

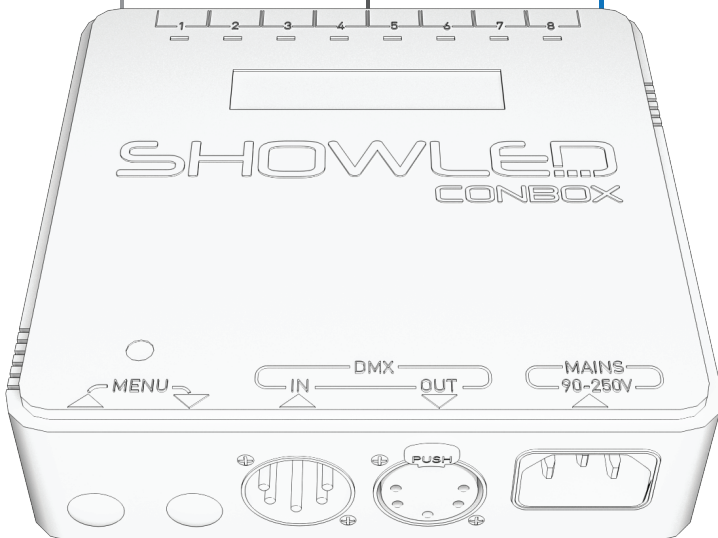
# SHOWLED

CONBOX Manual  
Version-1.0

**1** get with 

**2** connect 

**3** control 





# 1 get with it

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# 2 connect it

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# 3 control it

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## SAFETY INSTRUCTIONS



Take care of environmental limits. Do not exceed them.  
(See technical information)



The connection cables are NOT mechanical safeties!  
If you are not familiar with mechanical safeties, contact us to  
provide you with professional advice.  
(See contact information)



Do not subject to excessive shock by dropping the unit.



Do not expose the conbox to water, rain or direct sunlight.



This conbox is designed and tested for driving LEDs; do not use it  
for other purposes.



Use only properly grounded power cord and receptacle.



Make sure to read and understand each connection before connecting it.



Make sure that all connections are made correctly before turning on conbox.



Always disconnect conbox from the mains supply when connecting signal leads, the power cord should be connected last.



Do not apply voltage higher than 250Vac to the conbox.



To insure good ventilation in order to prevent fire caused by overheating, do not install or use the conbox in a closed space. Make sure that the ventilation exits at the sides of the conbox are not blocked.



Keep minimum distance of 1m between you (or audience) and the LEDs.



Do not stare in to the LEDs, especially when narrow angle LEDs are used.

# 1 get with it

## INTRODUCTION

ShowLED classic and chameleon star curtains now share the same conbox.

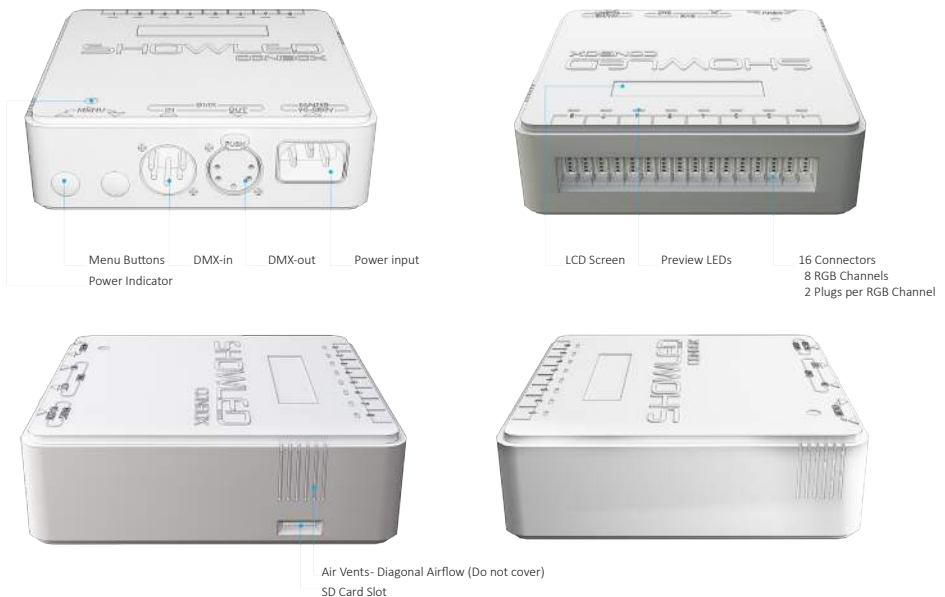
With 8 output channels, a conbox runs a maximum of 512 classic monochrome LEDs or 256 RGB LEDs. With a standard density of around 6 LEDs per sqm (randomly placed), one conbox can run a starcloth surface of up to 100 sqm for the classic LEDs or 50 sqm for the RGB version.

By linking several conboxes in master-slave configuration, multiple panels can become one extended setup.

On stand-alone mode, choose from twinkling effects, chase patterns, strobe effects, or see your options extended to controlling the full colour spectrum once linked to RGB LEDs.

The conbox offers an effects memory to save your preferred settings.

The dedicated conbox is DMX compatible and offers two DMX modes; control of preset chases including minimum and maximum intensity, chase speed, and pattern behaviour; or full dimmer control of each individual output channel.



## TECHNICAL INFORMATION

<b>Input</b>	
- Supply voltage	: 90 ..250Vac
- Line frequency	: 50 ..60 Hz
- Input current	: 0.45A (@115 Vac)/0.25A (@230 Vac)
- Input power	: 60 Watt
- Fuse	: 2.5A (T), 20 x 5 mm
- Mains input	: Standardised IEC power inlet
- PFC (Power factor correction) circuit-	present
<b>Outputs (16 connectors- 2 per output)</b>	
- Output voltage	: 5V
- Total output power	: 50 Watt
<b>Data ports</b>	
- DMX input	
- DMX output	
<b>Environmental</b>	
- Operating temperature, humidity:	0°C .. +50°C, <80% RH
- Storage temperature, humidity	: 0°C .. +50°C, <60% RH
<b>Mechanical</b>	
- Dimensions	: 140 x 135 x 43 mm
- Weight	: 525 g

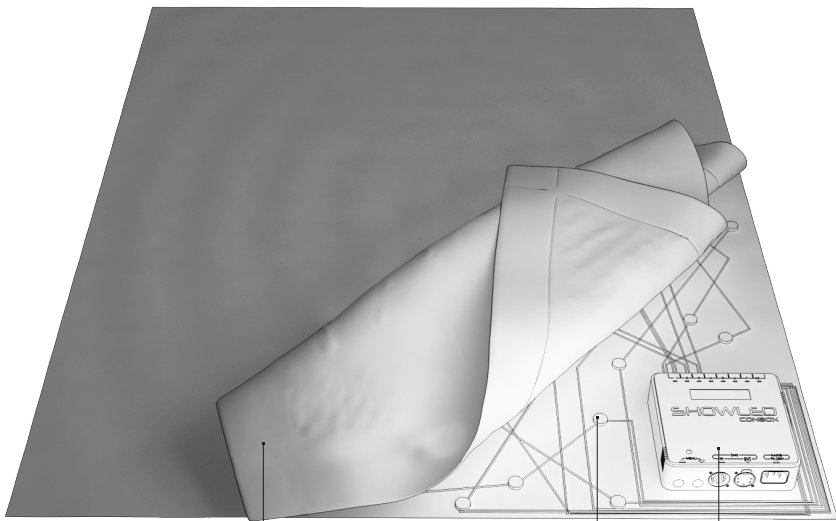
<b>Product specific properties</b>	
- Stand alone mode with chase patterns	
- Interactive operator console	
- 12bit dimmer curve (smallest step in dimming is 1/4096)	
- LED configuration with indicator LEDs	
- LED outputs protected against short circuit	
- RDM ready	
- Firmware upgrades possible via SD card	
- IDC LED string connectors (No soldering)	

<b>Control and output characteristics</b>		
Classic mode	DMX input	Light output
DIM Value	8 bit	12 bit
<b>Chameleon mode</b>		
DMX input	Light output	
RED DIM Value	8 bit	12 bit
GREEN DIM Value	8 bit	12 bit
BLUE DIM Value	8 bit	12 bit

# 2connect it

## TYPICAL PRODUCT CONNECTION

### STAR CLOTH BACK VIEW



Lining

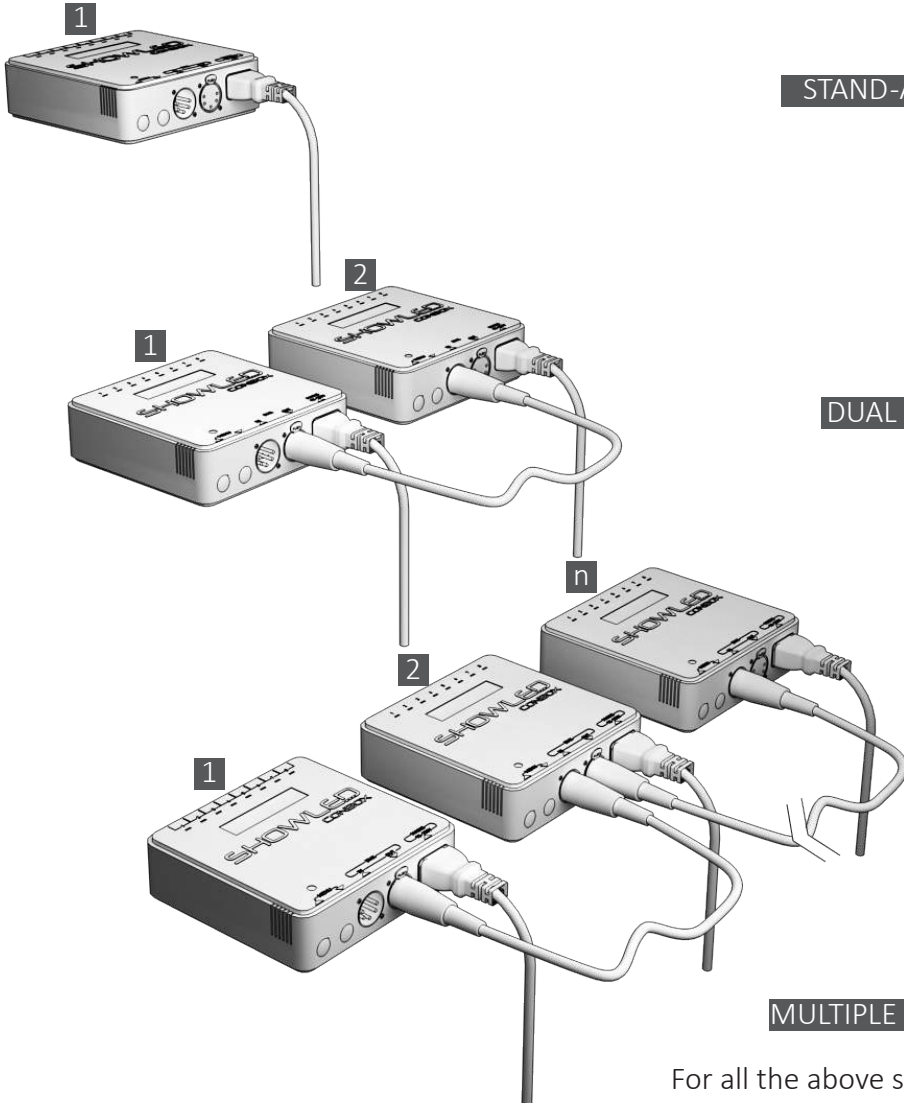
Monochrome  
or  
RGB LED Strings

ShowLED Conbox  
set to classic or  
chameleon



## CONTROL NETWORK SET-UP

# 2connect it



STAND-ALONE

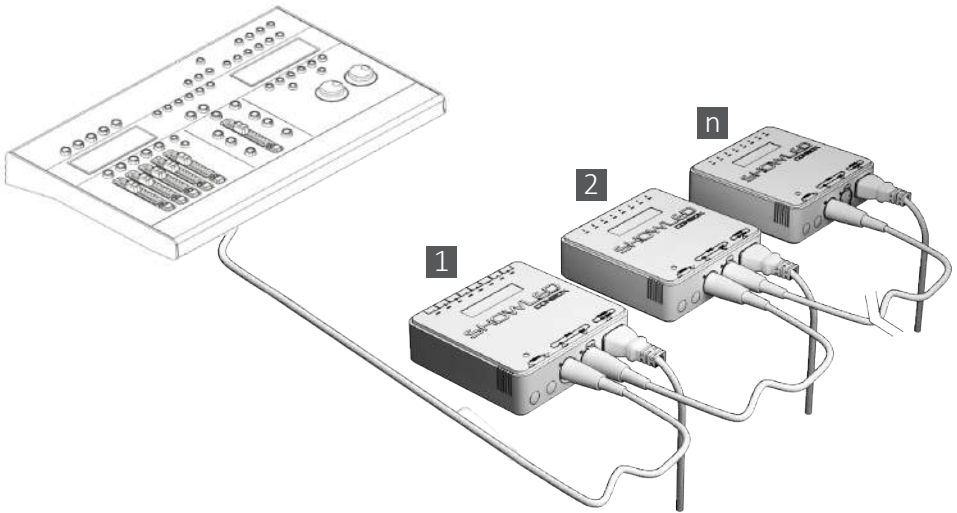
DUAL MODE

MULTIPLE MODE

For all the above set-ups;  
the first conbox should be set to  
'master' and all remaining to 'slave'.

CONTROL NETWORK SET-UP

## DMX LIGHTING DESK



## CONFIGURATIONS WITH A DMX LIGHTING DESK

In configurations with use of a DMX lighting desk the first conbox can either be set in DMX mode 24 or in DMX mode 10 SYNC.

In DMX mode 24 you can choose if you want to address the conboxes all together or separately. By setting all the conbox in the control network in DMX mode 24 on the same DMX base you can address all the conboxes together. By setting all the conboxes in the control network in DMX mode 24 on a different DMX base (e.g. 1, 25, 49, 73) you can address all the conboxes separately.



In DMX mode 10 SYNC only the first conbox in the control network is set on DMX mode 10 SYNC all the other conboxes are set as slave.

Note that no device can be put after the slave conbox or after the master conbox in this control network, only before the first conbox!

**CLASSIC  
CONTROLLER**



**INTERCONNECTIVITY**

**CHAMELEON  
CONTROLLER**

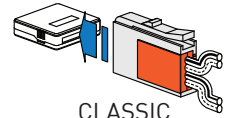
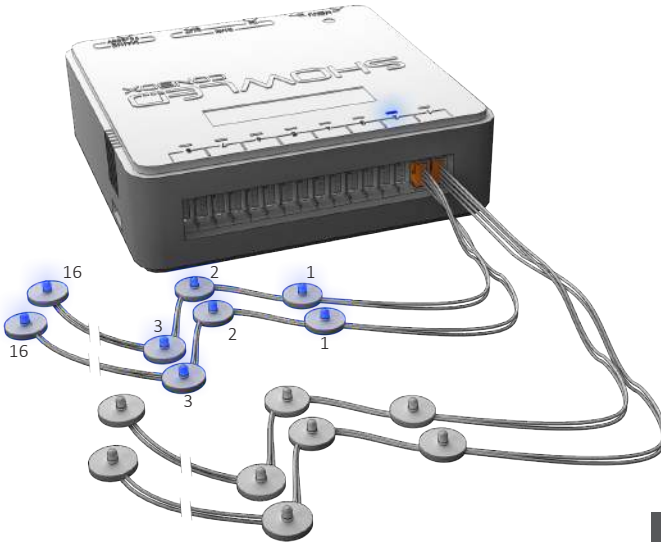


CONNECTING STRINGS

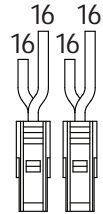
# 2connect it

**POWER OFF CONBOX**

**CONNECT CLASSIC STRINGS**

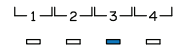


CLASSIC orange plug

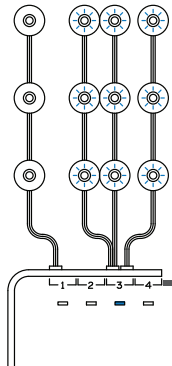


64 LEDS MAX PER CHANNEL

**POWER ON CONBOX**



CLASSIC on = blue



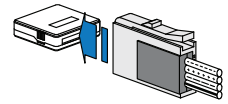
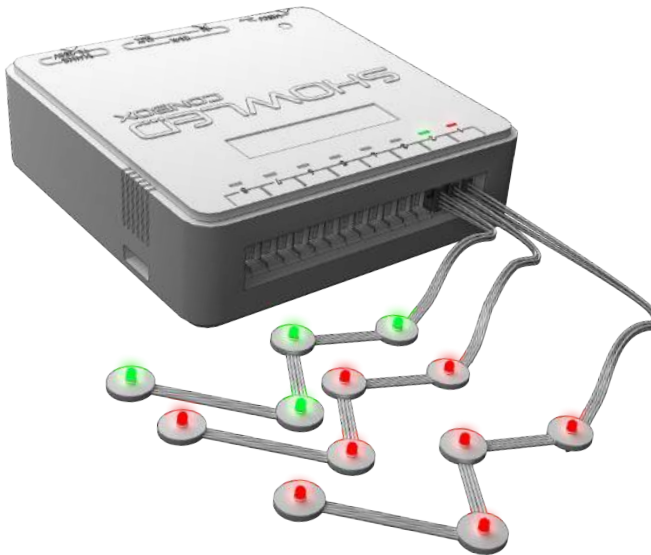
LEDs on connected string will show same colour as indicator LEDs on conbox

CONNECTING STRINGS

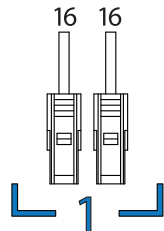
# 2connect it

POWER OFF CONBOX

CONNECT CHAMELEON STRINGS

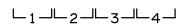


CHAMELEON grey plug

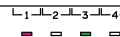
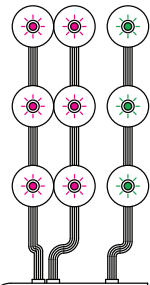


32 LEDS MAX PER CHANNEL

POWER ON CONBOX

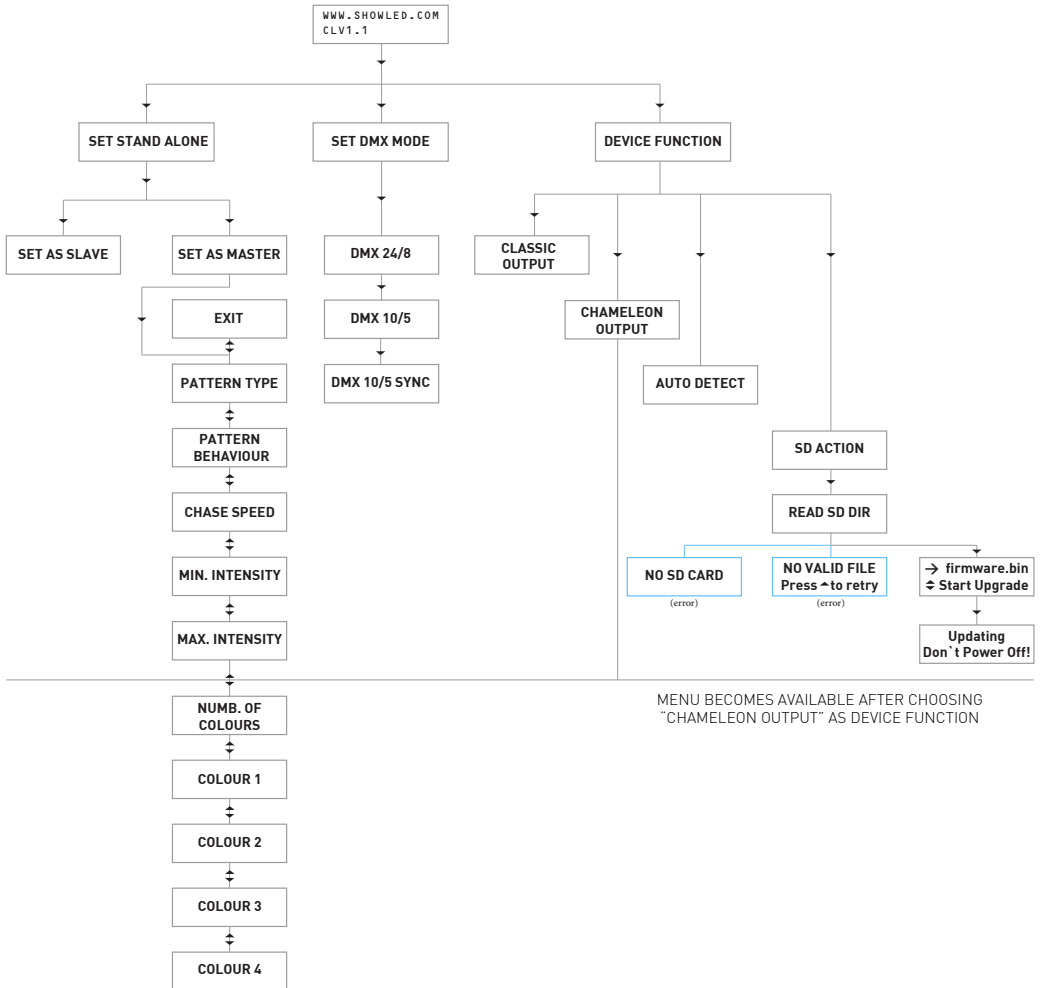


CHAMELEON copies the RGB



RGB LEDs on connected string will show same colour as indicator LEDs on conbox

## MENU STRUCTURE



## USER INTERFACE

- The user interface consists of an LCD display and keypad with two push buttons.
- This is the physical interface that lets you access the menu structure.
- The menu structure lets you modify the parameters of conbox.
- Use the buttons (up and down) to scroll through the menu structure.
- The up button lets you scroll up in the menu structure or increase a parameter.
- The down button lets you scroll down in the menu structure or decrease parameter.
- The up and down button together lets you select or confirm a menu button.

## HOW TO SETUP THE CONBOX

Press RIGHT and LEFT button together unlock the keypad. After unlocking the conbox,

Choose “ Stand alone” if you don` t want to use a DMX source.

Choose “ DMX mode” if you want to use a DMX source.

Choose “ Device Function for operating conbox as classic or chameleon”.

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## CONBOX MODES

### **STAND ALONE MODE - SETTING THE PARAMETERS**

This Mode is accessible via the menu structure as described on pages. By using the operator console of conbox, the desired effect can easily be programmed by setting the following parameters. The parameters need only be set on the master conbox.

Pattern Type: 1 Channel @ maximum intensity  
2 Channels @ maximum intensity  
3 Channels @ maximum intensity  
4 Channels @ maximum intensity  
5 Channels @ maximum intensity  
6 Channels @ maximum intensity  
7 Channels @ maximum intensity  
Strobe effect

Pattern Behaviour: soft chase  
hard chase

Chase Speed: 000 (minimum speed)... 255 (maximum speed)

Minimum Intensity: 000... 255  
(See also DMX mode 10-fader 4-Minimum Intensity)

Maximum Intensity: 000... 255  
(See also DMX mode 10-fader 5-Maximum Intensity)

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Number of Colours:     1 colour  
                                 2 colours  
                                 3 colours  
                                 4 colours  
                                 4 colours rotating  
                                 3 colours rotating  
                                 2 colours rotating  
                                 Chameleon!

Colour 1: 000... 255  
(See DMX mode 10- Fader 7 to 10- Selection of colour)

Colour 2: 000... 255  
(See DMX mode 10- Fader 7 to 10- Selection of colour)

Colour 3: 000... 255  
(See DMX mode 10- Fader 7 to 10- Selection of colour)

Colour 4: 000... 255  
(See DMX mode 10- Fader 7 to 10- Selection of colour)

Colours 1 to 4 are colour presets in which you can store a colour chosen from the colour pallet.

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## DMX MODE 10 - CONTROLLING THE BUILT-IN PATTERNS

If you have more than one conbox, it is advisable to use DMX mode 10 SYNC. The channel descriptions DMX Mode 10 have the same meaning as the parameters in the stand alone mode. Only the means of changing them are different. Instead of using the operator console, the channels (faders) of the DMX lighting desk are used.

### Fader 1 - Pattern Type

DMX Value	Function	Description
0... 31	Chase Pattern 1	1 Channel @ maximum intensity
32... 63	Chase Pattern 2	2 Channels @ maximum intensity
64... 91	Chase Pattern 3	3 Channels @ maximum intensity
92... 127	Chase Pattern 4	4 Channels @ maximum intensity
128... 159	Chase Pattern 5	5 Channels @ maximum intensity
160... 191	Chase Pattern 6	6 Channels @ maximum intensity
192... 223	Chase Pattern 7	7 Channels @ maximum intensity
224... 255	Chase Pattern 8	Strobe effect

### Fader 2 - Pattern Behaviour

DMX Value	Description
0... 127	Soft chase
128... 255	Hard chase

With soft chase the lights will gradually fade in and out.

With hard chase the light will blink on and off.

### Fader 3 - Chase Speed

DMX Value	Description
0	Minimum speed
...	
255	Maximum speed

#### **Fader 4 - Minimum Intensity**

Limiter function sets the minimum intensity level. When set a value higher than zero, the LEDs will not dim completely.

#### **Fader 5 - Maximum Intensity**

Limiter function sets the maximum intensity level. When set to a value lower than 255, the LEDs will not burn at full capacity.

Note that the maximum intensity has a higher priority than the minimum intensity!

#### **Fader 6 - Number of colours**

DMX Value	Description
0... 31	1 Colour
32... 63	2 Colours
64... 95	3 Colours
96... 127	4 Colours
160... 191	4 Colours rotating
128... 255	3 Colours rotating
192... 223	2 Colours rotating
224... 255	Chameleon colour change

### Fader 7 to 10 - Selection of colour

Choose from the colour pallet to set the 4 colour presets.

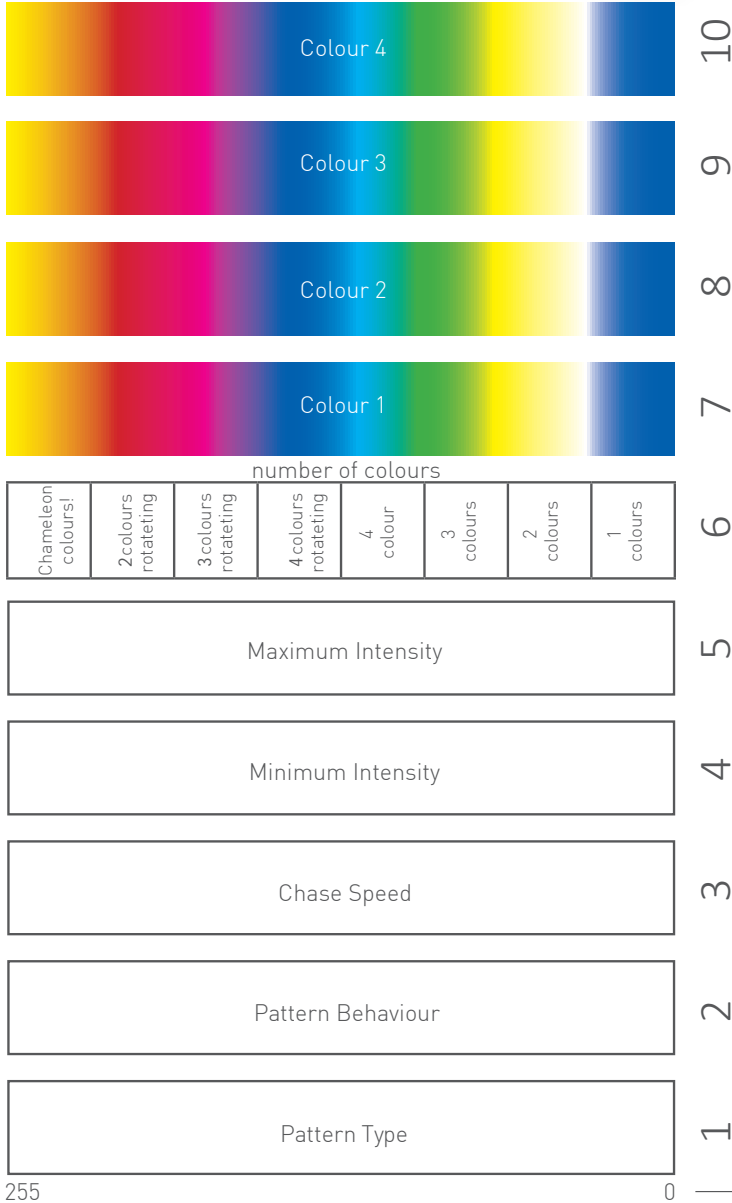
DMX Value	Description
0	Blue
1... 31	Bluish White
32	White
33... 63	Yellowish White
64	Yellow
65.. 95	Greenish Yellow
96	Green
97... 127	Greenish Cyan
128	Cyan
129... 159	Bluish Cyan
160	Blue
161... 191	Bluish Magenta
192	Magenta
193... 223	Reddish Magenta
224	Red
225... 254	Orange
255	Yellow



0

255

GRAPHICAL PRESENTATION OF THE DMX CHANNEL ARRANGEMENT



setting as byte value



## DMX Mode 24

Controlling the channels individually

DMX Channel offset	Function	
0	RED	LED Channel 1
1	GREEN	
2	BLUE	
3	RED	LED Channel 2
4	GREEN	
5	BLUE	
6	RED	LED Channel 3
7	GREEN	
8	BLUE	
9	RED	LED Channel 4
10	GREEN	
11	BLUE	
12	RED	LED Channel 5
13	GREEN	
14	BLUE	
15	RED	LED Channel 6
16	GREEN	
17	BLUE	
18	RED	LED Channel 7
19	GREEN	
20	BLUE	
21	RED	LED Channel 8
22	GREEN	
23	BLUE	

E.g.: When the DMX base address is set to 171 the red colour of LED channel 1 will appear on DMX channel 171 and the blue colour of LED 8 will appear on DMX channel 194.

## FAQ'S

- How many DMX channels are required for controlling the ShowLED Conbox?

DMX mode 10 (SYNC) required minimum 10 channels and DMX mode 24 requires minimum 24 channels. Note that if you want to address all the conboxes separately in DMX mode24, you will need 24 channels per conbox in the control network. (E.g.. 4 controllers require 96 DMX chan-

- Contact Information and Support

Visit the support section of our website at [www.showled.com](http://www.showled.com). Here you will find up-to date FAQ's and Tips and Tricks.

Send your questions to [info@showled.com](mailto:info@showled.com), we will reply to you as soon as possible.

Place a call to ShowLED FZC

Tel : +971 6 557 83 07

Office hours : Sunday through Thursday from 09.00 to 18.00  
Fridays and Saturdays we are closed.

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## TECHNICAL SPECIFICATIONS

### ■ Input

- Supply voltage : 90..250 Vac
- Line frequency : 50..60 Hz
- Input current : 0.45 A (@115Vac)/0.25A (@230 Vac)
- Input power : 60 Watt
- Fuse : 2.5A (T), 20X5 mm
- Mains input : Standardised IEC power inlet
- PFC (Power Factor Connection) circuit present

### ■ Outputs (16 Connectors- 2 per output)

- Output Voltage : 5V
- Total Output Power : 50 Watt

### ■ Data Ports

- DMX input
- DMX output

### ■ Environmental

- Operating temperature, humidity : 0°C .. + 50°C, <80% RH
- Storage temperature, humidity : 0°C .. + 50°C, <60% RH

### ■ Mechanical

- Dimensions : 140X135X43 mm
  - Weight : 525 g
-



## DECLARATION OF CONFORMITY

We, ShowLED FZC, P.O. Box: 120888, Warehouse Q4-006, Sharjah Airport Free Zone, Sharjah, United Arab Emirates, declare under our sole responsibility that the product:

### **ShowLED CLASSIC system**

Controller Model: Conbox MKII

LED string CLASSIC Model: BW-12LED and BW-16LED

### **ShowLED CHAMELEON system**

Controller Model: Conbox MKII

LED string CHAMELEON Model: RGB-12LED and RGB-16LED

provided that it is installed, maintained and used in the application for which it is made, with respect of the "professional practices, relevant installation standards and manufacturer's instructions, complies with the provision of the following Council Directives:

**2004/108/EC** Council Directive on the approximation of the law of the Member States relating to electromagnetic compatibility.

**2006/95/EC** Council Directive on the approximation of the law of the Member States relating to low voltage.

It is in conformity with the following harmonized standards or other normative documents:

	<u>Reference No.</u>
EMC	EN 55032:2012; EN 55103-2:2009
Safety	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013



ShowLED FZC,

United Arab Emirates, May 28th 2015

Kenny Janssens  
Managing Director



**SHOWLED**  
CREATIVE LED SOLUTIONS

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