CASAMBI

FEATURES

- CASAMBI SPI CONTROLLER for Digital-LED strip
- RGB, RGBW, Tunable White (TW), and Monochromatic Digital-LED strip light effects control
- Power supply (DC IN): 5-12-24 Vdc
- Output (OUT): for Digital-LED strip, output voltage value equal to input voltage
- Local control (PUSH): via Normally Open (N.O.) Pushbutton
- Remote control: via Bluetooth Low Energy (BLE) with CASAMBI mobile app
- BUS Extender (BUS): possible to duplicate the effect to a second Digital-LED strip remotely via PIXEL-REPEATER module
- Device configuration via CASAMBI mobile application, parameters can be set:
  - Integrated Circuit (IC) LED type
  - Colour Type and Pixel Number
  - Up to 13 dynamic effects
  - Effect colour, speed, direction, background and more
- Suitable for use in Dry locations
- Extended temperature range
- 100% Functional test – 5 years warranty

WHATS NEW Updated case design, new Fixtures and IC-LED types added! See §Technical Specifications and §Profiles overview: Fixtures for more information

PRODUCT DESCRIPTION

RUNNING-LIGHT-CASAMBI is an SPI controller for pixel-to-pixel LED control on digital (programmable/addressable) LED strip, supplied by a constant voltage (5 ÷ 24) Vdc from an external SELV power supply. The controller is suitable for driving Digital-LED RGB/RGBW/TW strips at constant voltage. The controller can be controlled remotely via Bluetooth Low Energy (BLE) or locally via a Normally Open (N.O.) pushbutton.
RUNNING-LIGHT-CASAMBI can deliver a maximum output current of 7 A and has the following protections: over-voltage and under-voltage protections, reverse polarity protection and input fuse protection.
Through the PIXEL-REPEATER module (sold separately) connected to the BUS interface is possible to duplicate the effects to a second pixel-to-pixel Digital-LED strip placed at a distance up to 250 m from the controller.

RUNNING-LIGHT-CASAMBI enables you to make not only simple brightness adjustments but also more dynamic lighting control systems. This is made possible through the creation of multiple scenarios, animations, effects, timers, daylight controls, and more. Through the CASAMBI mobile application and smartphones equipped with Bluetooth technology, it is possible to configure multiple parameters, including up to 8 different light effects, colour, speed, direction, pixel length, and transition parameters.
CASAMBI mobile application can be downloaded free of charge from the Apple APP Store and Google Play Store.

⇢ For the up-to-date manual, please consult our website www.dalcnet.com or scan the QR Code on product label.

PRODUCT CODE

CODE	POWER SUPPLY	LED OUTPUTS	N° of INTERFACES	REMOTE CONTROL	LOCAL CONTROL	APP CONFIG
RUNNING-LIGHT-CASAMBI	5-12-24 VDC	7 A (max) [1]	N°1 Digital-LED (out) N°1 BUS Extender (out)	Bluetooth Low Energy (BLE)	N°1 N.O. Pushbutton	CASAMBI mobile app
PIXEL-REPEATER[2]	5-12-24-48 VDC	7 A (max) [1]	N°1 BUS Extender (in) N°1 Digital-LED (out)	BUS (up to 250 m)	-	-

Table 1: Product Code

PROTECTION AND DETECTION

The following table shows the types of incoming and outgoing protection/detection present on the device.

ACRONYM	DESCRIPTION	TERMINAL	PRESENT
IFP	Input Fuse Protection[3]	DC IN	✓
OVP	Over Voltage Protection[3]	DC IN	✓
UVP	Under Voltage Protection[3]	DC IN	✓
RVP	Reverse Voltage Polarity[3]	DC-IN	✓

Table 2: Detection and Protection functionalities

REFERENCE STANDARDS

RUNNING-LIGHT-CASAMBI complies with the regulations shown in the table below.

STANDARD	TITLE
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61547	Equipment for general lighting purposes – EMC immunity requirement

Table 3: Reference standards

[1] The maximum total output current depends on the operating conditions and ambient temperature of the system. For the correct configuration, check the maximum power that can be delivered in the §Technical Specifications and in the §Thermal Characterization sections.
[2] Optional BUS extender module sold separately.
[3] Protections refer to the control logic of the board.

TECHNICAL SPECIFICATIONS

Description	Name	Values			Unit of Measure	Note
		Min	Typ	Max		
POWER SUPPLY (DC IN terminal)						
Nominal Supply Voltage	V_{IN}	5	12	24	Vdc	-
Supply Voltage range	V_{IN-RNG}	5	÷	24	Vdc	-
Efficiency at full load	E_{FF}		> 95		%	-
Standby power absorption	P_{STBY}		< 0.5		W	-
PUSH-BUTTON (PUSH terminal)						
Input type	IN_{TYPE}		Dry contact		-	For N.O. pushbutton
Maximum wiring distance	PB_{WD-max}	-	-	10	m	-
OUTPUT (OUT terminal)						
Output Voltage	V_{OUT}		= V_{IN}		-	-
Output Current (max)	$I_{OUT-max}$	-	-	7	A	-
Rated Power Output	P_{OUT}	@5V	@12V	@24V	W	Rated @T_A<35 °C.
		35	84	168		
Load type	L_{TYPE}		Digital-LED strip		-	Defined by design
IC-LED type	IC_{TYPE_3CH}		WS2811, WS2812, WS2812B, WS2813B, WS2815, UCS1903, UCS1904, TM1804, TM1903, TM1913, GS8206, TX1818, SK6812, SM16703, APA105		-	3-channel Digital-LED. Check on Table 5 for other compatible ICs.
	IC_{TYPE_4CH}		WS2814, UCS2904, TM1814, SK6805, SK6812, SM16704, UCS7604		-	4-channel Digital-LED. Check on Table 5 for other compatible ICs.
Colour type map	CL_{TYPE_3CH}		RGB, RBG, GRB, GBR, BRG, BGR, WWW, TW(WWCW), TW(CWWW)		-	3-channel RGB/TW Digital-LED
	CL_{TYPE_4CH}		RGBW, RBGW, GRBW, GBRW, BRGW, BGRW, WRGB, WRBG, WGRB, WGBR, WBRG, WBGR		-	4-channel RGBW Digital-LED
Maximum addressable LEDs	IC_{ADDR_max}	-	-	2000	-	-
Resolution	RES		8		bit	16 million colours
Frame Rate	FR_{RGB}		100000 / (3 * Pixel Number)		-	RGB
	FR_{RGBW}		100000 / (4 * Pixel Number)		-	RGBW
BUS EXTENDER (BUS terminal)						
BUS type	BUS_{TYPE}		RS485		-	-
Maximum wiring distance	BUS_{WD-max}	-	-	250	m	-
BLUETOOTH (CASAMBI BLE SoC module)						
Operating Frequencies	f_{OP}	2402	÷	2480	MHz	Of CASAMBI BLE SoC module
Maximum Emitted Power	P_{BT-max}	-	-	8	dBm	Over Bluetooth transmission
ENVIRONMENTAL						
Storage temperature	T_{STORE}	-40	÷	+60	°C	Minimum values defined by design
Working Ambient temperature	T_A	-10	÷	+60	°C	Minimum values defined by design
Max Temperature @T_c point	T_C	-	-	+80	°C	-
Connector Type	CON_{TYPE}		Push-in terminals		-	-
Wiring Section	WS_{SOLID}	0.5	÷	1.5	mm^2	Defined by design
	WS_{STRAND}	20	÷	16	AWG	
Strip length	WS_{STRIP}		10		mm	-
Protection class	IP_{CODE}		IP20		-	-
Case Material	M_{CASE}		PC/ABS		-	Polycarbonate/ABS
Case Fixing	F_{CASE}		Screw fixing slots		-	-
Packaging units (pieces/units)	PU		1		pcs	-
Dimensions	-	L	H	D	-	-
	MD	136	29	21	mm	Case
	PD	147	34	29	mm	Packaging
Weight	W		58		g	Including packaging

Table 4: Technical specification

Other compatible IC-LEDs	IC Type to select
WS2812C, WS2813, WS2813E, WS2815B, WS2818A	WS2815
WS2813C, WS2818B	WS2813B
UCS1909, UCS1912*, UCS2903	UCS1903
UCS2909, UCS2912*	UCS1904
UCS2904B*	UCS2904
TM1809, TM1812*	TM1804
TM1913, TM1923	TM1903
TM1926*	TM1913
WS2813B_4CH	WS2814
APA107, APA109	APA105
GS8208	GS8206
SK6808, SK6813	SK6812
* 4-Pixel per IC-LED	

Table 5: Compatible IC-LEDs

T_c Point Position

The figure below shows the position of the maximum temperature point (*T_c point*, highlighted in red) reached by the electronics inside the enclosure. It is located on the front side (Top) near the BUS output terminal.

Figure 1: T_c point position

LIGHT EFFECTS OVERVIEW

RUNNING-LIGHT-CASAMBI supports the following light animations of the pixel-to-pixel Digital-LED strip, fully customizable as detailed in the §Effects Settings section of this document. The light effects are grouped depending to the Colour Type as shown in the following Table.

	RGB	RGBW	TW	WWW
MULTI EFFECT	✓	✓	✓	✓
FILL	✓	✓	✓	✓
FILL PARTIAL	✓	✓	✓	✓
STATIC	✓	✓	✓	✓
RAINBOW	✓	✓	-	-
WAVE	✓	✓	✓	✓
PLASMA	✓	✓	-	-
FIRE	✓	✓	-	-
HORSE RACE	✓	✓	-	-
MULTI-ZONE 2W	-	-	-	✓
MULTI-ZONE 4W	-	-	-	✓
MULTI-ZONE 8W	-	-	-	✓
GRADIENT RGB	✓	✓	-	-
LIGHTSCAPES	✓	✓	-	-

Table 6: Colour grouping for the available effects

For an effect preview, please visit our website: https://www.dalcnet.com/en/blog/dynamic-led-scenography-and-effects-with-running-light-dalcnet-n6.

INSTALLATION

ATTENTION! *Installation and maintenance must always be carried out in the absence of voltage.*
Before proceeding with the connection of the device to the power supply, make sure that the voltage of the power source is disconnected from the system.

The device should only be connected and installed by qualified personnel. All applicable regulations, legislation, standards, and building codes must be adhered to. Incorrect installation of the device may cause irreparable damage to the device and connected loads.

The following paragraphs show the diagrams of the dimmer's connection to the remote control, the load and the supply voltage. It is recommended to follow these steps to install the product safely:

1. Load wiring: connect the Digital-LED strip wires to the "OUT" terminal, the positive wire to the "V+" symbol, the negative wire to the "V-" symbol, and the Data-IN wire to the "DATA" symbol.
2. Local Control wiring: connect the N.O. pushbutton to the "PUSH" terminal with the symbol.
3. BUS Extender wiring (optional): connect the PIXEL-REPEATER signals to the "BUS" terminal using one twisted-pair shielded cable, wiring the D- (Data-B) signal to the "D-" symbol, the D+ (Data-A) to the "D+" symbol, and the COM (Common) signal to one of the "V-" terminals through the cable shield (recommended for signal balancing).
4. Power Supply wiring: connect a 5 Vdc, 12 Vdc, or 24 Vdc constant voltage SELV power supply (depending on the nameplate data of the LED load) to the "+" and "-" terminals of the DC IN terminal.
5. Remote control pairing: power ON the RUNNING-LIGHT-CASAMBI and follow the pairing instructions provided on CASAMBI mobile app.

DIGITAL-LED LOAD WIRING

RUNNING-LIGHT-CASAMBI has one Digital-LED channel that can drive a Digital-LED strip RGB, RGBW, TW (Tunable White), or WWW (Monochrome) up to 2000 pixel-to-pixel IC-LEDs. The IC-LED type, colour type, and the number of LED elements to be driven are configurable from CASAMBI mobile app (refer to §Fixture/Profile configuration section).
The following connection diagram (Figure 2) allows you to drive one Digital LED load.

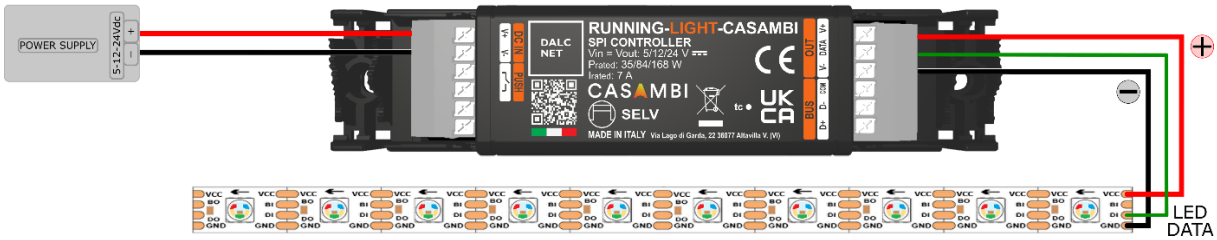


Figure 2: Connection diagram for Digital LED loads

For higher Load current (> 7A) it is recommended to use the following connection diagram, bypassing the V+ and V- signals of the OUT terminal and connecting the digital LED strip Supply Voltage terminals directly to the Power Supply.

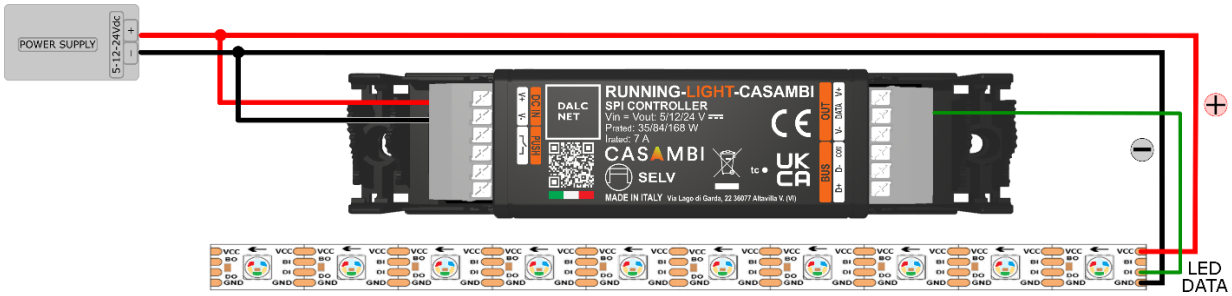


Figure 3: Connection diagram for Digital LED loads (> 7A)

Local Control wiring

RUNNING-LIGHT-CASAMBI can be controlled via Local Control with one Normally Open (N.O.) pushbutton or voltage-free dry contact.
No other voltage signals shall be applied to these contacts.

To connect the RUNNING-LIGHT-CASAMBI to local control, simply connect the pushbutton to the PUSH terminal. The following image shows the indicated wiring diagram for short distances (<10 m).

Figure 4: Local Command wiring diagram for Short Distances

PIXEL-REPEATER wiring (optional)

Optionally, you can duplicate the effects on a second Digital-LED strip distant up to 250 m from the RUNNING-LIGHT-CASAMBI controller using the PIXEL-REPEATER module (sold separately). The effects to the Digital-LED strips can be controlled directly from the push-button and/or programmed via the CASAMBI mobile app on the RUNNING-LIGHT-CASAMBI device.
The following paragraphs show the diagrams of the PIXEL-REPEATER BUS connection to the RUNNING-LIGHT-CASAMBI controller, the load and the supply voltage. It is recommended to follow these steps to install the product safely:

1. Load wiring: connect the Digital-LED strip signal to the "OUT" terminal, the power supply positive wire to the "V+" symbol, the negative wire to the "V-" symbol, and the Data-IN wire to the "DATA" symbol.
2. BUS wiring: connect the RUNNING-LIGHT-CASAMBI BUS signals to the "BUS" terminal using one twisted-pair shielded cable, wiring the D+ (Data-B) signal to the "D+" symbol, the D- (Data-A) to the "D-" symbol, and the COM (Common) signal to one of the "V-" terminals through the cable shield (recommended for signal balancing).
3. Power Supply wiring: connect a 5 Vdc, 12 Vdc, 24 Vdc or 48Vdc constant voltage SELV power supply (depending on the nameplate data of the LED load) to the "V+" and "V-" terminals of the DC IN terminal.

PIXEL-REPEATER device can be powered by a dedicated VDC power supply. Make sure that the rating data of the power source comply with the nameplate of module/Digital-LED strip.

BUS terminal is a RS485 interface and one twisted-pair shielded cable shall be used. RS485 shielded cable can be used too.

Keep the distances from the device to the unshielded portion of twisted pair as short as possible.

In case of one twisted-pair shielded cable (no Common wire) connecting the RUNNING-LIGHT-CASAMBI device to the PIXEL-REPEATER, wire the twisted pair to the D+ and D- signals on BUS terminals. The COM signal can be connected to any "V-" terminal of the device using the cable shield to improve the signal balance on the BUS.

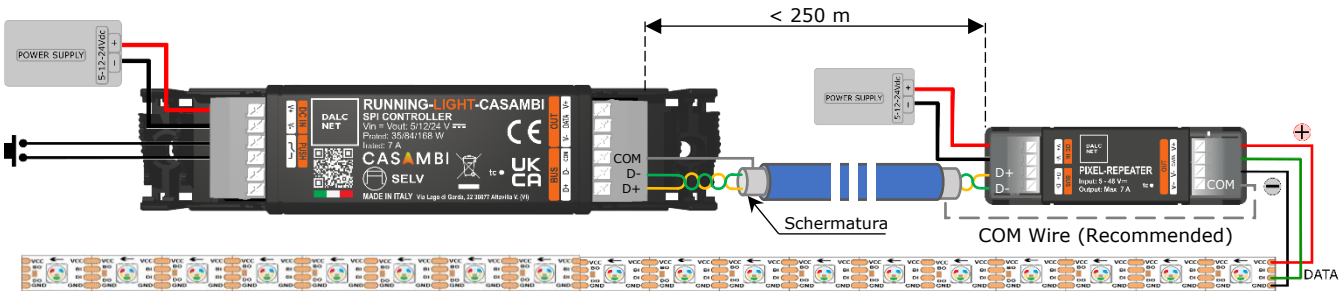


Figure 5: PIXEL-REPEATER wiring diagram

For higher Load current (> 7A) it is recommended to use the following connection diagram, bypassing the V+ and V- signals of the OUT terminal and connecting the Digital-LED strip Supply Voltage terminals directly to the Power Supply.

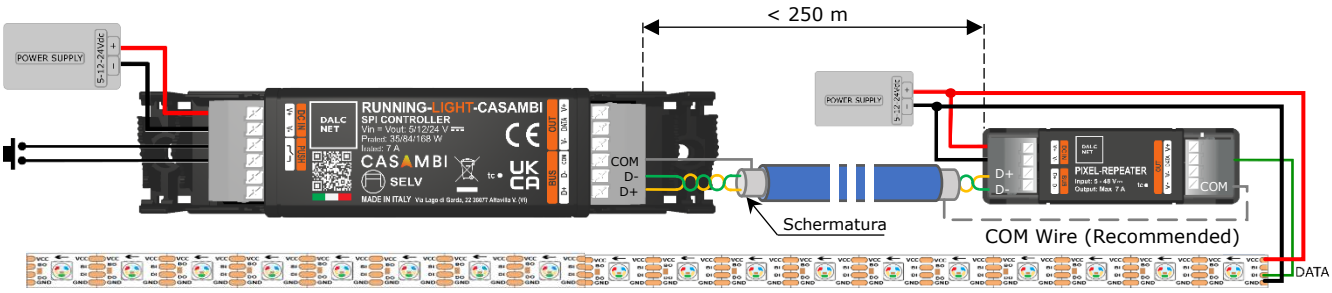


Figure 6: PIXEL-REPEATER wiring diagram (> 7A)

Power Supply Connection

RUNNING-LIGHT-CASAMBI can be powered by a 5 Vdc, 12 Vdc or 24 Vdc constant voltage SELV power supply, depending on the operating voltage of the LED load. Once all above connections are performed, connect the power supply to the "+" and "-" terminals of the DC IN terminal.

Figure 7: Power Supply Connection Diagram

LOCAL COMMAND: PUSHBUTTON

RUNNING-LIGHT-CASAMBI has one terminal for N.O. pushbutton or dry contact input, through which different operating parameters can be managed. Each action on the pushbutton activates a specific function for the type of control selected via CASAMBI mobile app.

CASAMBI mobile app provides up to 7 operating modes that can be associated with the button press, listed below:

1. *Controls a Luminaire*: the pushbutton takes over ON/OFF control and Luminaire/Digital-strip brightness functions.
2. *Controls an Element*: the pushbutton takes over ON/OFF functions dedicated to a device element inside the CASAMBI network and to adjust the element value.
3. *Control a Group*: the button takes on function dedicated to control a group of LED modules and their brightness.
4. *Control scene*: the button takes over brightness adjustment and turns ON/OFF the programmed scenario.
5. *Control all Luminaires*: the button takes over ON/OFF control and brightness functions of all Luminaires/Digital-strips.
6. *Cycles scenes*: the button takes over brightness adjustment and selection through the programmed scenario list.
7. *Active/Standby*: the button takes over brightness adjustment and selection between two programmed scenes.

Following table resumes the Pushbutton functionality of all operating modes.

ACTION / FUNCTION	QUICK PRESS	LONG PRESS (> 1s)
Controls a Luminaire	Turns ON/OFF the Luminaire/Digital-strip	Brightness adjustment (Dimming)
Controls an Element	Turns ON/OFF the selected device element	Element value adjustment
Controls a Group	Turns ON/OFF the configured Group of devices	Brightness adjustment (Dimming)
Control Scene	Turns ON/OFF the configured Scene	Brightness adjustment (Dimming)
Control all Luminaires	Turns ON/OFF all the Luminaires/Digital-strips	Brightness adjustment (Dimming)
Cycles Scenes	Cyclic scroll through the list of scenes	Brightness adjustment of current scene (Dimming)
Active / Standby	Switches between two programmed scenes	Brightness adjustment of current scene (Dimming)

Table 7: Pushbutton functionality

For all other functions consult the documentation of the CASAMBI mobile app at: https://support.casambi.com/support/home

THERMAL CHARACTERIZATION

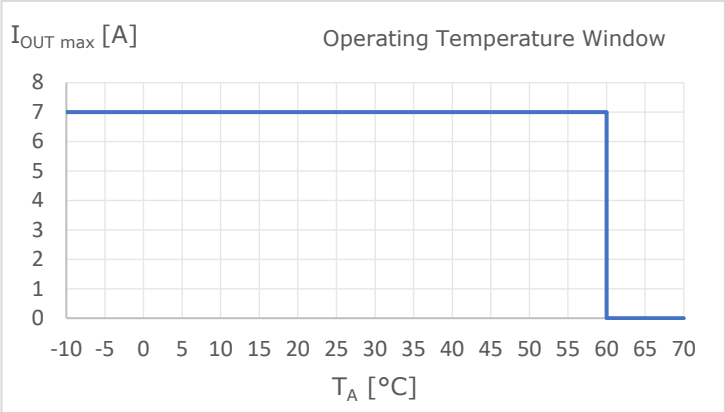


Figure 8: Operating Temperature Window

Figure 8 shows the maximum output current values that can be provided by the RUNNING-LIGHT-CASAMBI as a function of the operating temperature[4] (or ambient temperature, T_A) of the operation, summarized below:

- T_A = (-10 ÷ +60) °C ⇢ $I_{OUT} \leq 7$ A

These maximum current (total) values can only be applied under proper ventilation conditions.

MECHANICAL DIMENSIONS

Figure 9 details the mechanical measurements and the overall dimensions [mm] of the outer casing.

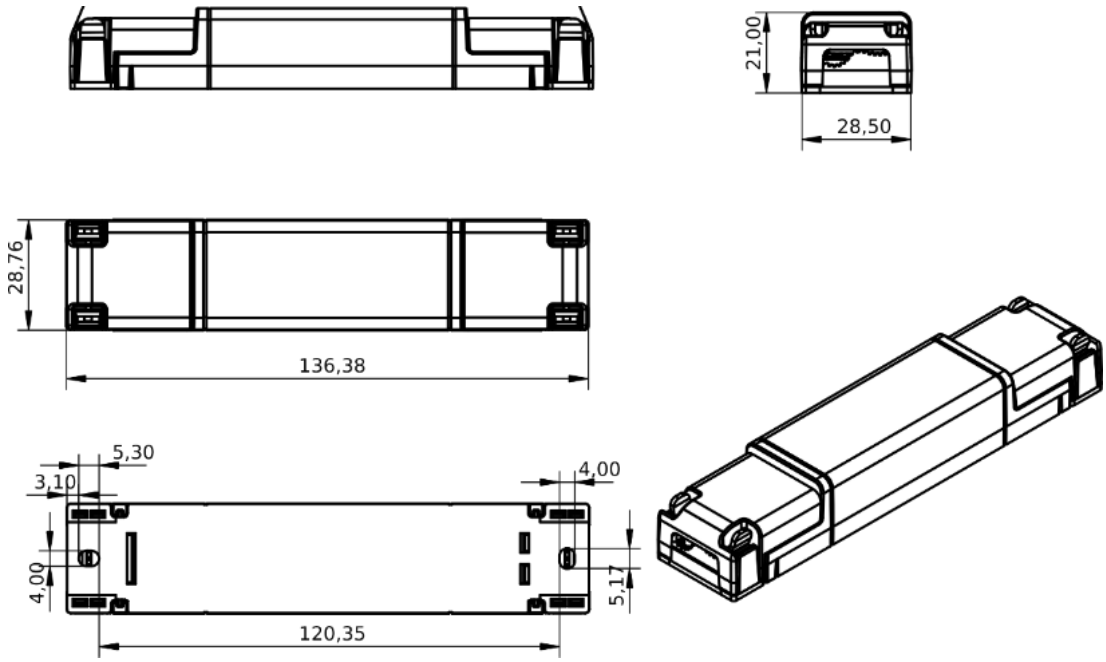


Figure 9: Mechanical dimensions

[4] If the product is installed inside an electrical panel and/or junction box, T_A refers to the temperature inside the panel/box.

TECHNICAL NOTES

INSTALLATION

ATTENTION! Installation and maintenance should always be carried out in the absence of DC voltage.
Before proceeding with the installation, adjustment, and connection of the device to the power supply, make sure that the voltage is disconnected from the system.

The device should only be connected and installed by qualified personnel. All applicable regulations, legislation, standards, and building codes in force in the respective countries must be adhered to. Incorrect installation of the device may cause irreparable damage to the device and connected loads.

Maintenance must only be carried out by qualified personnel in compliance with current regulations.

The product must be installed inside an electrical panel and/or junction box that is protected against surges/overvoltage.

The product is suitable for use in dry places, away from sources of moisture. Installation and use must take place in a dry environment.

The external power supply must be protected. The product must be protected by a properly sized circuit breaker with overcurrent protection.

Keep 230 Vac (LV) circuits and non-SELV circuits separate from SELV safety ultra-low voltage circuits and any product connections. It is strictly forbidden to connect, for any reason, directly or indirectly, the 230 Vac mains voltage to the product (control terminals included).

The product must be installed in a vertical or horizontal position, i.e. with the faceplate/label/top cover facing up or vertically. No other positions are allowed. The bottom position, i.e. with the faceplate/label/top cover facing downwards, is not allowed.

During installation, it is recommended to reserve adequate space around the device to facilitate its accessibility in case of future maintenance or updates (e.g. via smartphone).

Use in thermally harsh environments may limit the output power of the product.

For devices embedded within luminaires, the T_A ambient temperature range is a guideline to be carefully observed for the optimal operating environment. However, the integration of the device within the luminaire must always ensure proper thermal management (e.g. correct mounting of the device, proper ventilation, etc.) so that the temperature at the T_C point does not exceed its maximum limit under any circumstances. Proper operation and durability are only guaranteed if the maximum temperature of the T_C point is not exceeded under the conditions of use.

POWER SUPPLY AND LOAD

The device must be powered only with SELV power supplies with limited current at constant voltage, short-circuit protection and suitably sized power according to the specifications indicated in the product data sheet. No other types of power supply are permitted.

Size the power of the power supply respect to the load connected to the device. If the power supply is oversized compared to the maximum current drawn, insert an overcurrent protection between the power supply and the device.

Connecting to an unsuitable power supply may cause the device to operate outside of the specified design limits, voiding its warranty.

In the case of power supplies equipped with earth terminals, it is mandatory to connect ALL the protection earth points (PE= Protection Earth) to a state-of-the-art and certified earthing system.

The power cables of the device must be correctly sized with reference to the connected load and must be isolated from any wiring or equal to non-SELV voltage. It is recommended not to exceed 10m of connection between the power source and the product. Use double-insulated cables. If you want to use connection cables between the power source and the product longer than 10m, the installer must ensure the correct operation of the system. In any case, the connection between the power supply and the product must not exceed 30m.

The manufacturer recommends ensuring a cumulative leakage current of less than 3.5 mA on the control circuit.

The device has been designed to work with Digital-LED loads only. Connecting and powering unsuitable loads may cause the device to operate outside of the specified design limits, voiding its warranty. In general, the operating conditions of the device should never exceed the specifications indicated in the product data sheet.

Observe the intended polarity between the LED module and the device. Any polarity reversal results in no light emission and can often damage the LED modules.

It is recommended that the connection cables between the product and the LED module be less than 3m long. Cables must be properly sized and should be insulated from any non-SELV wiring or parts. It is recommended to use double-insulated cables. If you want to use connection cables between the product and the LED module longer than 3m, the installer must ensure the correct operation of the system. In any case, the connection between the product and the LED module must not exceed 30m.

It is not allowed to connect different types of loads in the same output channel.

LOCAL CONTROL AND BUS

The length of the connection cables between the local control (N.O. pushbutton) and the product must be less than 10m. The cables must be sized correctly. Depending on the connection used, they must be isolated from any wiring or non-SELV voltage parts. It is recommended to use double-insulated cables, if deemed appropriate, also shielded.

All devices and control signals connected to local commands with the symbol , must not supply any type of voltage.

The length and type of cables connecting to the buses must comply with the specifications of the respective protocols and current regulations. They must be isolated from any non-SELV wiring or live parts. It is recommended to use double-insulated cables.

The length and type of the connection cables at the extension BUS must be less than 250m and they should be isolated from every wiring or parts at voltage not SELV. To improve voltage balance at BUS side, the double insulated twisted-pair shielded cables shall be used, with shield connected to the COM signal of BUS interface and to the COM signal of PIXEL-REPEATER.

Bluetooth Low Energy (BLE) warnings and Mobile App notes

The BLE antenna is located inside the device, near the top of case.

BLE typically has a range of about 10 to 50 meters, depending on the environment and obstacles. Ensure your devices are within this range for reliable communication.

Walls, floors, and other physical barriers can significantly reduce the effective range and signal strength of BLE devices. Position devices to minimize these obstacles.

Other electronic devices, especially those operating on the 2.4 GHz frequency (like Wi-Fi routers), can interfere with BLE signals. Keep BLE devices away from such sources of interference.

Ensure that all devices in your BLE network are compatible with each other and support the same BLE version. Incompatibilities can lead to communication issues.

BLE is designed for low power consumption, but the battery life of your control devices (smartphone or tablet) can still be affected by factors like transmission frequency and data volume. Monitor and manage power settings to optimize battery life.

BLE technology works optimally with non-metallic materials. Therefore, it is not recommended to sourround the device by metal objects or reflective surfaces when using BLE communication.

For reliable communication, make sure that the top surface is not covered or that it is free of metal objects, wiring, or other electronic devices. Any impediments could affect the quality of communication.

To guarantee the best performances and the full use of functions, make sure to download on your device the last release of CASAMBI mobile app.

Whenever CASAMBI mobile app requires an upgrade of the profile installed in the LED Dimmers, follow the instruction to do it. This allows you to stay always up to date and benefit of new functions released.

Functionality test are done on all dimmers to ensure the right working. In case the device is still paired to "Dalcnet network", you are asked to unpair it by following the instructions on CASAMBI mobile app and in §Unpairing device from CASAMBI Network section.

LEGAL NOTES

Terms of Use

Dalcnet Srl (hereinafter referred to as "the Company") reserves the right to make changes to this device, in whole or in part, without prior notice to the customer. Such changes may affect technical aspects, functionality, design, or any other element of the device. The company is not required to notify you of such changes and that your continued use of the device will constitute your acceptance of the changes.

The company is committed to ensuring that any changes do not compromise the essential functionality of the device and that they comply with applicable laws and regulations. In the event of substantial changes, the company undertakes to provide clear and timely information on the same.

The customer is advised to periodically consult the www.dalcnet.com website or other official sources to check for any updates or changes to the device.

SYMBOLS

CE	All products are manufactured in compliance with European Regulations, as reported in the Declaration of Conformity.
UK CA	All products are manufactured in compliance with UK Regulations and conform to UK safety, health, and environmental requirements for products sold in the UK, as reported in the UK Conformity Assessed.
	Independent lamp Controlgear: lamp controlgear consisting of one or more separate elements so designed that it can be mounted separately outside a luminaire, with protection according to the marking of the lamp controlgear and without any additional enclosure.
SELV	"Very Low Safety Voltage" in a circuit isolated from the mains supply by insulation not less than that between the primary and secondary circuits of a safety isolation transformer according to IEC 61558-2-6.
	At the end of its useful life, the product described in this data sheet is classified as waste from electronic equipment and cannot be disposed of as unsorted municipal solid waste. **Warning!** Improper disposal of the product may cause serious harm to the environment and human health. For proper disposal, inquire about the collection and treatment methods provided by the local authorities.

Table 8: Device's symbols

CASAMBI

CASAMBI is the official application through which it is possible to configure, in addition to the functions of the RUNNING-LIGHT-CASAMBI, also all the different CASAMBI products equipped with BLE technology.

CASAMBI mobile app can be downloaded free of charge from the Apple App Store and Google Play Store.

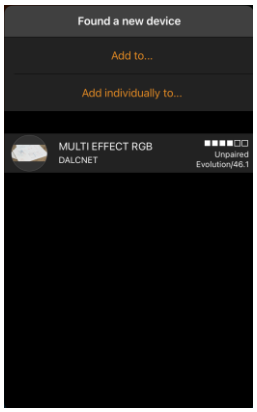
GET IT ON Google Play

Available on the App Store

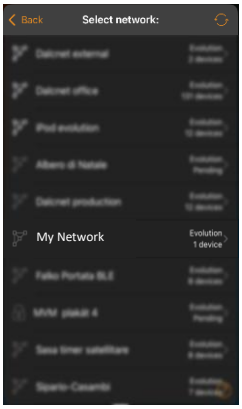
DEVICE SETTINGS

PAIRING DEVICE TO CASAMBI NETWORK

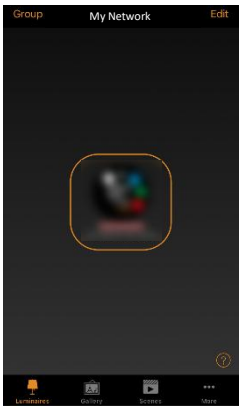
The first time you turn ON RUNNING-LIGHT-CASAMBI device, it will appear in the "Found a new device" section with the default profile "MULTI EFFECT RGB" preloaded. Perform the following procedure to Pair the device to a CASAMBI Network.



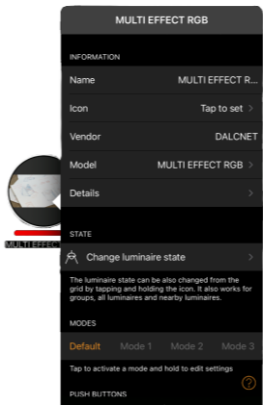
1. Open the CASAMBI mobile app and Power ON the device. It will appear in the list.
2. Select "Add to..." to open the list of available networks.



3. Select the network to pair the device with.



4. Once the device has been inserted in the Network, the default profile "MULTI EFFECT RGB" will be loaded.



5. Double tap on the profile icon to show the device configuration.

UNPAIRING DEVICE FROM CASAMBI NETWORK

If RUNNING-LIGHT-CASAMBI is already connected to a known network and/or you wish to associate it with a new network, you need to unpair from the current Network first: please tap the device icon from *Nearby Devices* section, select *Unpair*, and confirm. The unpair process will be started. After the unpairing, the device can be paired to a new Network by following the instructions on §Pairing device to CASAMBI Network section.

To unpair a device connected to an unknown Network (for which you don't have the credentials), please follow these steps:

1. Tap the device icon from *Nearby Devices* section, select *Unpair*, and confirm.
2. During the unpair process, turn OFF the Power Supply connected to the RUNNING-LIGHT-CASAMBI.
3. Wait 1-2 seconds, then turn the Power Supply ON again.
4. After a while, on *Nearby Devices* section the device will be shown as unpaired.

Note: if the power supply is switched OFF and ON again quickly, unpair may not be done properly. Repeat the unpair sequence by allowing 1 or 2 more seconds to elapse between the moment you turn OFF and re-turn ON the Power Supply.

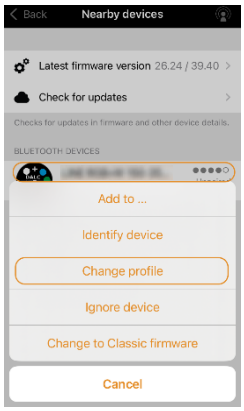
Another method to unpair the device from an unknown Network can be performed using a N.O. push-button connected to the "PUSH" terminal of the RUNNING-LIGHT-CASAMBI, following the next steps:

1. Tap the device icon from *Nearby Devices* section, select *Unpair*, and confirm.
2. During the unpair process, quick press the N.O. push-button.
3. After a while, on *Nearby Devices* section the device will be shown as unpaired.

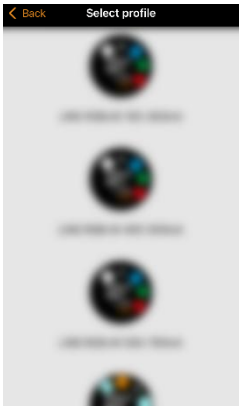
Change Profile on Paired device

Once the technical data of the load to be connected to the device have been verified, it is possible to configure light animation parameters for the selected profile by loading the Fixture on the controller. To change the Fixture on the RUNNING-LIGHT-CASAMBI, follow these steps.

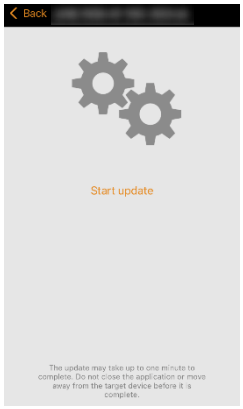
1. Power ON the device and open the CASAMBI mobile app.
2. Select *Nearby Devices*.



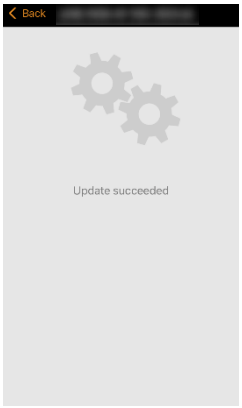
3. Tap on device's icon, then tap on *Unpair*.
4. Second tap on device's icon, then tap on *Change profile*.



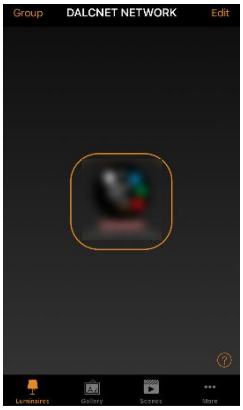
5. Select the desired profile (refer to Table 10).



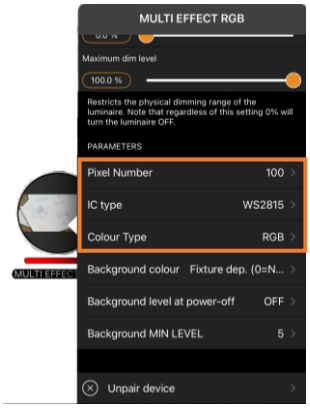
6. Tap *Start Update*.



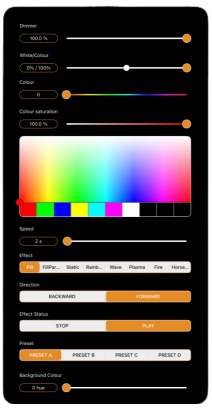
7. Wait for the profile to load correctly.
8. Back to *Nearby Devices* and select *Add to 'Network name'* to pair on the previous Network.



9. Once the device has been added to the Network, go back to *Luminaires* sheet and double tap on the profile icon to show the device configuration.



10. Sequentially set the *IC type*, *Colour Type*, and *Pixel Number* parameters (refer to §Fixture/Profile configuration section).
11. Hold tap on profile icon to show the profile settings.



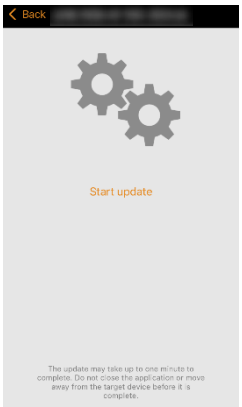
12. Inside the profile settings, the Digital-LED strip effect can be customized by the provided sliders and buttons.

Firmware Update on Paired device

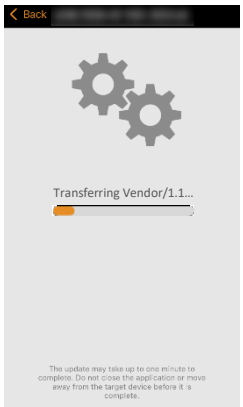
From CASAMBI mobile app it is possible to update the device's firmware. To check and load any update to the RUNNING-LIGHT-CASAMBI, follow these steps.

1. Power ON the device and open the CASAMBI mobile app.
2. Select *Nearby Devices*, *More* sheet, then tap the Meatball menu ⊙ and *Check for updates*.

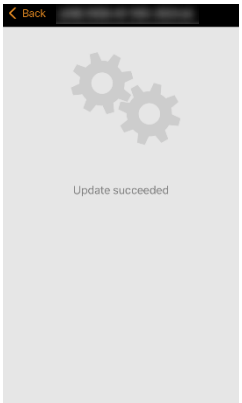
3. After checking for updates, if an update is available a small upward arrow will appear on device icon. Tap on device icon, then select *Update vendor firmware*.



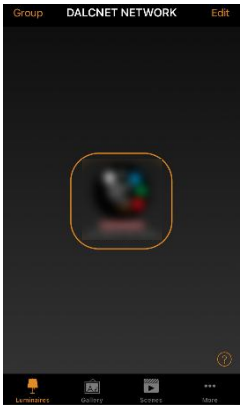
4. Tap *Start Update* on the next page. The transfer of the new Firmware will start.



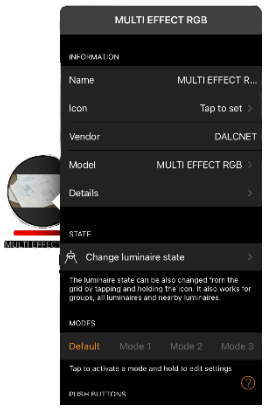
5. Please wait for the update, it may take up to three minutes or so.



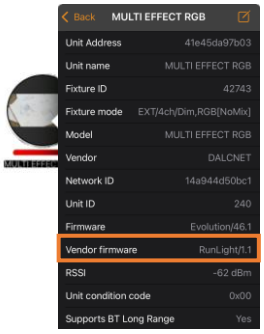
6. After the update and verification are successful, return to *Luminaires* sheet. Previous profile will be loaded.



7. Double tap on the profile icon to show the device configuration settings.



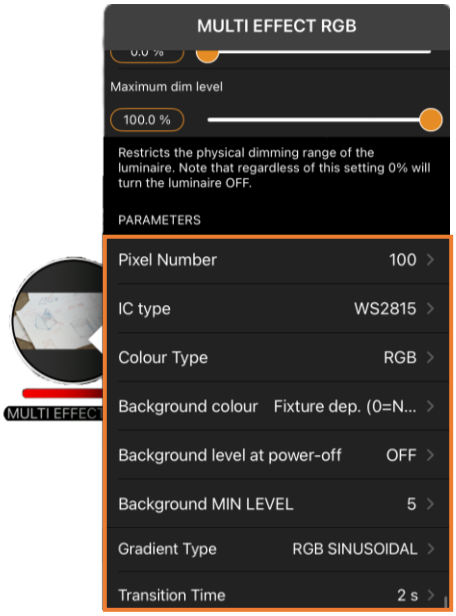
8. Tap on *Details* to show the device info.



9. The firmware version can be viewed under *Vendor Firmware* item.

FIXTURE/PROFILE CONFIGURATION

Once the Fixture has been correctly loaded, configure the RUNNING-LIGHT-CASAMBI to properly work with the connected Digital-LED strip. Perform a double tap on the profile icon to show the device settings and scroll the screen until the Parameters section.



Pixel Number[5]: allows to set the total number of IC (Integrated Circuit) LEDs mounted on the Digital-LED strip.

IC type[5]: sets the IC LED family mounted on the LED Strip (refer to Table 4 and Table 5).

Colour type[5]: allows to select the Colour type (RGB, RBG, ecc.) of LED strip (refer to Table 4).

Background colour: sets the colour of the background during the effect animation (fixture dependant, not available for Static, Rainbow, Fire, and Wave effects, TW, Multi-Zone, Gradient RGB, and Lightscapes fixtures). Value that can be selected:

- None: background colour is Black (LED OFF)
- White: background colour is White
- Fixture dep.: on fixture settings, background slider Hue=0 → Red, Hue>0 → colour range
- Fixture dep. 0=None: on fixture settings, background slider Hue=0 → black, Hue>0 → colour range

Background level at power-off: sets the brightness level of the background during the device power-off (fixture dependant, not available for Static, Rainbow, Fire, and Wave effects and TW fixtures). Value that can be selected:

- OFF: background level is 0 (LED OFF)
- Min level: background level is MIN LEVEL (see next parameter).

Background MIN LEVEL: sets the brightness minimum level of the background (fixture dependant, not available for Static, Rainbow, Fire, and Wave effects). For basic settings, it is suggested to be set equal to "Minimum dim level" parameter.

Gradient Type: since the "Gradient RGB" and "Lightscapes" fixtures work by mixing two colors, this parameter allows you to select between four types of mixing (gradient) between the colors (available only for Gradient RGB and Lightscapes fixtures). For the "Gradient RGB" fixture the two colors can be set by the user, while in "Lightscapes" fixture them are preset. Table below shows the gradient type differences mixing two example colours.

Gradient Type	Colour 1	Colour 2	Result
RGB Linear			
RGB Sinusoidal			
HSL Linear			
HSL Sinusoidal			

Transition Time: sets the transition duration [s] between gradient types.

First, you need to set (in this order) the *IC type*, *Colour Type*, and *Pixel Number* parameters as detailed in the following sections.

IC TYPE SETUP

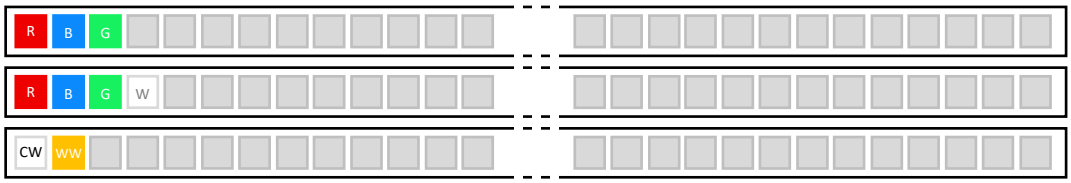
First, you have to setup the IC type parameter with the correct IC mounted on your Digital-LED strip. On the nameplate of the connected Digital-LED strip, check which IC LED family is mounted. Then tap on "IC type" menu and select the correct IC name. If you don't find in the menu the IC family mounted on your Digital-LED strip, check the compatibility on the Table 5 and select the compatible IC value on the menu.

COLOUR TYPE SETUP

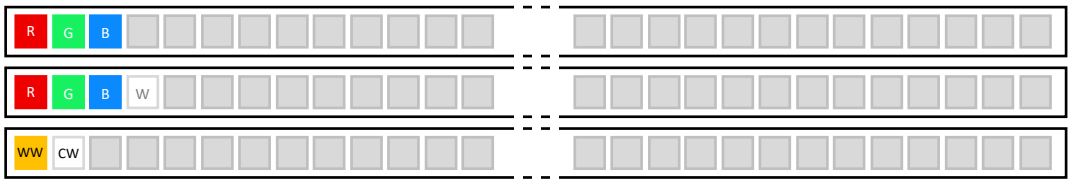
Second, the "Colour type" parameter needs to be set. This parameter sets the channel sequence of the basic colour mapped on the IC-LED. To set the Colour type, verify the nameplate of the Digital-LED strip and select the value accordingly. With RGB, RGBW and Tunable White Digital-LED strips, if the value is not present on the strip nameplate or you want to verify if the selected colour type is correct for the Digital-LED strip, perform the following steps:

[5] To be set at the first time after every Fixture change.

1. Tap on the "Colour type" menu, select a different value from "RGB" (default value), then select the color sequence "RGB" for RGB Digital-LED strip ("RGBW" for RGBW LEDs, or "WW-CW" Warm White - Cool White for TW LEDs).
2. Look at the LED strip, for few seconds the first pixels on Digital-LED strip will light with the colour sequence equal to the correct "Colour type" value to be selected in the menu (e.g. RBG/RBGW/CW-WW in the following example).



3. Select the colour sequence you see lighted in the LED strip (e.g. RBG/RBGW/CW-WW in the previous example).
4. The first pixels now will light with the right colour sequence. When you see the RGB, RGBW, or WW-CW colour sequence on the LED strip, it was set correctly.

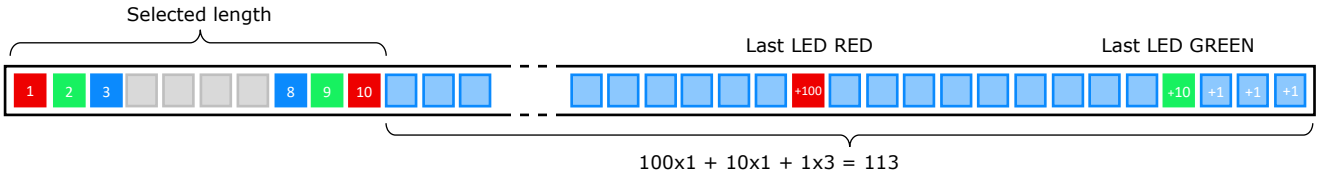


Pixel Number setup

Third, you have to set the "Pixel Number" parameter (100 by default). This parameter sets the total number of IC-LEDs mounted on the Digital-LED strip. To set the "Pixel Number", verify the nameplate of the Digital-LED strip and select the value accordingly. If the value is not present on the strip nameplate, the strip length was modified or you want to verify the total Pixel Number mounted on the Digital-LED strip, perform the following procedures.

How to setup Pixel Number on RGB/RGBW Digital-LED strips

1. Tap on the "Pixel Number" menu and set a mid-low value (e.g. 10).
2. Look at the LED strip, for few seconds the strip will light according to the value set. The first sector of the LED strip will be lighted at the length you selected, delimited by three pixels R-G-B-...-B-G-R. The rest of the LED strip will light according to the following legend:
   a. +100 Red LED: after the initial sector, indicates the Hundreds to be added to the current Pixel Number
   b. +10 Green LED: after the last RED LED, indicates the Tens to be added to the current Pixel Number
   c. +1 Blue LED: after the last GREEN LED, indicates the Units to be added to the current Pixel Number



3. Count the total Red LED lighted on the LED strip (after the selected length); then count the total Green LED lighted after the last Red LED; at the end, count the total Blue LED lighted after the Last Green LED. Adding the number of LEDs just counted associated with their value (e.g. 100x1 + 10x1 + 1x3 = 113 in the example above) gives you the value to be added to the current Pixel Number (e.g. 10+113=123).

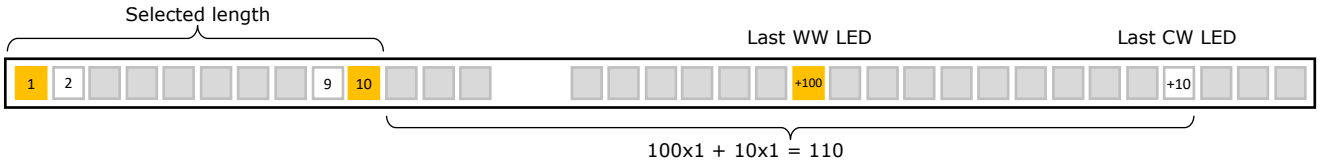
   Note: alternatively, you can repeat the steps from 1 to 3 counting and setting the value separately for each red, green, and blue colour depicted above. Firstly, counting after the selected length all the Red LEDs (+100 each LED) to be added and setting the Pixel Number (e.g. 10+100=110); then counting the remaining Green LEDs (+10 each LED) and setting the corresponding value (e.g. 110+10=120), and finally counting the remaining Blue LEDs (+1 each LED) to be added and updating the Pixel Number (e.g. 120+3=123) with the right value.

4. Tap on the "Pixel Number" menu and set the correct value (e.g. 123).

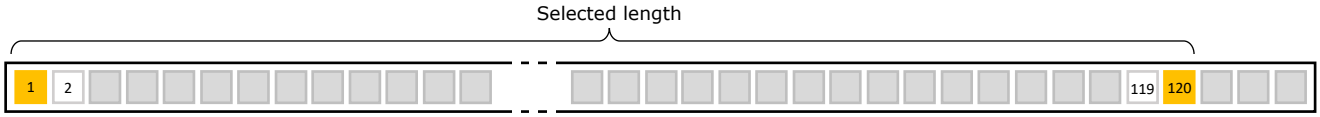
How to setup Pixel Number on TW Digital-LED strip

1. Tap on the "Pixel Number" menu and set a mid-low value (e.g. 10).

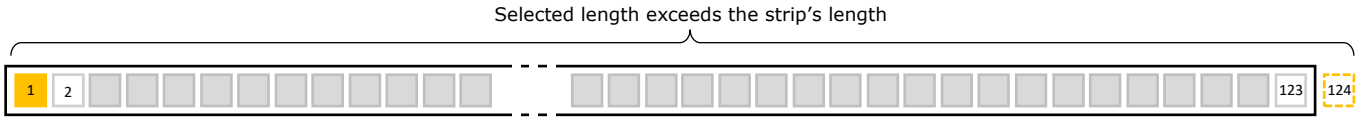
2. Look at the LED strip, for few seconds the strip will light according to the value set. The first sector of the LED strip will be lighted at the length you selected, delimited by two pixels WW-CW-...-CW-WW. The rest of the LED strip will light according to the following legend:
   a. +100 WW (Warm White) LED: indicates the Hundreds to be added to the current Pixel Number
   b. +10 CW (Cool White) LED: after the last WW LED, indicates the Tens to be added to the current Pixel Number



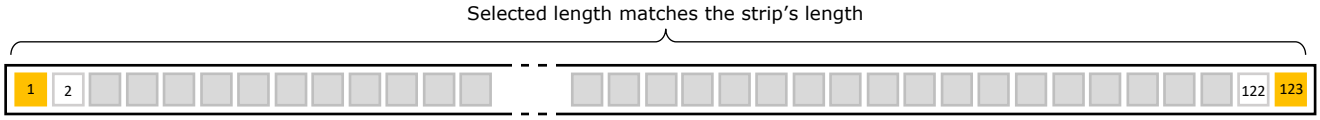
3. Count the total WW LED lighted on the LED strip (after the selected length); then count the total CW LED lighted after the last WW LED. Adding the values associated with the number of LEDs just counted (100x1+10x1=110 in the example above) gives you the value to be added to the current Pixel Number (e.g. 10+110=120).
4. Tap on the "Pixel Number" menu and set the obtained value (e.g. 120).
5. Look at the LED strip, for few seconds the strip will light according to the value set with first sector of the LED strip (delimited by pattern WW-CW-...-CW-WW) will be lighted at the length you selected.



6. Change the "Pixel Number" value (e.g. 124) by adding units until the Warm White (WW) LED at the end of the sector disappears from the Digital-LED strip.

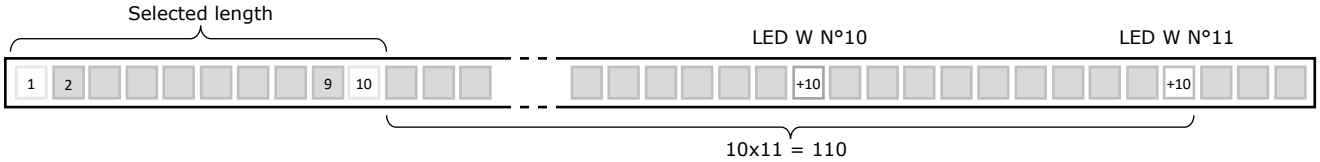


7. Change the "Pixel Number" value (e.g. 123) by subtracting one unit to make the last WW LED at the end of the sector visible again.

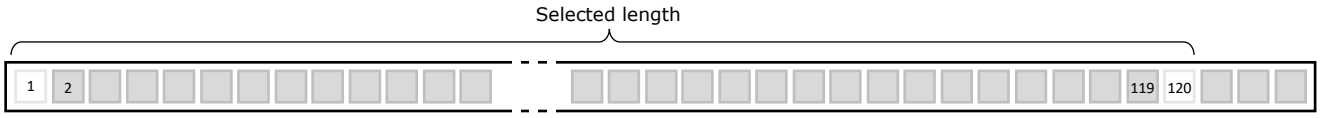


How to Set the Pixel Number on Monochrome (WWW) Digital-LED strip

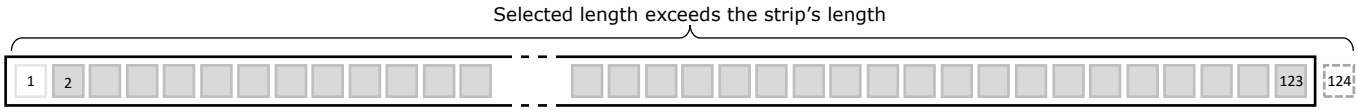
1. Tap on the "Pixel Number" menu and set a mid-low value (e.g. 10).
2. Look at the LED strip, for few seconds the strip will light according to the value set. The first sector of the LED strip will be lighted at the length you selected, delimited by two pixels W-...-W with highest intensity (100%). The rest of the LED strip will light according to the following legend:
   a. +10 W (White/Monochrome) LED, 50% intensity: indicates the Tens to be added to the current number of pixels



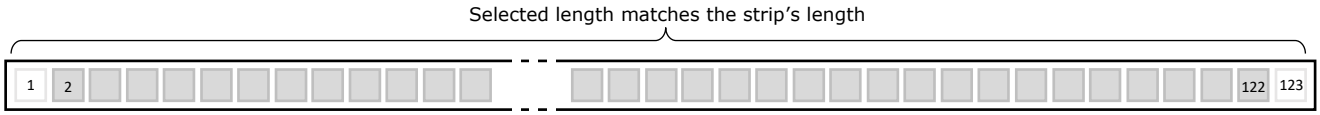
3. Counts the total W LEDs lit with the lowest intensity (about 50%) on the LED strip (after the selected length). Adding the values associated with the number of LEDs just counted (e.g. 10x11=110 in the example above) gives the value to be added to the current Number of Pixels (e.g. 10+110=120).
4. Tap on the "Pixel Number" menu and set the value obtained (e.g. 120).
5. Look at the LED strip, for a few seconds the strip will light up according to the set value, with the first sector of the LED strip (bounded by the W-...-W pattern) lighting up at the selected length with maximum intensity (100%).



6. Change the "Pixel Number" value (e.g. 124), adding units until the last LED disappears from the LED strip.



7. Change the "Pixel Number" value (e.g. 123), subtracting one unit to make the last LED visible again at the end of the sector.



PROFILES OVERVIEW: FIXTURES

RUNNING-LIGHT-CASAMBI supports the following fixtures (selectable by CASAMBI mobile app) that provides parameters for the light animation of the pixel-to-pixel Digital-LED strip. Fixture IDs are grouped as shown in the following Table. For detailed profile list, refer to Table 10.

	RGB	RGBW	TW	WWW
MULTI EFFECT	**42743**	43886	44021	48156
FILL	44000	44001	44022	48157
FILL PARTIAL	44002	44003	44023	48158
STATIC	44004	44005	44024	48159
RAINBOW	44006	44007	-	-
WAVE	44008	44009	44025	48160
PLASMA	44010	44011	-	-
FIRE	44012	44013	-	-
HORSE RACE	44014	44015	-	-
MULTI-ZONE 2W	-	-	-	48549
MULTI-ZONE 4W	-	-	-	48550
MULTI-ZONE 8W	-	-	-	48551
GRADIENT RGB	48552	48552	-	-
LIGHTSCAPES	48859	48859	-	-

Table 9: Grouping of Fixture IDs for the available effects

NAME OF PROFILE	PROFILE ID	DESCRIPTION
MULTI EFFECT RGB	**42743 (Default)**	**Multiple effect preview for RGB Digital-LED strip** You can select a RGB animation with basic parameters from the effects list, which is useful for previewing the effect without changing the Fixture. Custom parameter settings can be made from a specific RGB Fixture.
MULTI EFFECT RGBW	43886	**Multiple effect preview for RGBW Digital-LED strip** You can select an RGBW animation with basic parameters from the effects list, which is useful for previewing the effect without changing the Fixture. Custom parameter settings can be made from a specific RGBW Fixture.
MULTI EFFECT TW	44021	**Multiple effect preview for Tunable White (TW) Digital-LED strip** You can select a TW animation with basic parameters from the effects list, which is useful for previewing the effect without changing the Fixture. Custom parameter settings can be made from a specific TW Fixture.
NEW **MULTI EFFECT WWW**	48156	**Multiple effect preview for Monochrome (WWW) Digital-LED strip** You can select a Monochrome animation with basic parameters from the effects list, which is useful for previewing the effect without changing the Fixture. Custom parameter settings can be made from a specific WWW Fixture.

NAME OF PROFILE	PROFILE ID	DESCRIPTION
FILL RGB	44000	**Filler effect for RGB Digital-LED strip** Fill RGB animation fully customizable by means the following parameters: Dimmer, Colour, Colour saturation, Background Colour, Rainbow Colour Front/Back, Speed, Effect Version, ON/OFF Direction, Start Point.
FILL RGBW	44001	**Filler effect for RGBW Digital-LED strip** Fill RGBW animation fully customizable by means the following parameters: Dimmer, White/Colour, Colour, Colour saturation, Background Colour, Rainbow Colour Front/Back, Speed, Effect Version, ON/OFF Direction, Start Point.
FILL TW	44022	**Filler effect for Tunable White (TW) Digital-LED strip** Fill TW animation fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Effect Version, ON/OFF directions, and Start Point.
NEW **FILL WWW**	48157	**Filler effect for Monochrome (WWW) Digital-LED strip** Fill WWW animation fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Effect Version, ON/OFF directions, and Start Point.
FILL PARTIAL RGB	44002	**Partial Filler effect for RGB Digital-LED strip** Fill RGB effect with customizable sector dimension and animation, fully customizable by means the following parameters: Dimmer, Colour, Colour saturation, Background Colour, Rainbow Colour Front/Back, Speed, Partial sector, Start Point, Direction, Effect Status.
FILL PARTIAL RGBW	44003	**Partial Filler effect for RGBW Digital-LED strip** Fill RGBW effect with customizable sector dimension and animation, fully customizable by means the following parameters: Dimmer, White/Colour, Colour, Colour saturation, Background Colour, Rainbow Colour Front/Back, Speed, Partial sector, Start Point, Direction, Effect Status.
FILL PARTIAL TW	44023	**Partial Filler effect for Tunable White (TW) Digital-LED strip** Fill TW effect with customizable sector dimension and animation, fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Partial sector, Start point, Direction, Effect Status.
NEW **FILL PARTIAL WWW**	48158	**Partial Filler effect for Monochrome (WWW) Digital-LED strip** Fill Monochrome effect with customizable sector dimension and animation, fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Partial sector, Start point, Direction, Effect Status.
STATIC RGB	44004	**Static effect for RGB Digital-LED strip** Static RGB effect (no animation) up to 8 colour sectors customizable by means the following parameters: Dimmer, Colour, Colour saturation, Colour 2 to Colour 8, Sequence.
STATIC RGBW	44005	**Static effect for RGBW Digital-LED strip** Static RGB effect (no animation) up to 8 colour sectors customizable by means the following parameters: Dimmer, White/Colour, Colour, Colour saturation, Colour 2 to Colour 8, Sequence.
STATIC TW	44024	**Static effect for Tunable White (TW) Digital-LED strip** Static TW effect (no animation) customizable by means two cursors: Dimmer and Colour temperature.
NEW **STATIC WWW**	48159	**Static effect for Monochrome (WWW) Digital-LED strip** Static Monochrome effect (no animation) customizable by means two cursors: Dimmer and Colour temperature.
RAINBOW RGB	44006	**Rainbow effect for RGB Digital-LED strip** Rainbow RGB effect with dynamically and softly colour animation change. Fully customizable by means the following parameters: Dimmer, Speed, Number of rainbows, Colour sequence, Direction, Effect status.
RAINBOW RGBW	44007	**Rainbow effect for RGBW Digital-LED strip** Rainbow RGBW effect with dynamically and softly colour animation change. Fully customizable by means the following parameters: Dimmer, White/Colour, Speed, Number of rainbows, Colour sequence, Direction, Effect status.
WAVE RGB	44008	**Wave effect for RGB Digital-LED strip** RGB wave animation, fully customizable by means the following parameters: Dimmer, Colour, Colour saturation, Rainbow Colour, Speed, Number of waves, Minimum wave level, Direction, Effect Status.

NAME OF PROFILE	PROFILE ID	DESCRIPTION
WAVE RGBW	44009	**Wave effect for RGBW Digital-LED strip** RGBW wave animation, fully customizable by means the following parameters: Dimmer, White/Colour, Colour, Colour saturation, Rainbow Colour, Speed, Number of waves, Minimum wave level, Direction, Effect Status.
WAVE TW	44025	**Wave effect for Tunable White (TW) Digital-LED strip** TW wave animation, fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Number of waves, Minimum wave level, Direction, Effect Status.
NEW **WAVE WWW**	48160	**Wave effect for Monochrome (WWW) Digital-LED strip** Monochrome wave animation, fully customizable by means the following parameters: Dimmer, Colour temperature, Speed, Number of waves, Minimum wave level, Direction, Effect Status.
PLASMA RGB	44010	**Plasma effect for RGB Digital-LED strip** RGB plasma bubble animation, fully customizable by means the following parameters: Dimmer, Colour, Colour saturation, Background colour, Rainbow Colour Front/Back, Speed, Effect Status.
PLASMA RGBW	44011	**Plasma effect for RGBW Digital-LED strip** RGBW plasma bubble animation, fully customizable by means the following parameters cursor: Dimmer, White/Colour, Colour, Colour saturation, Background colour, Rainbow Colour Front/Back, Speed, Effect Status.
FIRE RGB	44012	**Fire effect for RGB Digital-LED strip** RGB fire animation, fully customizable by means the following parameters cursor: Dimmer, Speed, Effect Version, Effect Status.
FIRE RGBW	44013	**Fire effect for RGBW Digital-LED strip** RGBW fire animation, fully customizable by means the following parameters cursor: Dimmer, Speed, Effect Version, Effect Status.
HORSE RACE RGB	44014	**Horse-race effect for RGB Digital-LED strip** RGB partial sector movement animation, fully customizable through the following parameters cursor: Dimmer, Colour, Colour saturation, Background colour, Rainbow Colour Front/Back, Speed, Fade Front/Back, Length, Direction.
HORCE RACE RGBW	44015	**Horse-race effect for RGBW Digital-LED strip** Colour RGBW partial sector movement animation, fully customizable through the following parameters cursor: Dimmer, White/Colour, Colour, Colour saturation, Background colour, Rainbow Colour Front/Back, Speed, Fade Front/Back, Length, Direction.
NEW **MULTI-ZONE 2W**	48549	**Two-Zone effect for Monochrome (WWW) Digital-LED strip** Management of two independent zones on the Monochromatic Digital-LED strip, with customizable brightness using the dedicated slider parameters. You can assign specific sections of a strip to dedicated Casambi buttons or motion sensors.
NEW **MULTI-ZONE 4W**	48550	**Four-Zone effect for Monochrome (WWW) Digital-LED strip** Management of four independent zones on the Monochromatic Digital-LED strip, with customizable brightness using the dedicated slider parameters. You can assign specific sections of a strip to dedicated Casambi buttons or motion sensors.
NEW **MULTI-ZONE 8W**	48551	**Eight-Zone effect for Monochrome (WWW) Digital-LED strip** Management of eight independent zones on the Monochromatic Digital-LED strip, with customizable brightness using the dedicated slider parameters. You can assign specific sections of a strip to dedicated Casambi buttons or motion sensors.
NEW **GRADIENT RGB**	48552	**Two-colour gradient effect for RGB/RGBW Digital-LED strip** Create elegant, smooth transitions between two selected colors. Fully customize colors, speed, and color space to achieve sophisticated, fluid motion.
NEW **LIGHTSCAPES**	48859	**Pre-set gradient effects for RGB/RGBW Digital-LED strip** The ultimate library for high-end environments. Lightscapes allows you to recall up to 22 pre-set ambient scenarios directly from the Casambi interface, featuring slow, organic movements designed for Natural, Wellness, Living, and Urban contexts.

Table 10: Profiles list

EFFECTS SETTINGS

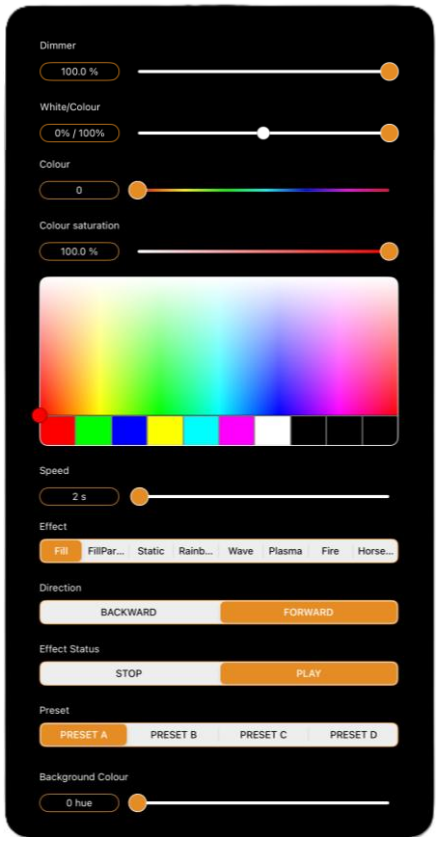
RUNNING-LIGHT-CASAMBI provides up to 8 light effects mapped for each pixel-to-pixel Digital-LED colour type as shown in Table 9 and Table 10, and listed below:

- MULTI EFFECT
- FILL
- FILL-PARTIAL
- STATIC
- RAINBOW
- WAVE
- PLASMA
- FIRE
- HORSE RACE
- MULTI-ZONE
- GRADIENT RGB
- LIGHTSCAPES

After loaded the Fixture profile, you can access the profile settings by hold taping the Fixture icon.

MULTI EFFECT RGB/RGBW

With the *MULTI EFFECT RGB* and *MULTI EFFECT RGBW* fixtures you can select and configure multiple RGB and RGBW effects from a single fixture, to perform an animation preview with basic parameters and preset settings.



Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on MULTI EFFECT RGB fixture).

Colour: customize the foreground colour of the Digital-LED strip.

Colour saturation: sets the saturation of the selected colour.

Speed: sets the time [s] needed to complete the effect on the configured pixel length, from 0s to 255s.

Effect: allows to select the effect from the following list:

- FILL
- FILL-PARTIAL
- STATIC
- RAINBOW
- WAVE
- PLASMA
- FIRE
- HORSE RACE

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip, controller side) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

Preset: allows to select a preset configuration parameters (like Start Point, ON/OFF directions, Number of sectors/waves, etc.) to give an effect preview. Preset values depend to the effect selected and are different for each effect (refer to Table 11). To fully customize the effect, refer to the Fixture dedicated to it.

Background Colour: allows to set the colour (hue) of the Background. Start value depends to the *Background Colour* value selected on §Fixture/Profile configuration (not available for Static, Rainbow, Fire, and Wave effects).

EFFECT	PRESET A	PRESET B	PRESET C	PRESET D
FILL	Start Point = 0%, OFF-direction = ON-direction	Start Point = 0%, OFF-direction ≠ ON-direction	Start Point = 50%, OFF-direction = ON-direction	Start Point = 50%, OFF-direction ≠ ON-direction
FILL PARTIAL	Partial sector = 12,5% strip length	Partial sector = 25% strip length	Partial sector = 50% strip length	Complete sector with Effect Status = Stop
STATIC	Number of sector(s) = 1	Number of sector(s) = 2	Number of sector(s) = 4	Number of sector(s) = 8
RAINBOW	Number of rainbows = 1, Violet to Red	Number of rainbows = 5, Violet to Red	Number of rainbows = 1, Red to Violet	Number of rainbows = 5, Red to Violet
WAVE	Number of waves ≅ 3	Number of waves ≅ 5	Number of waves ≅ 10	Number of waves ≅ 20
PLASMA	-	-	-	-
FIRE	Total flame(s) = 1, base of the flame at beginning of the strip (device side)	Total flame(s) = 1, base of the flame at end of the strip (opposite side)	Total flame(s) = 2, base of the flames at the ends of the strip	Total flame(s) = 2, base of the flames at the center of the strip
HORSERACE	Sector length = 5%	Sector length = 10%	Sector length = 20%	Sector length = 33%

Table 11: Effect presets settings on MULTI EFFECT RGB/RGBW fixture

MULTI EFFECT TW

With the *MULTI EFFECT TW* fixture you can select and configure multiple Tunable White effects from a single fixture, to perform an animation preview with basic parameters and preset settings.

Dimmer: sets the overall strip brightness.

Colour temperature: sets the colour temperature, from 2700 to 6500 Kelvin.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect: allows to select the effect from the following list:

- FILL
- FILL-PARTIAL
- STATIC
- WAVE

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

Preset: allows to select a preset configuration parameters (like Start Point, ON/OFF directions, Number of sectors/waves, etc.) to give an effect preview. Preset values depend to the effect selected above and are different for each effect (refer to Table 12). To fully customize the effect, refer to the Fixture dedicated to it.

EFFECT	PRESET A	PRESET B	PRESET C	PRESET D
FILL	Start Point = 0%, OFF-direction = ON-direction	Start Point = 0%, OFF-direction ≠ ON-direction	Start Point = 50%, OFF-direction = ON-direction	Start Point = 50%, OFF-direction ≠ ON-direction
FILL PARTIAL	Partial sector = 12,5% strip length	Partial sector = 25% strip length	Partial sector = 50% strip length	Complete sector with Effect Status = Stop
STATIC	Number of sector(s) = 1	Number of sector(s) = 2	Number of sector(s) = 4	Number of sector(s) = 8
WAVE	Number of waves ≅ 3	Number of waves ≅ 5	Number of waves ≅ 10	Number of waves ≅ 20

Table 12: Effect presets settings of MULTI EFFECT TW and WWW fixtures

MULTI EFFECT WWW

With the *MULTI EFFECT WWW* fixture you can select and configure multiple Monochromatic (WWW) effects from a single fixture, to perform an animation preview with basic parameters and preset settings.

Dimmer: sets the overall strip brightness.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect: allows to select the effect from the following list:

- FILL
- FILL-PARTIAL
- STATIC
- WAVE

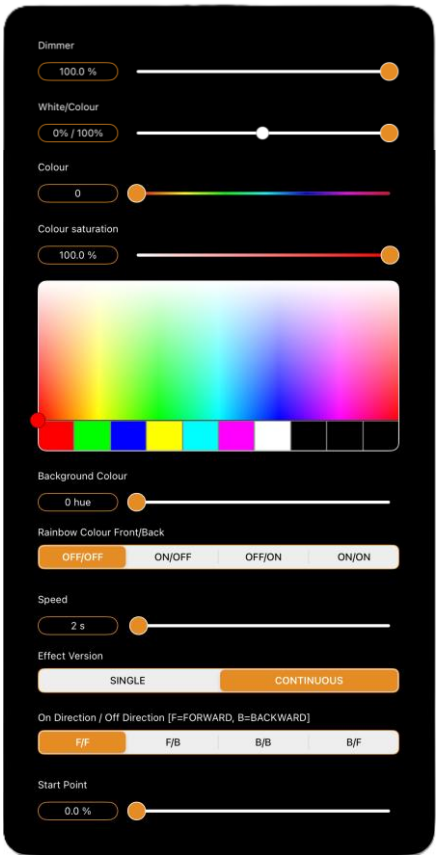
Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

Preset: allows to select a preset configuration parameters (like Start Point, ON/OFF directions, Number of sectors/waves, etc.) to give an effect preview. Preset values depend to the effect selected above and are different for each effect (refer to Table 12). To fully customize the effect, refer to the Fixture dedicated to it.

FILL RGB/RGBW

With the *FILL RGB* and *FILL RGBW* fixtures you can fully customize the Fill effect on the RGB/RGBW Digital-LED strip.



Dimmer: sets the overall light brightness.

White/Colour: sets the mixing value between colour and white light (not available on FILL RGB fixture).

Colour: customize the foreground colour of the Digital-LED strip.

Colour saturation: sets the saturation of the selected colour.

Background Colour: allows to set the colour (hue) of the Background. Start value depends to the *Background Colour* value selected on §Fixture/Profile configuration.

Rainbow Colour Front/Back: allow to set the foreground and background colour changing at every cycle. Value that can be selected:

- OFF/OFF: no change
- ON/OFF: foreground colour changes at every cycle, background still unchanged
- OFF/ON: background colour changes at every cycle, foreground still unchanged
- ON/ON: both foreground and background colours change at every cycle

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect Version: allows to set if the effect shall be played one time (Single) or continuously (Continuous).

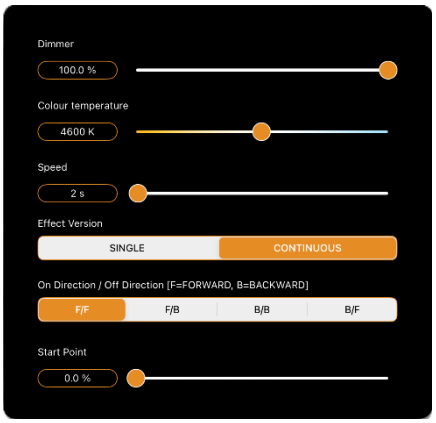
On Direction / Off Direction [F=FORWARD, B=BACKWARD]: allows to set the ON and OFF direction. Value that can be selected:

- F/F: ON Direction = Forward, OFF Direction = Forward
- F/B: ON Direction = Forward, OFF Direction = Backward
- B/B: ON Direction = Backward, OFF Direction = Backward
- B/F: ON Direction = Backward, OFF Direction = Forward

Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

FILL TW

With the *FILL TW* fixture you can fully customize the Fill effect on the Tunable White Digital-LED strip.



Dimmer: sets the overall strip brightness.

Colour temperature: sets the colour temperature, from 2700 to 6500 Kelvin.

Speed: sets the time [sec] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect Version: allows to set if the effect shall be played one time (Single) or continuously (Continuous).

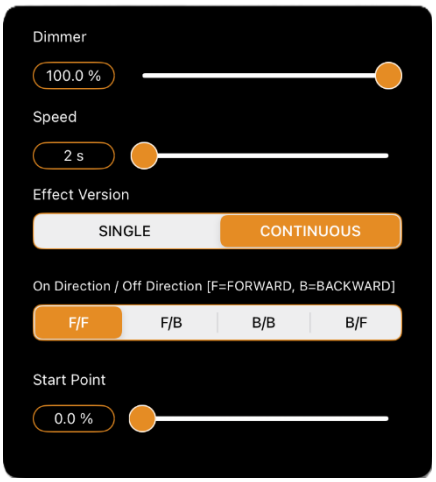
On Direction / Off Direction [F=FORWARD, B=BACKWARD]: allows to set the ON and OFF direction. Value that can be selected:

- F/F: ON Direction = Forward, OFF Direction = Forward
- F/B: ON Direction = Forward, OFF Direction = Backward
- B/B: ON Direction = Backward, OFF Direction = Backward
- B/F: ON Direction = Backward, OFF Direction = Forward

Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

FILL WWW

With the *FILL WWW* fixture you can fully customize the Fill effect on the Monochromatic Digital-LED strip.



Dimmer: sets the overall strip brightness.

Speed: sets the time [sec] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect Version: allows to set if the effect shall be played one time (Single) or continuously (Continuous).

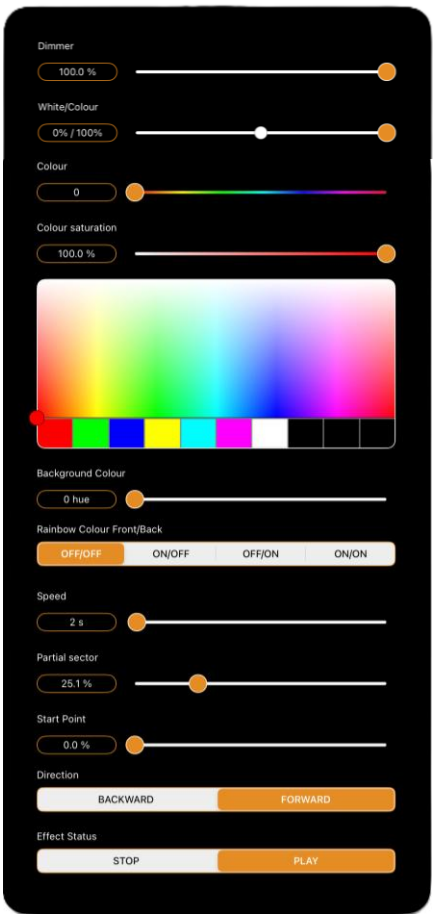
On Direction / Off Direction [F=FORWARD, B=BACKWARD]: allows to set the ON and OFF direction. Value that can be selected:

- F/F: ON Direction = Forward, OFF Direction = Forward
- F/B: ON Direction = Forward, OFF Direction = Backward
- B/B: ON Direction = Backward, OFF Direction = Backward
- B/F: ON Direction = Backward, OFF Direction = Forward

Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

FILL PARTIAL RGB/RGBW

With the *FILL PARTIAL RGB* and *FILL PARTIAL RGBW* fixtures you can fully customize the Fill Partial effect on the RGB/RGBW Digital-LED strip.



Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on FILL PARTIAL RGB fixture).

Colour: customize the foreground colour of the Digital-LED strip.

Colour saturation: sets the saturation of the selected colour.

Background Colour: allows to set the colour (hue) of the Background. Start value depends to the *Background Colour* value selected on Fixture parameters (refer to §

Fixture/Profile configuration section).

Rainbow Colour Front/Back: allow to set the foreground and background colour changing at every cycle. Value that can be selected:

- OFF/OFF: no change
- ON/OFF: foreground colour changes at every cycle, background still unchanged
- OFF/ON: background colour changes at every cycle, foreground still unchanged
- ON/ON: both foreground and background colours change at every cycle

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Partial sector: sets the length [%] of the partial sector, from 0% to 100%.

Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

FILL PARTIAL TW

With the *FILL PARTIAL TW* fixture you can fully customize the Fill Partial effect on the Tunable White Digital-LED strip.

Dimmer: sets the overall strip brightness.

Colour temperature: sets the colour temperature, from 2700 to 6500 Kelvin.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Partial sector: sets the length [%] of the partial sector, from 0% to 100%.

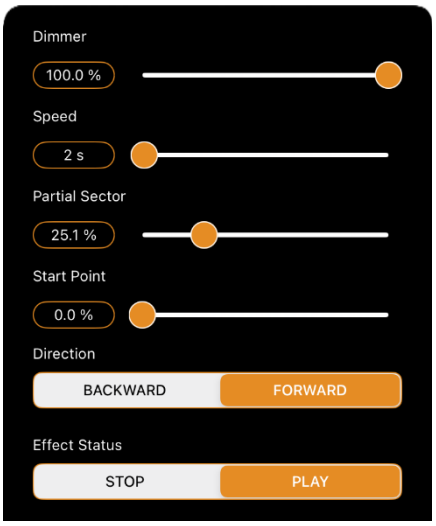
Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

FILL PARTIAL WWW

With the *FILL PARTIAL WWW* fixture you can fully customize the Fill Partial effect on the Tunable White Digital-LED strip.



Dimmer: sets the overall strip brightness.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Partial sector: sets the length [%] of the partial sector, from 0% to 100%.

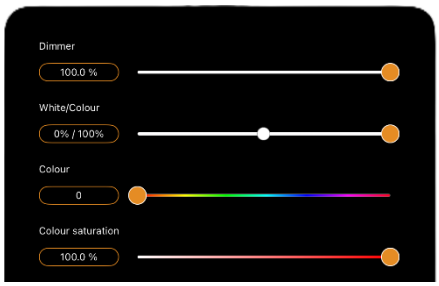
Start Point: select the point of the strip [%] from which the effect starts. If > 0%, the effect propagates specularly from the Start Point.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

STATIC RGB/RGBW

With the *STATIC RGB* and *STATIC RGBW* fixtures you can fully customize the Static effect on the RGB/RGBW Digital-LED strip.



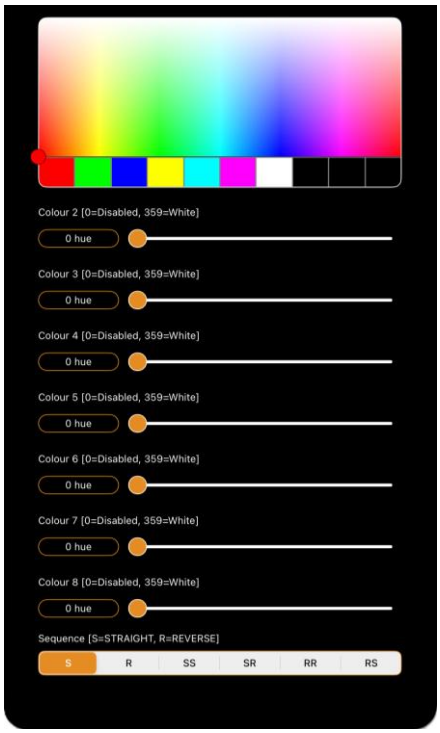
Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on STATIC RGB fixture).

Colour: customize the foreground colour of the first sector.

Colour saturation: sets the saturation of all the sectors colour.

Colour 2... Colour 8: customize the colour of the sectors from 2 to 8, value range from 0 (disabled) to 359 (White). The Digital-LED strip will be divided into equal parts, as many as the enabled sectors (with a colour value ≠ 0).



Sequence [S=STRAIGHT, R=REVERSE]: allow to set the sequence of the colours selected above. Value that can be selected:

- S: Straight, the colour sequence (Colour1 to 8) starts from the beginning of the strip.

- R: Reverse, the colour sequence (Colour1 to 8) starts from the end of the strip.

- SS: Straight-Straight, duplicates the colour sequence. The first sequence (Colour1 to 8) starts from the beginning of the strip, the second duplicated sequence (Colour1 to 8) starts from the end of the first sequence (about the middle of the strip).

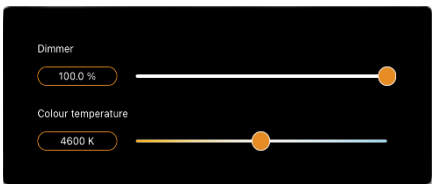
- SR: Straight-Reverse, duplicates the colour sequence. The first sequence (Colour1 to 8) starts from the beginning of the strip towards the middle, the second duplicated sequence (Colour1 to 8) starts from the end of the strip towards the middle of the strip.

- RR: Reverse-Reverse, duplicates the colour sequence. The first sequence (Colour1 to 8) starts from the middle of the strip towards the beginning, the second duplicated sequence (Colour1 to 8) starts from the end of the strip towards the middle of the strip.

- RS: Reverse-Straight, duplicates the colour sequence. The first and second sequences (Colour1 to 8) starts from the halfway through the strip, ending to the strip edges.

STATIC TW

With the *STATIC TW* fixture you can fully customize the Static effect on the Tunable White Digital-LED strip.



Dimmer: sets the overall strip brightness.

Colour temperature: sets the colour temperature, from 2700 to 6500 Kelvin.

STATIC WWW

With the *STATIC WWW* fixture you can fully customize the Static effect on the Monochromatic (WWW) Digital-LED strip.

Dimmer: sets the overall strip brightness.

RAINBOW RGB/RGBW

With the *RAINBOW RGB* and *RAINBOW RGBW* fixtures you can fully customize the Rainbow effect on the RGB/RGBW Digital-LED strip.

Dimmer: sets the overall strip brightness.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Number of rainbows: sets the quantity of rainbows within a range from 1 to 10. The Digital-LED strip will be divided into equal sectors, as many as the number of rainbows selected.

Colour sequence: sets the sequence of the colours inside the rainbow(s). Value that can be selected:

- RED VIOLET: the color sequence starts from Red and ends in Violet.

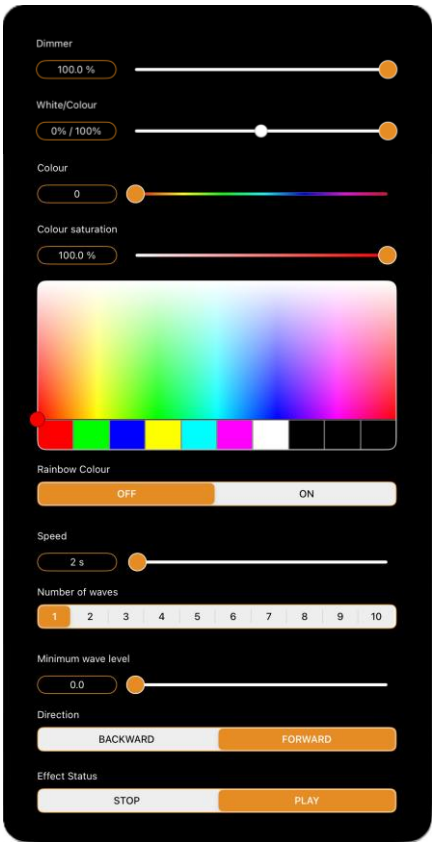
- VIOLET RED: the color sequence starts from Violet and ends in Red.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

WAVE RGB/RGBW

With the *WAVE RGB* and *WAVE RGBW* fixtures you can fully customize the Wave effect on the RGB/RGBW Digital-LED strip.



Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on WAVE RGB fixture).

Colour: customize the foreground colour of the Digital-LED strip.

Colour saturation: sets the saturation of the selected colour.

Rainbow Colour: activates/deactivates the Rainbow mode. If set as ON, the colour of the wave(s) changes every time the strip is turned ON.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Number of waves: sets the quantity of waves within a range from 1 to 10. The Digital-LED strip will be divided into equal sectors, as many as the number of waves selected.

Minimum wave level: sets the brightness of the minimum wave level.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

WAVE TW

With the *WAVE TW* fixture you can fully customize the Wave effect on the Tunable White Digital-LED strip.

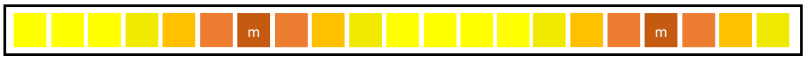
Dimmer: sets the overall strip brightness.

Colour temperature: sets the colour temperature, from 2700 to 6500 Kelvin.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Number of waves: sets the quantity of waves within a range from 1 to 10. The Digital-LED strip will be divided into equal sectors, as many as the number of waves selected.

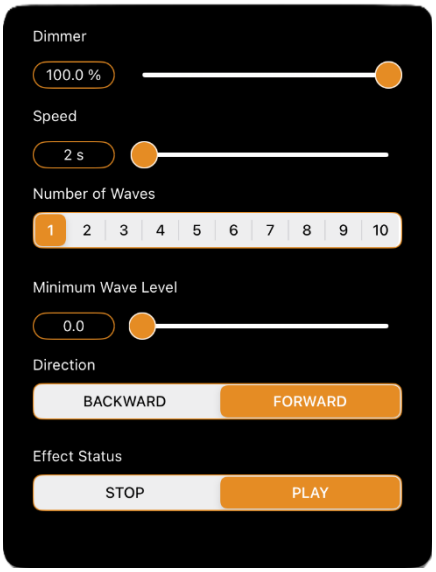
Minimum wave level: sets the brightness of the minimum wave level.



Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

WAVE WWW



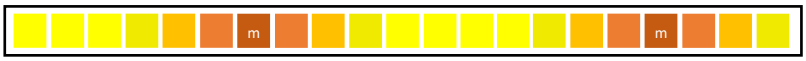
With the *WAVE WWW* fixture you can fully customize the Wave effect on the Monochromatic (WWW) Digital-LED strip.

Dimmer: sets the overall strip brightness.

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Number of waves: sets the quantity of waves within a range from 1 to 10. The Digital-LED strip will be divided into equal sectors, as many as the number of waves selected.

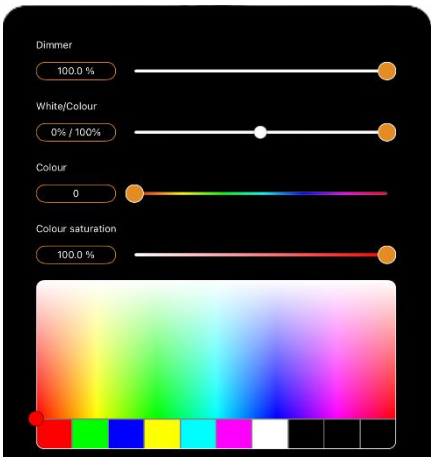
Minimum wave level: sets the brightness of the minimum wave level.



Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip) or Backward (from the end of the strip).

Effect Status: allows to start (Play) or Stop the effect animation.

PLASMA RGB/RGBW



With the *PLASMA RGB* and *PLASMA RGBW* fixtures you can fully customize the Plasma effect on the RGB/RGBW Digital-LED strip.

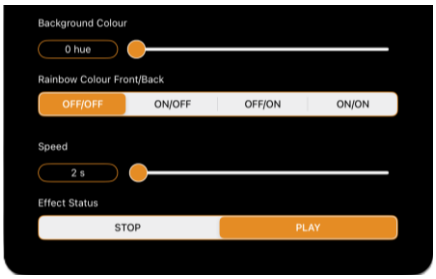
Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on PLASMA RGB fixture).

Colour: customize the foreground colour of the Plasma bubble on the Digital-LED strip.

Colour saturation: sets the saturation of the selected colour.

Background Colour: allows to set the colour (hue) of the Background. Start value depends to the *Background Colour* value selected on Fixture parameters (refer to §Fixture/Profile configuration section).



Rainbow Colour Front/Back: allow to set the foreground and background colour changing at every cycle. Value that can be selected:

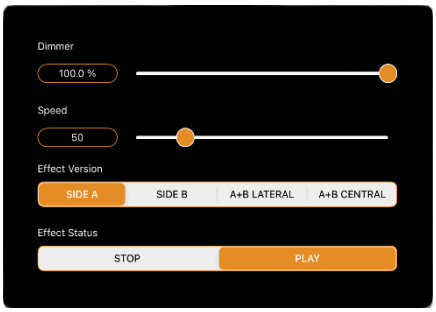
- OFF/OFF: no change
- ON/OFF: foreground colour changes at every cycle, background still unchanged
- OFF/ON: background colour changes at every cycle, foreground still unchanged
- ON/ON: both foreground and background colours change at every cycle

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.

Effect Status: allows to start (Play) or Stop the effect animation.

FIRE RGB/RGBW

With the *FIRE RGB* and *FIRE RGBW* fixtures you can fully customize the Fire effect on the RGB/RGBW Digital-LED strip.



Dimmer: sets the overall strip brightness.

Speed: sets the speed of the flame effect, from 0 to 255.

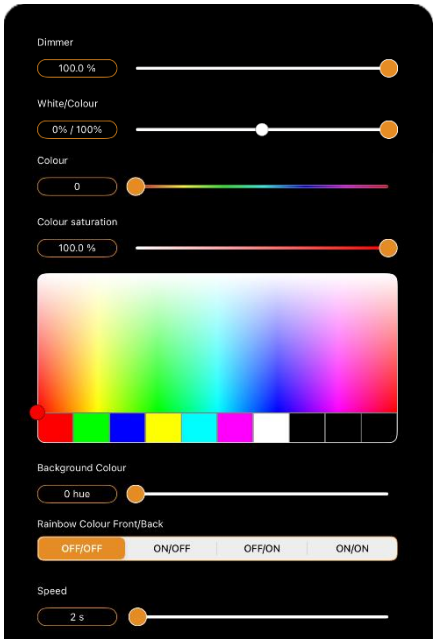
Effect Version: allows you to set the direction of the flame animation. Value that can be selected:

- SIDE A: single flame starts from the beginning of the strip (base of the flame facing the controller side of the strip)
- SIDE B: single flame starts from the end of the strip (base of the flame facing the controller opposite side of the strip)
- A+B LATERAL: double flame starting from the edges of the strip (base of the flames facing the beginning and the end of the strip)
- A+B CENTRAL: double flame starting from the center of the strip (base of the flames in the middle of the strip)

Effect Status: allows to start (Play) or Stop the effect animation.

HORSE RACE RGB/RGBW

With the *HORSE RACE RGB* and *HORSE RACE RGBW* fixtures you can fully customize the Horse Race effect on the RGB/RGBW Digital-LED strip.



Dimmer: sets the overall strip brightness.

White/Colour: sets the mixing value between colour and white light (not available on HORSE RACE RGB fixture).

Colour: customize the foreground colour of the Digital-LED strip.

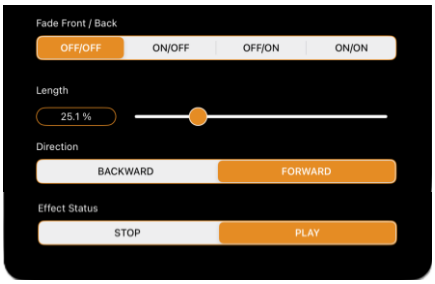
Colour saturation: sets the saturation of the selected colour.

Background Colour: allows to set the colour (hue) of the Background. Start value depends to the *Background Colour* value selected on Fixture parameters (refer to §Fixture/Profile configuration section).

Rainbow Colour Front/Back: allow to set the foreground and background colour changing at every cycle. Value that can be selected:

- OFF/OFF: no change
- ON/OFF: foreground colour changes at every cycle, background still unchanged
- OFF/ON: background colour changes at every cycle, foreground still unchanged
- ON/ON: both foreground and background colours change at every cycle

Speed: sets the time [s] needed to complete the effect on the configured pixel number, from 0s to 255s.



Fade Front/Back: allow to set the frontward and backward fading. Value that can be selected:

- OFF/OFF: no fade
- ON/OFF: moving sector fade in, no fade out
- OFF/ON: moving sector fade out, no fade in
- ON/ON: moving sector fade in and fade out

Length: sets the length [%] of the moving sector, from 0% to 100%.

Direction: set the direction of the effect when it starts, Forward (from the beginning of the strip, controller side) or Backward (from the end of the strip, opposite controller side).

Effect Status: allows to start (Play) or Stop the effect animation.

MULTI-ZONE 2W

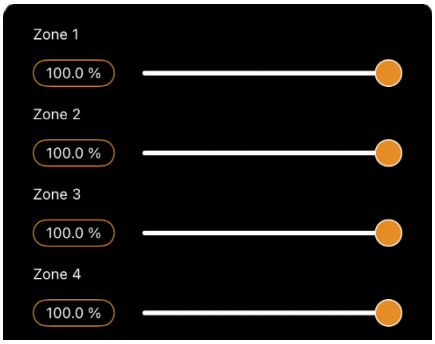
With the *MULTI-ZONE 2W* fixture you can manage two independent zones on the Monochromatic Digital-LED strip. The length of the LED-strip (i.e. the number of configured LED-ICs) will be divided into two equal parts and each zone will be independently controllable.

Zone 1: sets the brightness of the first zone of the strip.

Zone 2: sets the brightness of the second zone of the strip.

MULTI-ZONE 4W

With the *MULTI-ZONE 4W* fixture you can manage four independent zones on the Monochromatic Digital-LED strip. The length of the LED-strip (i.e. the number of configured LED-ICs) will be divided into four equal parts and each zone will be independently controllable.



Zone 1: sets the brightness of the first zone of the strip.

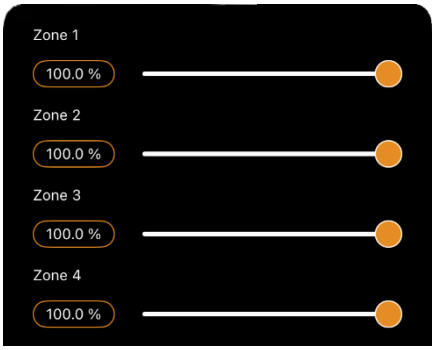
Zone 2: sets the brightness of the second zone of the strip.

Zone 3: sets the brightness of the third zone of the strip.

Zone 4: sets the brightness of the fourth zone of the strip.

MULTI-ZONE 8W

With the *MULTI-ZONE 4W* fixture you can manage four independent zones on the Monochromatic Digital-LED strip. The length of the LED-strip (i.e. the number of configured LED-ICs) will be divided into four equal parts and each zone will be independently controllable.



Zone 1: sets the brightness of the first zone of the strip.

Zone 2: sets the brightness of the second zone of the strip.

Zone 3: sets the brightness of the third zone of the strip.

Zone 4: sets the brightness of the fourth zone of the strip.

Zone 5: sets the brightness of the fifth zone of the strip.

Zone 6: sets the brightness of the sixth zone of the strip.

Zone 7: sets the brightness of the seventh zone of the strip.

Zone 8: sets the brightness of the eighth zone of the strip.

GRADIENT RGB

With the *GRADIENT RGB* fixture you can create smooth transitions between two selected colors. This fixture can be customized also by "Gradient Type" and "Transition Time" parameters as described in the §Fixture/Profile configuration section.

Dimmer: sets the overall strip brightness.

Colour 1 Red: sets the Red component of the 1st colour, from 0 to 255.

Colour 1 Green: sets the Green component of the 1st colour, from 0 to 255.

Colour 1 Blue: sets the Blue component of the 1st colour, from 0 to 255.

Colour 2 Red: sets the Red component of the 2nd colour, from 0 to 255.

Colour 2 Green: sets the Green component of the 2nd colour, from 0 to 255.

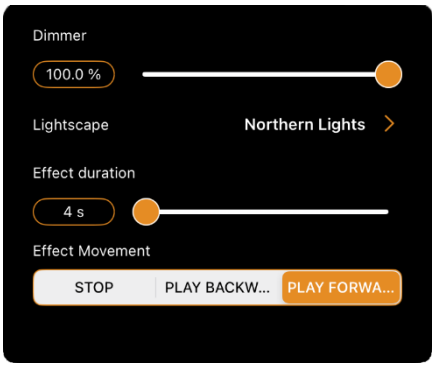
Colour 2 Blue: sets the Blue component of the 2nd colour, from 0 to 255.

Effect Duration: sets the duration [s] of the effect, from 0s to 255s.

Effect Movement: allows to start the effect in the incoming (Play Backward) or outgoing (Play Forward) direction from the controller or to Stop the animation of the effect.

LIGHTSCAPES

With the *LIGHTSCAPES* fixture you can recall up to 22 ambient scenarios featuring slow, organic movements designed for Natural, Wellness, Living, and Urban contexts. This fixture can be customized also by "Gradient Type" and "Transition Time" parameters as described in the §Fixture/Profile configuration section.



Dimmer: sets the overall strip brightness.

Lightscape: allows selection of the following pre-setset scenarios:

Northern Lights, Sunset Lounge, Mediterranean Dawn, Tropical Forest, Blue lagoon, Solar Flare, Provence Lavender, Arctic Ice, Warm Welcome, Soft cotton, Desert vibes, Pure Wellness, Velvet Lounge, Cyberpunk, Midnight Club, Skyline, Zen Waterfall, Watermelon, Nebula, Biolume, Chill Aperitivo, and Pineapple.

Effect Duration: sets the duration [s] of the effect, from 0s to 255s.

Effect Movement: allows to start the effect in the incoming (Play Backward) or outgoing (Play Forward) direction from the controller or to Stop the animation of the effect.