CLF Conan

Dimensions

All dimensions are in millimeters

205

326

260
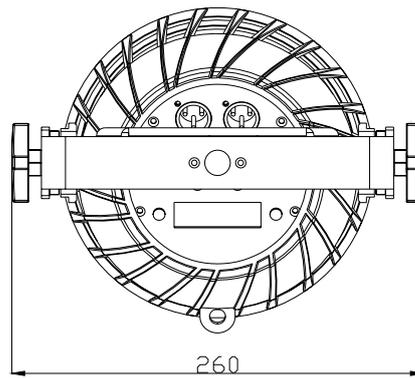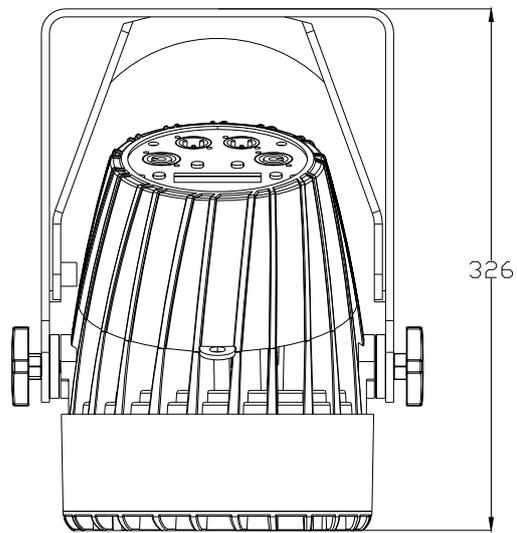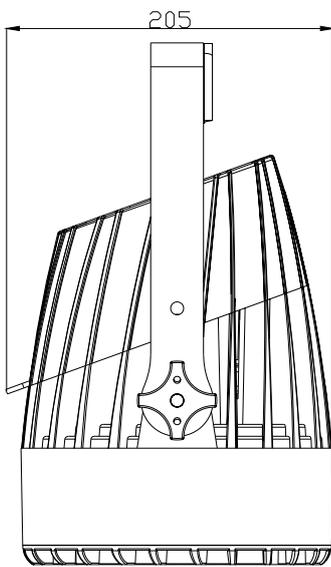
Safety Information

> **WARNING!**
> **Read the safety precautions in this section before installing, powering, operating or servicing this product**

The following symbols are used to identify important safety information on the product and in this manual:

DANGER!
Safety hazard.
Risk of severe
injury or death.

DANGER!
Hazardous
voltage. Risk of
lethal or severe
electric shock.

WARNING!
Fire hazard.

WARNING!
LED light
emission. Risk of
eye injury.

WARNING!
Burn hazard. Hot
surface. Do not
touch.

WARNING!
Wear protective
eyewear.

WARNING!
Refer to user
manual.

Warning! Risk Group 3 (high risk) LED product according to EN 62471. Do not look into the beam at a distance of less than 8.3 meters from the front surface of the product. Do not view the light output with optical instruments or any device that may concentrate the beam.

This product is for professional use only. It is not for household use.

This product presents risks of severe injury or death due to fire and burn hazards, electric shock and falls. Read this manual before installing, powering or servicing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact your supplier

PROTECTION FROM ELECTRIC SHOCK

• Disconnect the fixture from AC power before removing or installing any cover or part and when not in use.
• Always ground (earth) the fixture electrically.
• Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
 • Before using the fixture, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
• Power input and through put cables must be 3-conductor, rated 20 A minimum, 1.5 mm² (16 AWG) minimum conductor size, Power input and through put cables must be 3-conductor, rated 20 A minimum, 1.5 mm² (16 AWG) minimum conductor size ,extra hard usage type (ST or equivalent). The cable must be heat-resistant to 90° C (194° F) minimum.
• Use only PowerCon cable connectors to connect to power input sockets. Use only   PowerCon cable connectors to connect to power throughput sockets.
• Isolate the fixture from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet or showing signs of overheating. Do not reapply power until repairs have been completed.

Do not expose the fixture to rain or moisture.

Refer any service operation not described in this manual to a qualified technician.

Socket outlets used to supply fixture fixtures with power or external power switches must be located near the fixtures and easily accessible so that the fixtures can easily be disconnected from power.

PROTECTION FROM BURNS AND FIRE

Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

The exterior of the fixture becomes hot during use. Avoid contact by persons and materials. Allow the fixture to cool for at least 10 minutes before handling.

Keep all combustible materials (e.g. fabric, wood, paper) at least 100 mm (3.9 in.) away from the head. Keep flammable materials well away from the fixture.

Ensure that there is free and unobstructed airflow around the fixture.

Do not illuminate surfaces within 200 mm (7.9 ins.) of the fixture.

Do not attempt to bypass thermostatic switches or fuses.

If you relay power from one fixture to another using power throughput sockets, do not connect more than ten fixture fixtures in total to each other in an interconnected chain.

Connect only other fixture fixtures to fixture power throughput sockets. Do not connect any other type of device to these sockets.

Do not stick filters, masks or other materials onto any optical component.

Do not modify the fixture in any way not described in this manual

PROTECTION FROM INJURY

Do not look continuously at LEDs from a distance of less than 8.3 meters (27 ft. 3 inches) from the front surface of the fixture without protective eyewear such as shade 4-5 welding goggles. At less than this distance, the LED emission can cause eye injury or irritation. At distances of 8.3 meters (27 ft. 3 inches) and above, light output is harmless to the naked eye provided that the eye's natural aversion response is not overcome.

Do not look at LEDs with magnifiers, telescopes, binoculars or similar optical instruments that may concentrate the light output.

Ensure that persons are not looking at the LEDs from within 8.3 meters (27 ft. 3 inches) when the product lights up suddenly. This can happen when power is applied, when the product receives a DMX signal, or when SERVICE menu items are selected.

Fasten the fixture securely to a fixed surface or structure when in use. The fixture is not portable when installed.

Ensure that any supporting structure and/or hardware used can hold at least 10 times the weight of all the devices they support.

Allow enough clearance around the head to ensure that it cannot collide with an object or another fixture when it moves.

Check that all external covers and rigging hardware are securely fastened.

Block access below the work area and work from a stable platform whenever installing, servicing or moving the fixture.

Do not operate the fixture with missing or damaged covers, shields or any optical component.

CONTENTS

Fixture overview

G Clamp with
Quicklock # 875760
(Optional)

Safety cable attachment point

DMX output

AC mains power
throughput

Control buttons

Display

DMX input

AC mains power
input

Introduction

This compact LED-based Parcan features:
• Independent or linked Beam (primary LED array) and Backlight (secondary background LED array) control
  Range of pre-programmed independent and synchronized Beam and Backlight effects available via DMX
  that give instant access to the full potential of the fixture
• Beam RGBW color control with color temperature control
• Backlight RGB control
• 'Color wheel' color snap Beam and Backlight effects
• Onboard control panel and backlit LCD graphic display
• Motorized zoom
• Smooth electronic dimming
• Electronic shutter with strobe and pulse effects
• Calibrated and raw modes
• Osram Ostar high-power emitters
• DMX control

Using for the first time

Warning! Read "Safety Information" on page 3 before installing, powering, operating or servicing the fixture. Before applying power to the fixture:
• Carefully review "Safety Information" starting on page 3.
• Check that the local AC mains power source is within the fixture's power voltage and frequency ranges.
• See "Power cables and power plug" on page 8. Install a PowerCon power input   connector on a suitable power cable. If drawing power from a mains power outlet, install a suitable power plug on the power cable.

AC power

Warning! Read "Safety Information" starting on page 3 before connecting the fixtures to AC mains power.

Warning! For protection from electric shock, the fixture must be grounded (earthed). The powerdistribution circuit must be equipped with a fuse or circuit breaker and ground-fault (earth-fault)protection.

Warning! Socket outlets or external power switches used to supply the fixture with power must be located near the fixture and easily accessible so that the fixtures can easily be disconnected from power.

Important! Do not insert or remove live PowerCon connectors to apply or cut power, as this may cause arcing at the terminals that will damage the connectors.

Important! Do not use an external dimming system to supply power to the fixture, as this may cause damage to the fixture that is not covered by the product warranty.

The fixture can be hard-wired to a building electrical installation if you want to install it permanently, or a power plug that is suitable for the local power outlets can be installed on the power cable.

Power voltage

Warning! Check that the voltage range specified on the fixtures serial number label matches the local AC mains power voltage before applying power to the fixture.

The fixtures accept AC mains power at 100-240 V nominal, 50/60 Hz. Do not apply AC mains power to the fixture at any other voltage than that specified on the fixture's serial number label.

Power cables and power plug

Power input and throughput cables must be rated 20 A minimum, have three conductors 1.5 mm² (16 AWG) minimum conductor size and an outer cable diameter of 5 - 15 mm. Cables must be hard usage type (SJT or equivalent) and heat-resistant to 90° C minimum. In the EU the cable must be HAR approved or equivalent.
If you install a power plug on the power cable, install a grounding-type (earthed) plug that is rated 20 A minimum. Follow the plug manufacturer's instructions. Table 1 shows standard wire color-coding schemes and some possible pin identification schemes; if pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

Wire Color (EU models)	Conductor	Symbol
brown	live	L
blue	neutral	N
yellow/green	ground (earth)	⏚ or ⏚

Table 1: Wire color-coding and power connections

Relaying power to other devices

⚠️ *Warning! Do not connect more than 10 fixtures in total to AC mains power in one inter connected chain*
Power can be relayed to another device via the light-grey PowerCon throughput socket that accepts a light-grey PowerCon cable connector. Note that blue input and light-grey throughput connectors have different designs: one type cannot be connected to the other.

If you link fixtures in a chain so that they all draw AC mains power via the first fixture, certain points must be respected:
• A hard usage, three-conductor, 16 AWG or 1.5 mm2 cable with SJT or eꟴuivalent cable jacket must be used to connect the first fixture to AC mains power and to interconnect all the fixtures in the chain up to a maximum of seven fixtures in total.
• Light-grey PowerCon connectors must be used to draw AC mains power from the fixtures' power through put sockets and blue PowerCon connectors must be used to supply power at the fixture's power input sockets.
• No matter what the AC mains power voltage is, do not connect more than ten fixture fixtures in total (i.e. including the first fixture) to AC mains power in one interconnected daisy chain using power input and throughput connectors.

Data link

A DMX 512 data link is required in order to control a fixture via DMX.
The fixture has 3-pin XLR connectors for DMX data input and output. The pin-out on all connectors is pin 1 = shield, pin 2 = cold (-), and pin 3 = hot (+).
Or the fixture has 5-pin XLR connectors for DMX data input and output. The pin-out on all connectors is pin 1 = shield, pin 2 = cold (-), and pin 3 = hot (+). Pins 4 and 5 in the 5-pin XLR connectors are not used

Connecting the data link

To add more fixtures or groups of fixtures when the above limit is reached, add a DMX universe and another daisy-chained link.
Use shielded twisted-pair cable designed for RS-485 devices: standard microphone cable cannot transmit control data reliably over long runs. 24 AWG cable is suitable for runs up to 300 meters. Heavier gauge cable and/or an amplifier is recommended for longer runs.

Tips for reliable data transmission

To connect the fixture to data:
1. Connect the DMX data output from the controller to the closest fixture's male 3-pin XLR DMX input connector.
2. Connect the DMX output of the fixture closest to the controller to the DMX input of the next fixture and continue connecting fixtures output to input.

Physical installation

⚠️ *Warning! The fixture must be either fastened to a flat surface such as a stage or wall, or clamped to a truss or similar structure in any orientation using a rigging clamp. Do not apply power to the fixture if it is standing freely or the fixture can be moved.*
Warning! If the fixture can cause injury or damage it if falls, attach an approved safety cable to one of the safety cable attachment points on the base (see "Fixture overview" on page 6).
Check that all surfaces to be illuminated are minimum 200 mm. from the fixture, that combustible materials (wood, fabric, paper, etc.) are minimum 100 mm. from the head, that there is free airflow around the fixture and that there are no flammable materials nearby.
Make sure that it is impossible for the moving head to collide with another fixture or other object...

Fastening the fixture to a flat surface

The fixture can be fastened to a fixed flat surface that is oriented at any angle. Check that the surface can support at least 10 times the weight of all fixtures and equipment to be installed on it.

⚠️ *Warning! The supporting surface must be hard and flat or air vents in the base may be blocked, which will cause overheating. Fasten the fixture securely. Do not stand it on a surface or leave it where it can be moved or can fall over. Attach a securely anchored safety cable to the safety cable attachment point (see "Fixture overview" on page 6) if the fixture is to be installed in any location where it may fall and cause injury or damage if the primary attachment fails.*

3. Block access under the work area. Working from a stable platform, hang the fixture on the truss with the arrow on the base towards the area to be illuminated. Tighten the rigging clamp.
4. Secure the fixture against clamp failure with a secondary attachment such as an approved safety cable that is rated for the weight of the fixture using one of the attachment points at the edges of the base (see "Fixture overview" on page 6). Do not use any other part of the fixture as a safety cable attachment point.
5. Check that the head will not collide with other fixtures or objects.

Setup

> **⚠ Warning! Read "Safety Information" on page 3 before installing, powering, operating or servicing the fixture.**

Control panel and menu navigation

The onboard control panel and backlit graphic display are used to set the fixture's DMX address, configure individual fixture settings (personality), read out data and execute service utilities. See "Onboard control menus" on page 24 for a complete list of menus and commands.

Using the control buttons
To enter a menu, select a function or apply a selection, press ► (Enter).
Press ▲ (Up) and ▼ (Down) to scroll within a menu or adjust values.
To escape a function or move back one level in the menu structure, press ◄ (MODE).

DMX address setting

The DMX address, also known as the start channel, is the first channel used to receive instructions from the controller. For independent control, each fixture must be assigned its own control channels. The DMX address is configured using the DMX ADDRESS menu in the control panel.

WDMX control

Press the button 'UP' to switch off Wireless DMX or disconnect with all connected Transmitters.

Press the button 'DOWN' to set the unit in the 'ready to connect with all not connected transmitters' mode. If you press the mode button on the Wireless solution transmitter all the ready to connect units will be connected.

If the unit is successfully connected in the home display the sign " 📶 " Appears. If the unit is not connected to a transmitter or switched off no " 📶 " sign is visible

Beam, Backlight and FX control

Standard and Extended modes
• DMX control mode is selected in the CONTROL MODE menu. The fixture has two DMX control modes:
• **Standard** (Standard mode – uses 10 DMX channels)
• **Extended** (Extended mode – uses 21 DMX channels).

Standard mode
When the **fixture** is set to **Standard** standard mode, the Beam DMX channels 1 - 10 control the output of both the Beam and the fixture. The behaviour of the Beam and Backlight are identical.

Extended mode
When the **fixture** is set to **Extended** extended mode:
• Independent control of the Beam is available on channels 1 - 10
• A range of FX (pre-programmed effects with combined Beam and Backlight output) is available on channels 11 - 15
• Independent control of the Backlight is available on channels 16- 21.
  See "DMX protocol" on page 18 for details of the DMX commands available in the different modes.

DIMMER CURVE provides four dimming options **(**see picture below**):**
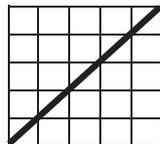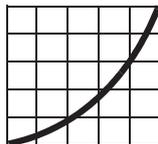
Optically linear	Square law	Inverse square law	S-curve
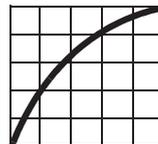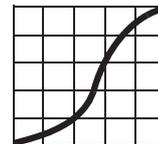
• **LINEAR** – the increase in light intensity appears to be linear as DMX value is increased.
• **SQUARE LAW** – light intensity control is finer at low levels and coarser at high levels.
• **INVERSE SQUARE LAW** – light intensity control is coarser at low levels and finer at high levels.
• **S-CURVE** – light intensity control is finer at low levels and high levels and coarser at medium levels.
  Whichever **DIMMER CURVE** option you select, you can choose between **FAST** or **SMOOTH** dimming settings:
• **FAST** is the default setting. It gives a virtually instantaneous reaction when you dim from one intensity to another, but dimming slowly from one intensity to another may appear slightly uneven.
• The **SMOOTH** setting gives smoother dimming during slow changes in intensity, but it limits the speed of dimming changes slightly. This makes it ideal for slow, smooth dimming, but a short time-lag may be noticeable if you try to dim quickly from one intensity to another.

Restoring factory default settings

The fixture factory default settings can be restored by applying a **FACTORY SETTING → LOAD** command.

Operation and effects

Warning! Read "Safety Information" starting on page 3 before installing, powering, operating or servicing the fixture.

This section describes only DMX control features that require particular explanation. See "DMX protocols" on page 18 for a full list of the DMX channels and values required to control the different effects.

Effects

Beam and Blacklight
The fixture has two LED arrays:
• The **Beam**: the LEDs that provide the main output, and
• The **Backlight**: the secondary LEDs that illuminate the front of the head, provide local diffuse light output and can be set to contrast with the Beam output.
See "Beam, Backlight and FX control" on page 12 for full details of these modes and how to set them up.

Shutter effect
The electronic 'shutter' effect available for the Beam and the Backlight provides instant open and blackout, variable speed regular and random strobe and opening/closing pulse effects as well as burst and sine wave effects.

Dimming
Beam and BL intensity can be adjusted 0 - 100% using electronic dimming. See the available dimming curve options in "Dimming" on page 13

Zoom
The Beam can be zoomed from 58° to maximum (narrow) 11° one-tenth peak angles.
Backlight output is automatically dimmed as the zoom approaches maximum. There is a linear dimming curve from normal Backlight output when the Beam is at 90% zoom, to zero Backlight output when the Beam is at maximum (narrow) zoom.

Controlling color

Color wheel effects
The electronic 'color wheel' effects available for the Beam and the Backlight give the convenience and feel of a mechanical color wheel and let you snap between 33 different full LEE-referenced colors. You can also scroll continuously forwards or backwards through the colors or display random colors at variable speed.
The approximate RGB equivalents of the 'color wheel' colors are given in "LEE colors and RGB equivalents" on page 23.

Color wheel priority
The color wheel effect channels for the Beam and Backlight have priority and override any color set on the Beam RGBW channels or on the Backlight RGB channels. To use the RGBW and RGB channels, you must set the color wheel effect channel for Beam or Backlight respectively to a DMX value from 000 - 009. If you set either color wheel channel to a DMX value above 009, the color wheel effect overrides RGBW or RGB control.

RGBW and RGB control

RGBW or RGB color control is available for the Beam and RGB control is available for the Backlight.

CTC (Color Temperature Control)

CTC is available for the Beam on the CTC channel 10. Setting this channel to DMX value 20 or above allows you to adjust the Beam' s overall color temperature, i.e. the color that has been set using the color wheel channel or the RGBW channels. Note that the more saturated the color, the less it will be affected by adjustments in color temperature. The biggest CTC variation is available when displaying white.
Overall color temperature can be varied from 10 000-2500K.The default color temperature is 5600K.

FX: pre-programmed Beam and Backlight effects

A library of pre-programmed effects in which Beam and BL output can be independent or synchronized is available via DMX. These effects are simply called FX in this manual and in the fixture menus. The library is available twice in the DMX channel layout with identical functions and effects, and two different FX can be combined and run simultaneously with one 'superimposed' over the other.
See "FX: pre-programmed effects" on page 23 for an overview of the FX available.
Effects are selected using the FX select DMX channels 11 and 13. Where modification is possible, the selected FX can be modified using its FX adjust channel. Modifications can include speed, amount, offset, smoothness, etc. depending on the FX selected.

FX Sync and Random operation

The FX system uses a dedicated internal synchronization clock. If two different FX that repeat in cycles are activated, the FX Sync DMX channel 11 can be used to synchronize them. When two FX are synchronized, the repeat cycle of FX2 is adjusted to ensure that FX2 arrives at the end of a cycle and starts to repeat the cycle at the same time as FX1.
If one FX with a short repeat cycle is combined with another FX with a long repeat cycle, the short FX can repeat twice or more in the time it takes the long FX to repeat once. But if two FX with different repeat cycles are synchronized, the short cycle is adjusted so that it arrives at the end of a cycle at the same time as the long cycle.

Sync shift

The sync shift option modifies FX synchronization so that FX2 runs with a time offset. This means that the FX2 cycle start point is delayed relative to FX1, but the amount of the delay remains constant.

Random operation

Selecting random operation makes random changes in the duration of those FX effects that have repeat cycles. This means that some cycles are shorter and some cycles are longer in a random pattern.
The random sync option changes the duration of FX repeat cycles in a random pattern. Cycle duration is random, but it is always changed by the same amount for FX1 and FX2 so that FX remain synchronized. The overall speed of this synchronized effect is controlled on channel 12.
The random no sync option changes the duration of FX effect cycles in a random pattern, and FX1 and FX2 are not synchronized. The speed of FX1 and FX2 effects are controlled independently on channels 16 and 18 respectively.

FX priority and overriding

If an FX is activated, it overrides any other settings for the parameters that the FX modifies. For example, an FX that modifies the zoom will override any zoom angle set on the zoom channel (DMX channel 3). If the same FX is selected on both the FX1 select and FX2 select channels, only the FX1 adjust channel is active. The FX2 adjust channel is ignored.
If different FX are selected on the FX1 select and FX2 select channels, FX2 is superimposed onto FX1 and FX2 overrides FX1 whenever both FX modify the same parameter.

Service and maintenance

Warning! Read "Safety Information" on page 3 before servicing the fixture.
Warning! Disconnect the fixture from AC mains power and allow to cool for at least 10 minutes before handling. Do not view the light output from less than 8.3 meters (27 ft. 3 inches) without shade 4-5 welding goggles. Be prepared for the fixture to light suddenly if connected to power.

Warning! Refer any service operation not described in this user manual to a qualified service technician.

Important! Excessive dust, smoke fluid, and particle build up degrades performance, causes overheating and will damage the fixture. Damage caused by inadequate cleaning or maintenance is not covered by the product warranty.

It is policy to apply the strictest possible calibration procedures and use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. However, LEDs are subject to wear and tear over the life of the product, resulting in gradual changes in color and overall brightness over many thousands of hours of use. The extent of wear and tear depends heavily on operating conditions and environment, so it is impossible to specify precisely whether and to what extent LED performance will be affected. However, you may eventually need to ask Professional to replace LEDs if their characteristics are affected by wear and tear after an extended period of use and if you require fixtures to perform within very precise optical and color parameters.
The manufacturer's LED lifetime data is based on performance under the manufacturer's test conditions. As with all LEDs, the gradual reduction in luminous output will be accelerated when LEDs are used in a fixture, where conditions are much tougher than in manufacturer's testing. To maximize LED lifetimes, keep the ambient temperature as low as possible and drive the LEDs no harder and for no longer than necessary

Cleaning

Cleaning schedules for lighting fixtures vary greatly depending on the operating environment. It is therefore impossible to specify precise cleaning intervals for the fixture. Environmental factors that may result in a need for frequent cleaning include:
• Use of smoke or fog machines.
• High airflow rates (near air conditioning vents, for example).
• Presence of cigarette smoke.
• Airborne dust (from stage effects, building structures and fittings or the natural environment at outdoor
   events, for example).
If one or more of these factors is present, inspect fixtures within their first 100 hours of operation to see whether cleaning is necessary. Check again at frequent intervals. This procedure will allow you to assess cleaning requirements in your particular situation.
Use gentle pressure only when cleaning, and work in a clean, well-lit area. Do not use any product that contains solvents or abrasives, as these can cause surface damage.

Warning! Disconnect from power and allow to cool before cleaning.
To clean the fixture:
1. Disconnect the fixture from power and allow it to cool for at least 10 minutes.
2. Vacuum or gently blow away dust and loose particles from the outside of the fixture and the air vents at the back and sides of the head and in the base with low-pressure compressed air.
3. Remove the central screw from the grill on the front of the head, remove the grill and clean the LED lenses by wiping gently with a soft, clean lint-free cloth moistened with a weak detergent solution. Do not rub the surface hard: lift particles off with a soft repeated press. Dry with a soft, clean, lint-free cloth or low-pressure compressed air. Remove stuck particles with an unscented tissue or cotton swab moistened with glass cleaner or distilled water.

Control menu service utilities

Functions test
The TEST feature provides four test routines, LEDs and display separately or together without a controller.

DMX protocol

DMX Value	Percent	Function
		Electronic shutter effect
0 - 19	0 - 7	Shutter closed
20 - 24	8 -9	Shutter open
25 - 64	10 - 25	Strobe 1 (fast → slow)
65 - 69	26 - 27	Shutter open
70 - 84	28 - 33	Strobe 2: opening pulse (fast → slow)
85 - 89	34 - 35	Shutter open
90 - 104	36 - 41	Strobe 3 : closing pulse (fast → slow)
105 - 109	42 - 43	Shutter open
110 - 124	44 - 49	Strobe 4: random strobe (fast → slow)
125 - 129	50 - 51	Shutter open
130 - 144	52 - 57	Strobe 5: random opening pulse (fast → slow)
145 - 149	58 - 59	Shutter open
150 - 164	60 - 65	Strobe 6:random closing pulse (fast → slow)
165 - 169	66 - 67	Shutter open
170 - 184	68 - 73	Strobe 7: burst pulse (fast → slow)
185 - 189	74 - 75	Shutter open
190 - 204	76 - 81	Strobe 8: random burst pulse (fast → slow)
205 - 209	82 - 83	Shutter open
210 - 224	84 - 89	Strobe 9:sine wave (fast → slow)
225 - 229	90 - 91	Shutter open
230 - 244	92 - 97	Strobe 10: burst (fast → slow)
245 - 255	98 - 100	Shutter open
		Beam Dimmer
0 - 255	0 - 100	0 → 100% intensity
		Zoom
0 - 255	0 - 100	Wide → narrow
		Fixture control settings
0 - 9	0 - 3	No function
10 - 14	4 - 5	Reset entire fixture[1]
15 - 59	6 - 13	No function
60 - 64	14 - 23	Fan mode FULL[2]
65 - 69	24 - 25	No function
70 - 74	26 - 27	Fan mode REGULATED[2]
75 - 89	28 - 33	No function
90 - 94	34 - 35	Calibrated color output mode COLOR CALIB = ON[3] no function
95 - 99	36 - 37	No function
100 - 104	38 - 40	Raw color output mode COLOR CALIB = OFF[3] no function
105 - 109	41 - 42	No function
110 - 114	43 - 44	Fast dimming, speed of changes unrestricted[2]
115 - 119	45 - 46	No function
120 - 124	47 - 48	Smooth dimming, speed of changes restricted slightly[2]
125 - 249	49 - 97	No function
250 - 255	98 - 100	Illuminate display

[1] If DMX Reset is disabled in the menu, a reset command can only be executed if channel 2 is set to 232 and channel 1 is set to zero. These values need to be held for 5 seconds before feature is activated. Values must be "snapped to" to function.
[2] Menu override: setting unaffected by power off/on.
[3] Value must be held for 3 seconds to activate. Setting unaffected by power off/on.

Standard	Extended	DMX Value	Percent	Function
5				**Beam Color wheel effect**
		0 - 9	0 - 1	No function. RGBW color mixing enabled
		10 - 14	2 - 3	LEE 790 - Moroccan pink
		15 - 19	4 - 5	LEE 157 - Pink
		20 - 24	6 - 7	LEE 332 - Special rose pink
		25 - 29	8 -9	LEE 328 - Follies pink
		30 - 34	10 - 11	LEE 345 - Fuchsia pink
		35 - 39	12 - 13	LEE 194 - Surprise pink
		40 - 44	14 - 15	LEE 181 - Congo Blue
		45 - 49	16 - 17	LEE 071 - Tokyo Blue
		50 - 54	18 - 19	LEE 120 - Deep Blue
		55 - 59	20 - 21	LEE 079 - Just Blue
		60 - 64	22 - 23	LEE 132 - Medium Blue
		65 - 69	24 - 25	LEE 200 - Double CT Blue
		70 - 74	26 - 27	LEE 161 - Slate Blue
		75 - 79	28 - 29	LEE 201 - Full CT Blue
		80 - 84	30 - 31	LEE 202 - Half CT Blue
		85 - 89	32 - 33	LEE 117 - Steel Blue
		90 - 94	34 - 35	LEE 353 - Lighter Blue
		95 - 99	36 - 37	LEE 118 - Light Blue
		100 - 104	38 - 39	LEE 116 - Medium Blue Green
		105 - 109	40 - 41	LEE 124 - Dark Green
		110 - 114	42 - 43	LEE 139 - Primary Green
		115 - 119	44 - 45	LEE 089 - Moss Green
		120 - 124	46 - 47	LEE 122 - Fern Green
		125 - 129	48 - 49	LEE 738 - JAS Green
		130 - 134	50 - 51	LEE 088 - Lime Green
		135 - 139	52 - 53	LEE 100 - Spring Yellow
		140 - 144	54 - 55	LEE 104 - Deep Amber
		145 - 149	56 - 57	LEE 179 - Chrome Orange
		150 - 154	58 - 59	LEE 105 - Orange
		155 - 159	60 - 61	LEE 021 - Gold Amber
		160 - 164	62 - 63	LEE 778 - Millennium Gold
		165 - 169	64 - 65	LEE 135 - Deep Golden Amber
		170 - 174	66 - 67	LEE 164 - Flame Red
		175 - 179	68 - 69	Open
				Color wheel rotation effect
		180 - 201	70 - 78	Clockwise, fast → slow
		202 - 207	79 - 80	Stop (this will stop wherever the color is at the time)
		208 - 229	81 - 89	Counter -clockwise, slow → fast
		230 - 234	90 - 91	Open
				Random color
		235 - 239	92 - 93	Fast
		240 - 244	94 - 95	Medium
		245 - 249	96 - 97	Slow
		250 - 255	98 - 100	Open
6		0-255	0-100	**Beam Red** Red 0 → 100%
7		0-255	0-100	**Beam Green** Green 0 → 100%
8		0-255	0-100	**Beam Blue** Blue 0 → 100%
9		0-100	0-100	**Beam white** white 0 → 100% Note: if channel 8 is set to 90-94, this channel has no effect –white LEDs are activated by RGB mixing Color
10		0-19 20-255	0-07 8-100	**Beam CCT** No Function CTC 10 000K → 2 500K
-	11	0-255	0-100	**FX1 select** Pre-programmed effect 1 selection (see "FX: pre-programmed effects" on page 22)
-	12	0-255	0-100	FX1 adjust, sync speed adjust Zero → maximum • If no sync set on channel 15, adjusts FX1 • If sync set on channel 15, adjusts synchronized FX1+FX2 speed
-	13	0-255	0-100	**FX2 select** Pre-programmed effect 2 selection (see "FX: pre-programmed effects" on page 22)

Standard	Extended	DMX Value	Percent	Function
	14	0 - 255	0 - 100	FX2 adjust Zero → maximum • If no sync set on channel 15, adjusts FX2 • If sync set on channel 15, has no effect
	15	0-49	0-19	**Sync (FX synchronization)** No sync • FX1 and FX2 run through cycles independently • Cycle duration is regular • Channel 12 and channel 14 adjust FX1 and FX2 independently
		50-100	20-100	Sync • FX1 and FX2 run through cycles in sync • Cycle duration is regular • Channel 12 adjusts overall speed, channel 14 has no effect

Backlight control

Standard	Extended	DMX Value	Percent	Function
	16			**Electronic shutter effect**
		0 - 19	0 - 7	Shutter closed
		20 - 24	8 - 9	Shutter open
		25 - 64	10 - 25	Strobe 1 (fast → slow)
		65 - 69	26 - 27	Shutter open
		70 - 84	28 - 33	Strobe 2: opening pulse (fast → slow)
		85 - 89	34 - 35	Shutter open
		90 - 104	36 - 41	Strobe 3: closing pulse (fast → slow)
		105 - 109	42 - 43	Shutter open
		110 - 124	44 - 49	Strobe 4: random strobe (fast → slow)
		125 - 129	50 - 51	Shutter open
		130 - 144	52 - 57	Strobe 5: random opening pulse (fast → slow)
		145 - 149	58 - 59	Shutter open
		150 - 164	60 - 65	Strobe 6:random closing pulse (fast → slow)
		165 - 169	66 - 67	Shutter open
		170 - 184	68 - 73	Strobe 7: burst pulse (fast → slow)
		185 - 189	74 - 75	Shutter open
		190 - 204	76 - 81	Strobe 8: random burst pulse (fast → slow)
		205 - 209	82 - 83	Shutter open
		210 - 224	84 - 89	Strobe 9:sine wave (fast → slow)
		225 - 229	90 - 91	Shutter open
		230 - 244	92 - 97	Strobe 10: burst (fast → slow)
		245 - 255	98 - 100	Shutter open
	17	0 - 255	0 - 100	Backlight dimmer 0 → 100% intensity

Table 2: fixture DMX Protocol

Standard	Extended	DMX Value	Percent	Function
				Beam Color wheel effect
		0 - 9	0 - 1	Open. RGBW color mixing enabled
		10 - 14		LEE 790 - Moroccan pink
		15 - 19	2 - 3	LEE 157 - Pink
		20 - 24	4 - 5	LEE 332 - Special rose pink
		25 - 29	6 - 7	LEE 328 - Follies pink
		30 - 34	8 -9	LEE 345 - Fuchsia pink
		35 - 39	10 - 11	LEE 194 - Surprise pink
		40 - 44	12 - 13	LEE 181 - Congo Blue
		45 - 49	14 - 15	LEE 071 - Tokyo Blue
		50 - 54	16 - 17	LEE 120 - Deep Blue
		55 - 59	18 - 19	LEE 079 - Just Blue
		60 - 64	20 - 21	LEE 132 - Medium Blue
		65 - 69	22 - 23	LEE 200 - Double CT Blue
		70 - 74	24 - 25	LEE 161 - Slate Blue
		75 - 79	26 - 27	LEE 201 - Full CT Blue
		80 - 84	28 - 29	LEE 202 - Half CT Blue
		85 - 89	30 - 31	LEE 117 - Steel Blue
		90 - 94	32 - 33	LEE 353 - Lighter Blue
		95 - 99	34 - 35	LEE 118 - Light Blue
		100 - 104	36 - 37	LEE 116 - Medium Blue Green
		105 - 109	38 - 39	LEE 124 - Dark Green
	18	110 - 114	40 - 41	LEE 139 - Primary Green
		115 - 119	42 - 43	LEE 089 - Moss Green
		120 - 124	44 - 45	LEE 122 - Fern Green
		125 - 129	46 - 47	LEE 738 - JAS Green
		130 - 134	48 - 49	LEE 088 - Lime Green
		135 - 139	50 - 51	LEE 100 - Spring Yellow
		140 - 144	52 - 53	LEE 104 - Deep Amber
		145 - 149	54 - 55	LEE 179 - Chrome Orange
		150 - 154	56 - 57	LEE 105 - Orange
		155 - 159	58 - 59	LEE 021 - Gold Amber
		160 - 164	60 - 61	LEE 778 - Millennium Gold
		165 - 169	62 - 63	LEE 135 - Deep Golden Amber
		170 - 174	64 - 65	LEE 164 - Flame Red
		175 - 179	66 - 67	Open
			68 - 69	**Color wheel rotation effect**
				Clockwise, fast → slow
		180 - 201	70 - 78	Stop (this will stop wherever the color is at the time)
		202 - 207	79 - 80	Counter -clockwise, slow → fast
		208 - 229	81 - 89	Open
		230 - 234	90 - 91	**Random color**
				Fast
		235 - 239	92 - 93	Medium
		240 - 244	94 - 95	Slow
		245 - 249	96 - 97	Open
	19	250 - 255	98 - 100	**Beam Red**
		0-255	0-100	Red 0 → 100%
	20			**Beam Green**
		0-255	0-100	Green 0 → 100%
	21			**Beam Blue**
		0-255	0-100	Blue 0 → 100%

Table 2: fixture DMX Protocol

NOTE: DMX values labelled 'no function' will have no effect- the last functional value will be used

FX: Pre-programmed effects

The table below lists the pre-programmed effects that can be selected on DMX channels 11 and 13. Two effects can be superimposed by selecting one effect on channel 11 and a different effect on channel 13.

Type	DMX Value	Percent	Function	FX Adjust
			Dimmer sync	
Backlight Sync	0 - 9	**0 -** 3	Idle	n/a
	10 - 12	4	Dimmer sync	n/a
	13 - 15	5	Strobe sync	n/a
	16 - 18	6 - 7	Dimmer + strobe sync	n/a
	19 - 21	8	Backlight color sync	n/a
	22 - 24	9	Backlight all sync	n/a
	25 - 39	10 - 15	Reservedl	n/a
			Backlight strobe delay	
	40 - 42	16	Backlight strobe delay	Trigger Delay
	43 - 45	17	Strobe alternate single	Speed
	46 - 48	18	Strobe alternate dual	Speed
	49 - 51	19 - 20	Strobe alternate triple	Speed
	52 - 54	21	3-step strobe	Speed
Intensity FX	55 - 60	22 - 23	Reserved	n/a
	61 - 63	24	Intensity random alternate	Speed
	64 - 66	25	Backlight ramp, Beam flash	Speed
	67 - 69	26 - 27	Beam ramp, backlight flash	Speed
	70 - 72	28	Intensity backlight, Beam ramp	Speed
	73 - 75	29	Intensity Beam, backlight ramp	Speed
	76 - 99	30 - 38	Reserved	n/a
			Backlight color offset	
	100 - 102	39	Backlight color offset	Color offset
	103 - 108	40 - 42	Reserved	n/a
	109 - 111	43	Hue shimmer	Amount
	112 - 114	44	Saturation shimmer	Amount
	115 - 126	45 - 49	Reserved	n/a
Color FX	127 - 129	50	Color strobe	n/a
	130 - 132	51	Color offset strobe	Color offset on strobe
	133 - 135	52	Backlight color strobe	n/a
	136 - 138	53	Backlight color offset	Backlight color offset on
	139 - 141	54 - 55	strobe	strobe
	142 - 159	56 - 62	Color spikes	Strength
			Reserved	n/a
	160 - 162	63	Zoom / color offset	
	163 - 165	64	Color zoom ramp in	Speed
	166 - 168	65	Color zoom ramp out	Speed
	169 - 171	66	Color zoom fade in	Speed
Zoom FX	172 - 174	67 - 68	Color zoom fade out	Speed
	175 - 177	69	Reserved	n/a
	178 - 180	70	Zoom ramp up	Speed
	181 - 219	71 - 85	Zoom ramp down	Speed
			Reserved	n/a
Reserved	220 - 255	*86 - 100*		
			Reserved	n/a

Table 3: FX (pre-programmed Beam and Backlight effects)

LEE colors and RGB equivalents

The table below gives approximate RGB equivalents for the LEE colors available in the standard fixture's color wheel effects for the Beam (on DMX channel 9 in **NORMAL** and **ADVANCED** mode) and **Backlight** (on DMX channel 18 in **ADVANCED** mode only).

Lee no.	Name	DMX Integer		
		Red	Green	Blue
790	Moroccan Pink	255	235	052
157	Pink	214	134	048
332	Special rose Pink	255	000	044
328	Follies Pink	255	059	113
345	Fuchsia Pink	255	138	219
194	Surprise Pink	226	175	226
181	Congo Blue	040	001	255
071	Tokyo Blue	000	000	255
120	Deep Blue	000	078	255
079	Just Blue	000	199	255
132	Medium Blue	000	255	234
200	Double CT Blue	149	246	255
161	State Blue	137	255	227
201	Full CT Blue	213	220	222
202	Half CT Blue	219	232	175
117	Steel Blue	205	255	199
353	Lighter Blue	115	255	165
118	Light Blue	006	255	143
116	Medium Blue Green	000	255	94
124	Dark Green	029	255	000
139	Primary Green	032	223	000
089	Moss Green	075	255	000
122	Fern Green	080	232	000
738	JAS Green	108	226	000
088	Lime Green	145	194	000
100	Spring Yellow	210	255	000
104	Deep Amber	225	232	000
179	Chrome Orange	023	215	000
105	Orange	247	214	000
021	Gold Amber	255	163	000
778	Millennium Gold	255	152	000
135	Deep Golden Amber	255	108	000
164	Flame Red	255	080	000

Onboard control menus

Menu	Item	Options	Notes (Default settings in bold print)
DMX ADDRESS	**1** - **XXX**		DMX address (default address = 1). The DMX address range is limited so that the fixture will always have enough DMX channels in the 512 available.
CONTROL MODE	**EXTENDED MODE**		Independent control of Beam and Backlight, FX available (fixture uses 25 DMX channels)
	STANDARD MODE		Linked control of Beam and Aura using Beam channels, Backlight copies Beam (fixture uses 14 DMX channels)
STATIC COLOR	DIMMER	**0~255**	0~100%
	RED	**0~255**	0~100%
	GREEN	**0~255**	0~100%
	BLUE	**0~255**	0~100%
	WHITE	**0~255**	0~100%
	ZOOM	**0~255**	Wide → narrow
	STROBE	**0~255**	(0~20Hz)Select strobe frequency
PERSONALITY	FANS	**REGULATED**	Cooling fan speed thermostatically regulated
		FULL	Max. cooling fan speed
	DIMMER MODE	**LINEAR**	Linear dimming curve
		SQUARE LAW	Square law dimming curve
		INV SQUARE LAW	Inverse square law dimming curve
		S-CURVE	S-curve dimming curve
	DIMMER SPEED	**FAST**	Fast dimming with unrestricted speed
		SMOOTH	Smooth dimming with restricted speed
	DMX RESET	**OFF**	Disable reset via DMX
		ON	Enable reset via DMX
	DISPLAY	**ON**	Display is always on
		30S	Display switches off and goes into Sleep mode if the controls have not been pressed for 30 seconds
	WDMX	**CONNECT**	Connect to the WMDX
		NO CONNECT	Disconnect and exit the WMDX
AUTO	AUTO 1		Auto 01 programs available
	AUTO 2		Auto 02 programs available
	CUSTOM		Choose custom programs
EDIT	TEST ALL		Test LEDs, zoom and display
	1.Scene	**0~255**	Select the scene step
	2.BEAM-red	**0~255**	0~100%
	3.BEAM-green	**0~255**	0~100%
	4.BEAM-blue	**0~255**	0~100%
	5.BEAM-white	**0~255**	0~100%
	6.BEAM-strobe	**0~255**	(0~20Hz)Select strobe frequency
	7.Backlight-red	**0~255**	0~100%
	8.Backlight-green	**0~255**	0~100%
	9. Backlight-blue	**0~255**	0~100%
	10.Backlight-strobe	**0~255**	(0~20Hz)Select strobe frequency
	11.fade	**0~255**	transition time of last step to current step
	12.time	**0~255**	(0~255) step time
	13.zoom	**0~255**	Wide → narrow
INFO	14.use	**ON/OFF**	Enable or
	VERSION	**V2.0**	CPU firmware version
	Use of time	**TOTAL** XXXX	USE of time
		RESET **Reset OK**	Use time reset
FACTORY SET	**LOAD**		Return all settings to factory defaults

Remark: 1: Holding down the "UP" or "DOWN" button for more than 3 seconds, the MENU display rotated 180°
2: In order to facilitate for inspection the signal, If the display to flicker when it's not receiving any signal

Specifications

Physical

Length . . . . 260 mm
Width . . . . 205 mm
Height . . . . 326 mm
Weight . . . . .5.5 kg without accessories

Dynamic Effects

Beam color mixing . . . . RGBW
Backlight (secondary lens array illumination) color mixing . . . . .RGB
Beam color temperature control . . . . CTO, variable 10 000 - 2500 K
Beam and Backlight electronic 'color wheel' effect . . . . . 21 LEE-referenced colors plus white, variable-speed
color-wheel rotation effect and random color
Beam and Backlight independent shutter effects . . . . Electronic, with regular and random
pulse, burst and strobe effects
Pre-programmed effects . Range of independent and synchronized Beam and Backlight FX, two combinable
Electronic dimming . . . . Independent Beam and Backlight, four dimming curve options
Zoom . . . . 11° - 58° (one-tenth peak angle)

Optics

Light source . . . . Osram Ostar high-power long-life
emitters

Control and Programming

Control options. . . . . .Independent or synchronized Beam and Backlight control
Control . . . . DMX
DMX channels 10/21
Setting and addressing . . . . Control panel with backlit graphic display
Protocol . . . . USITT DMX512-A

Construction

Color . . . . .Black
Housing . . . . .High strength die-casting aluminium
Protection rating. IP20

Installation

Orientation . . . . Any
Minimum distance to combustible materials . . . . 100 mm. from fixture
Minimum distance to illuminated surfaces . . . . .200 mm. from fixture
Location . . . . Indoor use only, must be fastened to structure or surface

Connections

AC power input . . . . PowerCon input socket (blue)
AC power throughput. . . . . PowerCon output socket (grey)
DMX data in/out . . . . 3 or 5 P locking XLR

Electrical

AC power . . . . .100-240 V nominal, 50/60 Hz
Maximum total power consumption . . . . 260 W
Power supply unit . . . . Auto-ranging electronic switch mode
Power consumption, all effects static, zero light output . . . . <15 W

Typical Power and Current

100 V, 60 Hz . . . . 144 W, 2.2 A, PF 0.648
120 V, 60 Hz . . . . 143 W, 1.8 A, PF 0.655
210 V, 60 Hz . . . . 141 W, 1.2 A, PF 0.574
234 V, 50 Hz . . . . 143 W, 1.1 A, PF 0.581

PF = power factor. Measurements made at nominal voltage with all LEDs at full intensity. Allow for a
deviation of +/- 10%.

Thermal

Cooling. . . . . Forced air (temperature-regulated, low noise, user-definable levels)
Maximum ambient temperature (Ta max.). . . . . 40° C
Minimum ambient temperature (Ta min.). . . . . 5° C
Total heat dissipation (calculated, +/- 10%). . . . . 820 BTU/hr.