USER´S MANUAL
BEDIENUNGSANLEITUNG
MANUEL D´UTILISATION
MANUAL DE USUARIO
INSTRUKCJA OBSŁUGI
MANUALE D´USO

cameo®

LED TECHNOLOGY

GREEN SOLUTION

RGB **AL**

RJ 45

RDM

CALIBRATION CHIP

MASTER/SLAVE

W-DMX™

MULTIPLE ANGLES
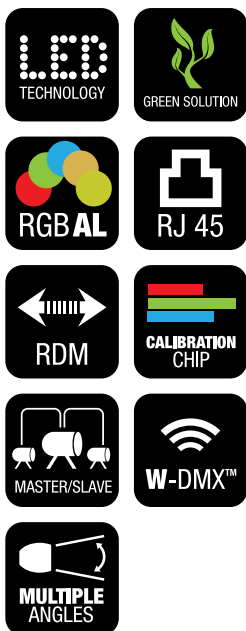
H1 FC
COMPACT HOUSE LIGHT - FULL COLOUR LED
CLH1FC(WH)

CONTENTS / INHALTSVERZEICHNIS / CONTENU / CONTENIDO / TREŚĆ / CONTENUTO

ENGLISH

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YOU HAVE MADE THE RIGHT CHOICE!

This device has been developed and manufactured to the highest quality standards to ensure many years of problem-free operation. Please read this user manual carefully to be able to use your new Cameo product quickly and optimally. Further information about Cameo Light is available on our website **CAMEOLIGHT**.COM.

INFORMATION ON THIS USER MANUAL

- •Carefully read the safety instructions and the entire manual before operating the device.

- •Observe the warnings on the device and in the user manual.

- •Always keep the user manual within reach.

- •If you sell or pass on the device, it is important that you also include this user manual, as it is an integral part of the product.

INTENDED USE

This product is a spotlight for permanent installation!

This spotlight is intended exclusively for professional users and is not suitable for private households or third parties!

Use of the product outside the specified technical data and operating conditions, as well as incorrect installation, is considered inappropriate!

Liability for damage and third-party damage to persons and property due to inappropriate use is excluded!

The product is not suitable for:

- •Use by persons (including children) with limited physical, sensory or mental abilities or lack of experience and knowledge.

- •Children (children must be instructed not to play with the device).

DEFINITIONS AND SYMBOL EXPLANATIONS

1. **HAZARD:** The word HAZARD, possibly in combination with a symbol, indicates situations in which there is an immediate danger or risk of potentially fatal injury.

2. **WARNING:** The word WARNING, possibly in combination with a symbol, indicates situations in which there is an immediate danger or risk of potentially fatal injury.

3. **CAUTION:** The word CAUTION, possibly in combination with a symbol, indicates situations or conditions that could result in injury.

4. **ATTENTION:** The word ATTENTION, possibly in combination with a symbol, indicates situations or conditions that could result in damage to property and/or the environment.

This symbol identifies hazards that can cause electric shock.

This symbol identifies hazardous areas or hazardous situations.

This symbol indicates hazards caused by hot surfaces.

This symbol indicates hazards caused by intense light sources.

This symbol indicates a device in which there are no user-replaceable parts.

This symbol indicates additional information on the operation of the product.

SAFETY INSTRUCTIONS

HAZARD:

1. Do not open the device and do not perform any modifications.

2. If your device no longer functions properly, if liquids or objects get inside it or if it has been damaged in any other way, switch it off immediately and unplug it from the power source. The device may be repaired only by authorised repair technicians.

3. For devices of protection class 1, the protective conductor must be connected correctly. Never disconnect the protective conductor. Devices of protection class 2 do not have a protective conductor.

4. Ensure that live cables are not kinked or otherwise mechanically damaged.

5. Never bypass the device fuse.

WARNING:

1. The device may not be operated if it shows obvious signs of damage.

2. The device may only be installed in a voltage-free state.

3. If the device's power cable is damaged, the device may not be used.

4. Permanently connected power cables may only be replaced by a qualified person.

CAUTION:

1. Do not switch on the device if it has been exposed to extreme temperature fluctuations (for example, following transport). Moisture and condensation can damage the device. Switch on the device only when it has reached room temperature.

2. Ensure that the voltage and frequency of the mains supply match the values specified on the device. If the device has a voltage selector switch, do not connect the device until it has been set correctly. Use only suitable power cables.

3. To disconnect the device from the mains on all poles, it is not sufficient to press the on/off switch on the device.

4. Make sure that the fuse used corresponds to the type printed on the device.

5. Ensure that suitable measures have been taken against overvoltage (e.g. lightning strikes).

6. Observe the specified maximum output current on devices with a Power Out connection. Ensure that the total current consumption of all connected devices does not exceed the specified value.

7. Replace plug-in power cables with original cables only.

HAZARD:

1. Choking hazard! Plastic bags and small parts must be kept out of reach of persons (including children) with reduced physical, sensory or mental capabilities.

2. Risk of falling! Make sure that the device is securely installed and will not fall down. Only use suitable stands or mounts (particularly for fixed installations). Ensure that accessories are properly installed and secured. Ensure that applicable safety regulations are observed.

WARNING:

1. Use the device in the prescribed manner only.

2. Operate the device using only accessories of the type recommended and supplied by the manufacturer.

3. Observe safety regulations applicable in your country during installation.

4. After connecting the device, ensure that all cables are routed so as to avoid damage or accidents, such as from tripping.

5. Always observe the specified minimum distance to normally flammable materials! Unless explicitly stated, the minimum distance is 0.3 m.

6. Always observe the minimum distance to the illuminated surface, which can be read on the device!

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CAUTION:

1. Moving components such as mounting brackets may become jammed.

2. In the case of devices with motor-driven components, there is a risk of injury due to the movement of the device. Sudden movement of the device can cause shock reactions.

3. The housing surface of the device can become very hot during regular operation. Ensure that accidental touching of the housing is not possible. Always allow the device to cool sufficiently before removal, maintenance work and charging etc.

CAUTION:

1. Do not install or use the device in the vicinity of radiators, accumulators, stoves, or other heat sources. Ensure that the device is always installed in such a way that it is sufficiently cooled and cannot overheat.

2. Do not place any ignition sources, such as burning candles, near the device.

3. Ventilation openings must not be covered and fans must not be blocked.

4. For transport, use the original packaging or packaging provided by the manufacturer.

5. Avoid any impacts to or shaking of the device.

6. Observe the IP rating and the ambient conditions such as temperature and humidity according to the specifications.

7. Devices can be continuously further developed. In the event of deviating information on operating conditions, performance or other device properties between the user manual and the device labelling, the information on the device always has priority.

8. The device is not suitable for tropical climate zones or for operation over 2,000 m above sea level.

9. Unless explicitly stated, the device is not suitable for operation under marine conditions.

CAUTION! IMPORTANT INFORMATION REGARDING LIGHTING PRODUCTS!

1. Never look directly into the beam of light, not even for a short period of time.

2. Never look into the beam of light using optical devices such as a magnifying glass.

3. Stroboscopic effects may cause epileptic seizures in susceptible individuals!

4. A permanently installed lamp is installed in this lighting unit which must not be replaced by the user. In the event of a fault, please contact your distribution partner.

SIGNAL TRANSMISSION BY RADIO (e.g. W-DMX or audio radio systems):

The quality and performance of wireless signal transmissions generally depends on the ambient conditions.

The following factors can impact range and signal stability, for example:

Shielding (e.g. masonry, metal structures, water)

High volume of radio traffic (e.g. powerful wireless LAN networks)

Interference

Electromagnetic radiation (e.g. LED video screens, dimmers)

All range specifications refer to free-field application with visual contact and without interference!

The operation of transmission systems is subject to official regulations. These may vary from region to region and must be checked by the operator before use (e.g. radio frequency and transmission power).

WARNING: Devices with wireless signal transmission are not suitable for use in sensitive areas in which radio operation can lead to potential detrimental effects. These include:

- Hospitals, health centres or other healthcare facilities that provide patient treatment with skilled personnel and equipment.

- Hazardous areas Class I, II and III

- Restricted areas

- Military facilities

- Aircraft or vehicles

- Areas where the use of mobile phones is prohibited

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TRANSMISSION VIA W-DMX

WARNING: In general, wireless DMX transmission must not be used for applications involving safety-related factors that might result in personal injury or property damage in the event of a failure.

This applies in particular to moving scene or traverse structures, DMX-controlled motors/lifts or lifting devices for operating DMX-operated platform lifts, hydraulic systems or comparable moving components.

Furthermore, wireless DMX transmission must not be used to trigger flame or pyrotechnic devices, explosion-driven effects, or to control gas or liquid effects. These include CO_2 cannons, confetti shooters, water effects or similar.

INSTRUCTIONS FOR INDOOR INSTALLATION EQUIPMENT

1. Equipment for installation applications is designed for continuous operation.
2. Equipment for indoor installation is not weather-resistant.
3. Surfaces and plastic parts can also age in installation equipment, e.g. due to UV irradiation and temperature fluctuations. This generally does not impair functionality.
4. With permanently installed devices, the accumulation of impurities, e.g. dust, is to be expected. Always observe the care instructions.
5. Unless explicitly stated otherwise on the device, the devices are intended for installation heights of less than 5 m.

INCLUDED

Remove the product from the packaging and remove all packaging material.

Please check the completeness and integrity of the delivery and notify your distribution partner immediately after purchase if the delivery is not complete or if it is damaged.

Product includes:

▶ Spotlight

▶ 3x diffusion lens (1x pre-assembled)

▶ Mounting bracket (pre-assembled)

▶ User manual

INTRODUCTION
RGBAL PENDANT SPOTLIGHT WITH W-DMX™

CLH1FC (black housing)

CLH1FCWH (white housing)

CONTROL FUNCTIONS

• 1-channel, 2-channel 16-bit, 2-channel CCT, 3-channel CP, 5-channel HSI, 5-channel RGBAL, 12-channel 8-bit, 19-channel 16-bit and 22-channel 16-bit DMX-control

• W-DMX™

• Master/slave modes

• Standalone functions

FEATURES

• 1 x 120 W COB LED

• W-DMX™

• RJ45 network connections

• Convection cooling

• Mounting bracket can be removed for suspended installation.

• Connecting terminal for fixed installation

• Operating voltage 100-240 V AC

• Power consumption 100 W

CONNECTIONS, OPERATING AND DISPLAY ELEMENTS
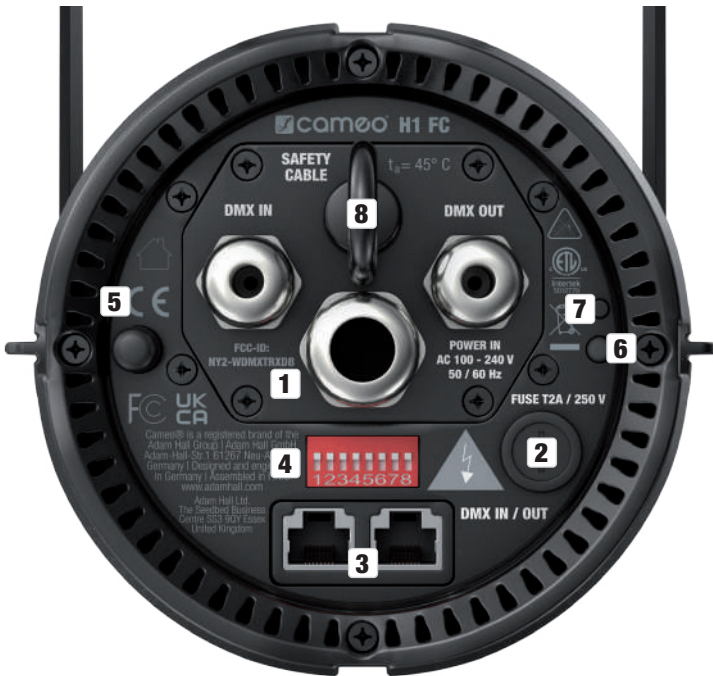
1 CONNECTION TERMINAL

The connection terminal is used for voltage and signal supply for fixed installations. Observe the safety instructions for wiring the terminal under CABLING THE TERMINAL.

2 FUSE

Fuse holder for 5 x 20 mm fuses. CAUTION: Replace the fuse only with a fuse of the same type and value. In the event of repeated fuse failure, please contact an authorised service centre.

3 DMX IN / OUT

RJ45 network connectors for connecting to a DMX network in order to send the control signal. Use CAT 5e, or better, cables to set up the network.

4 DIP SWITCH

Eight DIP switches for basic configuration of the spotlight. To fully configure the spotlight, you need the optionally available UNICON remote unit.

DIP switch	Function	Explanation
1 ON	Selection of RJ45 wire pair	The incoming DMX signal can be routed to one of the 4 available wire pairs
2 ON		
3 ON		
4 ON		
5	Service	Switch OFF -> ON -> OFF (within 2s) = factory reset
6 ON	Activate W-DMX	
7 ON	Status LED deactivated	
8 ON	Full On	Switch 8 ON has priority over all other settings

5 ANTENNA

Antenna for wireless control via W-DMX.

6 W-DMX RESET BUTTON

Button for disconnecting W-DMX connections and for pairing the spotlight with W-DMX devices. Activate the W-DMX receiver of the spotlight (DIP switch 6 in ON position) and reset the receiver by pressing the button for approx. 3 seconds. All previous connections are disconnected and the receiver is set to pairing readiness for approx. 1 minute; the status LED no. 7 flashes red quickly. The receiver is now waiting for a transmitter pairing request. Start the pairing process on the transmitter; the pairing occurs automatically.

In the same way, several receivers can be paired to a transmitter either simultaneously or one after the other. A W-DMX connection is always maintained until the connection is disconnected by means of the Reset command in the receiver or the Unlink command in the transmitter, regardless of whether a device has been disconnected from the power supply in the meantime.

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7 STATUS LED

The LED shows the current status of the spotlight when controlled via cable and W-DMX.

Control via cable (DMX, RJ45)	
LED lights up Permanently blue	DMX signal is present
LED flashes blue	no DMX signal
LED off	Stand-alone operation

Control via W-DMX™	
LED flashes red with approx. 1 Hz	Activate W-DMX
LED flashes fast red	Pairing with a transmitter cancelled and set to pairing readiness
LED lights up continuously green	Paired, DMX signal present
LED flashes green	Paired, no DMX signal

8 SAFETY CABLE

Securing lug for attaching the spotlight on truss installations and for fixed suspended ceiling installation.

CABLING THE CONNECTION TERMINAL

⚠️ **HAZARD**: Opening the spotlight and connecting cables to the terminal connector requires specialist knowledge and may only be carried out by specially trained personnel! If you are not suitably qualified, do not attempt to open the spotlight and attach the cable yourself. Refer instead to a qualified professional.

The manufacturer shall not be liable for any damage to property or personal injury caused by improper handling.

Before wiring the spotlight, make sure that the power cable intended for connection is not live!

DMX cables must not be used to suspend the spotlight from a ceiling or similar. DMX cables may only be used for signal supply.

Loosen the 4 screws (A) on the terminal cover with a suitable tool and remove the cover from the spotlight housing.

The terminal cover has 3 cable bushings. Feed a suitable 3-core mains cable (zero potential!) through the larger cable bushing (B) and 1 (only DMX IN) or 2 DMX cables (DMX IN and OUT) through the smaller cable bushing(s) (C).

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DMX
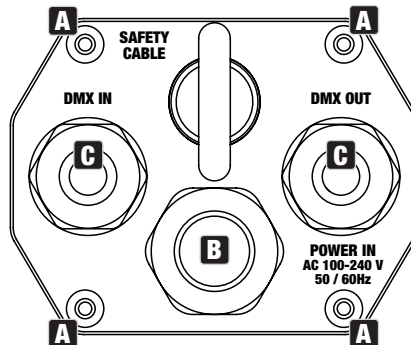
Loosen the 2 securing screws of the terminal block with the power supply cables and remove it from the corresponding terminal (terminal block connector D). Use suitable ferrules for the stripped cable ends and attach the 3-core mains cable to the corresponding contacts of the accompanying terminal block for the power supply. Observe the correct allocation (see diagram below, L=Live, G=Ground/Earth, N=Neutral). Attach the terminal block to the corresponding terminal block connector (D) and secure it with screws.
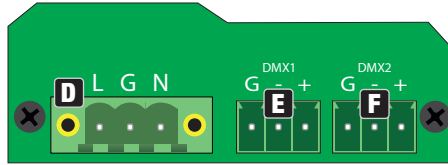
Remove the terminal blocks for DMX IN (E / DMX1) and DMX OUT (F / DMX2) from the terminal block connector and connect the 3 leads from the DMX cable to the corresponding contacts on the terminal blocks (G = Ground/Earth, - = Negative, + = Positive). Attach the terminal blocks to the corresponding terminal block connectors, then seal the connection terminal with the terminal cover and secure it with the previously loosened screws. Protect the terminal connector from mechanical stress by ensuring that the clamping nuts for the cable bushings are securely tightened.

CONTROL VIA THE UNICON REMOTE UNIT
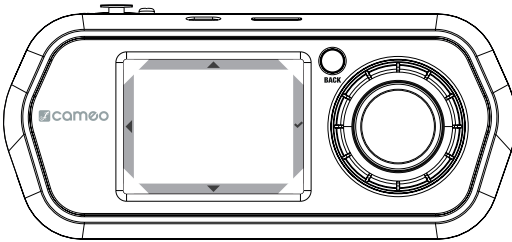
FUNCTIONS OF THE OPERATING ELEMENTS

Display		Encoder + BACK
▲	Value up	↻
▼	Value down	↺
◀	Back	BACK
✔	Confirm	Encoder

After you have switched on the UNICON remote unit (press BACK briefly to switch it on), the display will show "Update, Please Wait" (for service purposes only) for a short time then switch to the main menu. Connect the remote unit to one or more RDM devices using DMX or network cables.

Select the menu item **RDM/Fixture** using the rotary-push encoder or by pressing the arrow symbols ▲ or ▼ in the display and confirm the selection by pressing the encoder or the check symbol ✔ in the display. A list of all connected RDM devices is then displayed (in the example H1 FC/H1 FC and H1 D/H1 D; the first part of the displayed RDM device shows the device model, the second part after "/" is the designation that can be adapted in the **Label** menu item for easier identification). Select H1 FC/H1 FC and confirm.

```
        ▲                          ▲
  MENU                       RDM/Fixture
  RDM/Fixture                H1 FC/H1 FC
  DMX Test                   H1 D/H1 D
◄ DMX Receive          ✔   ◄                       ✔
  Update Fixture
  Settings
  Info
  Help
        ▼                          ▼
```
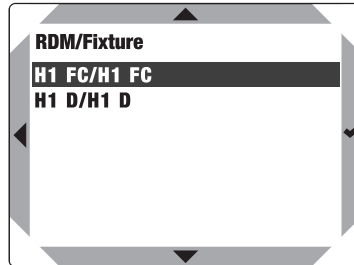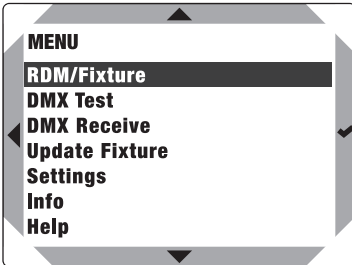
All information and configuration options for the spotlight that can be called up and edited via RDM are now displayed.

```
        ▲                          ▲
  UID:xxxxxxxxxxxx           UID:xxxxxxxxxxxx
  Label: H1 FC               DMX Personality: 001
  Model: H1 FC               DMX Slots: 001
  Manufacturer: Cameo        Sensor
◄ Firmware: V1.x       ✔   ◄ Fixture Menu           ✔
  Identify: ON/OFF
  Identify List
  DMX Address: 001
        ▼                          ▼
```

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DMX

17
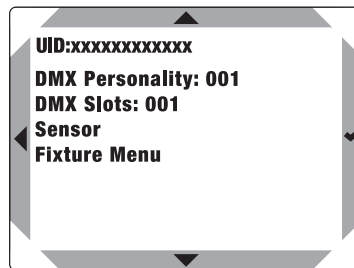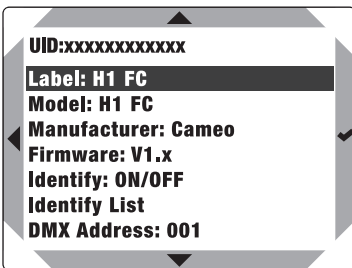
List of information and configuration options with explanations:

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DMX

UID:	Individual and unchangeable identification number of the selected RDM device (Unique Identifier)	
Label:	Individually adjustable RDM device name	
Model:	Device model	
Manufacturer:	Device manufacturer	
Firmware:	Device firmware	
Identify:	ON	Selected spotlight flashes with approx. 1 Hz
	OFF	Flashing disabled
Identify List	List of connected spotlights with Identify function activated (press ✓ to display)	
DMX Address:	Current DMX start address (can be edited in the menu option)	
DMX Personality:	Current DMX mode (can be edited in the menu option)	
DMX Slots:	Number of channels in current DMX mode	
Sensor	LED temperature (press ✓ to display)	
Fixture Menu	Individual Cameo device menu for editing settings (see DEVICE MENU [Fixture Menu])	

Label

In the RDM/Fixture menu, select **Label** and confirm the selection to individually name the RDM device.

Select character or command:	▲ or ▼ or turn the encoder
Restore label after last backup:	**Reset**
Set space:	**Space**
Delete positions from cursor:	**Clean**
Save label:	**Save**
Confirm command or character and select the next digit:	✓ or press encoder

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DEVICE MENU (Fixture Menu):

Select the desired menu item with ▲ or ▼, or by turning the encoder, confirm with ✓ or by pressing the encoder. Back with ◄ or BACK.

Set the value or status with ▲ or ▼, or by turning the encoder, confirm with ✓ or by pressing the encoder. Back with ◄ or BACK.

CONFIGURE DMX START ADDRESS

Select **DMX Address**, confirm the selection, set the desired DMX address and confirm the input.

```
▲
Fixture Menu
DMX Address
DMX Mode
Stand Alone          ✓
Settings
SysInformation

▼
```
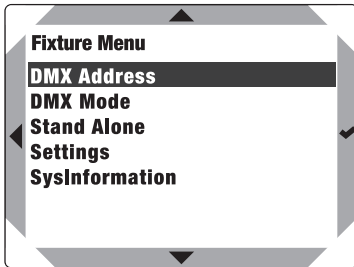
SELECT DMX MODE

Select **DMX Mode,** confirm the selection, then select the desired DMX mode and confirm the selection.

```
▲                        ▲
Fixture Menu             DMX Mode
DMX Address              1 CH
DMX Mode                 2 CH 16Bit
Stand Alone    ✓         2 CH CCT
Settings                 3 CH CP        ✓
SysInformation           5 CH HSI
                         5 CH RGBAL
                         12 CH 8Bit
                         19 CH 16Bit
                         22 CH 16Bit
▼                        ▼
```
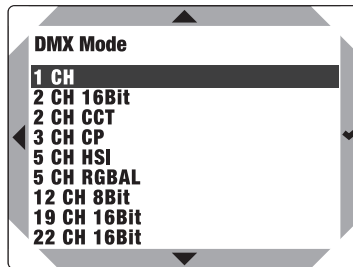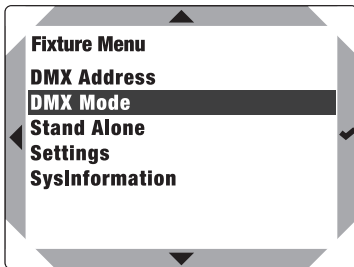
AUTO STANDALONE MODE

The 6 available auto-programs each comprise non-editable colour-change sequences. Brightness (Dimmer) and running speed (Speed) are separately adjustable in each programme.

Select **Stand Alone**, confirm the selection, then select **Auto** and confirm again. Now select the desired program (Program 1 - Program 6) and confirm again. Now select **Dimmer** or **Speed**, confirm and set the brightness or speed value from 001 to 100 as desired. Confirm all entries.

```
▲                 ▲                ▲                   ▲
Fixture Menu      Stand Alone      Auto                Program 1
DMX Address       Auto             Program 1           Dimmer    001 - 100
DMX Mode          Static           Program 2           Speed     001 - 100
Stand Alone  ✓    Macro        ✓   Program 3      ✓                       ✓
Settings          Tunable White    Program 4
SysInformation    Edit User Color  Program 5
                  Timer            Program 6
▼                 ▼                ▼                   ▼
```

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DMX
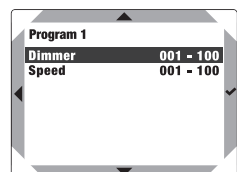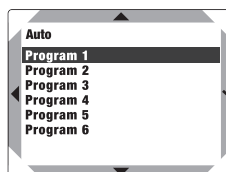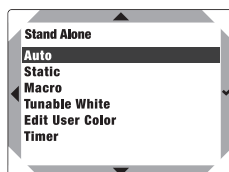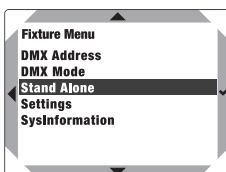
STATIC STANDALONE MODE

The Static standalone mode allows the Dimmer, Dimmer Fine, Strobe and RGBAL values to be set directly on the device with values between 000 and 255, in a similar way to with a DMX controller. In this way, an individual scene can be created without an additional DMX controller.

Select **Stand Alone**, confirm the selection, then select **Static** and confirm again. Now select the menu item you wish to edit and confirm the selection. In the selected menu item, set the desired value from 000 to 255 and confirm the entry. The strobe effect values correspond to those in channel 2 of the DMX table 3 CH CP.

Fixture Menu	Stand Alone	Static	
DMX Address	Auto	Dimmer	000 - 255
DMX Mode	Static	Dimmer Fine	000 - 255
Stand Alone	Macro	Strobe	000 - 255
Settings	Tunable White	Red	000 - 255
SysInformation	Edit User Color	Green	000 - 255
	Timer	Blue	000 - 255
		Amber	000 - 255
		Lime	000 - 255
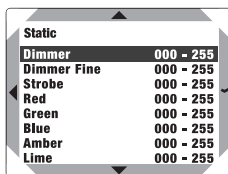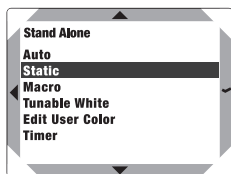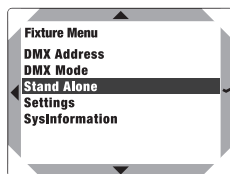
STANDALONE MODE COLOR MACRO

15 different colour macros and 4 individual colours (User Color 1-4) are available as presets. The brightness can be adjusted for each preset.

Select **Stand Alone**, confirm the selection, then select **Macro** and confirm again. Select the desired colour preset and confirm (Color Off = blackout). The brightness of the selected preset can now be adjusted from 000 to 100. Confirm all entries.

The individual colours User Color 1-4 are created in menu item **Edit User Color** in the **Stand Alone** menu.

Fixture Menu	Stand Alone	Macro	Macro
DMX Address	Auto	Color Off	Mauve
DMX Mode	Static	Red	Magenta
Stand Alone	Macro	Amber	Pink
Settings	Tunable White	Yellow W	Warm White
SysInformation	Edit User Color	Yellow	White
	Timer	Green	Cold white
		Turquoise	User Color 1
		Cyan	User Color 2
		Blue	User Color 3
		Lavender	User Color 4

STANDALONE MODE TUNEABLE WHITE

In the standalone mode Tuneable White, the colour temperature (CCT) can be adjusted from 1800 K to 6500 K in 100 K increments, in addition to the brightness (Dimmer) and colour (Tint).

Select **Stand Alone**, confirm the selection, then select **Tunable White** and confirm again. Now select the menu item you wish to edit and confirm the selection. Set the desired value and confirm the entry.

Fixture Menu	Stand Alone	Tunable White	
DMX Address	Auto	Dimmer	000 - 255
DMX Mode	Static	CCT	1800K - 6500K
Stand Alone	Macro	Tint	-127 - 127
Settings	Tunable White		
SysInformation	Edit User Color		
	Timer		
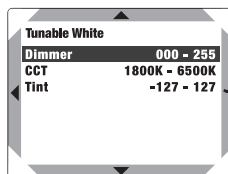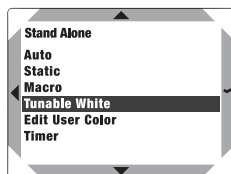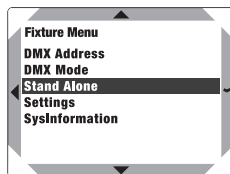
STANDALONE MODE EDIT USER COLOR

The standalone mode Edit User Color allows you to store four individual colour presets for brightness, stroboscope (strobe) and a colour mix of R, G, B, A and L directly in the device.

Select **Stand Alone**, confirm the selection, then select **Edit User Color** and confirm again. Select the desired preset (Color 1 - Color 4) and confirm the selection. Now select the menu item you wish to edit and confirm. Set the desired value from 000 to 255 and confirm again. The strobe effect values correspond to those in channel 2 of the DMX table 3CH CP.
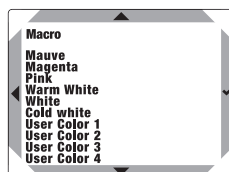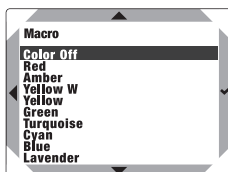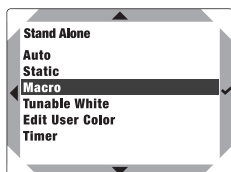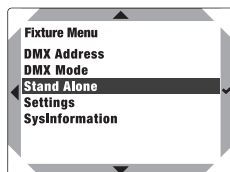
Fixture Menu	Stand Alone	Edit User Color	Color 1	
DMX Address	Auto	Color 1	Dimmer	000 - 255
DMX Mode	Static	Color 2	Dimmer Fine	000 - 255
Stand Alone	Macro	Color 3	Strobe	000 - 255
Settings	Tunable White	Color 4	Red	000 - 255
SysInformation	Edit User Color		Green	000 - 255
	Timer		Blue	000 - 255
			Amber	000 - 255
			Lime	000 - 255
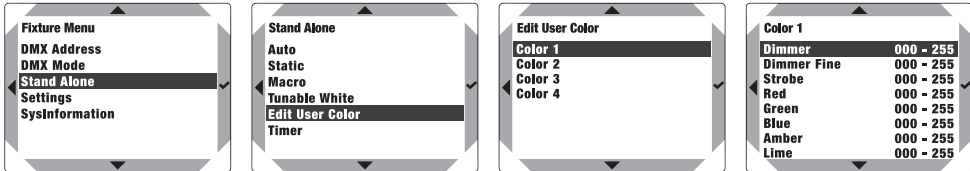
TIMER FUNCTION

The timer function allows the standalone modes Static, Color Macro and Tuneable White to be timer controlled in such a way that the Fade In time can be configured from 0.5 seconds to 24 hours, the Dwell Time from 0.5 seconds to 24 hours and infinite (Limitless) and the Fade Out time from 0.5 seconds to 24 hours. After activation of the timer function, the timer control will be implemented upon the next system start.

Select **Stand Alone**, confirm the selection, then select **Timer** and confirm again. Under **Switch**, select the setting **On** and confirm. For the individual timer control settings, select **Fade In**, **Dwell Time** or **Fade Out** and confirm. You can now set the respective value as desired. Confirm all entries. To deactivate the timer function, under point **Switch**, select the setting **Off** and confirm. Please note: The timer function is suitable for use in master/slave mode via cable.

Fixture Menu	Stand Alone	Timer	
DMX Address	Auto	Switch	On / Off
DMX Mode	Static	Fade in	0.5s - 24h
Stand Alone	Macro	Dwell Time	0.5s - ∞
Settings	Tunable White	Fade out	0.5s - 24h
SysInformation	Edit User Color		
	Timer		

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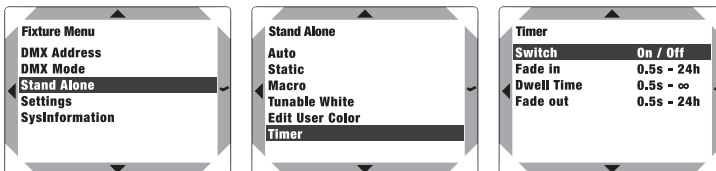
SYSTEM SETTINGS (Settings)

Select **Settings** and confirm.

```
▲
Fixture Menu
DMX Address
DMX Mode
Stand Alone      ✔
Settings
SysInformation
▼
```
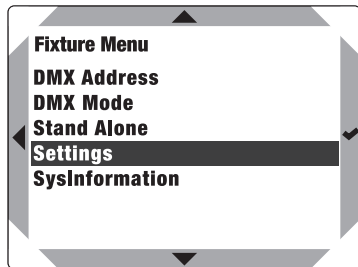
This will take you to the submenu for configuring the submenu items (see table):

Settings					
DMX Fail	=	Operational status with DMX signal fault	Hold		Last command is retained
			Fade Out		10 seconds Fade Out
			Blackout		Activates blackout
			Full On		All LEDs 100% output
			User Colour 1		User Colour 1
Dimmer Curve	=	Dimmer curve	Linear		Light intensity increases linearly with DMX value
			Exponential		Light intensity can be finely adjusted at lower DMX values and broadly adjusted at higher DMX values
			Logarithmic		Light intensity can be broadly adjusted at lower DMX values and finely adjusted at higher DMX values
			S-curve		Light intensity can be finely adjusted at lower and higher DMX values and broadly adjusted at medium DMX values.
Dimmer Response	=	Dimmer response	LED		Light responds abruptly to changes in DMX value
			Halogen		Light behaves like a halogen spotlight with slight brightness changes
PWM Frequency	=	Configuration of PWM frequency	800 Hz / 1200 Hz / 2000 Hz / 3600 Hz / 12 kHz / 25 kHz		
Calibration	=	Colour calibration	Type	Factory Calibration	Factory calibration of R, G, B, A and L (across all modes)
				User Calibration	Individual color calibration. Cross-mode brightness setting of R, G, B, A and L with values from 000 - 255.
				RAW	R, G, B, A and L with maximum value 255

Power	=	Operating mode	Constant	Constant brightness over long periods
			Maximum	Maximum brightness
Factory Reset	=	Reset to factory settings	Reset?	Resetting to factory settings: Perform reset with ENTER, cancel with MENU
Factory Reset WC	=	Reset to factory settings except User Colors	WC Reset?	Resetting to factory settings apart from User Colors: Perform reset with ENTER, cancel with MENU

SYSTEM INFORMATION (SysInformation)

Select **SysInformation** and confirm.

Fixture Menu
DMX Address
DMX Mode
Stand Alone
Settings
SysInformation
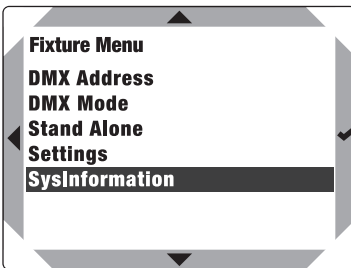
This will take you to the submenu for accessing the system information (see table):

SysInformation				
Firmware	=	Displays device firmware	Firmware V1.xx	
Temperature	=	Displays temperature of LED unit	Temp	xxx°C / xxx°F
			Unit	Celsius (= display in degrees Celsius)
				Fahrenheit (= display in degrees Fahrenheit)
Operation Hours	=	Displays operating time	Operation Hours xxxxx:xxh	Displays total operating time in hours and minutes

DIFFUSERS

The spotlight is supplied with 3 diffusers (1x pre-assembled), which have different dispersion characteristics: 30° (narrow), 42° (middle), and 54° (wide). The beam angle of the spotlight can thus be individually set at 30°, 42° or 54°. Loosen the four screws (A) on the retaining ring on the front of the spotlight with a suitable tool and remove the retaining ring from the spotlight. Use a small flat-bladed screwdriver to remove the diffuser from the retaining ring. Insert the required diffuser in the retaining ring and then secure the ring to the spotlight with the previously loosened screws.

Similar to image

TRUSS INSTALLATION

⚠️ **HAZARD**: Overhead mounting requires extensive experience, including the calculation of the load limit values of the installation material and regular safety inspection of all installation materials and spotlights. If you do not have these qualifications, do not attempt to perform an installation yourself. Refer instead to a qualified professional. There is a risk that devices that are incorrectly mounted and secured may come loose and fall down. This can cause serious injury or death.

Installation on a truss is possible with an optionally available truss clamp, which is attached to the mounting bracket (A). Ensure firm connections and secure the spotlight to one of the securing lugs (B) with a suitable safety cable.

SUSPENDED INSTALLATION

⚠️ **HAZARD**: Overhead mounting requires extensive experience, including the calculation of the load limit values of the installation material and regular safety inspection of all installation materials and spotlights. If you do not have these qualifications, do not attempt to perform an installation yourself. Refer instead to a qualified professional. There is a risk that devices that are incorrectly mounted and secured may come loose and fall down. This can cause serious injury or death.

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For suspended installation, the mounting bracket can be completely removed from the spotlight to create a consistent and discreet appearance.

To do this, loosen and both knob screws (A) from the mounting bracket and remove it. Remove the sockets (B) on each side of the spotlight with a suitable tool. Cover the mounting holes (C) with the sliding metal strips in the grooves (D). Keep all removed components safe for later use.
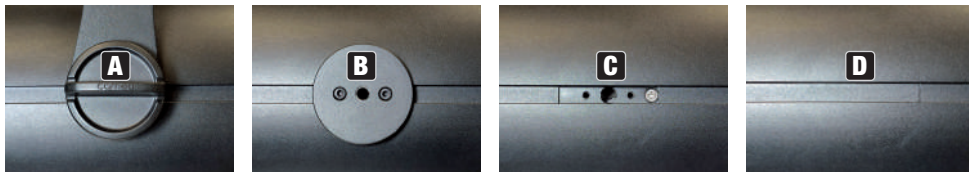
Similar to image

1. Only the securing lug and a suitable security cable should be used to suspend the spotlight. In this case, mount the terminal cover so that the securing lug is located in the center of the spotlight connection panel (E).

2. Thanks to its low weight, the spotlight can also be suspended from the ceiling or similar using a suitable power cable (recommended: H07RN-F 3G1.5). In this case, mount the terminal cover so that the cable bushing for the power cable is located in the center of the spotlight connection panel (F). The load must be completely on the power cable and must not be distributed over additional connected cables! In order to prevent the spotlight from falling, a suitable strain relief must be provided for the power cable on both the spotlight and the suspension point side!
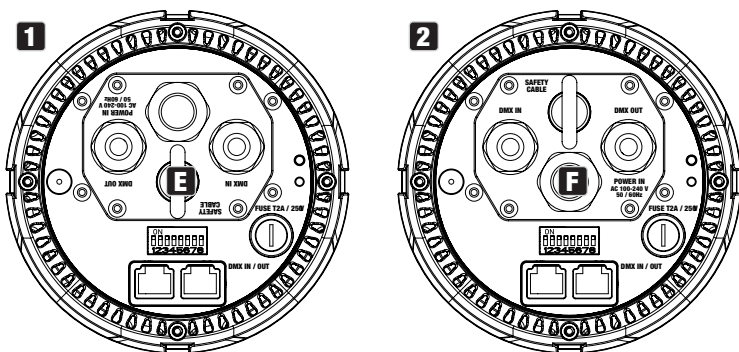
CARE, MAINTENANCE AND REPAIR

In order to ensure the long-term, proper functioning of the device, it must be regularly cleaned and, if necessary, maintained. The maintenance requirement depends on the intensity of use and the environment in which it is used.

We generally recommend a visual inspection before each operation. Furthermore, we recommend carrying out all the applicable maintenance measures specified below once every 500 operating hours or, in the case of a lower intensity of use, at the latest after one year. Warranty claims may be limited in the event of defects resulting from inadequate maintenance.

CARE (carried out by user)

WARNING! Before carrying out any maintenance work, the power supply and, if possible, all device connections must be unplugged.

PLEASE NOTE! Improper care can lead to impairment of the device or even destruction.

1. Housing surfaces must be cleaned with a clean, damp cloth. In doing so, ensure that no moisture can penetrate into the device.
2. Air inlets and outlets must be regularly cleaned of dust and dirt. If compressed air is used, care must be taken to ensure that damage to the device is prevented (e.g. fans must be blocked in this case, as they could otherwise over-rev).
3. Lines and plug contacts must be cleaned regularly and dust and dirt must be removed.
4. In general, no cleaning agents or abrasive agents may be used, otherwise the surface finish may be damaged.
5. Devices must generally be stored dry and protected from dust and dirt.
6. To ensure correct and safe operation, all accessible or removable lenses and light-emitting apertures must be cleaned regularly.

MAINTENANCE AND REPAIR (by qualified personnel only)

HAZARD! There are live components in the device. Even after disconnecting the mains connection, there may still be residual voltage in the device, e.g. due to charged capacitors.

PLEASE NOTE! There are no user-serviceable components in the device.

PLEASE NOTE! Maintenance and repair work may only be carried out by sufficiently qualified specialist personnel. If in doubt, consult a specialist workshop.

PLEASE NOTE! Improperly performed maintenance work may affect warranty claims.

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> **PLEASE NOTE!** For conversion or retrofit sets provided by the manufacturer, it is essential to observe the installation instructions included.

OPTIONAL ACCESSORIES

UNICON

RDM-based UNICON remote unit with touch colour display, DMX and RJ45 connection

CLH1CKB (BLACK)
CLH1CKW (WHITE)

Ceiling installation kit for H1 spotlights

CLH1HALFSNOOT (BLACK)
CLH1HALFSNOOTWH (WHITE)

"Half Snoot" protection for H1 spotlights

CLH1SNOOT (BLACK)
CLH1SNOOTWH (WHITE)

"Snoot" protection for H1 spotlights

CLH1WALLMOUNT (BLACK)
CLH1WALLMOUNTWH (WHITE)

Wall mount for H1 spotlights

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TECHNICAL DATA

Product number:	CLH1FC (WH)
Product type:	LED spotlight
Type:	Installation spotlight
Colour spectrum:	RGBAL
Number of LEDs:	1
LED type:	120 W COB
LED PWM frequency:	800 Hz, 1200 Hz, 2000 Hz, 3600 Hz, 12 kHz, 25 kHz (adjustable)
Beam angle:	30° / 42° / 54° (adjustable with interchangeable diffusers)
DMX input:	Terminal block terminal, RJ45
DMX output:	Terminal block terminal, RJ45
DMX functions:	Dimmer, dimmer fine, strobe, color temperature, hue, saturation, color presets, red, green, blue, amber, lime, device settings
Control:	DMX512, W-DMX™, RDM
Standalone functions:	Static, Timer
Operating elements:	8 DIP switch + W-DMX button + external control remote
Electrical protection class:	1
Operating voltage:	100–240 V AC/50–60 Hz
Power consumption:	100 W
Inrush current Irms @ 10 ms:	2.7 A @ 240 V / 50 Hz
Luminous flux:	5200 lm
Colour reproduction index Ra	>90 (CCT Mode)
Power supply connection:	INPUT: Terminal block terminal
Ambient temperature (in operation):	0–40°C
Relative air humidity:	<80%, non-condensing
Housing color:	black (CLH1FC) white (CLH1FCWH)
Housing material:	Metal
Housing cooling:	Convection cooling
Protection class:	IP20
Minimum distance to illuminated surface:	0.5 m
Minimum distance to normally flammable materials:	0.3 m
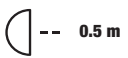
Dimensions (Ø x L, without mounting bracket):	128 x 255 mm
Weight (incl. mounting bracket):	2.8 kg
Scope of delivery (included):	Mounting bracket (pre-assembled) 3x diffuser (1x pre-assembled)
Accessories (optional):	Ceiling installation kit Wall mounting bracket Half snoot and snoot
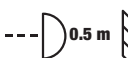
MINIMUM DISTANCE TO ILLUMINATED SURFACE

This symbol with distance specification in metres (m) indicates the minimum distance between the light head and the illuminated surface. In this example the distance is 0.5 m.

MINIMUM DISTANCE TO NORMALLY FLAMMABLE MATERIALS

This symbol with distance specification in metres (m) indicates the minimum distance between the light head and normally flammable materials. In this example the distance is 0.5 m.

DISPOSAL

PACKAGING:

1. Packaging can be fed into the reusable material cycle using the usual disposal methods.

2. Please separate the packaging in accordance with the disposal laws and recycling regulations in your country.

DEVICE:

1. This device is subject to the European Directive on Waste Electrical and Electronic Equipment, as amended. WEEE Directive Waste Electrical and Electronic Equipment. Old appliances do not belong in household waste. The old device must be disposed of via an approved disposal company or a municipal disposal facility. Please observe the applicable regulations in your country!

2. Observe all disposal laws applicable in your country.

3. As a private customer, you can obtain information on environmentally-friendly disposal options from the seller of the product or the appropriate regional authorities.

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MANUFACTURER'S DECLARATIONS

MANUFACTURER'S WARRANTY & LIMITATION OF LIABILITY

Adam Hall GmbH, Adam-Hall-Str. 1, D-61267 Neu Anspach / E-mail Info@adamhall.com / +49 (0)6081 / 9419-0.

Our current warranty conditions and limitation of liability can be found at:

https://cdn-shop.adamhall.com/media/pdf/Manufacturers-Declarations-CAMEO_DE_EN_ES_FR.pdf.

Contact your sales partner for service.

UKCA- CONFORMITY

Hereby, Adam Hall Ltd. declares that this product meets the following guidelines (where applicable)

Electrical Equipment (Safety) Regulations 2016

Electromagnetic Compatibility Regulations 2016 (SI 2016/1091)

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulation 2012 (SI 2012/3032)

Radio Equipment Regulations 201 7(SI 2016/2015)

UKCA- DECLARATION OF CONFORMITY

Products that are subject to Electrical Equipment(Safety)Regulation 2016, EMC Regulation 2016 or RoHS Regulation can be requested at info@adamhall.com.

Products that are subject to the Radio Equipments Regulations 2017 (SI2017/1206) can be downloaded from www.adamhall.com/compliance/com/compliance/.

SUBJECT TO MISPRINTS AND ERRORS, AS WELL AS TECHNICAL OR OTHER MODIFICATIONS!

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DMX CONTROL / DMX STEUERUNG / PILOTAGE DMX / CONTROL DMX / STEROWANIE DMX / CONTROLLO DMX

1CH User Color 1	2CH 16 Bit User Color 1	2CH CCT	Function	Values			
1	1	1	Dimmer	000	-	255	0% to 100%
	2		Dimmer fine	000	-	255	0% to 100%
		2	Color Temperature	000	-	005	Full on
				006	-	008	Bulb White (2700K)
				009	-	011	Halogen White (3200K)
				012	-	014	Neutral White (4000K)
				015	-	017	Studio White (5600K)
				018	-	020	Daylight White (6500K)
				021	-	255	6500K - 1800K

3CH	5CH HSI	Function	Values				Sub-Group
1	1	Dimmer	000	-	255	0% to 100%	Dimmer
2		Multifunctional Strobe	000	-	005	Strobe open	Strobe
			006	-	010	Strobe closed	
			011	-	022	Ramp up/down, slow -> fast	
			023	-	033	Ramp up/down random, slow->fast	
			034	-	045	Ramp up, slow -> fast	
			046	-	056	Ramp up random, slow -> fast	
			057	-	068	Ramp down, slow -> fast	
			069	-	079	Ramp down random, slow -> fast	
			080	-	102	Random Strobe effect, slow -> fast	
			103	-	127	Strobe Break effect, 5s…..1s (short burst with break)	
			128	-	250	Strobe slow -> fast <1Hz - 20Hz	
			251	-	255	Strobe open	

2	Hue	000	-	000	Full on	HSI
		001	-	255	0° (RED) -> 360°	
3	Saturation	000	-	255	0% - 100%	
4	Color Tempe-rature (overrides HSI)	000	-	005	off	CCT
		006	-	008	Bulb White (2700K)	
		009	-	011	Halogen White (3200K)	
		012	-	014	Neutral White (4000K)	
		015	-	017	Studio-White (5600K)	
		018	-	020	Daylight White (6500K)	
		021	-	255	6500K - 1800K	
3	Color Presets (override Color Tempera-ture)	000	-	005	Full on	Color Presets
		006	-	013	Red	
		014	-	021	Amber	
		022	-	029	Yellow warm	
		030	-	037	Yellow	
		038	-	045	Green	
		046	-	053	Turquoise	
		054	-	061	Cyan	
		062	-	069	Blue	
		070	-	077	Lavender	
		078	-	085	Mauve	
		086	-	093	Magenta	
		094	-	101	Pink	
		102	-	109	Warm White	
		110	-	117	White	
		118	-	125	Cold White	
		126	-	127	Color Jumping Stop	
		128	-	164	Color Jumping Speed slow->fast / Color 1 -> 12	
		165	-	201	Color Fading Speed slow -> fast / Color 1 -> 12	
		202	-	207	User Color_1	
		208	-	213	User Color_2	
		214	-	219	User Color_3	
		220	-	225	User Color_4	
		226	-	255	Full on	
5	Color Tempera-ture Crossfade	000	-	005	no function	
		006	-	105	0,1s - 10s (0,1s Steps)	
		106	-	214	11s - 119s (1s Steps)	
		215	-	244	2m - 4m50s (10s Steps)	
		245	-	255	5m - 15m (1m Steps)	

5CH RGBAL Mode						
CH	Function				Values	
1	Red	000	-	255	0% to 100%	
2	Green	000	-	255	0% to 100%	
3	Blue	000	-	255	0% to 100%	
4	Amber	000	-	255	0% to 100%	
5	Lime	000	-	255	0% to 100%	

12CH 8Bit	19CH 16Bit	22CH 16Bit	Function	Values				Sub-Group
1	1	1	Dimmer	000	-	255	0% to 100%	Dimmer
	2	2	Dimmer fine	000	-	255	0% to 100%	
2	3	3	Multifunctional Strobe	000	-	005	Strobe open	Strobe
				006	-	010	Strobe closed	
				011	-	022	Ramp up/down, slow -> fast	
				023	-	033	Ramp up/down random, slow->fast	
				034	-	045	Ramp up, slow -> fast	
				046	-	056	Ramp up random, slow -> fast	
				057	-	068	Ramp down, slow -> fast	
				069	-	079	Ramp down random, slow -> fast	
				080	-	102	Random Strobe effect, slow -> fast	
				103	-	127	Strobe Break effect, 5s…..1s (short burst with break)	
				128	-	250	Strobe slow -> fast <1Hz - 20Hz	
				251	-	255	Strobe open	
3	4	4	Red	000	-	255	0% to 100%	Red
	5	5	Red fine	000	-	255	0% to 100%	
4	6	6	Green	000	-	255	0% to 100%	Green
	7	7	Green fine	000	-	255	0% to 100%	
5	8	8	Blue	000	-	255	0% to 100%	Blue
	9	9	Blue fine	000	-	255	0% to 100%	
6	10	10	Amber	000	-	255	0% to 100%	Amber
	11	11	Amber fine	000	-	255	0% to 100%	

7	12	12	Lime	000	-	255	0% to 100%	Lime
	13	13	Lime fine	000	-	255	0% to 100%	
		14	Hue	000	-	005	Full on	HSI
				006	-	255	0° (RED) thru 360°	
		15	Hue fine	000	-	255	fine steps	
		16	Saturation	000	-	255	0% - 100%	
8	14	17	Color Tempe-rature (overrides RGBAL and HSI)	000	-	005	off	CCT
				006	-	008	Bulb White (2700K)	
				009	-	011	Halogen White (3200K)	
				012	-	014	Neutral White (4000K)	
				015	-	017	Studio-White (5600K)	
				018	-	020	Daylight White (6500K)	
				021	-	255	6500K - 1800K	
9	15	18	Tint (affects Color Temperature)	000	-	000	Off	Tint
				001	-	127	Magenta -> Neutral	
				128	-	128	neutral	
				129	-	255	Neutral -> Green	

10	16	19	Color Presets (override RGBAL, HSI, Color Temperature)	000	-	005	Color off	Color Presets
				006	-	013	Red	
				014	-	021	Amber	
				022	-	029	Yellow warm	
				030	-	037	Yellow	
				038	-	045	Green	
				046	-	053	Turquoise	
				054	-	061	Cyan	
				062	-	069	Blue	
				070	-	077	Lavender	
				078	-	085	Mauve	
				086	-	093	Magenta	
				094	-	101	Pink	
				102	-	109	Warm White	
				110	-	117	White	
				118	-	125	Cold White	
				126	-	127	Color Jumping Stop	
				128	-	164	Color Jumping Speed slow->fast / Color 1 -> 12	
				165	-	201	Color Fading Speed slow -> fast / Color 1 -> 12	
				202	-	207	User Color_1	
				208	-	213	User Color_2	
				214	-	219	User Color_3	
				220	-	225	User Color_4	
				226	-	255	no function	
11	17	20	Color Preset Crossfade	000	-	005	no function	
				006	-	105	0,1s - 10s (0,1s Steps)	
				106	-	214	11s - 119s (1s Steps)	
				215	-	244	2m - 4m50s (10s Steps)	
				245	-	255	5m - 15m (1m Steps)	
12	18	21	Record User Colors	000	-	005	no function	
				006	-	011	User Color 1 (hold 3s)	
				012	-	017	User Color 2 (hold 3s)	
				018	-	023	User Color 3 (hold 3s)	
				024	-	029	User Color 4 (hold 3s)	
				030	-	255	Spare	

19	22		Device settings (please read remark 1*)	000	-	073	No function	Control
				074	-	075	Dimmer Response LED (hold 1,5 s)	
				076	-	081	Dimmer Response Halogen (hold 1,5 s)	
				082	-	083	No function	
				084	-	085	No function	
				086	-	119	No function	
				120	-	121	PWM 1 (800 Hz) (hold 3s)	
				122	-	123	PWM 2 (1200 Hz) (hold 3s)	
				124	-	125	PWM 3 (2000 Hz) (hold 3s)	
				126	-	127	PWM 4 (3600 Hz) (hold 3s)	
				128	-	129	PWM 5 (12 KHz)(hold 3s)	
				130	-	131	PWM 6 (25 KHz)(hold 3s)	
				132	-	133	RAW (hold 3s)	
				134	-	135	Calibrated (hold 3s)	
				136	-	137	User Calibrated (hold 3s)	
				138	-	163	No function	
				164	-	165	Dimmer Curve Linear (hold 3s)	
				166	-	167	Dimmer Curve Exponential (hold 3s)	
				168	-	169	Dimmer Curve Logarithmic (hold 3s)	
				170	-	171	Dimmer Curve S-Curve (hold 3s)	
				172	-	235	No function	
				236	-	237	Factory Reset (except DMX Address + DMX Mode) (hold 3s)	
				238	-	239	Factory Reset (except DMX Address, DMX Mode, User Colors) (hold 3s)	
				240	-	255	No function	

EN: (1*) After the adjustments have been made, set the value to 000 to avoid disturbance by endless function call.
DE: (1*) Nachdem die Einstellungen vorgenommen wurden, stellen Sie den Wert auf 000 ein, um Störungen durch endlosen Funktionsaufruf zu vermeiden.
FR: (1*) Une fois les ajustements effectués, réglez la valeur sur 000 pour éviter les perturbations par appel de fonction sans fin.
ES: (1*) Después de realizar los ajustes, establezca el valor en 000 para evitar perturbaciones mediante una llamada de función sin fin.
PL: (1*) Po dokonaniu ustawień ustaw wartość na 000, aby uniknąć zakłóceń przez niekończące się wywołanie funkcji.
IT: (1*) Dopo aver effettuato le regolazioni, impostare il valore su 000 per evitare disturbi causati da una chiamata a funzione infinita.

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