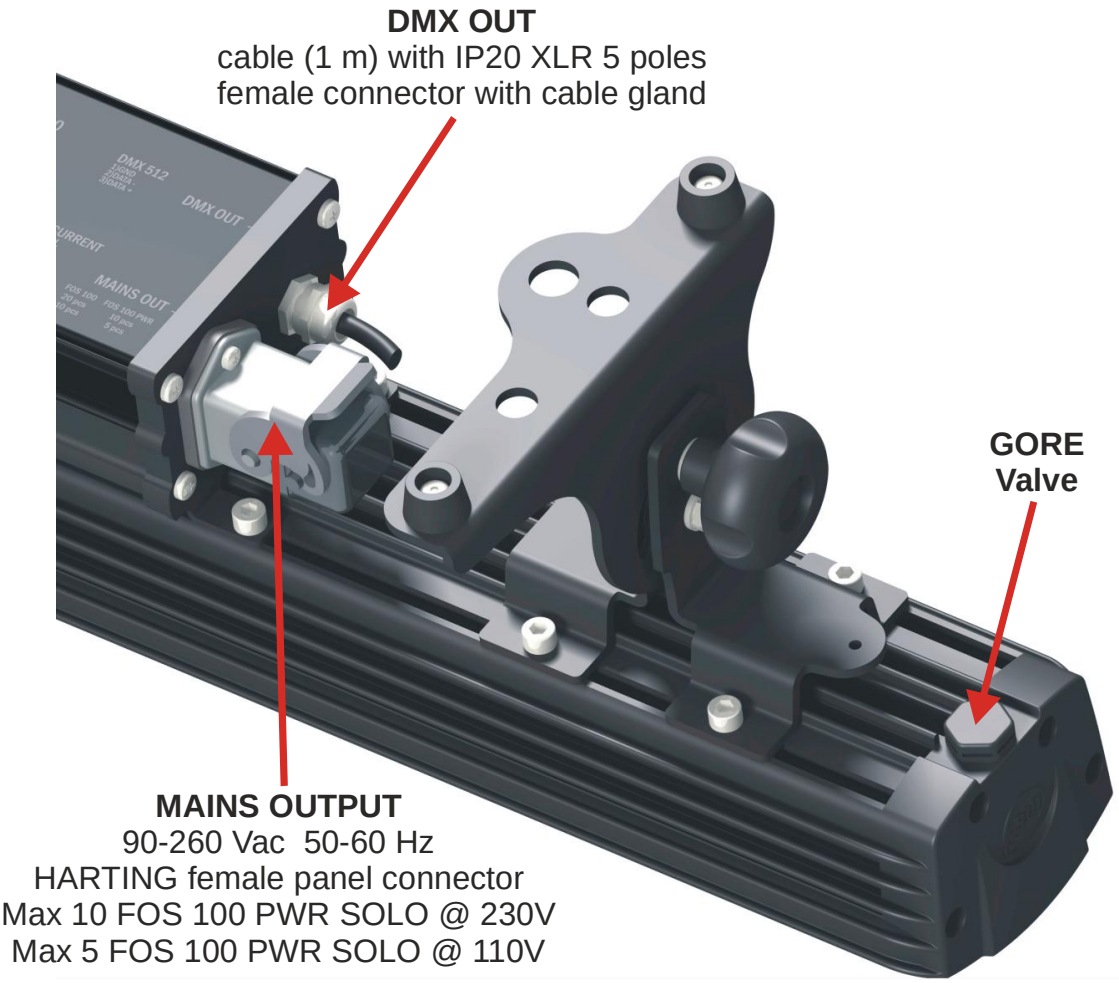
Front View

LED OUTPUTS

WIRES SEQUENCE COLOURS	PIN OUT
PIN 1 - BLUE PIN 2 - GREEN PIN 3 - YELLOW PIN 4 - ORANGE PIN 5 - RED PIN 6 - BROWN PIN 7 - BLACK PIN 8 - GREY PIN 9 - WHITE	PIN 1: RED + PIN 2: GREEN + PIN 3: BLUE + PIN 4: WHITE + PIN 5: COMMON PIN 6: RED - / GREEN - / BLUE - / WHITE - PIN 7: PIN 8: NTC (THERMAL PIN 9: NTC SENSOR)

FOS 100 POWER SOLO IP65

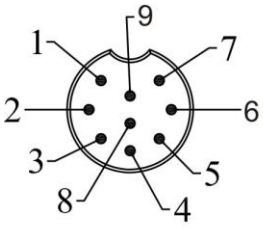




FOS 100 POWER (IP65)

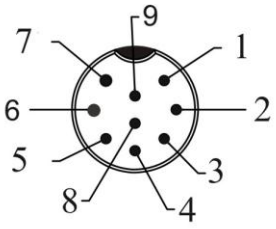
LED INPUT
M16 Male cable connector

M16 Female
panel connector



Front View

M16 Male
cable connector



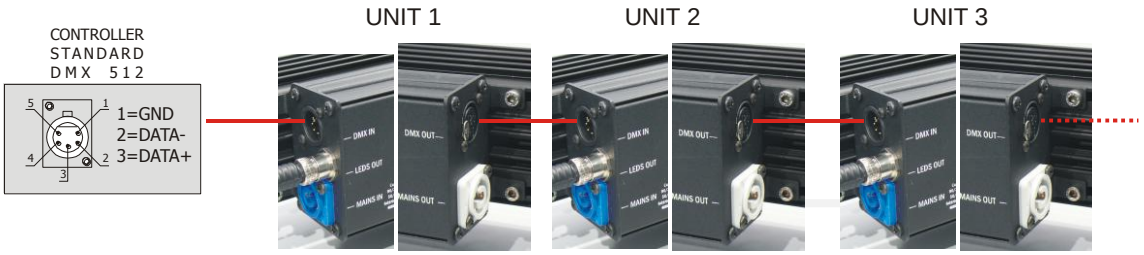
Front View

LED OUTPUTS

WIRES SEQUENCE COLOURS	PIN OUT
PIN 1 - BLUE PIN 2 - GREEN PIN 3 - YELLOW PIN 4 - ORANGE PIN 5 - RED PIN 6 - BROWN PIN 7 - BLACK PIN 8 - GREY PIN 9 - WHITE	PIN 1: RED + PIN 2: GREEN + PIN 3: BLUE + PIN 4: WHITE + PIN 5: COMMON PIN 6: (RED - / GREEN - / BLUE - / WHITE -) PIN 7: PIN 8: NTC (THERMAL SENSOR) PIN 9: NTC

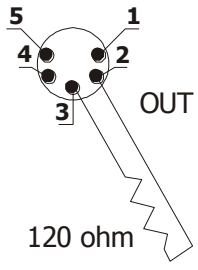
10- DMX SIGNAL CONNECTION (FOS 100 POWER SOLO):

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.
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.

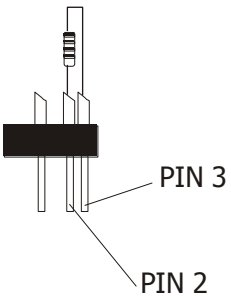


If the display showing the DMX address flashes, then one of the following errors has occurred:
- DMX signal not present
- DMX reception problem

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



10.1 DMX addresses

FOS 100 POWER SOLO (all models) can be used in seven different modes: 10 DMX channels mode (default), 6 DMX channels mode (Shutter + Dimmer + RGBW), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M4CH mode (5 DMX channels; Dimmer + RGBW), RGBW mode (4 channels), 1 DMX channel mode or CUSTOM DMX mode (not yet implemented).

If you want to use the FOS 100 POWER SOLO 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”

If you want to use the FOS 100 POWER SOLO in “WALL” mode, select the “WALL” 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 even if some channels are not used

10.2 Selecting 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.

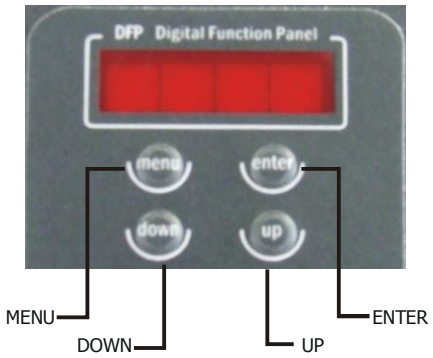
11- FIRMWARE UPDATING

Warning:
This procedure require a base knowledge of Windows computer applications.
Please refer to an authorised D.T.S. service centre.

To update the software version of the FOS 100 POWER SOLO you need:
- D.T.S. RED BOX interface (D.T.S. Code: 03.LA.008).
- USB-DMX Driver for the D.T.S. RED BOX interface.
- “D.T.S. Firmware upgrade utility” program.
- Latest software release available for FOS 100 POWER SOLO unit.

Updating the software version.
Please follow the procedure below to perform the update:
1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using “D.T.S. Firmware upgrade utility” program.

12- DISPLAY FUNCTIONS



The FOS 100 POWER SOLO 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 5.16

A001 — MENU — Up-Down — d ISP — ENTER — Up-Down — POS 1 — ENTER — Up-Down

- AA — Floor Position — ENTER
- UU — Suspension Position — ENTER
- Up-Down — StbY — ENTER — Up-Down
  - oFF — Display OFF — ENTER
  - on — Display Always ON — ENTER

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

DISPLAY STAND BY
To turn off the display (after 5 seconds) or leave it always on.

MENU — Up-Down — nOdE — ENTER — Up-Down

- 10CH — 10CH (Default) — ENTER
- Up-Down — 6CH — 6 CHANNELS — ENTER
- Up-Down — 15CH — 15 CHANNELS — ENTER
- Up-Down — UALL — WALL (6CH) — ENTER
- Up-Down — M4cH — M4CH(5 CHANNELS) — ENTER
- Up-Down — rGbA — RGBA(4 CHANNELS) — ENTER
- Up-Down — 1CH — 1 CHANNEL
- CUSt — ENTER — Up-Down
  - SEL — ENTER — Custom mode enabled
  - ShoU — ENTER — Parameters Setting on Custom Mode
  - SEt — ENTER — External ON – OFF control on IR connector

DMX MODE
To select DMX mode : 10 DMX channels mode (default), 6 DMX channels mode (Shutter + Dimmer + RGB), WALL mode (6 DMX channels; for use with DTS Wall mounted DMX controller 0514L007), M4CH mode (5 DMX channels; Dimmer + RGBW), RGBW mode (4 channels), 1 DMX channel mode.

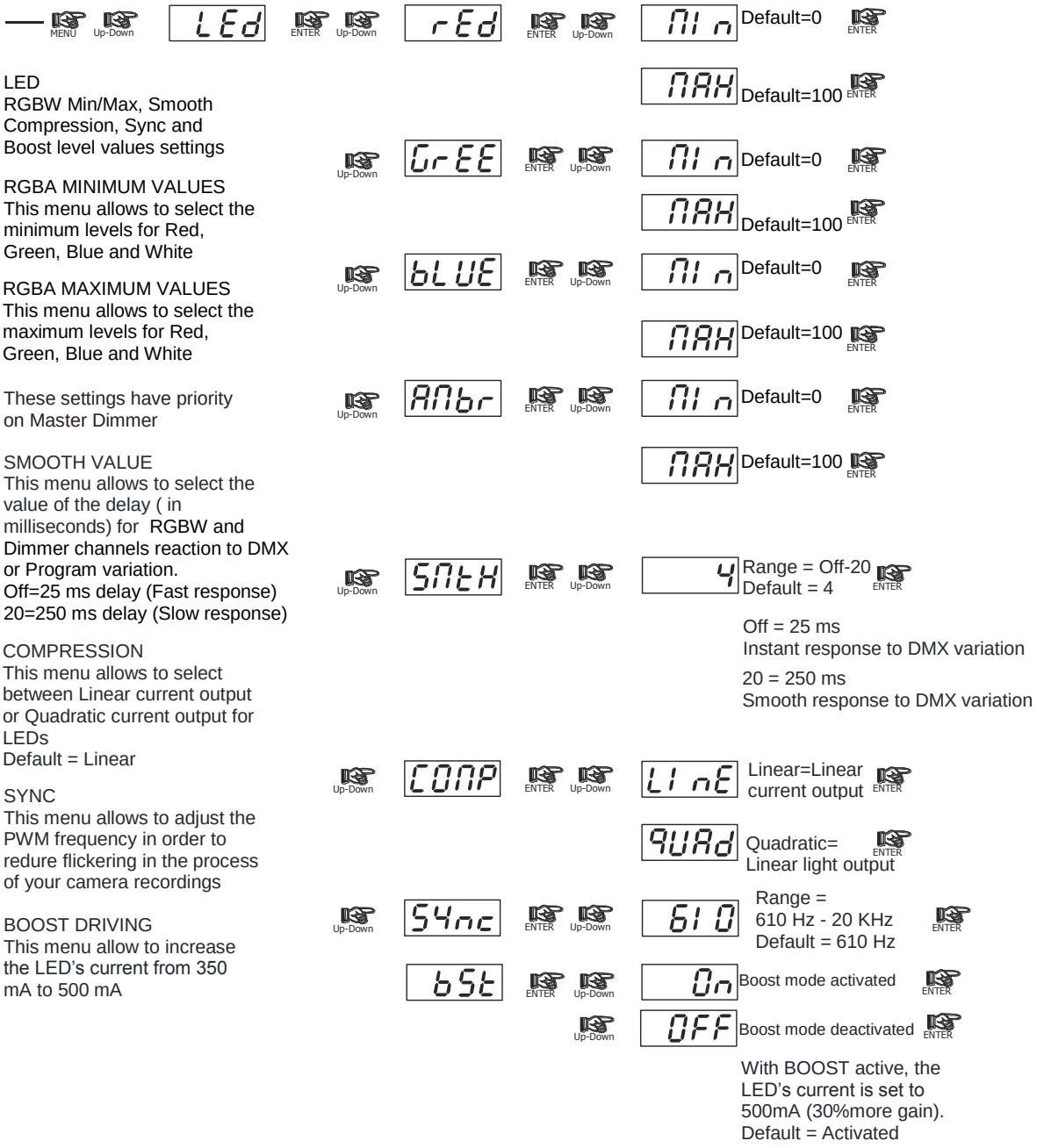
AUX mode let you activate an external ON -OFF control on IR connector. (not yet implemented)

CUSTOM DMX mode let you set the parameters for Shutter, Dimmer, Red, Green, Blue, Ctc, Macro and Function to the desired DMX channels. (not yet implemented)

MENU — Up-Down — nOdE — ENTER — Up-Down — nACr — ENTER — Up-Down

- Std — ENTER — Standard mode enabled (Default)
- EHt — ENTER — Extended mode enabled: Rainbow effects on MACRO channel

MACRO Function enables channel mapping macro rainbow effects
STD (default)



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

RGBA MINIMUM VALUES
This menu allows to select the minimum levels for Red, Green, Blue and White

RGBA MAXIMUM VALUES
This menu allows to select the maximum levels for Red, Green, Blue and White

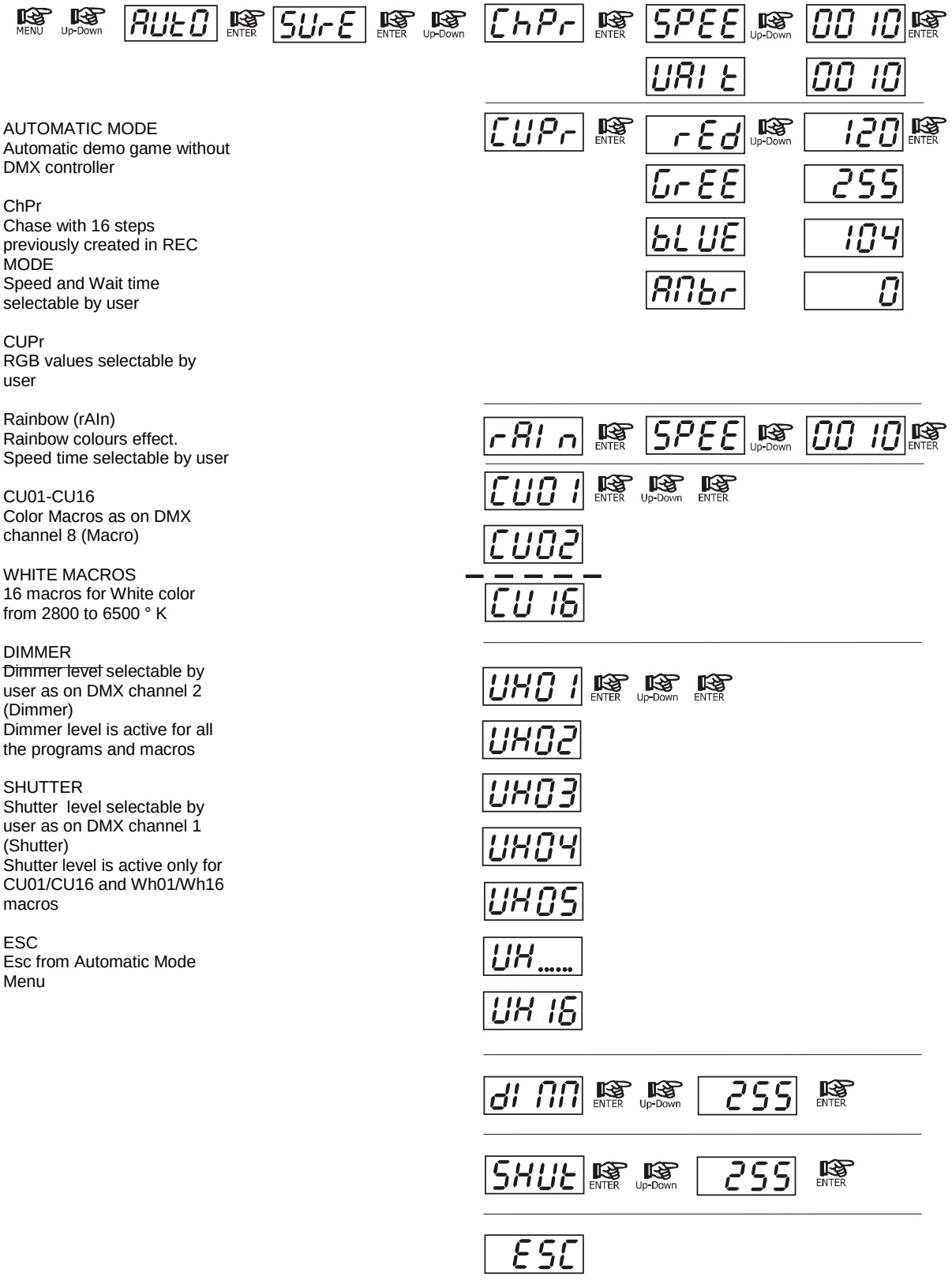
These settings have priority on Master Dimmer

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

COMPRESSION
This menu allows to select between Linear current output or Quadratic current output for LEDs
Default = Linear

SYNC
This menu allows to adjust the PWM frequency in order to redure 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



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
RGB values selectable by user

Rainbow (rAIn)
Rainbow colours effect.
Speed time selectable by user

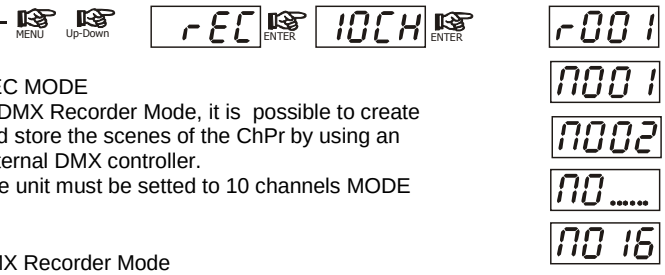
CU01-CU16
Color Macros as on DMX channel 8 (Macro)

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

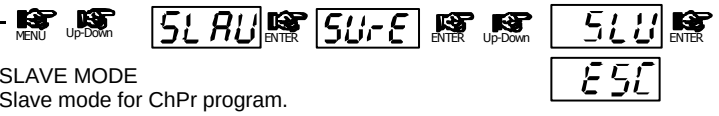
SHUTTER
Shutter level selectable by user as on DMX channel 1 (Shutter)
Shutter level is active only for CU01/CU16 and Wh01/Wh16 macros

ESC
Esc from Automatic Mode Menu

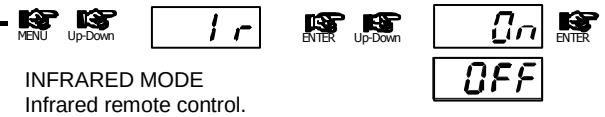


REC MODE
In DMX Recorder Mode, it is possible to create and store the scenes of the ChPr by using an external DMX controller.
The unit must be setted to 10 channels MODE

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 MODE
Slave mode for ChPr program.
All slave units will be synchronised with master unit, running their own Chpr program.



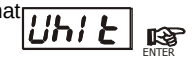
INFRARED MODE
Infrared remote control.
By activating Ir MODE, it will be possible to navigate through the unit functions by using the D.T.S. infrared remote control.
D.T.S. Code :0514L008

NOTE:
External infrared remote sensor needed.
D.T.S. Code :03.LA.016

FAN SPEED CONTROL
Internal Fan Speed control selectable by user.
Range: OFF - 24 volt Default : 24 volt

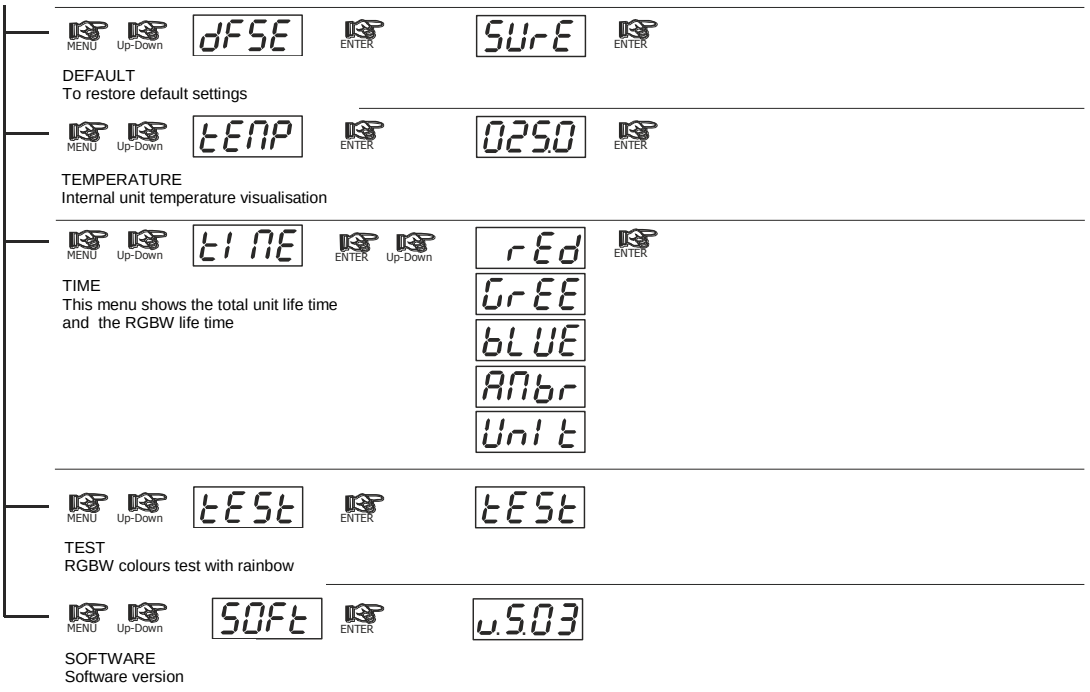
EMERGENCY
Emergency operating mode.
By setting Emergency mode, it will be possible to select one of the 16 preprogrammed WHITE cues that will then ran if DMX signal is missing or not available.
Useful for Emergency EXIT illumination on public areas.

Default = OFF



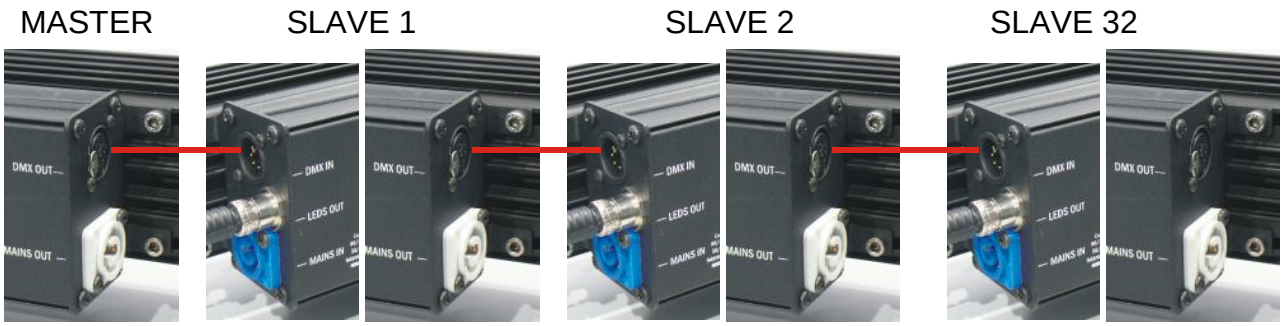
Default = White 1

Default = 255


MENU
Up-Down
dFSE
ENTER
SUrE
ENTER
DEFAULT
To restore default settings
MENU
Up-Down
tEMP
ENTER
0250
ENTER
TEMPERATURE
Internal unit temperature visualisation
MENU
Up-Down
tI ME
ENTER
Up-Down
rEd
GrEE
bLUE
ANbr
Unl t
ENTER
TIME
This menu shows the total unit life time
and the RGBW life time
MENU
Up-Down
tESt
ENTER
tESt
TEST
RGBW colours test with rainbow
MENU
Up-Down
SOFt
ENTER
u.S.03
SOFTWARE
Software version

AUTOMATIC OPERATION (AUTO):

FOS 100 POWER SOLO 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 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 changhing (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 changhing 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 GA.Pr on the other units even though these do not have GA.Pr programmed. You can do this by setting the units to 10 channels DMX mode and selecting DMX address A001.

REC MODE

It is possible to program your own game on the FOS 100 POWER SOLO 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 0-24 = no function
- From 25-255 the programmable scenes are displayed (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

13- DMX PROTOCOL

10 CHANNELS MODE

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

DMX CHANNEL	1	Parameter: **SHUTTER / STROBE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-009					**Black-out**
010-019					**Open**
020-029					**Black-out**
030-119					**Strobe (from 3.27 s to 30 ms)**
120-149					**Pulse up (from 42.6 s to 120 ms)**
150-179					**Pulse down (from 42.6 s to 120 ms)**
180-204					**Random strobe (Dimmer channel active)**
205-229					**Full independent Random Strobe (Dimmer channel disabled)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255					**Open**

DMX CHANNEL	2	Parameter: **DIMMER**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-007					**Black-out**
008-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	7	Parameter: **WHITE PREPROGRAMMED (White at diff. colour temperature)**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-055	**23**				**No Function**
056-105	**80**				**Full (Red-Green-Blue at Full)**
106-155	**130**				**White DTS**
156-205	**180**				**Custom White Create (RGB levels selectable by DMX)**
206-255	**230**				**White CTC (Channel 15 CTC enabled)**

DMX CHANNEL	8	Parameter: **CTC (Colour Temperature Correction)**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Linear control temperature correction. 0 = 2000°K / 255 = 7200°K**

DMX CHANNEL	9	Parameter: **COLOURS MACRO STD**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-014				**No Function**	
015-029				**Macro 1**	
030-044				**Macro 2**	
045-059				**Macro 3**	
060-074				**Macro 4**	
075-089				**Macro 5**	
090-104				**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: **COLOURS MACRO EXT**		
000-014				**No Function**
015-022				**Macro 1**
023-030				**Macro 2**
031-038				**Macro 3**
039-046				**Macro 4**
047-054				**Macro 5**
055-062				**Macro 6**
063-070				**Macro 7**
071-078				**Macro 8**
079-086				**Macro 9**
087-094				**Macro 10**
095-102				**Macro 11**
103-110				**Macro 12**
111-118				**Macro 13**
119-126				**Macro 14**
127-134				**Macro 15**
135-142				**Macro 16**
143-504				**Rainbow Speed 1 (6 Sec.)**
151-158				**Rainbow Speed 2 (15 Sec.)**
159-166				**Rainbow Speed 3 (30 Sec.)**
167-174				**Rainbow Speed 4 (45 Sec.)**
175-182				**Rainbow Speed 5 (60 Sec.)**
283-190				**Rainbow Speed 6 (120 Sec.)**
191-198				**Rainbow Speed 7 (150 Sec.)**
199-206				**Rainbow Speed 8 (180 Sec.)**
207-214				**Random Speed 1 (0,5 s)**
215-222				**Random Speed 2 (1 s)**
223-230				**Random Speed 3 (2 s)**
231-238				**Random Speed 4 (5 s)**
239-246				**Random Speed 5 (10 s)**
247-255				**Random Speed 6 (30 s)**

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
IF CHANNEL 7 WHITE PREPROGRAMMED = DMX range value 156 – 205)					
000-079					**Custom White Recall**
080-160					**Custom White Create (Enable Custom White Creation)**
161-255					**Custom White Store (Store the Custom White created)**

6 CHANNELS MODE

1 SHUTTER
2 DIMMER
3 RED
4 GREEN
5 BLUE
6 WHITE

DMX CHANNEL	1	Parameter: **SHUTTER / STROBE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-009					**Black-out**
010-019					**Open**
020-029					**Black-out**
030-119					**Strobe (from 3.27 s to 30 ms)**
120-149					**Pulse up (from 42.6 s to 120 ms)**
150-179					**Pulse down (from 42.6 s to 120 ms)**
180-204					**Random strobe (Dimmer channel active)**
205-229					**Full independent Random Strobe (Dimmer channel disabled)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255					**Open**

DMX CHANNEL	2	Parameter: **DIMMER**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-007					**Black-out**
008-255					**Proportional dimmer**

DMX CHANNEL	3	Parameter: **RED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **GREEN**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **BLUE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	6	Parameter: **WHITE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

WALL MODE

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

DMX CHANNEL	1	Parameter: **GREEN**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	2	Parameter: **RED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	**Function**
000-255					**Proportional colour**

DMX CHANNEL	3	Parameter: **BLUE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	**Function**
000-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **DIMMER**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	**Function**
000-255					**Proportional dimmer**

DMX CHANNEL	5	Parameter: **NOT USED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	**Function**
000-255					**Unused**

DMX CHANNEL	6	Parameter: **SHUTTER / STROBE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	**Function**
000-009					**Black-out**
010-019					**Open**
020-029					**Black-out**
030-119					**Strobe (from 3.27 s to 30 ms)**
120-149					**Pulse up (from 42.6 s to 120 ms)**
150-179					**Pulse down (from 42.6 s to 120 ms)**
180-204					**Random strobe (Dimmer channel active)**
205-229					**Full independent Random Strobe (Dimmer channel disabled)**
230-234					**Red, Yellow, Cyan and Blue colour effects at variable speed**
235-255					**Open**

5 CHANNELS MODE (M4CH)

1 **DIMMER**
2 **RED**
3 **GREEN**
4 **BLUE**
5 **WHITE**

DMX CHANNEL	1	Parameter: **DIMMER**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional dimmer**

DMX CHANNEL	2	Parameter: **RED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	3	Parameter: **GREEN**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **BLUE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	5	Parameter: **WHITE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

4 CHANNELS MODE (RGBW)

1 RED
2 GREEN
3 BLUE
4 WHITE

DMX CHANNEL	1	Parameter: **RED**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	2	Parameter: **GREEN**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	3	Parameter: **BLUE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

DMX CHANNEL	4	Parameter: **WHITE**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional colour**

1 CHANNEL MODE (1CH)

1 DIMMER

DMX CHANNEL	1	Parameter: **DIMMER**			
DMX range Value	**Mid Point DMX value**	**Move Range (degrees)**	**Mode**	**Option**	Function
000-255					**Proportional dimmer**

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ISO 9001:2008
D.T.S. quality system
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