



CASAMBI



FEATURES

- ◆ LED DIMMER CASAMBI
- ◆ WHITE, MONOCHROMATIC, TUNABLE-WHITE (TW), RGB, RGB+W, RGB+WW and RGB+TW Light Control
- ◆ Power supply (DC IN): 12-24-48 Vdc (SELV)
- ◆ Output (L, L1 to L5): constant voltage (= DC IN) modulated for Resistive loads LED-strips and dimmable LED-modules
- ◆ Local command (INPUT): N° 2 N.O. push-button
- ◆ Remote control: via Bluetooth Low Energy (CASAMBI® mobile app)
- ◆ PWM modulation, frequency 4000 Hz
- ◆ Linear dimming curve
- ◆ Device configuration via Fixture selection on CASAMBI® mobile application
- ◆ Minimum Brightness level: down to 0.8%
- ◆ ON/OFF and brightness soft dimming
- ◆ Supply Input protections
- ◆ Suitable for use in Dry locations
- ◆ UL Features (see Table 5 for detailed technical specifications):
 - UL Recognized certified unit
 - Class 2 supply Input and Outputs (use Class 2 power supply only)
- ◆ Extended temperature range
- ◆ 100% Functional test

PRODUCT DESCRIPTION

LINE-5CV-CASAMBI is a 5-channel LED dimmer, PWM (Pulse Width Modulation) modulated at Constant Voltage (CV) and controlled remotely via Bluetooth through the CASAMBI® mobile application or locally by means two N.O. (Normally Open) pushbuttons. LINE-5CV-CASAMBI can be supplied by a SELV constant voltage (12 ÷ 48) Vdc power supply and is suitable for driving loads such as LED-strips and White, Monochromatic, Dynamic-White/Tunable-White (TW), RGB, RGB+W, RGB+WW, or RGB+TW constant voltage LED-modules. The dimmer can deliver an output current of up to 12 A and has the following protections: over-voltage and under-voltage protections, reverse polarity protection and input fuse protection.

LINE-5CV-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, timers, daylight controls, and more.

Through the CASAMBI® mobile application and smartphones equipped with Bluetooth technology, it is possible to configure via Fixtures multiple parameters, including light temperature control and maximum/minimum brightness levels. CASAMBI® mobile application can be downloaded free of charge from the Apple APP Store and Google Play Store.

→ For the most up-to-date manual, please visit our website www.dalcnet.com or scan the QR Code on product's label.

→ For the correct functioning of the CASAMBI® mobile app, consult the forum on the Casambi website:

<https://support.casambi.com/support/home>



PRODUCT CODE

CODE	POWER SUPPLY	LED OUTPUTS	CONTROL	APP CONFIG.
LINE-5CV-CASAMBI	12-24-48 Vdc	5 x 5A (tot. max 12A) ^{1,2}	Bluetooth (CASAMBI®), N°2 N.O. Pushbuttons	CASAMBI® mobile app

Table 1: Product Code

PROTECTION AND DETECTION

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 features

REFERENCE STANDARDS

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
EN 61347-1	Lamp Controlgear – Part 1: General and safety requirement
EN 61347-2-13	Lamp controlgear - Part 2-13: Particular requirement for d.c. or a.c. supplied electronic Controlgear for LED modules
UL 1310	Standard for Safety. Class 2 Power Units.
UL 8750 & CSA C22.2 No. 250.13-17	Standard for Safety. Light Emitting Diode (LED) Equipment for Use in Lighting Products.

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 For specifications in a UL certified plant, refer to Table 5.

³ Protections refer to the control logic of the board.

TECHNICAL SPECIFICATIONS

CE TECHNICAL SPECIFICATIONS

Description	Acronym	Values			Unit of Measure	Note
		Min		Max		
INPUT (DC IN)						
Nominal supply voltage ⁴	V _{IN}	12	24	48	Vdc	-
Power Supply Range	V _{IN-RNG}	10.8	÷	52.8	Vdc	-
Efficiency at full load	E _{FF}	> 95			%	-
Standby power consumption	P _{STBY}	< 0.5			W	-
OUTPUT (L, L1 to L5)						
Output voltage	V _{OUT}	= V _{IN}			-	-
Output current (max)	I _{OUT-CH}	5			A	For each channel
	I _{OUT-TOT}	12			A	Total
Rated power output	-	@12V	@24V	@48V	-	-
	P _{OUT-CH}	60	120	240	W	For each channel
	P _{OUT-TOT}	144	288	576	W	Total
Load type	L _{TYPE}	Resistive (LED)			-	Defined by design
DIMMING						
Curve	C _{DIM}	Linear			-	-
Method	M _{DIM}	PWM			-	Pulse Width Modulation
PWM frequency ⁵	f _{PWM}	4000			Hz	-
Resolution ⁵	Res _{DIM}	1000			step	Defined by design
Range ⁵	RNG _{DIM}	0.8	÷	100	%	-
ENVIRONMENTAL						
Operating Frequencies ⁵	f _{OP}	2402	÷	2483	MHz	For CASAMBI® BLE SoC
Maximum Emitted Power ⁵	P _{BT-max}	7			dBmW	Over Bluetooth transmission
Storage Temperature	T _{STORE}	-40	÷	+60	°C	Minimum values defined by design
Working Environment Temp.	T _A	-10	÷	+60	°C	
Max Temperature at T _C point	T _C	+80			°C	-
Working Environment type	ENV _{TYPE}	Dry location			-	-
Connector type	C _{TYPE}	Push-in terminals			-	-
Wiring Section	WS _{SOLID}	0.5	÷	1.5	mm ²	Defined by design
	WS _{STRAND}	20	÷	16	AWG	
Stripping	WS _{STRIP}	10			mm	-
Protection Class	IP _{CODE}	IP20			-	-
Case Material	MC	Plastic			-	-
Packaging Unit (Piece/Unit)	PU	1			pcs	-
Dimensions	-	L	H	D	-	-
	MD	186	29	21	mm	Plastic case
	PD	197	34	29	mm	Packaging
Weight	W	80			g	Including packaging

Table 4: CE Technical specification

⁴ The product shall be supplied only by LED controlgear with SELV output at constant voltage V_{OUT} < 60 Vdc certified according to IEC/EN 61347.

⁵ The parameters are derived from the configuration of the Casambi module.

UL TECHNICAL SPECIFICATIONS

If installing in a UL certified plant, please refer to the values in Table 5. These values are binding to ensure UL compliance within the system, which the installer must strictly adhere to.

Description	Acronym	Values			Unit of Measure	Note
		Min		Max		
UL Certification						
Product type	UL _{TYPE}				-	UL Recognized certified device
Manufacturer certification file	UL _{FILE}	E514299			-	-
INPUT (DC IN)						
UL Input type	TYPE _{IN}	CLASS 2			-	-
Power Supply restrictions	SUP _{LIM}	CLASS 2 input only			-	Use Class 2 power supplies only
Nominal supply voltage ⁴	V _{IN_UL}	12	24	48	Vdc	-
Power Supply Range	V _{IN-RNG}	10.8	÷	52.8	Vdc	-
Current absorption (max)	I _{IN_UL}	5	4.16	2	A	While respecting the limits on I _{OUT_UL} and P _{OUT_UL}
Nominal Power absorption	P _{IN_UL}	60	100	100	W	
Efficiency at full load	E _{FF}	> 95			%	-
Standby power consumption	P _{STBY}	< 0.5			W	-
OUTPUT (Channels L, L1 to L5)						
UL Output type	TYPE _{OUT}	CLASS 2			-	-
Output voltage	V _{OUT}	= V _{IN}			-	-
	-	@12V	@24V	@48V	-	-
Output current (max)	I _{OUT_UL}	5	4.16	2	A	For each channel and total
Nominal power output	P _{OUT_UL}	60	100	100	W	
Load type	L _{TYPE}	LED ARRAY			-	Resistive LED loads only
DIMMING						
Curve	C _{DIM}	Linear			-	-
Method	M _{DIM}	PWM			-	Pulse Width Modulation
PWM Frequency ⁵	f _{PWM}	4000			Hz	-
Resolution ⁵	Res _{DIM}	1000			step	Defined by design
Range ⁵	RNG _{DIM}	0.8	÷	100	%	-
ENVIRONMENTAL						
Operating Frequencies ⁵	f _{OP}	2402	÷	2483	MHz	For CASAMBI® BLE SoC
Maximum Emitted Power ⁵	P _{BT-max}	7			dBmW	Over Bluetooth transmission
Storage Temperature	T _{STORE}	-40	÷	+60	°C	Minimum values defined by design
Working Environment Temp.	T _A	-10	÷	+40	°C	Minimum values defined by design
Max Temperature at T _C point	T _C	+60			°C	Measured under Q10 and U3
Working Environment type	ENV _{TYPE}	Dry location			-	-
Connector type	C _{TYPE}	Push-in terminals			-	-
Wiring Section	WS _{SOLID}	0.5	÷	1.5	mm ²	Defined by design
	WS _{STRAND}	20	÷	16	AWG	
Stripping	WS _{STRIP}	10			mm	-
Protection Class	IP _{CODE}	IP20			-	-
Case Material	MC	Plastic			-	-
Packaging Unit (Piece/Unit)	PU	1			pcs	-
Dimensions	-	L	H	D	-	-
	MD	186	29	21	mm	Plastic case
	PD	197	34	29	mm	Packaging
Weight	W	80			g	Including packaging

Table 5: UL Technical specification

T_c POINTS POSITIONING

The following figures show the positioning of the maximum temperature point (*T_c point*, highlighted in red) reached by the electronics inside the enclosure for CE and UL standards, located on the front (Top) and on the back (Bottom) sides.



Figure 1: Position of the CE T_c point

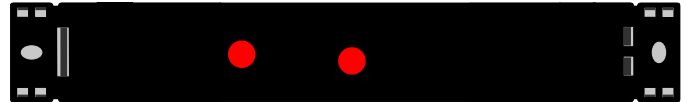


Figure 2: Position of the UL T_c point

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 wiring to the local control, the load, and the supply voltage. It is recommended to follow these steps to install the product safely:

1. **Load wiring:** the LED load positive to the "L" terminal with the "+" symbol, and the LED load negatives to the "L1", "L2", "L3", "L4" and "L5" terminals with the "-" symbol.
2. **Local command wiring:** connect the Pushbuttons wires to the "INPUT 1" and "INPUT 2" terminals with the  symbols.
3. **Power Supply wiring:** connect a 12-24-48 Vdc constant voltage SELV power supply (depending on the nameplate data of the LED load) to the "+" and "-" terminals of the DC IN terminal.
4. **Remote control pairing:** power ON the LINE-5CV-CASAMBI and follow the pairing instructions provided on CASAMBI® mobile app.

LOAD WIRING

LINE-5CV-CASAMBI has 5 output channels that can be driven independently (e.g. for single-colour LED strips/modules) or depending on the RGB value and/or white light temperature (e.g. for RGB, RGB+W, RGB+WW, and RGB+TW⁶ LED strips/modules).

WHITE OR MONOCHROMATIC LED WIRING DIAGRAM

The following connection diagram allows you to drive up to 5 white or monochromatic LED loads, from output channel L1 to L5. This diagram is suitable for *LINE 5xDIM (Lin)* fixture (refer to Table 13).

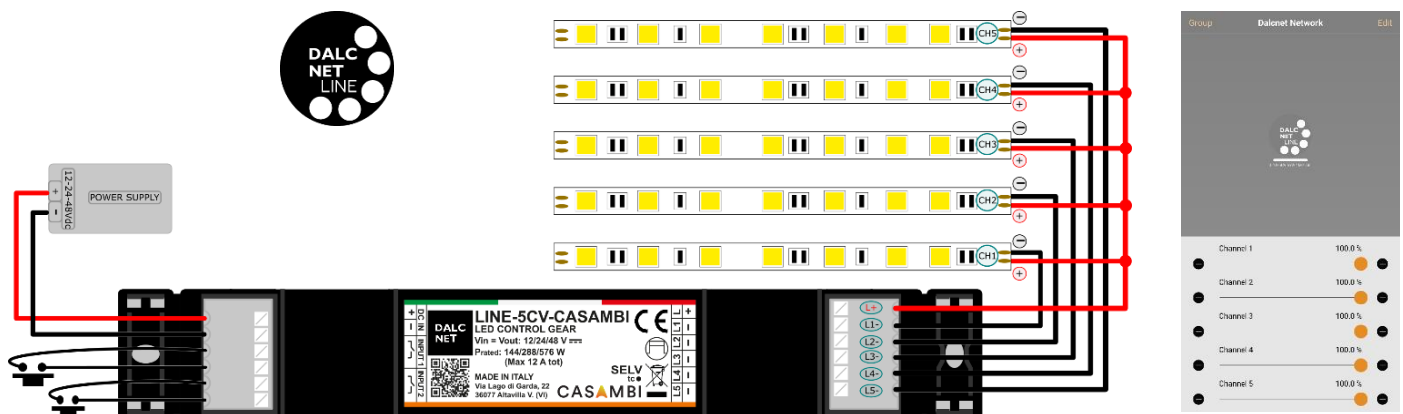


Figure 3: Wiring diagram for White or Single-Colour LED loads

⁶ "Tunable-White" refers to the ability of a lighting fixture to vary the colour temperature of white independently of its light intensity.

TUNABLE-WHITE LED WIRING DIAGRAM

The connection diagram in Figure 4 is suitable for driving double TW (Tunable-White) LED loads. The channels used for this configuration are L1 (Warm White), L2 (Cool White), L3 (Warm White), L4 (Cool White). Use this diagram with *LINE TW+TW (Lin)* fixture (refer to Table 13).

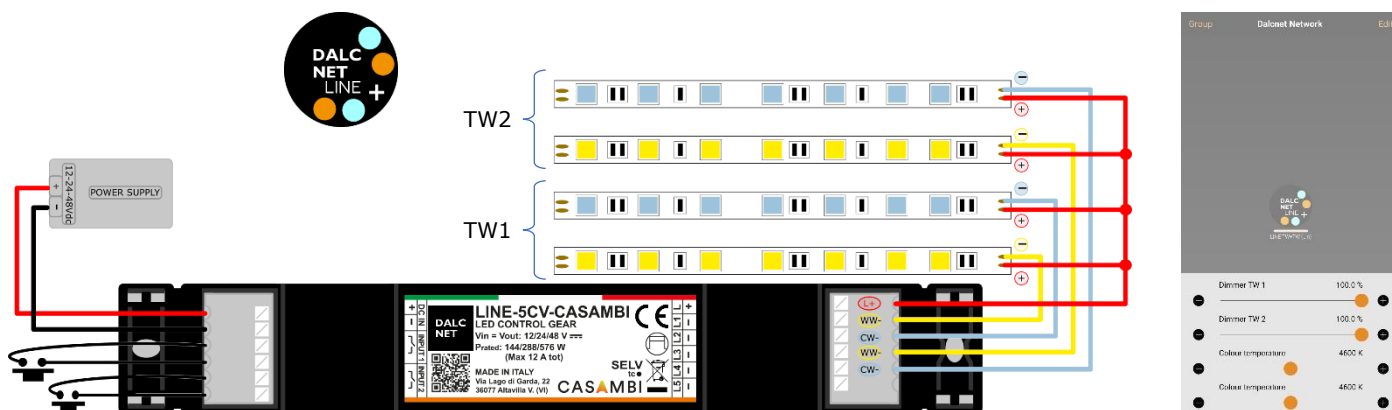


Figure 4: Wiring diagram for Tunable-White LED loads

RGB LED WIRING DIAGRAM

Figure 5 shows the wiring diagram suitable for driving a single RGB LED load. The output channels used in this configuration are L1 (Red), L2 (Green), and L3 (Blue). This diagram is suitable for *LINE RGB (Lin)* fixture (refer to Table 13).

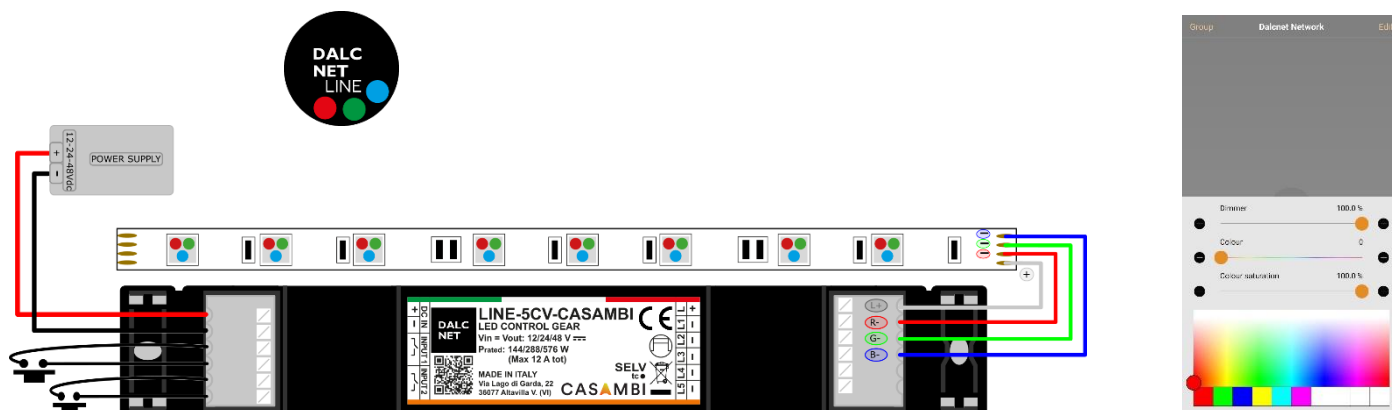


Figure 5: Wiring diagram for RGB load

RGB+W LED WIRING DIAGRAM

Figure 6 shows the wiring diagram indicated to drive a single RGB+W LED load. The output channels used for this load are L1 (Red), L2 (Green), L3 (Blue), and L4 (White). Use this diagram with *LINE RGB+W (Lin)* fixture (refer to Table 13).

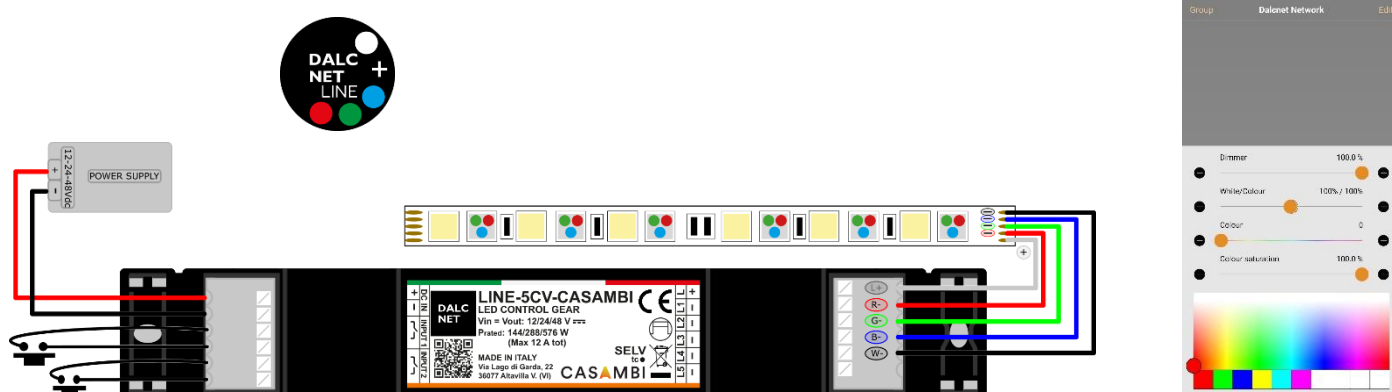


Figure 6: Wiring diagram for RGB+W LED load

RGB AND DOUBLE WHITE/MONOCROME LED WIRING DIAGRAM

Figure 7 shows the wiring diagram indicated to drive a single RGB plus double White or Monochrome LED loads. The output channels used for this load are L1 (Red), L2 (Green), L3 (Blue), L4 (White/Monochrome 1), and L5 (White/Monochrome 2). Use this diagram with *LINE RGB+W+W (Lin)* fixture (refer to Table 13).

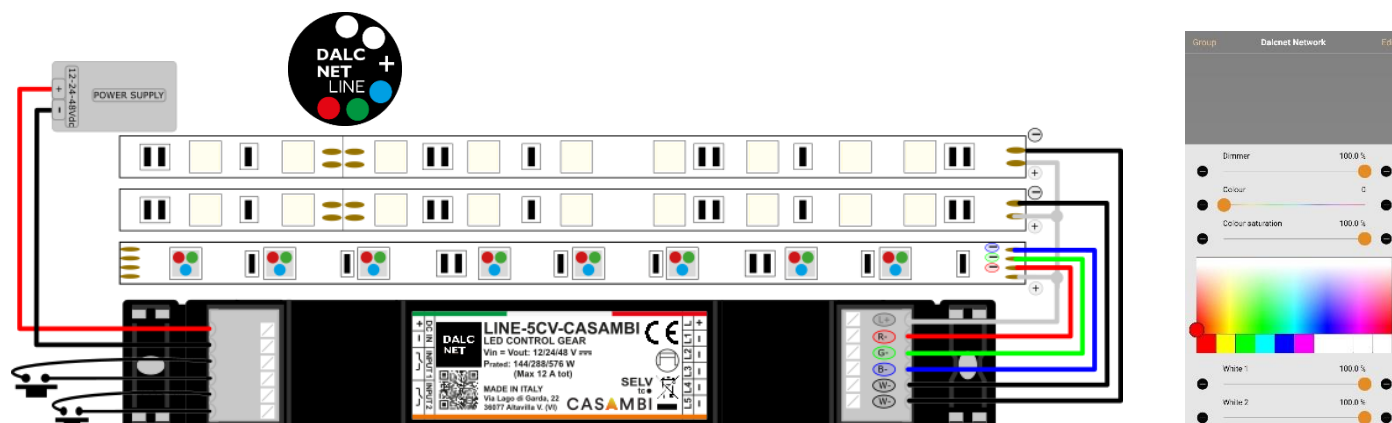


Figure 7: Wiring diagram for RGB and double White LED load

RGB+TW LED WIRING DIAGRAM

The connection diagram in Figure 8 is indicated to drive a single RGB+TW (Tunable White) LED load. The channels used for this configuration are L1 (Red), L2 (Green), L3 (Blue), L4 (Warm White), and L5 (Cool White). Use this diagram with *LINE RGB+TW (Lin)* fixture (refer to Table 13).

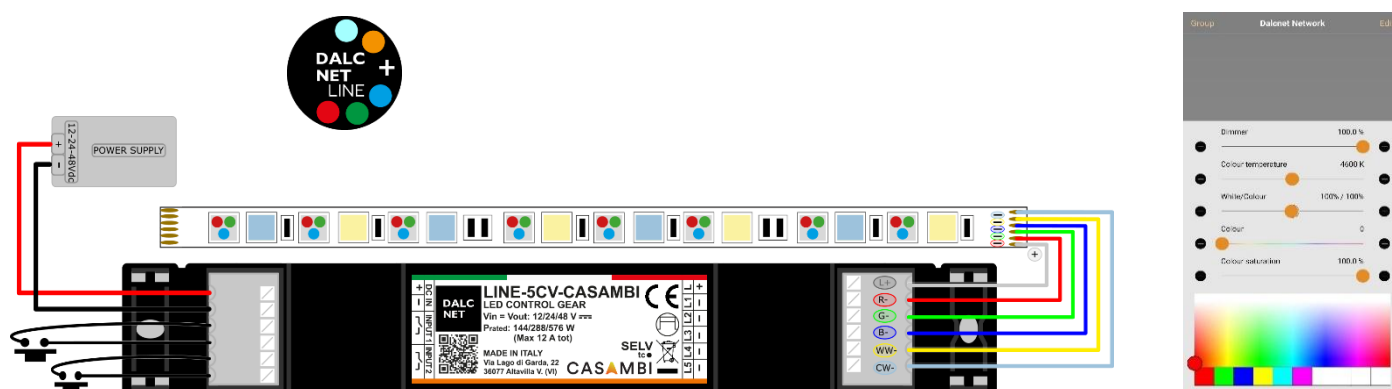


Figure 8: Wiring diagram for RGB+TW LED load

LOCAL COMMAND WIRING

LINE-5CV-CASAMBI can be controlled via Local Command with Normally Open (N.O.) pushbuttons or voltage-free dry contact. No other voltage signals shall be applied to these contacts.

- ✂ To connect the LINE-5CV-CASAMBI to local command, simply connect the pushbuttons to the INPUT1 and INPUT2 terminals. The following image shows the indicated connection diagram for short distances (<10 m).



Figure 9: Local Command connection diagram for Short Distances

POWER SUPPLY WIRING



LINE-5CV-CASAMBI can be powered by a 12 Vdc, 24 Vdc or 48 Vdc constant voltage SELV (and Class 2 if installed within a UL certified plant) power supply and supplies the same voltage (dimmed) to the output. Once load and remote control (DALI bus) are wired, connect the power supply respecting the polarity conventions to the "+" and "-" labels of the DC IN terminal.



Figure 10: Power Supply wiring Diagram

LOCAL COMMAND: PUSHBUTTONS

LINE-5CV-CASAMBI has two dry contacts inputs for N.O. pushbuttons⁷, through which different operating parameters can be managed. Each action on the pushbuttons activates a specific function for the type of control selected via CASAMBI® mobile app.

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

PUSHBUTTON FUNCTIONALITY FOR "CONTROLS A LUMINAIRE"

In *Controls a Luminaire* mode, both connected buttons take over ON/OFF control and luminaire brightness functions.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	ON/OFF of the selected channel (of LED module connected)
 Long press (> 1s)	Input 1, 2	Brightness adjustment (Dimming)

Table 6: Pushbutton functionality for "Controls a Luminaire"

PUSHBUTTON FUNCTIONALITY FOR "CONTROLS AN ELEMENT"

In *Controls an Element* mode, the pushbuttons take over ON/OFF control functions dedicated to a device element inside the CASAMBI® network and to adjust the element value.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	ON/OFF of the selected device element
 Long press (> 1s)	Input 1, 2	Element value adjustment

Table 7: Pushbutton functionality for "Control an Element"

⁷ By default, the N.O. pushbutton is set as "Control a luminaire" and controls the output of the LINE-5CV-CASAMBI.

PUSHBUTTON FUNCTIONALITY FOR "CONTROL A GROUP"

In *Control a Group* mode, the connected buttons take on functions dedicated to control a group of LED modules and their brightness adjustment.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	ON/OFF of the configured Group of devices
 Long press (> 1s)	Input 1, 2	Brightness adjustment (Dimming)

Table 8: Pushbutton functionality for Control a Group"

PUSHBUTTON FUNCTIONALITY FOR "CONTROL SCENE"

In *Control scene* mode, the buttons take over brightness adjustment and ON/OFF of the programmed scenario.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	ON/OFF of the configured Scene
 Long press (> 1s)	Input 1, 2	Brightness adjustment (Dimming)

Table 9: Pushbutton functionality for "Control scene"

PUSHBUTTON FUNCTIONALITY FOR "CONTROL ALL LUMINAIRES"

In *Control all Luminaires* mode, both connected buttons take over ON/OFF control and brightness functions of all luminaires.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	ON/OFF of all luminaires
 Long press (> 1s)	Input 1, 2	Brightness adjustment (Dimming)

Table 10: Pushbutton functionality for "Controls all Luminaires"

PUSHBUTTON FUNCTIONALITY FOR "CYCLES SCENES"

In *Cycles scenes* mode, the buttons take over brightness adjustment and selection through the programmed scenario list.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	Cycle through the list of scenes
 Long press (> 1s)	Input 1, 2	Brightness adjustment of current scene (Dimming)

Table 11: Pushbutton functionality for "Cycle scenes"

PUSHBUTTON FUNCTIONALITY FOR "ACTIVE/STANDBY"

In *Active/Standby* mode, the buttons take over brightness adjustment and selection between two programmed scenes.

ACTION	INPUT #	FUNCTION
 Quick press	Input 1, 2	Switch between two programmed scenes
 Long press (> 1s)	Input 1, 2	Brightness adjustment of current scene (Dimming)

Table 12: Pushbutton functionality for "Active/Standby"

REMOTE CONTROL: CASAMBI®

CASAMBI® is a lighting control system based on Bluetooth Low Energy (BLE) technology. This technology allows for the creation of customized and flexible wireless lighting networks that can be easily configured and controlled via Android/iOS smartphones or tablets.

PROFILE MAPPING: FIXTURES

LINE-5CV-CASAMBI supports the following fixtures (selectable by CASAMBI® mobile app) that provides adjustment of the light intensity for the single output channel.

Profile Name	Profile ID	Description
LINE 5xDIM (Lin)	25222 (Default)	N°5 LED output channels, five slides to dim the outputs PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve
LINE TWxTW (Lin)	25223	N°2+2 LED output channels, two slides to dim the outputs and two slides to vary the Colour Temperature PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve
LINE RGB (Lin)	25224	N°3 Output channels for RGB LEDs PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve
LINE RGB+W (Lin)	25225	N°3+1 Output channels for LEDs. RGB and White dimmed separately PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve
LINE RGB+W+W (Lin)	25226	N°3+2 Output channels for LEDs. RGB and two white dimmed separately PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve
LINE RGB+TW (Lin)	25227	N°3+2 Output channels for LEDs. RGB and Tunable-White dimmed separately PWM: frequency = 4000 Hz, resolution = 1000 step Linear dimming curve

Table 13: Profile list

FLICKER PERFORMANCE

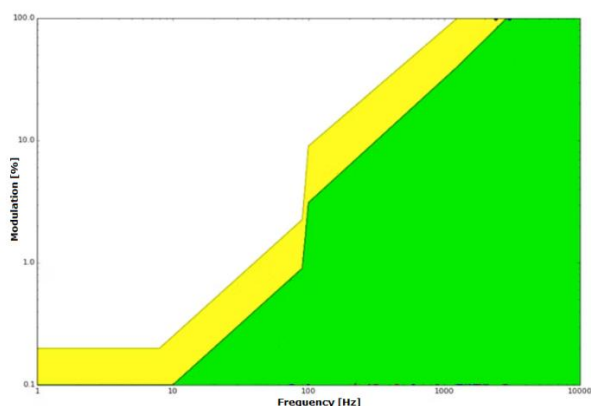


Figure 11: Flickering Perception Threshold

Thanks to its 4kHz dimming frequency, the LINE-5CV-CASAMBI effectively reduces the occurrence of the Flicker phenomenon. Depending on an individual's sensitivity and the nature of their activities, flickering can impact one's well-being, even if the changes in luminance are beyond the threshold detectable by the human eye.

The graph shows the phenomenon of Flickering in function at the frequency, measured throughout the dimming range.

The results show the low-risk zone (yellow) and the no-effect zone (green). Defined by IEEE 1789-2015⁸.

THERMAL CHARACTERIZATION

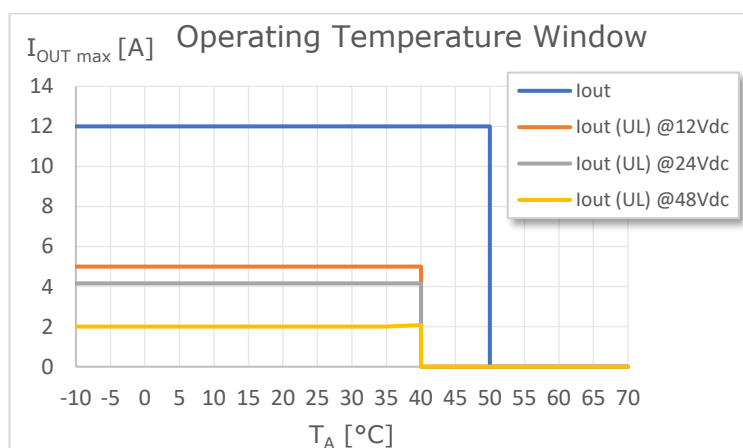


Figure 12: Operating Temperature Window

Figure 12 shows the maximum output current values that can be provided by the LINE-5CV-CASAMBI as a function of the operating temperature⁹ (or ambient temperature, T_A) of the operation, summarized below:

- ◆ $T_A = (-10 \div +50) ^\circ\text{C} \rightarrow I_{\text{OUT}} \leq 12 \text{ A}$
- ◆ $T_A = (-10 \div +40) ^\circ\text{C} \rightarrow I_{\text{OUT_UL@12V}} \leq 5 \text{ A}$
- ◆ $T_A = (-10 \div +40) ^\circ\text{C} \rightarrow I_{\text{OUT_UL@24V}} \leq 4.16 \text{ A}$
- ◆ $T_A = (-10 \div +40) ^\circ\text{C} \rightarrow I_{\text{OUT_UL@48V}} \leq 2 \text{ A}$

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

DIMMING CURVES

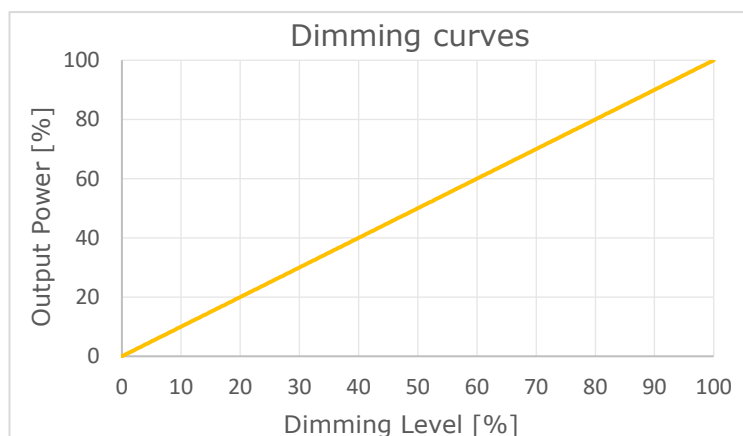


Figure 13: Dimming Curves

Figure 13 shows the dimming curves supported by the LINE-5CV-CASAMBI dimmer.

⁸ Institute of Electrical and Electronics Engineers (IEEE). *IEEE std 1789: Recommended Practices for Modulating Current in High-Brightness LEDs for Mitigating Health Risks to Viewers.*

⁹ If the product is installed inside an electrical panel and/or junction box, T_A refers to the temperature inside the panel/box.

MECHANICAL DIMENSIONS

Figure 14 details the mechanical measurements and the overall dimensions [mm] of the outer casing.

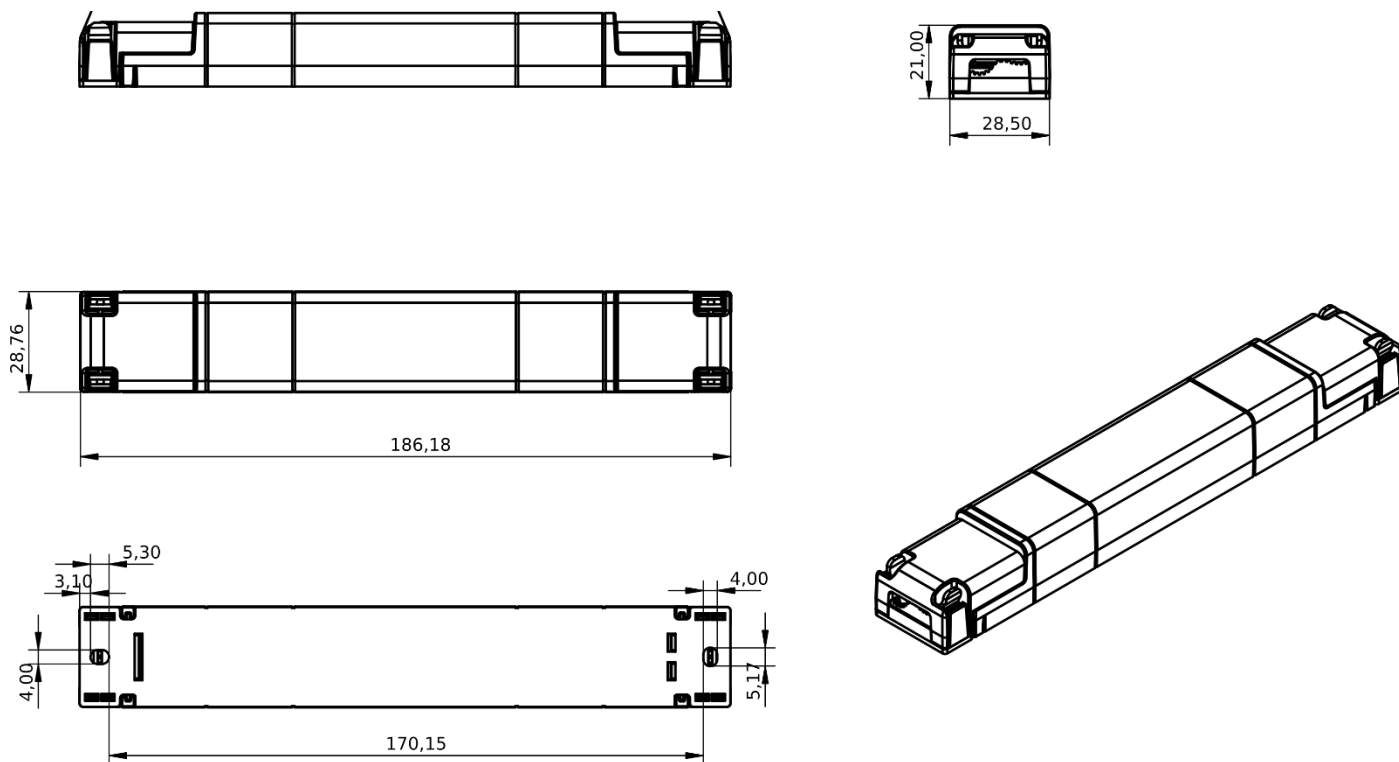


Figure 14: Mechanical dimensions

TECHNICAL NOTES

INSTALLATION



WARNING! Installation and maintenance should always be performed 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.

WARNING! Risk of fire or electric shock. Do not interconnect the output terminations. *Risque d'incendie ou de décharge électrique. Ne pas interconnecter les terminaisons de sortie.*



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 (BUS 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 AND LOAD



The device must be powered only with SELV type power supplies (and Class 2 if installed within a UL certified plant) with limited current at constant voltage, short circuit protection and power suitably sized according to the specifications indicated in the product data sheet. No other types of power are allowed.

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 Resistive 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.

The interconnection of the output channels has not been evaluated. The acceptability of the interconnection of these outputs (and associated circuits) must be considered as part of the evaluation of the final installation. In case of installation in a UL certified plant, please refer to the evaluation of the final system.

LOCAL CONTROL



The length of the connection cables between the local controls (N.O. buttons) 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.

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 surround 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 §Unpair 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

	All products are manufactured in compliance with European Regulations, as reported in the Declaration of Conformity.
	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.
CLASS 2	UL Class 2 device: product compliant to UL1310 standard, designed to ensure that that the device's outputs are safe to touch and does not necessitate additional safety protections at the level of outputs. Essentially, the device is designed to minimize the risk of electric shock or overheating, thereby ensuring its safety for use.
	UL Recognized certified unit for Canadian and U.S. markets: see technical specifications in Table 5.
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.

CASAMBI



CASAMBI® is the official application through which it is possible to configure, in addition to the functions of the LINE-5CV-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.



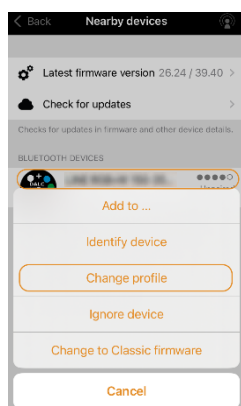
SETTINGS

FIXTURE CONFIGURATION

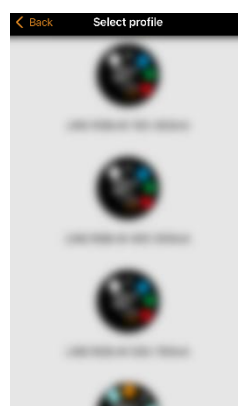
Once the technical data of the load to be connected to the device have been verified, it is possible to configure light intensity and/or light temperature by loading the Fixture on the driver. To load the Fixture on the LINE-5CV-CASAMBI, follow these steps.



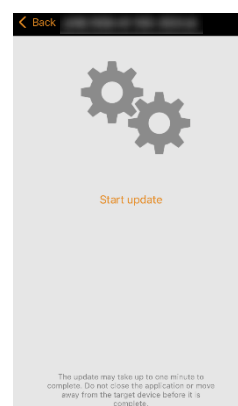
1. Power ON the device and open the CASAMBI® mobile app.
2. Select "Nearby Devices".



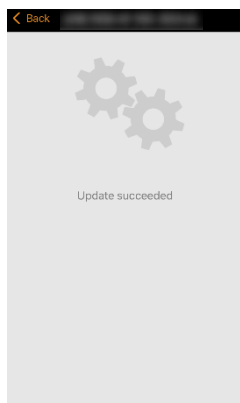
3. Tap on the icon of device, then tap on "Change profile".



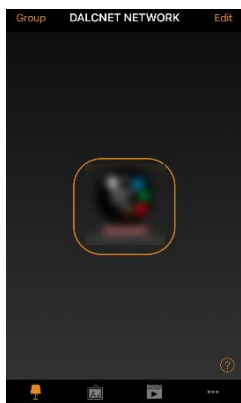
4. Select the desired profile (refer to Table 13).



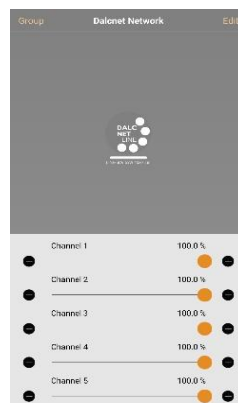
5. Tap "Start Update".



6. Wait for the profile to load correctly.



7. Once the device has been inserted in the Network, double tap on the product icon to show the device configuration.



8. Inside the device configuration, the LED module brightness can be set by provided sliders.

UNPAIR FROM CASAMBI® NETWORK

If LINE-5CV-CASAMBI is already connected to a network for which you don't have the credentials and you wish to associate it with a new network, please follow the instructions provided in the CASAMBI® mobile app, "Nearby Devices" section.

Once you have selected the unpair function and started the procedure, turn off the main power of the power supply connected to the LINE-5CV-CASAMBI and turn it on again after 1 - 2 seconds.

If the main 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 main power of the power ¹⁰.

A second method to unpair the product is to connect an N.O. push button to an "INPUT" terminal of the LINE-5CV-CASAMBI and during the decoupling procedure press the button.

¹⁰ The discharge time of the power supply secondary depends on the construction characteristics of the power supply used.