Chroma-Q™
Color Force Compact™

User Manual

November 2011
Software Version 1.2

PN: 627-05

Disclaimer

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Chroma-Q products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. Chroma-Q sole warranty is that the product will meet the sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

Chroma-Q reserves the right to change or make alteration to devices and their functionality without notice due to our on going research and development.

The Chroma-Q Color Force Compact has been designed specifically for the lighting industry. Regular maintenance should be performed to ensure that the products perform well in the entertainment environment.

If you experience any difficulties with any Chroma-Q products please contact your selling dealer. If your selling dealer is unable to help please contact support@chroma-q.com. If the selling dealer is unable to satisfy your servicing needs, please contact the following, for full factory service:

Outside North America:
Tel: +44 (0)1494 446000
Fax: +44 (0)1494 461024
support@chroma-q.com

North America:
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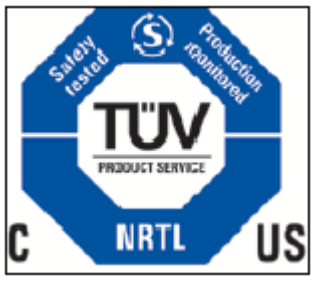
support@chroma-q.com

For further information please visit the Chroma-Q website at www.chroma-q.com.

Important Notice:
As per the requirements in the Occupational Safety and Health Administration standards for product approval, please refer to the OSHA web pages http://www.osha.gov/dts/otpca/nrtl/ for information on the list of Nationally Recognized Testing Laboratories (NRTLs) and the scope of recognition.



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1. Product overview

The Chroma-Q™ Color Force Compact™ is a powerful creative lighting tool that works in perfect harmony with the popular Color Force™ range. The Compact is a cost-effective workhorse, ideal for a wide range of applications. Utilising core LED technology from the Color Force range, the fixture provides 1700 lumens in a cost-effective, slim, compact profile.

With its rugged external design, and IP65 rated* casing the Color Force Compact has been designed as a multi-purpose workhorse fixture suitable for numerous entertainment lighting applications - including uplighting, pipe-end shin-busting, backlighting, wash applications and truss warmers.

The Color Force Compact uses its huge RGBA colour mixing palette to deliver a full range of high brightness colours across the spectrum. Deep cold blues, red hot lava looks and super soft pastels are all available from a single fixture.

The Chroma-Q RGBA engine has been developed to deliver an incredible CRI of 92, for true colour balance across the spectrum. Each Color Force Compact includes ColorSure™ technology for enhanced colour consistency across fixtures.

For real versatility and compatibility with existing lighting inventories, the Color Force Compact is compatible with industry standard top hat, half top hat, egg crate louver and barn door accessories. Other optional accessories available include clear glass and frosted glass light lens and a W-DMX wireless option.

Complementing other models in the range, the Color Force line up now provides a full choice of creative tools for almost any entertainment application.

Compatibility with industry standard control consoles is assured. HSI, FxHSI, RGB (*Magic Amber), RGBA, RGBI (Magic Amber), Look Select, Master and Slave Standalone control modes are available via an external 15-way Power Supply unit and the Color Block Power Supply units.

*As per IEC60529 ingress protection rating code.

15-way Power Supply Unit

The Color Force Compact fixture is controlled via an external DMX controlled power supply unit. A single Color Force Compact PSU15 is a 15-way Power Supply unit that supplies power and data for a maximum total of 15 Color Force Compact fixtures. The Color Force Compact power supply unit features 3 XLR4 outputs and each output with a maximum capacity of 5 fixtures daisy-chained together.

2. Operation

2.1 Unpacking the units

The Color Force Compact fixture package includes the fixture, frosted glass lens, accessory plate, safety cable and the Quick Start Guide.

The Color Force Compact 15-way Power Supply package includes the unit, truss/rack mounting brackets ("Rack Ears"), screws and the Quick Start Guide. We recommend that you keep the original packaging in case the item needs to be returned.

2.2 Cabling

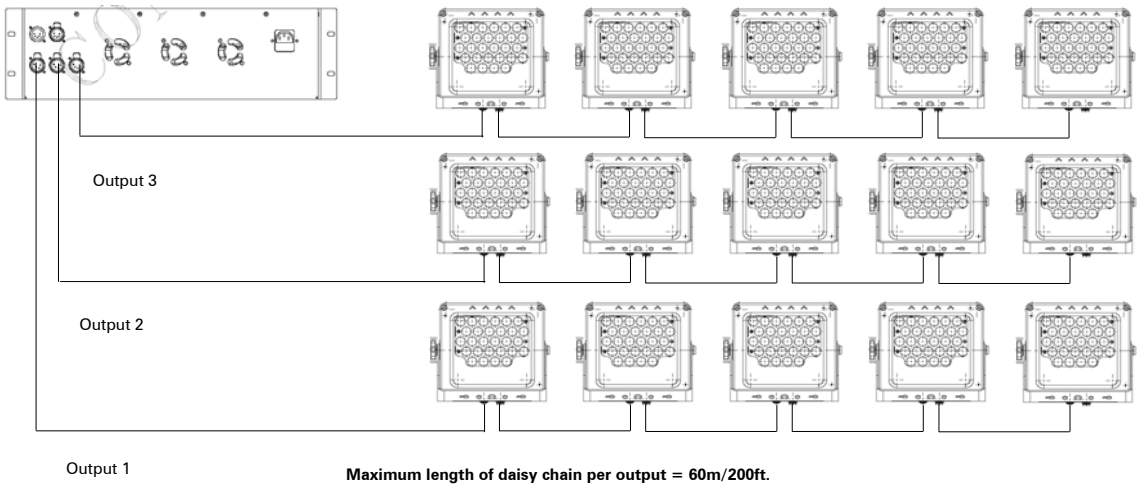
The Color Force Compact utilises XLR4 connectors for power and data input and through. The chassis are earth bonded.

Power and control data outputs from the power supply to the fixture are through an XLR 4-pin cable. The drain wire should be connected to the chassis of the XLR.

Pin #	Function	Minimum Cable size
1	Ground (-ve)	2.50mm^2 (14 AWG)
2	Control data minus (-)	0.35mm^2 (22 AWG)
3	Control data plus (+)	0.35mm^2 (22AWG)

4	48V DC (+ve)	2.50mm^2 (14 AWG)
Chassis	Cable shield/drain wire	0.25mm^2 (24 AWG)

Power Supply Output Configuration:



Maximum length of daisy chain per output = 60m/200ft.

WARNING!

PSU15 Output: Maximum of 5 fixtures per output – 48VDC, 6A per output.

Cable: The total cable length of the daisy chain per output must not exceed 60m/200ft.

PSU15 Input: 100-120V~, 10A; 200-240V~, 5A; 50-60Hz

PSU15 Fuse type & size: T12.5A 250V~

Data signal from the external lighting control console to the power supply is through an XLR 5-pin cable.

XLR 5-pin Cable:

Pin#	Function
1	Ground (Screen)
2	Data Minus
3	Data Plus
4	Spare Data Minus
5	Spare Data Plus

Power Cable:

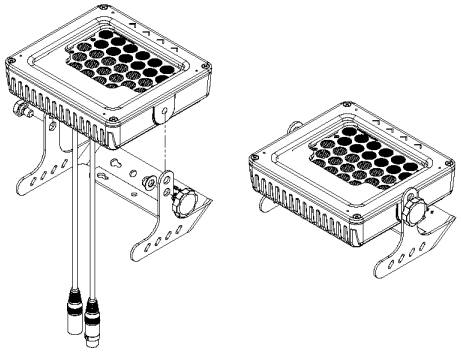
International Colour Code	North American Colour Code	Connections	
Green and Yellow	Green	Earth (E)	Ground (Green)
Blue	White	Neutral (N)	Neutral (Silver)
Brown	Black	Live (L)	Hot (Gold)

Important Notice: The use of an opto-splitter for DMX signal distribution is highly recommended when several power supply units are not plugged into the same power source.

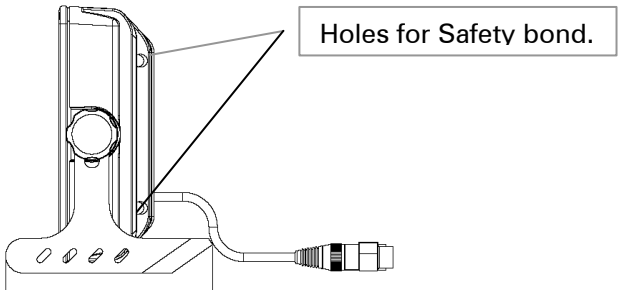
2.3 Mounting

The Color Force Compact fixture is equipped with a built-in mounting yoke for floor, wall and truss mounting applications.

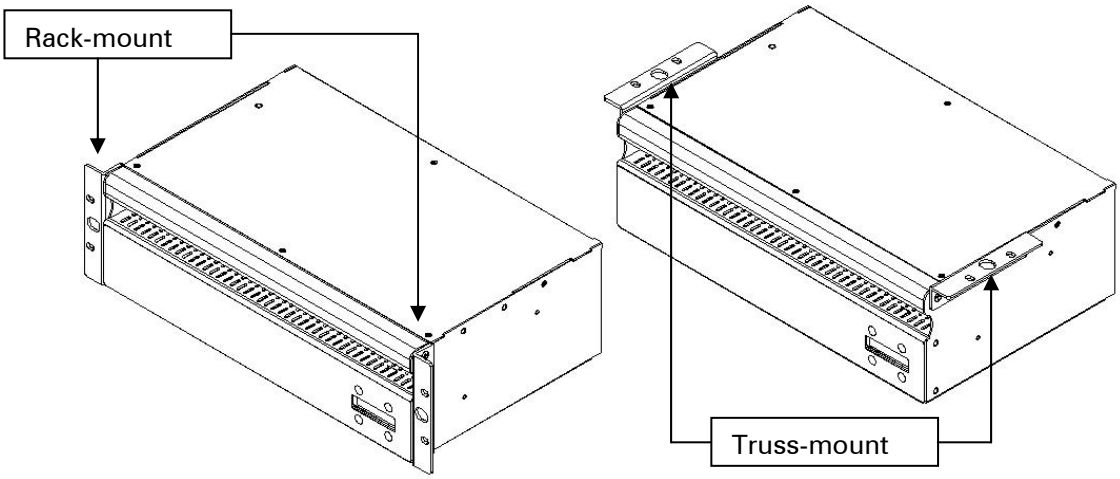
The yoke features an added pair of holes for height adjustment. The fixture enclosure mounted on the top holes of the yoke will allow the fixture to face upwards and perpendicular. The fixture mounted on the bottom holes of the yoke will only allow the fixture to face upwards.



Note: Secure the fixture with a safety bond. A provision for a fixing hold is built into the enclosure.



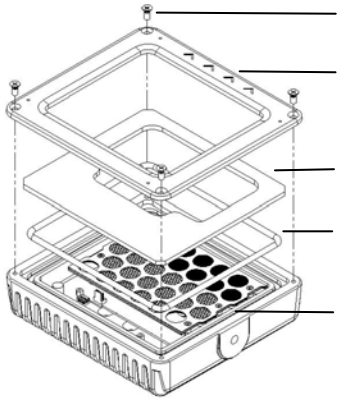
The Color Force Compact 15-way power supply unit can be rack-mounted or hung from a truss with a pair of "Rack Ears" brackets fastened with 3 x M5 FH/CS screws onto each side or on the top of each side.



2.4 Optical Accessories

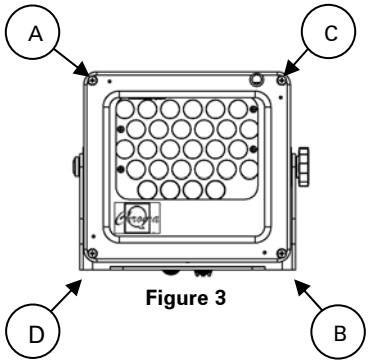
An optional frosted or clear glass lens is included in the package to adjust the light output of the Compact fixtures. An accessory plate is also included to hold and lock in place accessories such as top hats, half top hats, barndoors, egg crate louvers and others.

Glass change procedure:
Screws: 4 x M5 flathead screws
Tool: Torque screwdriver with PH #2
Torque: **20 in/lb**



1. Remove the 4 screws
2. Remove the frame
3. Change the glass
4. O-ring must be well placed inside the channel
5. Channel
6. Put back the frame

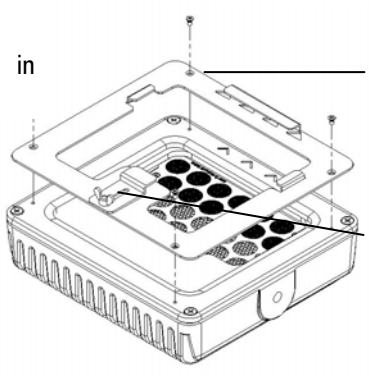
Figure 2



7. Insert halfway the M5 screws in this sequence:
   A – B – C - D. (Fig. 3)
8. Tighten the screws to full torque in this sequence:
   A – B – C – D. (Fig. 3)

Figure 3

.Accessories plate installation procedure:
Screws: 4 x M3 flathead included in package



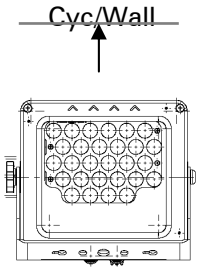
1. Position the plate to match holes. (Fig. 4)
2. Fasten the plate to the frame.

3. Use the locking plate for adjustments and to fix in place accessories

Figure 4

2.5 Chevrons

The Color Force Compact fixture has the "chevron" markings stamped on the front to indicate the side of the fixture that should be adjacent to the wall or cyclorama.



2.6 Control

The Color Force Compact power supply unit can operate as a stand-alone unit or be controlled remotely via ANSI E1.11 USITT DMX512-A protocol. The control functions can be accessed through the LCD display at the front with 4 push buttons.

Exit: Back to previous menu

Up Arrow: Increases (+) the mode level or value

Down Arrow: Decreases (-) the mode level or value

Back Arrow: (Enter) Stores the menu choice

Power-Up Display:
On power-up and home position, the display shows the Model Name, Software Version, the DMX Address, current assigned Control Mode, and the number of Channels.

Display Mode:
The LCD is backlit when you access the menus. This will turn off when left undisturbed for 5 seconds.

Control Modes:

Grouping options:
The Color Force Compact fixtures consist of a single LED engine with 4 circuits of 7 (Red, Green, Blue, Amber) LEDs each, for a total of 28 LEDs. Three grouping options are available for the control of the fixtures. "Single" grouping allows for the control of the individual LED circuits in every fixture unit. "Out" grouping per output, allows for the control of up to 5 fixtures from each PSU output as one group. "All" grouping allows for the control of all fixtures from all the outputs as one group.

"Single" Grouped:

52 channels (FxHSI) - gives 2 colour channels for hue, saturation and a separate intensity channel for each single fixture and 7 channels for pre-programmed effects. A separate definable intensity channel is particularly useful when creating intensity chases or when the grand master is used. The hue channel has 255 different colours available and the saturation channel specifies the saturation level of that colour. The saturation channel is fully saturated at full. White is achieved with the intensity channel to full and the saturation channel at zero.

45 channels (HSI) – gives 2 colour channels for hue and saturation, and a separate intensity channel for each single fixture.

45 channels (RGB) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for each single fixture. Colour is mixed by adjusting the levels of the three primary colours. White is achieved with all channels at full including *Magic Amber.

60 channels (RGBA) – gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for each single fixture.

61 channels (sRGBI) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels for each single fixture, and a channel for intensity effects.

"Out" Grouped:

15 channels (FxHSI) - gives 2 colour channels for hue and saturation, a separate intensity channel for every output of 5 fixtures each, and 6 channels for effects.

9 channels (HSI) – gives 2 colour channels for hue and saturation and a separate intensity channel for every output of 5 fixtures each.

9 channels (RGB) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for every output of 5 fixtures each.

12 channels (RGBA) – gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for every output of 5 fixtures each.

13 channels (sRGBI) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels, and 1 channel for intensity effects for every output of 5 fixtures each.

"All" Grouped:

9 channels (FxHSI) – gives 2 colour channels for hue and saturation, a separate intensity channel for all the fixtures on all the outputs, and 6 channels for effects.

3 channels (HSI) – gives 2 colour channels for hue and saturation and a separate intensity channel for all the fixtures on all the outputs.

3 channels (RGB) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green, Blue LED (with *Magic Amber) for all the fixtures on all the outputs.

4 channels (RGBA) – gives 4 control channels directly affecting the intensity of the corresponding Red, Green, Blue, and Amber LED for all the fixtures on all the outputs.

5 channels (sRGBI) – gives 3 control channels directly affecting the intensity of the corresponding Red, Green and Blue LED (with *Magic Amber), 1 channel affecting the intensity of all the RGB channels, and 1 channel for intensity effects for all the fixtures on all the outputs.

1 channel (Look Select) – gives 1 control channel to select from the programmed scenes in the look store.

Master Standalone – assigns the unit to be the Master unit where stand-alone control options are set.

Slave Standalone – assigns the unit to be the Slave unit and follows the control options assigned to the Master unit.

Other Control Options (All Models):

Internal FX engine: integrated in the software is an internal FX engine with variable parameters to create an unlimited amount of unique lighting effects. (see 2.7 DMX Protocol for list of parameters)

Note: All internal FX are referenced back to the group base HSI colour and intensity levels.

*Magic Amber is the term used for the unit's ability to bring in amber when mixing colours that require it.

Control Menu

Use the push buttons (up/down arrows) to scroll through the control menu positions:

→ **Home / DMX Address**

To set the DMX start address, press Enter, press Up/Down buttons to adjust DMX start address, press Enter for 2 seconds to save settings, the display goes back to Home.

→ **Control Mode**

The Color Force Compact power supply unit can be set to operate in 16 DMX controlled modes and 2 standalone modes. 3 grouping options are available (Single, Output and All). Refer to the list below for details.

Press the Up/Down buttons to access the "Control Mode", press Up/Down to select the mode and press Enter for 2 seconds to save the settings.

Color Force Compact
Control Mode - Software Version 1.2

Mode	Name	Group	Ch	Description
1	fxHSI	Single	52	7fx + 15 x HSI (Grouping, Colour Speed, Fan, Range, Step, Intensity Fx, Intensity Fan)

2	HSI	Single	45	15 x HSI
3	RGB	Single	45	15 x RGB (with *Magic Amber)
4	RGBA	Single	60	15 x RGBA
5	sRGBI	Single	61	1s + 15 x RGBI
6	FxHSI	Output	15	6fx + 3 x HSI
7	HSI	Output	9	3 x HSI
8	RGB	Output	9	3 x RGB (*with Magic Amber)
9	RGBA	Output	12	3 x RGBA
10	sRGBI	Output	13	1s + 3 x RGBI
11	FxHSI	All	9	6fx + 3 x HSI (Colour Speed, Fan, Range, Step, Intensity Fx, Intensity Fan)
12	HSI	All	3	HSI
13	RGB	All	3	RGB (with *Magic Amber)
14	RGBA	All	4	RGBA
15	sRGBI	All	5	1s + RGBI
16	Look Sel	All	1	Look Select
17	Mastr StandAlon			Master Standalone
18	Slave StandAlon			Slave Standalone

When DMX is Lost

If DMX is not detected various output options can be selected:
Press Up/Down to access “When DMX is Lost”, press Enter, press Up/Down buttons to select the options , press Enter for 2 seconds to save.
“Off” - will snap to off
“Hold” - will hold the last valid DMX state
Look 1-31 will snap to the **Look** of your choice

Look Store

The Color Force Compact power supply unit has 31 internal preset FX Looks for stand-alone operation, 1-23 are pre-programmed. To replay a Look in stand-alone operation, press Up/Down buttons to access “Look Store”, press Enter, press Up/Down buttons to select the desired Look and press Enter for 2 seconds to save settings.
To replay a Look with a DMX console, press Up/Down buttons to access Control Mode 16 and press Enter for 2 seconds. Use the DMX console with the assigned channel to playback the various looks stored. (1-31 looks in 1 single channel)
Note: DMX has priority over internal Looks.
Looks can be recorded to the internal flash memory by users and will be preserved on power down. However, looks will be returned to default setting if Reset is performed. There are two ways to record a look:

Simple, with DMX console.
Set the power supply unit to the desired Control Mode. Use a DMX console to adjust channel levels and create the desired look or effect. Press Up/Down buttons to the “Look Store” and press Enter, press Up/Down buttons to the desired Look number and press Enter. Press Enter again for 2 seconds to save Look.

Advanced, stand-alone. (DMX is unplugged)
Press Up/Down buttons to access “Look Store”, and press Enter, press Up/Down button to the desired Look and press Enter to access the memory data. The data is presented as two numbers separated by a letter “c”. The number to the left of the “c” is the channel number and to the right is the channel level. Pressing Up/Down up to the far end will show the Mode at which the selected Look was programmed.

To edit the Mode of a selected Look:

Press Up/Down buttons to access “Look Store” and press Enter, press Up/Down to the desired Look and press Enter to access the memory data. Press Up/Down buttons up to the far end until Mode number is shown and press Enter. Press Up/Down buttons to adjust the Mode number. Press Enter to toggle back to the channel numbers.

To edit the channel numbers and levels of a selected Look:
Press Up/Down buttons to access “Look Store” and press Enter, press Up/Down to the desired Look and press Enter to access the memory data. Press Up/Down buttons and select the channel number. To edit the channel level, press Enter and use the Up/Down buttons to adjust the level (shown as 0-255). Press Enter to toggle back to the channel number. When the desired effect is created press Enter for 2 seconds to save the edited Look.

→ **Wireless**

In this menu, wireless DMX connection can be activated with the power supply unit assigned as a transmitter or receiver.

To create a new wireless network:
- set all Receivers and unlink from previous connections - "Unlink frm Trnsm"
- set the Transmitter and "Add Receivers"

From the main menu, press Up/Down to access “Wireless”, press Enter and the display will show “Module N/A” when the Wireless Module is not installed or press Up/Down to select from either “Off”, “Receiver” or “Transmitter”.

To activate wireless DMX connection between generic transceiver unit as the Transmitter and the Compact PSU unit as the Receiver:

A. Setup the Compact as the Receiver unit:
From the main menu, press Up/Down to access “Wireless”.
Press Enter, then press Up/Down to select “Receiver”,
Press Enter for 2 seconds to save and display will show “Wireless”,
Press Enter, display will show “Receiver”,
Press Enter, display will show “Unlink frm Trnsm”,
Press Enter, “Unlink frm Trnsm” will blink for a few seconds until the display goes back to the previous menu and then the main menu. This will unlink previous signal connections.
Proceed to setup transmitter unit.
Upon completion of a successful link with the transmitter unit, the main menu displays “**w**_” and the DMX signal level is indicated by the horizontal bars beside it. (5 bars maximum) The menu display will indicate “**wx**” if there is no signal connection.

B. Setup external Wireless DMX Transmitter/Transceiver:
Please refer to the User Manual of the external Transmitter/Transceiver unit for the steps to initiate signal/link with the Compact PSU receiver unit.

To activate the wireless DMX connection between a Compact PSU unit as the Transmitter and the next Compact PSU unit as the Receiver:

A. Setup the Compact PSU unit as the Receiver unit:
From the main menu, press Up/Down to access “Wireless”.
Press Enter, then press Up/Down to select “Receiver”,
Press Enter for 2 seconds to save and display will show “Wireless”,
Press Enter, display will show “Receiver”,
Press Enter, display will show “Unlink frm Trnsm”,

Press Enter, "Unlink frm Trnsm" will blink for a few seconds until the display goes back to the previous menu and then the main menu. This will unlink previous signal connections.
Proceed to setup next Compact PSU as the transmitter unit.

B. Setup the Compact PSU as the Transmitter unit:
Connect DMX control to the Compact PSU unit via XLR5 cable.
From the main menu, press Up/Down to access "Wireless".
Press Enter and press Up/Down to select "Transmitter".
Press Enter for 2 seconds to save and display will show "Wireless",
Press Enter, display will show "Transmitter",
Press Enter, display will show "Add Receivers",
Press Enter, "Add Receivers" will blink for a few seconds until the display goes back to the previous menu and then the main menu. The unit is initiating signal/link search.
Note:
The Compact PSU transmitter unit that is not connected to DMX control console continues to send wireless signal link to the Compact PSU receiver units.

C. To unlink receivers from the Compact PSU transmitter unit:
From the main menu of the Compact PSU transmitter unit,
Press Up/Down to access "Wireless".
Press Enter and display shows "Transmitter",
Press Enter and Up/Down to select "Unlink Receivers",
Press Enter, "Unlink Receivers" will blink for a few seconds until the display goes back to the previous menu and then the main menu.

→ **Technical**

In this mode, the frequency settings of the unit can be changed, and addressing programs for the Compact LED engines can be uploaded. Press Up/Down to access "Technical", press Up/Down to select either "Frequency" or "Upload Heads".

Frequency:
The power supply unit has four frequency settings available - 1200, 2400, 4800, 9600. This allows for the LED scan rate to be synchronised with the video camera and avoid a flickering effect. Press the Up/Down buttons to select the desired frequency, press Enter for 2 seconds to save settings.

Upload Heads:
The LED engine/s addressing software for the Compact fixture can be uploaded to the power supply unit from the Chroma-Q Uploader:

1. Connect the Compact fixture/s to the PSU.
2. Press Enter, Up/Down buttons to select "Upload Heads" then press Enter, and the display will show "Ready":
3. Connect an XLR 5-pin cable from the Uploader to the unit.
4. Power-up the Uploader - display will show the file name, and "Ready".
5. Press the "GO" button once to execute the uploading - red indicator light on the "GO" button will blink.
6. The Uploader display will show a simulated arrow moving from left to right indicating the uploading process.
7. The Green LED circuit will light up (low intensity) to indicate completion of a successful Upload and the Uploader display will show "DONE".
8. Power-cycle the unit.

(See Quick Start Guide of the Chroma-Q Uploader)

→ **Fan Speed**

The Compact power supply unit is built with internal fans with three speed settings: "Live", "Live when Light", "Quiet" and "Studio". In "Live" mode fan speed is at high velocity. In "Live when Light" the fan speed goes to high velocity when LEDs are turned on and remain at very low velocity when LEDs are off. In "Quiet" mode fan

speed is at very low velocity. In "Studio" mode fan speed is at low velocity.
Press Enter, Up/Down buttons to select "Fan Speed", then press Enter to select from either", "Live", "Live when Light", "Quiet", "Studio", and then press Enter for 2 seconds to save the settings.

→ **Reset to Default**
Press Up/Down to access "Reset to Default", press Enter, display will show "reset?", press Enter for 2 seconds, display will show "resetting" and "done" when complete, and all menu items are reset to factory defaults:
DMX address = 001, Control Mode = 14 , When DMX is Lost = Hold, Looks = 01, Frequency = 1200 , Fan Speed = Live

Software Uploads:

Color Force Compact – Control Software Upload:
The control software for the operation of the Compact fixtures can be uploaded directly from the Chroma-Q Uploader to the Compact power supply unit via the XLR 5-pin connection with both units powered and no need to access the control menu.

1. Power-up the Compact PSU.
2. Connect an XLR 5-pin cable (single pair is fine) from the Uploader to the Compact PSU.
3. Connect Uploader to an AC power supply. The Uploader display will show the software name and version, and 'Ready'.
4. Press the GO button once to execute the uploading. The Red indicator light on the GO button will blink.
5. The Uploader display will show a simulated arrow moving from left to right indicating the uploading process.
6. The external device will reset automatically upon completion of a successful upload.
7. The Uploader display will show 'DONE' upon completion of the upload.
8. Power-cycle the Compact PSU to verify the new software version. The device display will show the new software version during boot-up.
9. Repeat step 1 to step 9 if the uploading process is interrupted (power and/or data).

2.7 DMX Protocol

Color Force Compact DMX Personality Mode 1-3: (Single Grouped)

Color Force Compact v1.2	Control Mode 1 [52ch] 7fx + 15 x HSI	Control Mode 2 [45ch] 15 x HSI	Control Mode 3 [45ch] 15 x RGB (with *Magic Amber)
Channel 1	Grouping 0-100 Variable grouping range between 1-20 cells with FX running within the group. 102-206 variable grouping range between 1-20 cells with FX running between the groups. 209-255 Variable grouping range for every 2nd to every 20th cell in a group.	Hue for fixture 1	Red for fixture 1
Channel 2	Colour Speed 0-255 Variable speed of colour scrolling. From static at 0 to maximum at 255.	Saturation for fixture 1	Green for fixture 1
Channel 3	Colour Fan 0-255 Variable fan of colour between / within groups. All units are the same colour at 0.	Intensity for fixture 1	Blue for fixture 1
Channel 4	Colour Range 0 Full spectrum 1-255 Variable limit of spectrum for colour scrolling. Single colour at 1, full spectrum at 255.	Hue for fixture 2	Red for fixture 2
Channel 5	Colour Step	Saturation for fixture 2	Green for fixture 2

	0-255 Variable control of smoothness of colour scrolling. Smoothest is at 0. Most coarse is at 250. Rate will vary with scrolling speed. 255 will override effects and switch to RGB.		
Channel 6	Intensity Effects 0 Static 1-63 Fade on, fade off. Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.	Intensity for fixture 2	Blue for fixture 2
Channel 7	Intensity Fan 0-255 Variable fan of intensity effect between / within groups. All units at the same intensity at 0. Alternating units on and off at 255.	Hue for fixture 3	Red for fixture 3
Channel 8	Hue for fixture 1	Saturation for fixture 3	Green for fixture 3
Channel 9	Saturation for fixture 1	Intensity for fixture 3	Blue for fixture 3
Channel 10	Intensity for fixture 1	Hue for fixture 4	Red for fixture 4
Channel 11	Hue for fixture 2	Saturation for fixture 4	Green for fixture 4
Channel 12	Saturation for fixture 2	Intensity for fixture 4	Blue for fixture 4
Channel 13	Intensity for fixture 2	Hue for group fixture 5	Red for fixture 5
	...and so on up to fixture 15	…and so on up to fixture 15	…and so on up to fixture 15
Total DMX Channels	52 DMX channels	45 DMX channels	45 DMX channels

Color Force Compact DMX Personality Mode 4-5: (Single Grouped)

Compact Force Compact v1.0	**Control Mode 4 [60ch] 15 x RGBA**	**Control Mode 5 [61ch] 1s + 15 x RGBI**
Channel 1	Red for fixture 1	Intensity Effects 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.
Channel 2	Green for fixture 1	Red for fixture 1
Channel 3	Blue for fixture 1	Green for fixture 1
Channel 4	Amber for fixture 1	Blue for fixture 1
Channel 5	Red for fixture 2	Intensity for fixture 1
Channel 6	Green for fixture 2	Red for fixture 2
Channel 7	Blue for fixture 2	Green for fixture 2
Channel 8	Amber for fixture 2	Blue for fixture 2
Channel 9	Red for fixture 3	Intensity for fixture 2
	...and so on up to fixture 15	...and so on up to fixture 15
Total	**60 DMX channels**	**61 DMX channels**

Color Force Compact DMX Personality Mode 6-8: (Output Grouped)

Color Force Compact v1.2	**Control Mode 6 [15ch] 6fx + 3 x HSI**	**Control Mode 7 [9ch] 3 x HSI**	**Control Mode 8 [9ch] 3 x RGB (with *Magic Amber)**
Channel 1	Colour Speed 0-255 Variable speed of colour scrolling. From static at 0 to maximum at 255.	Hue for output 1	Red for output 1
Channel 2	Colour Fan	Saturation for output 1	Green for output 1

	0-255 Variable fan of colour between / within groups. All units are the same colour at 0.		
Channel 3	Colour Range 0 Full spectrum 1-255 Variable limit of spectrum for colour scrolling. Single colour at 1, full spectrum at 255.	Intensity for output 1	Blue for output 1
Channel 4	Colour Step 0-255 Variable control of smoothness of colour scrolling. Smoothest is at 0. Most coarse is at 250. Rate will vary with scrolling speed. 255 will override effects and switch to RGB.	Hue for output 2	Red for output 2
Channel 5	Intensity Effects 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.	Saturation for output 2	Green for output 2
Channel 6	Intensity Fan 0-255 Variable fan of intensity effect between / within groups. All units at the same intensity at 0. Alternating units on and off at 255.	Intensity for output 2	Blue for output 2
Channel 7	Hue for output 1	Hue for output 3	Red for output 3
Channel 8	Saturation for output 1	Saturation for output 3	Green for output 3
Channel 9	Intensity for output 1	Intensity for output 3	Blue for output 3
	...and so on up to output 3		
Total	**15 DMX channels**	**9 DMX channels**	**9 DMX channels**

Color Force Compact DMX Personality Mode 9-10: (Output Grouped)

Color Force Compact v1.2	**Control Mode 9 [12ch] 3 x RGBA**	**Control Mode 10 [13ch] 1s + 3 x RGBI**
Channel 1	Red for output 1	Intensity Effects 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.
Channel 2	Green for output 1	Red for output 1
Channel 3	Blue for output 1	Green for output 1
Channel 4	Amber for output 1	Blue for output 1
Channel 5	Red for output 2	Intensity for output 1
Channel 6	Green for output 2	Red for output 2
Channel 7	Blue for output 2	Green for output 2
Channel 8	Amber for output 2	Blue for output 2
Channel 9	Red for output 3	Intensity for output 2
	...and so on up to output 3	...and so on up to output 3
Total	**12 DMX channels**	**13 DMX channels**

Color Force Compact DMX Personality Mode 11-12: (All Grouped)

Color Force Compact v1.2	**Control Mode 11 [9ch] 6fx + HSI**	**Control Mode 12 [3ch] HSI**
Channel 1	Colour Speed 0-255 Variable speed of colour scrolling. From	Hue for all fixtures

	static at 0 to maximum at 255.	
Channel 2	Colour Fan 0-255 Variable fan of colour between / within groups. All units are the same colour at 0.	Saturation for all fixtures
Channel 3	Colour Range 0 Full spectrum 1-255 Variable limit of spectrum for colour scrolling. Single colour at 1, full spectrum at 255.	Intensity for all fixtures
Channel 4	Colour Step 0-255 Variable control of smoothness of colour scrolling. Smoothest is at 0. Most coarse is at 250. Rate will vary with scrolling speed. 255 will override effects and switch to RGB.	
Channel 5	Intensity Effects 0 Static 1-63 Fade on, fade off . Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.	
Channel 6	Intensity Fan 0-255 Variable fan of intensity effect between / within groups. All units at the same intensity at 0. Alternating units on and off at 255.	
Channel 7	Hue for all fixtures	
Channel 8	Saturation for all fixtures	
Channel 9	Intensity for all fixtures	
Total	**9 DMX channels**	**3 DMX channels**

Color Force Compact DMX Personality Mode 13-15: (All Grouped)

Color Force Compact v1.2	**Control Mode 13 [3ch] RGB (with *Magic Amber)**	**Control Mode 14 [4ch] RGBA**	**Control Mode 15 [5ch] 1s + RGBI (with *Magic Amber)**
Channel 1	Red for all fixtures	Red for all fixtures	Intensity Effects 0 Static 1-63 Fade on, fade off. Variable range, 63 the fastest 64-127 Fade on, snap off. Variable range, 127 the fastest 128-191 Snap on, fade off. Variable range, 191 the fastest. 192-255 Snap on, snap off (strobe). Variable range, 255 the fastest.
Channel 2	Green for all fixtures	Green for all fixtures	Red for all fixtures
Channel 3	Blue for all fixtures	Blue for all fixtures	Green for all fixtures
Channel 4		Amber for all fixtures	Blue for all fixtures
Channel 5			Intensity for all fixtures
Total	**3 DMX channels**	**4 DMX channels**	**5 DMX channels**

Color Force 12 DMX Personality Mode 16:

Color Force Compact v1.2	Mode 16 [1ch] Look Select
Channel 1	Channel levels and the corresponding Look numbers:

Channel Level (%)	Look	Description
0	OFF	
1–2	1	Full Colour Scroll (5 sec)
3–5	2	Full Colour Scroll (10 sec)
6–9	3	Full Colour Scroll (30 sec)
10–11	4	Warm Colour Scroll (5 sec)
12–15	5	Warm Colour Scroll (10 sec)
16–19	6	Warm Colour Scroll (30 sec)
20–22	7	Cold Colour Scroll (5 sec)
23-25	8	Cold Colour Scroll (10 sec)
26–27	9	Color Colour Scroll (30 sec)
29-32	10	Red Full
33–35	11	Pink Full
36-38	12	Orange Full
39-42	13	Light Orange Full
43-45	14	Yellow Full
46-48	15	Light Yellow Full
49-51	16	Green Full
52-54	17	Light Green Full
56-58	18	Cyan Full
59-61	19	Light Cyan Full
62-64	20	Blue Full
65-68	21	Light Blue Full
69-71	22	3200 White
72-74	23	5600 White
75-78	24	Empty
79-81	25	Empty
83-85	26	Empty
86-88	27	Empty
89-91	28	Empty
92-94	29	Empty
95-97	30	Empty
98-100	31	Empty

3. Troubleshooting

Troubleshooting is a process of elimination. First, rule out the other field factors (i.e. bad connections, faulty cables and power supplies). For technical support and/or parts, please contact your selling dealer or the offices listed in this manual.

Symptom	Possible Cause	Solution
Fixture does not respond to DMX control.	Set to wrong or different DMX address. Bad cable connection between DMX control and PSU. Bad cable connection between PSU and Compact fixtures. Bad in/through connection between adjacent fixtures. Fixture malfunction.	Check DMX address and Mode settings. Check/replace DMX run from the console to the PSU. Check/replace extension cables between adjacent fixtures. Check/replace fixtures.
Noise from power	Fan malfunction.	Check fan.

supply unit.	Fan speed addressing.	Check fan speed mode.
Low LED output from the fixture.	Internal temperature of the PSU unit is over the limit. Fans of the PSU unit are not working. Fixture malfunction.	Check "Fan Speed" mode of the PSU unit. Check the fans of the PSU unit. Check PSU unit for airflow - to and from the internal fans. Check PSU area ventilation. Check/replace fixture unit.

4. Specification

4.1 Technical specifications

Color Force Compact

Product Code	CHCFCRGBA
Net Dimensions (Without Fixings) - Width x Height x Depth	235mm x 197mm x 152mm / 9.25" x 7.75" x 6"
Net Weight (Without Fixings)	4 kgs / 8.5 lbs
Shipping Dimensions - Width x Height x Depth	267mm x 254mm x 241mm / 10.5" x 10" x 9.5"
Shipping Weight	5.4kgs / 12 lbs
Power & Connections:	
Power Input Rating	48V DC
Power Consumption	60W
Power connector In/Out	XLR 4-pin
Data Connectors In/Out	XLR 4-pin
Max cable run	~60m/200ft
Power	External
Control Protocol	ANSI E1.11 USITT DMX 512-A
Cooling System	Convection
Construction	Cast Machined Enclosure
Colour	Black
Built-In Hardware	Yoke assembly
IP Rating	**IP65
Approvals	CISPR22 :2006/EN55022 :2006 & CISPR 24 :1997/EN55024 :1998, ICES-003 :2004 & FCC Part 15 Subpart B: 2007
Control & Photometric:	
LEDs	28
LED Engines	1
LEDs Per Engine	28
Total LEDs	28
Control Modes	52 channels FxHSI, 45 channels HSI, 45 channels RGB, 15 channels FxHSI, 9 channels HSI, 9 channels RGB, 9 channels FxHSI, 3 channels HSI, 3 channels RGB, 60 channels RGBA, 61 channels sRGBI, 12 channels RGBA, 13 channels sRGBI, 4 channels RGBA, 5 channels sRGBI, Look Select Master Standalone Slave Standalone
Dimming Curve	Theatrical
Variable Effects Engine	Yes

Effects Parameters	Grouping, colour speed, colour fan, colour range, colour step, and intensity effects
Hot Lumen Output (Combined)	1700
Red	350
Green	960
Blue	90
Amber	700
Optics	Specialised close focus lens
Beam Angle	14º (approx.)
Beam Angle With Optional Frosted Lens	21º (approx.)
Beam Distribution	Asymmetrical direct illumination
CCT	Adjustable 1,000 – 10,000K
Colour Gamut	Performance enhanced
CRI	92
Lamp Life	L70 at 50,000 hours
Operating Temperature	0ºC - 40ºC

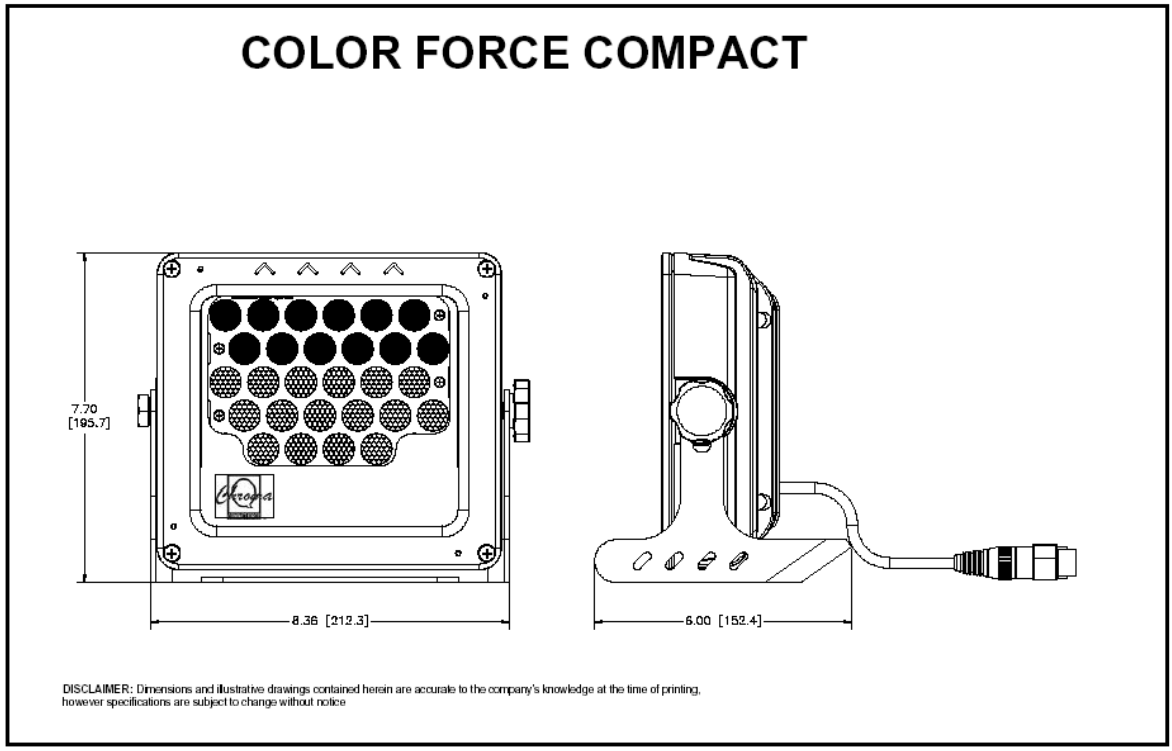
15-way Power Supply Unit

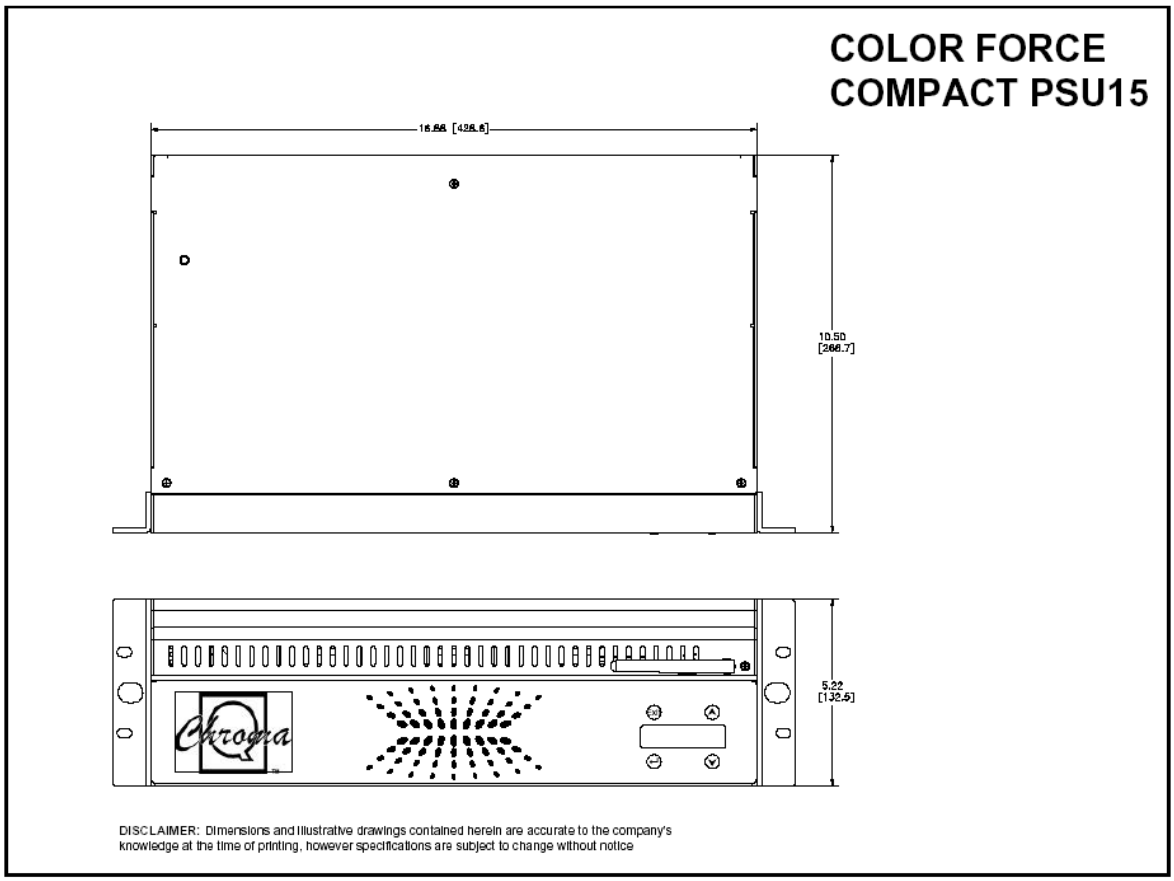
Product Code:	CHCFCPSU15
Dimensions:	412mm x 132.6mm x 267.7mm / 16.9" x 5.2" x 10.5"
Weight:	9.5kg /21lbs
Power input rating:	100-120V~, 10A; 200-240V~, 5A; 50-60Hz
Power input connector:	IEC
Power & Data output connector:	XLR 4-pin
Data input connector:	XLR 5-pin
Control protocol:	ANSI E1.11 DMX-512A
Cooling system:	Forced
Colour:	Black
IP Rating:	IP20
Operating temperature:	0ºC to 40ºC
Approvals:	CSA C22. No. 166-M1983: R2008 CAN/CSA-C22.2 No. 60950-1-07 UL 60950-1:2007, EN 60950-1/A1:2010

CE

**As per IEC60529 ingress protection rating code.

4.2 Drawings


COLOR FORCE COMPACT
7.70
[195.7]
8.36 [212.3]
6.00 [152.4]
DISCLAIMER: Dimensions and illustrative drawings contained herein are accurate to the company's knowledge at the time of printing, however specifications are subject to change without notice


COLOR FORCE COMPACT PSU15
16.66 [423.6]
10.50
[266.7]
5.22
[132.5]
DISCLAIMER: Dimensions and illustrative drawings contained herein are accurate to the company's knowledge at the time of printing, however specifications are subject to change without notice

5. Maintenance

With care, the Color Force Compact fixture and power supply unit will require little maintenance. However, as the unit is likely to be used in a stage environment we recommend periodical internal inspection and cleaning of any resulting dust and cracked oil residue.

Do not spray liquids on the front or rear panel. If the front enclosure requires cleaning, wipe with a mild detergent on a damp cloth.