LIGHT APP

FEATURES

- LED DIMMER
- WHITE and MONOCHROME Light Control
- Power supply (DC IN): 12-24-48 Vdc (SELV)
- Output (LED): constant voltage output (= DC IN) modulated for Resistive loads LED-strips and dimmable LED-modules
- PWM modulation, frequency settable via Dalcnet LightApp© mobile application from 307 to 4000 Hz
- Synchronization (SYNC): Master/Slave functionality
- Local Command (INPUT): Analogic Automatic Detection of the Local Command
  - N.O. push-button
  - Switch
  - 0-10V signal,
  - 1-10V signal
  - 10 kΩ potentiometer
- Device configuration via Dalcnet LightApp© mobile application and via DALI, settable parameters:
  - PUSH (ON/OFF Dim, ON/OFF, Sequence, Animation) or SWITCH (Two levels, Sequence, Animation) control type
  - PWM frequency
  - Dimming Curve
  - Minimum, Maximum, Power-ON, and Push-ON levels
  - Fade Parameters
- Memory function: stores the last brightness level set
- ON/OFF and brightness soft dimming
- Suitable for use in Dry locations
- Extended temperature range
- 100% Functional test

PRODUCT DESCRIPTION

MINI-1CV is a single-channel LED dimmer, PWM (Pulse Width Modulation) modulated at Constant Voltage (CV) and controllable via local command (automatically detected) by a N.O. (Normally Open) push-button, switch, a 0-10V/1-10V signal or 10 kΩ potentiometer. The dimmer can be supplied by a SELV constant voltage (12 ÷ 48) Vdc power supply and is suitable for driving constant voltage loads such as White / single-color LED strip or dimmable LED module. The dimmer can deliver an output current of up to 12 A and has the following protections: over voltage protection, under-voltage protection, reverse polarity protection, and input fuse protection.
Through the Dalcnet LightApp© mobile application and smartphone equipped with Near Field Communication (NFC) technology it is possible to configure multiple parameters when the device is turned off, including modulation frequency, dimming curve and maximum/minimum brightness levels and allows you to configure from simple brightness adjustments up to 10 scenarios or dynamic animations. Dalcnet LightApp© is free to download from the Apple APP Store and Google Play Store.

⇢ For the up-to-date manual, please consult our website www.dalcnet.com or the QR Code directly on your smartphone.

PRODUCT CODE

CODE	POWER SUPPLY	OUTPUT LED	BUS CONTROL	LOCAL COMMAND [1]	APP CONFIG.
MINI-1CV	12-24-48 Vdc	1 x 12 A [2]	SYNC	N°1 N.O. Pushbutton/Switch, 1-10V or 10 kΩ potentiometer	LightApp©

Table 1: Product Code

PROTECTIONS AND DETECTION

The following table shows the types of ingress and egress protection/detection present on the device.

ACRONYM	DESCRIPTION	TERMINAL	PRESENT
OVP	Over-voltage Protection [3]	DC IN	✓
UVP	Under-voltage Protection [3]	DC IN	✓
RVP	Reverse voltage (polarity) Protection [3]	DC IN	✓
IFP	Input Fuse Protection [3]	DC IN	✓

Table 2: Protection and Detection Features

REFERENCE STANDARDS

MINI-1CV complies with the regulations listed in the following table.

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

Table 3: Reference standards

[1] The detection of the type of local command is done automatically.
[2] The maximum 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.
[3] Protections refer to the control logic of the board.

TECHNICAL SPECIFICATIONS

Description	Acronym	Values			Units of Measure	Note
		Min		Max		
POWER SUPPLY INPUT (DC IN)						
Nominal Supply Voltage [4]	V_{IN}	12	24	48	Vdc	-
Supply Voltage range	V_{IN-RNG}	10.8	÷	52.8	Vdc	-
Supply Current (max)	I_{IN}			12	A	-
Efficiency at full load	E_{FF}		> 95		%	-
Standby power absorption	P_{STBY}		< 0.5		W	-
OUTPUT (LED)						
Output Voltage	V_{OUT}		= V_{IN}		Vdc	-
Output Current (max)	-	@60°C	@45°C	@30°C	-	Refer to Figure 8
	I_{OUT}	8	10	12	A	
Rated Power Output	-	@12V	@24V	@48V	-	Rated @T_A<30 °C
	P_{OUT}	144	288	576	W	
Load type	L_{TYPE}		Resistive (LED)		-	Defined by design
DIMMING						
Dimming curve	C_{DIM}		Logarithmic, Linear, Quadratic		-	Selection via Dalcnet LightApp©
Method	M_{DIM}		PWM		-	Pulse Width Modulation
PWM frequency	f_{DIM}		307, 667, 1333, 2000, 4000		Hz	Selection via Dalcnet LightApp©
Dimming resolution	Res_{DIM}		16		bit	Defined by design
Dimming range [5]	RNG_{DIM}	1	÷	100	%	Defined by design
ENVIRONMENTAL						
Storage Temperature	T_{STORE}	-40	÷	+60	°C	Minimum values defined by design
Working Ambient temperature [6]	T_A	-10	÷	+60	°C	
Max Temperature @T_c point	T_C	-	-	+75	°C	-
Working Environment type	ENV_{TYPE}		Dry location		-	-
Connector type	C_{TYPE}		Screw terminals		-	-
Wiring Section	WS_{SOLID}	0.05	÷	2.5	mm^2	Defined by design
	WS_{STRAND}	30	÷	12	AWG	
Strip length	WS_{STRIP}		6.5		mm	-
Protection class	IP_{CODE}		IP20		-	-
Case material	M_{CASE}		PC/ABS		-	PolyCarbonate/ABS
Packaging unit	UP		1		pcs	-
Dimensions	-	L	A	P		-
	MD	44	57	25	mm	Case
	PD	56	68	35	mm	Packaging
Weight	W		47		g	Included packaging

Table 4: Technical specifications

[4] The product must only be powered by a LED power supply with SELV constant voltage output V_{OUT} < 60 Vdc certified according to IEC/EN 61347.
[5] Measured on a 4 kHz linear dimming curve. Value dependent on the type of load connected.
[6] Depends on ventilation conditions.

TC POINTS POSITIONING

The following figures show the positioning of the maximum temperature point (*Tc 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.

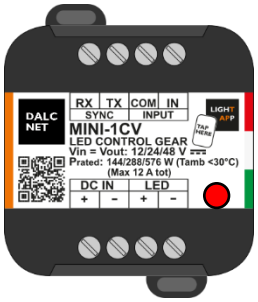


Figure 1: Position of the Tc point

INSTALLATION

WARNING! *Installation and maintenance must always be conducted in the absence of voltage.*
Before continuing 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 building regulations, legislation, rules, and codes must be complied with. Incorrect installation of the device may cause irreparable damage to the device and connected loads.

The following paragraphs show the diagrams of the connection of the dimmer to the remote/local controls, the load and the supply voltage. It is recommended that you follow these steps to install the product safely:

1. Load wiring: connect the load to the "LED" terminals respecting the indicated polarity.
2. Local command wiring: connect the N.O. button, the 0-10V, 1-10V or the 10 kΩ potentiometer to the "COM" (negative) and "IN" (positive) terminals of the "INPUT" respecting one of the wirings shown in the connection diagram in Figure 3.
3. Sync wiring: connect the Sync wires to the SYNC terminals depending to the desired functionality: for Master/Slave control, wire the SYNC-TX signal from the MINI-1CV (Master) to the SYNC-RX signal of next MINI-1CV Slave.
4. 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 section, respecting the indicated polarity.

LOAD WIRING

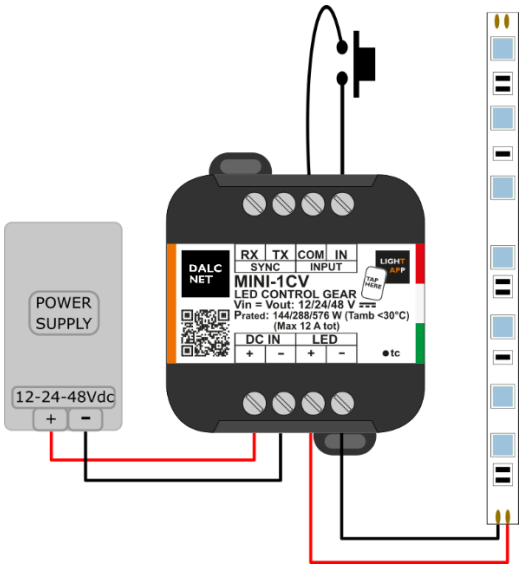


Figure 2: Wiring diagram for resistive LED loads

MINI-1CV has 1 output channel that can be driven independently.

The connection diagram on the side allows you to drive 1 DC resistive load, on the LED output channel.

Local Command wiring

MINI-1CV can be controlled via Local Control with three different modes, automatically detected at startup: Normally Open (N.O.) push-button, 0-10V or 1-10V analog signals, and 10 kΩ potentiometer.

To connect the MINI-1CV to local control, simply connect the Local Control to the INPUT terminal. The following images show the indicated connection diagram for short distances (<10 m).

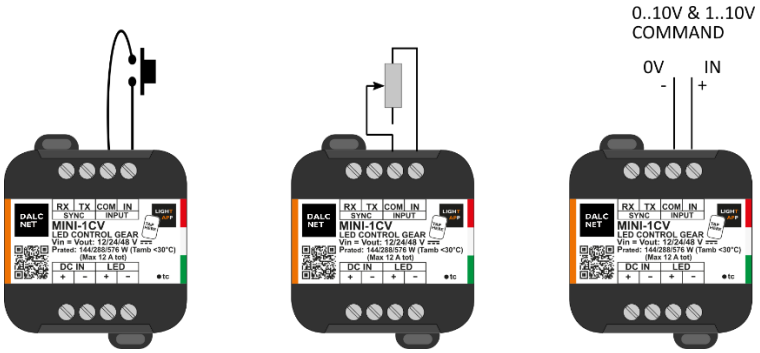


Figure 3: Local Command wiring diagram

Automatic detection of Local Command

At the first power ON, the device is set by default to N.O push-button control.
If a 0-10V/1-10V command or a 10 kΩ potentiometer is connected, a quick change in the signal or potentiometer adjustment is sufficient for the device to recognize the new type of command.
If an N.O. pushbutton is connected, 5 quick presses are sufficient for the device to recognize the new type of command.

Sync wiring

It is possible to connect multiple devices of MINI-1CV family among them in Master/Slave mode: connect the local control (push-button, 0/1-10V signal or potentiometer) to the INPUT terminal of device that will be used as Master, then wire the "TX" signal from SYNC-TX terminal of Master to the SYNC-RX terminal on next Slave device.
Following diagrams shows two different sync wiring configurations, depending to the Power Supply connection.

During maintenance or installation, take care of shutting down to the Slave units first and then to the Master device.

When power to the Master unit is missing, the Slave set up automatically to the default ex-factory settings (power on 100%) or to the settings previously saved.

A device configured as "Slave" will remain so until the next reboot (Power OFF-ON). For all "Slave" devices, the "INPUT" terminal is disabled.

On each device in Master/Slave chain, the dimming curve will be the one selected on Master device via Dalcnet LightApp©.

You can configure Master & Slave system up to 10 total devices, with maximum cable length of 10m between each device.

Diagram with Single Power Supply

In case of single Power Supply that powers all the MINI-1CV devices, use the following diagram.

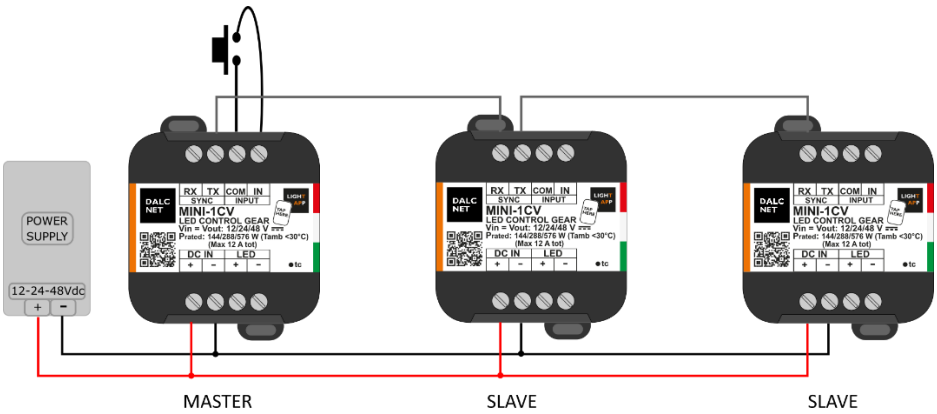


Figure 4: Sync wiring diagram with single Power Supply

Diagram with one Power Supply for each dimmer

In case of one Power Supply for each MINI-1CV device use the following diagram, wiring together all the COM signals of Input terminal.

Using one power supply for each dimmer, firstly power ON the Master device then power ON the Slaves.

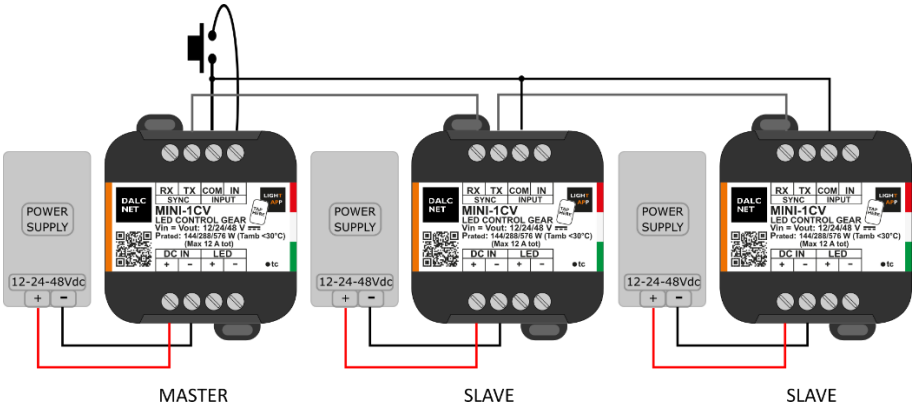


Figure 5: Sync wiring diagram with one Power Supply for each dimmer

Power Supply wiring

MINI-1CV 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.

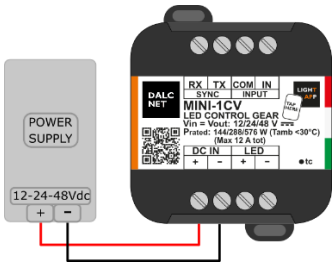


Figure 6: Power Supply wiring diagram

LOCAL COMMAND FUNCTIONALITIES

During the normal use of MINI-1CV, the light intensity and the status change (ON/OFF) of load connected can be controlled by the connected Local Command as listed in the following tables.

Control with Potentiometer or 0/1-10V signal

When 0-10V, 1-10V signal or 10 kΩ potentiometer is connected to the INPUT terminal, the light intensity and the status (ON/OFF) can be set by the input voltage variation.

ACTION	FUNCTION
Voltage signal variation	Signal 0-10V: input voltage variation from 0V (output OFF) to 10V (output ON, light intensity 100%). Signal 1-10V: input voltage variation from 1V (output OFF) to 10V (output ON, light intensity 100%).
Cursor rotation	Potentiometer: cursor rotation from position 0% (output OFF) to 100% (output ON, light intensity 100%).

Table 5: 0-10V, 1-10V & Potentiometer dimming functionality

CONTROL WITH N.O PUSHBUTTON

When N.O. push-button is connected to the INPUT terminal, the light intensity and the status (ON/OFF) can be set from the push-button depending the control type selected on the Dalcnet LightApp©.

PUSH – ON OFF DIMM

The PUSH - ON OFF DIMM control type allows you to change the output state instantly (ON/OFF) or by varying its brightness (dimming) through the following actions.

ACTION	FUNCTION
Quick press	Soft ON/OFF of the output channel
Double quick press	Output ON with Maximum intensity 100% (without fade).
Long press	Brightness adjustment (Dimming)

Table 6: PUSH - ON OFF DIMM functionality

PUSH – ON OFF

The PUSH - ON OFF control type allows you to change the output state instantly (ON/OFF) by the following actions.

ACTION	FUNCTION
Quick press	Soft ON/OFF of the output channel
Double quick press	Output ON with Maximum intensity 100% (without fade).

Table 7: PUSH - ON OFF functionality

PUSH – SEQUENCE

The PUSH - SEQUENCE control type allows you to change the output brightness state from one level to the next level through the following actions.

ACTION	FUNCTION
Quick press	Moves to the next brightness level in the set sequence (up to 10 brightness levels can be set).
Double quick press	Return to Power ON brightness level.

Table 8: PUSH - SEQUENCE functionality

PUSH – ANIMATION

The PUSH - ANIMATION control type allows you to control a dynamic brightness scene (animation) on output channel through the following actions.

ACTION	FUNCTION
Quick press	Animation Start/Stop.
Double quick press	Return to Power ON brightness level.

Table 9: PUSH - ANIMATION functionality

CONTROL WITH SWITCH

When a Switch is connected to the INPUT terminal, the light intensity and the status (ON/OFF) can be set from the switch depending the control type selected on the Dalcnet LightApp.

SWITCH – TWO LEVELS

The SWITCH – TWO LEVELS control type allows you to alternate two different brightness levels through a switch connected to the INPUT terminal, by means the following actions.

ACTION	FUNCTION
1/ON Contact closed	Change the brightness level to "Level 1".
0/OFF Contact opened	Change the brightness level to "Level 0".

Table 10: SWITCH - LEVEL LEVEL functionality

SWITCH – SEQUENCE

The SWITCH – SEQUENCE control type allows you to change the output brightness state from one level to the next level through a switch connected to the INPUT terminal, by means the following actions.

ACTION	FUNCTION
1/ON Contact closed 0/OFF Contact opened	Change the brightness of the output channel from one level to the next (up to 10 brightness levels in sequence).

Table 11: SWITCH - SEQUENCE functionality

SWITCH – ANIMATION

The SWITCH – ANIMATION control type allows you allows you to control a dynamic brightness scene (animation) on output channel through a switch connected to the INPUT terminal, by means the following actions.

ACTION	FUNCTION
1/ON Contact closed	Animation Start.
0/OFF Contact opened	Animation Stop.

Table 12: SWITCH - ANIMATION functionality

FLICKER PERFORMANCE

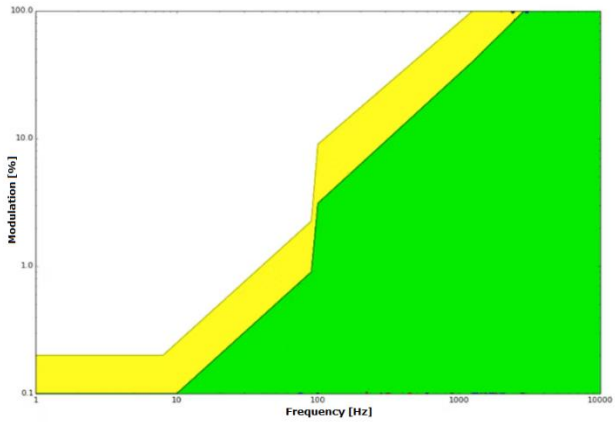


Figure 7: Flickering Perception Threshold

Thanks to the 4khz dimming frequency, the MINI-1CV reduces the occurrence of the Flicker phenomenon. Depending on an individual's sensitivity and the nature of their activities, flickering can affect 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 1789-2015[7].

THERMAL CHARACTERIZATION

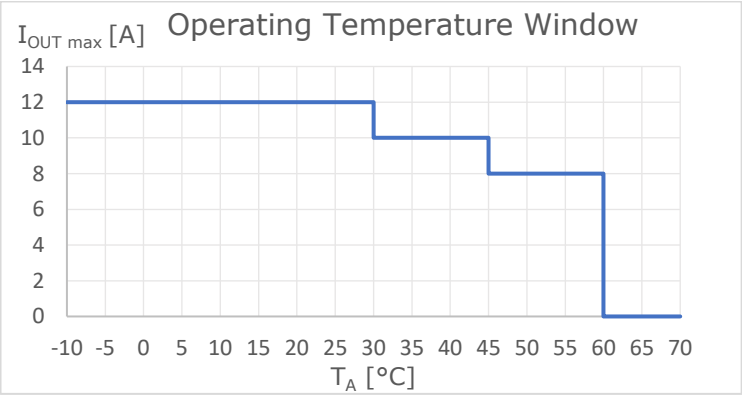


Figure 8: Operating Temperature Window

Figure 8 shows the maximum output current values that can be supplied by the MINI-1CV as a function of the operating temperature[8] (or ambient temperature, T_A) of work, summarized below:

- T_A = (-10 ÷ +30) °C ⇢ $I_{OUT} \leq 12$ A
- T_A = (+30 ÷ +45) °C ⇢ $I_{OUT} \leq 10$ A
- T_A = (+45 ÷ +60) °C ⇢ $I_{OUT} \leq 8$ A

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

DIMMING CURVES

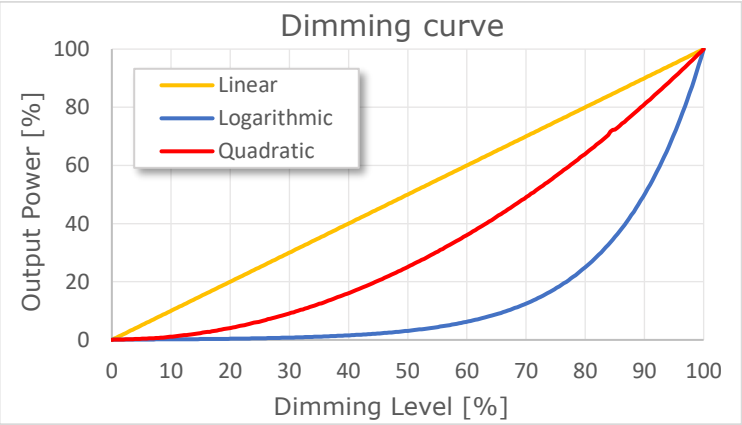


Figure 9: Dimming Curves

Figure 9 shows the dimming curves supported by the MINI-1CV dimmer. Curve selection can be done using the Dalcnet LightApp© (see §Control Settings section of this manual).

[7] 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.*
[8] In the event that 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 10 details the mechanical measurements and overall dimensions [mm] of the outer casing.

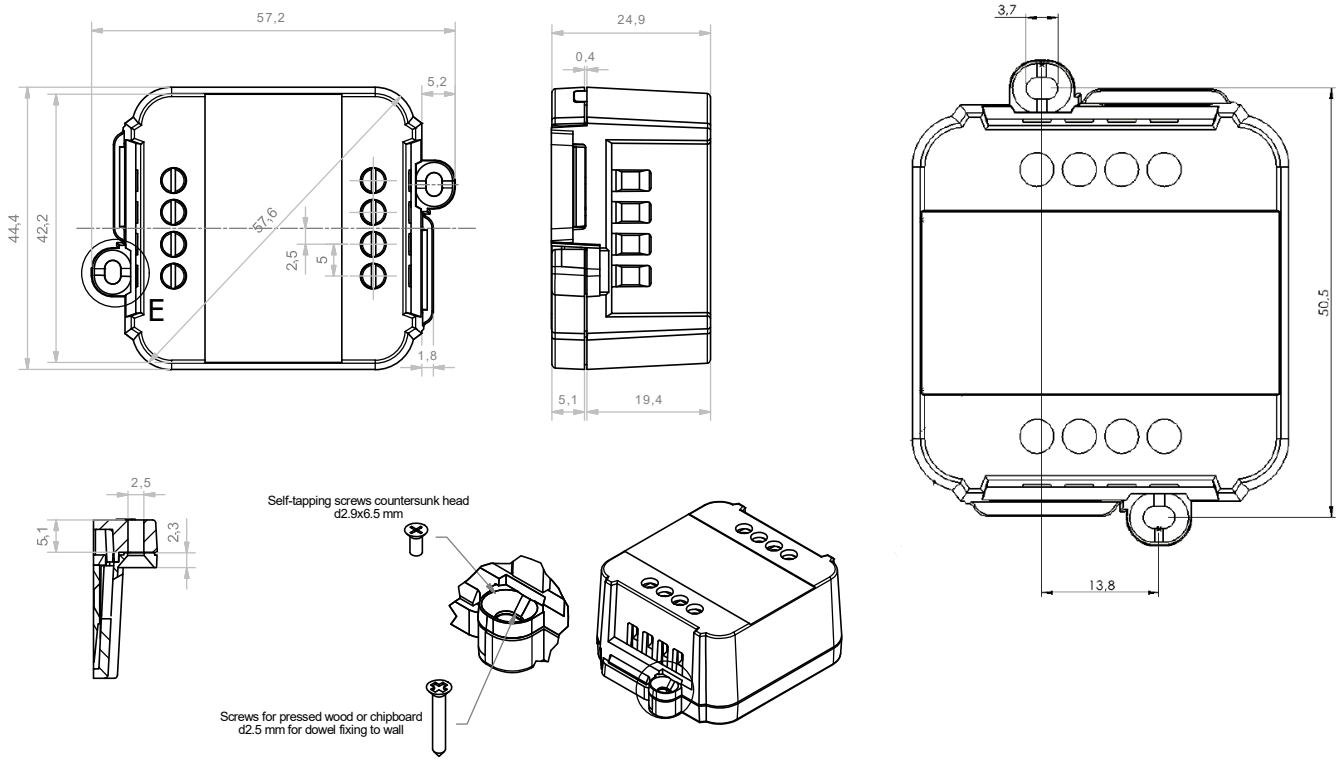


Figure 10: Mechanical dimensions

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.

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 conducted by qualified personnel in compliance with current regulations.

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

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, NFC).

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 type power supplies 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 supply with reference to the load connected to the device. If the power supply is oversized compared to the maximum current drawn, insert an overcurrent protector between the power supply and the device.

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

In 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 non-SELV voltage wiring. 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 10m 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 10m, 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 diverse types of loads in the same output channel.

LOCAL COMMAND AND REMOTE CONTROL

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

ALL device and control signal connected to the local command "N.O. Push button", they must not supply any type of voltage.

The length and type of cables connecting to the SYNC terminals must be less than 10m and must be isolated from any non-SELV wiring or live parts. It is recommended to use double insulated cables, if deemed appropriate also shielded.

It is absolutely forbidden to connect, for any reason, directly or indirectly, the 230 Vac mains voltage to the SYNC terminals of the BUS.

All devices and control signals connected to the bus must be of the SELV type (the connected devices must be SELV or otherwise provide a SELV signal).

NFC (Near Field Communication) warnings

The NFC antenna is located inside the device, the contact surface of which is indicated by the symbol

Position your smartphone so that its NFC antenna is in contact with the symbol on the device.

The location of the NFC sensor on your smartphone depends on the make and model of your smartphone. Therefore, it is recommended to refer to your smartphone's manual or the manufacturer's website to accurately determine where the NFC sensor is located. In most cases, the NFC reader is located near the top of the smartphone.

Please note that NFC technology works optimally with non-metallic materials. Therefore, it is not recommended to place the device near metal objects or reflective surfaces while using with NFC.

For reliable communication, make sure that the contact 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.

NFC technology works at a short distance, generally within a few centimeters. Make sure your device and smartphone are close enough to allow communication.

During the firmware update and configuration, you must maintain stable contact (possibly motionless) between your smartphone and the device throughout the process (usually between 5 and 60 seconds). This ensures that the update is successful, and that the device is ready for use after the process is complete.

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 Directives, as reported in the EU Conformity Declaration.
	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	"Extra Low Safety Voltage" in a circuit isolated from the mains supply by means of an isolation not inferior to that between the primary and secondary circuits of a safety isolation transformer according to IEC 61558-2-6.
	The product described in this technical datasheet at the end of its useful life is classified as waste from electronic equipment and cannot be disposed of as unsorted municipal solid waste. **Warning!** Incorrect disposal of the product may cause serious harm to the environment and human health. For correct disposal, inquire about the collection and treatment methods provided by the local authorities.

LIGHTAPP

LIGHT APP

LightApp© is the official Dalcnet application through which it is possible to configure, in addition to the functions of the MINI-1CV, also all the different Dalcnet products equipped with NFC technology.

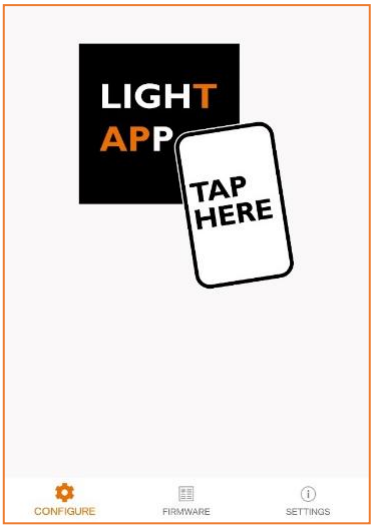
Dalcnet LightApp© can be downloaded free of charge from the Apple App Store and Google Play Store.

GET IT ON Google Play

Available on the App Store

START-UP AND FIRST INSTALLATION

START SCREEN - CONFIGURE

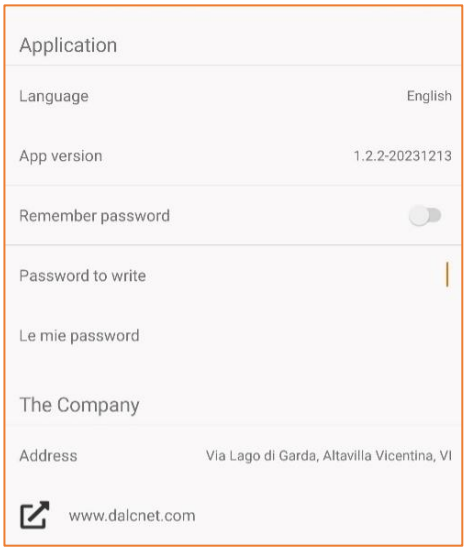


On this screen, the app waits for the device parameters to be read.

To read the parameters, simply bring the back of the smartphone close to the device's label. The read-sensitive zone of the smartphone may vary depending on the model.
Once the connection is established, a quick loading screen will appear. You must remain in position with your smartphone until the parameters are fully loaded.

iOS variant: To read the parameters, you need to press the SCAN button at the top right. A pop-up will appear indicating when your smartphone is ready to scan. Move the smartphone closer to the device and remain in place until the parameters are fully loaded.

SETTINGS



On the Settings page, you can:

- Set the language of the app (Italian or English)
- View the app version
- Enable password saving on your smartphone
- Setting the Password for Writing Parameters
- View your saved passwords
- View the references of the distribution company (Dalcnet Srl)

FIRMWARE

On the firmware page, you can update the firmware of your device.

The requested file must be of type **.bin*.

Once the file has been uploaded, simply follow the on-screen instructions.

ATTENTION:

- **The upload procedure is irrevocable. Once the upload has started, it will not be possible to pause it.**
- **If the procedure is interrupted, the firmware will be corrupted, and you will need to repeat the loading procedure.**
- **At the end of the firmware load, all previously set parameters will be reset to factory defaults.**

If the update is successful and the loaded version is different from the previous one, the device will flash 10 times on the connected load.

PARAMETERS LOADING

IMPORTANT: The parameters must be written when the device is switched OFF (without input power).

READ

With the app in READ mode, the smartphone will scan the device and show its current configuration on the screen.

WRITE

In WRITE mode, the smartphone will write the parameter configuration set on the screen to the device.

In normal mode (*Write All* switched OFF) the app writes only the parameters that have changed since the previous read. In this mode, the write will only be successful if the serial number of the device matches the one previously read.

In *Write All* mode, all parameters are written. In this mode, the write will only be successful if the device model matches the one previously read.
It is recommended to activate the *Write All* mode only when you need to replicate the same configuration on many examples of the same model.

WRITE PROTECTION

By means of the padlock button it is possible to set a lock when writing parameters. A screen will appear for entering a 4-character password. Once this password has been written into the device, all subsequent parameter changes can only be made if the correct password is written on the app's Settings page.

To remove the password lock, simply press the lock key and leave the Password field blank.

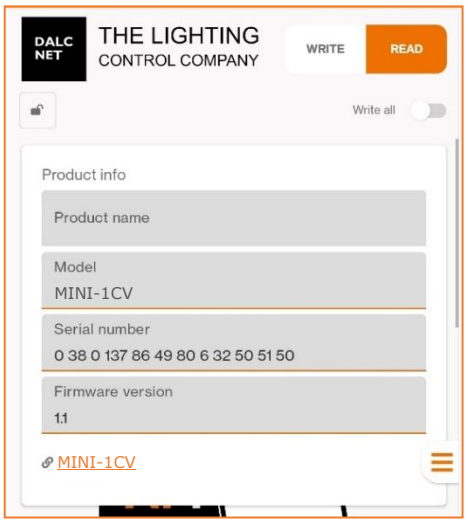
Write error

After writing the parameters, if the load connected to the device flashes continuously at a frequency of 2 times per second when it is turned ON again, it means that the writing was not successful. Therefore, you will need to perform the following steps:

1. Turn OFF the device.
2. Perform a parameter rewrite.
3. Wait for the write to be successful or for no error messages to appear.
4. Turn the device back ON.

If that doesn't work, you can perform a factory reset by quickly turning the device OFF and ON 6 times.

Product Information



On the *Product Information* screen, you can view a variety of information about the product you are about to configure.

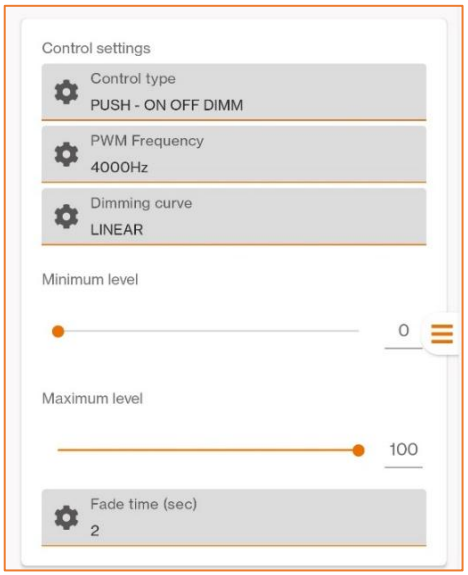
Product Name: User-settable field for easy identification (e.g. Office, Meeting Room, Lobby, etc.). By default, the product name is the same as the Model field.

Model: the model of the device (non-editable field).

Serial Number: uniquely identifies the device (non-editable field).

Firmware Version: identifies the firmware version currently loaded on the device (non-editable field).

Control Settings



On the *Control Settings screen,* you can configure the different parameters for the driver's operation mode.

Control type: allows you to set the operating logic of the "INPUT" terminal in case of connection to a button or switch (see next paragraph).

PWM Frequency: sets the frequency[9] of the PWM modulation of the output.

Dimming curve: sets the dimming curve of the device for operation with local control. For details on the different curves that can be set, see the §Dimming Curves section of this manual.

Minimum Level: sets the minimum level of light intensity that can be reached via local command (default value = 1).

Maximum Level: sets the maximum level of light intensity that can be reached via local command (default value = 100).

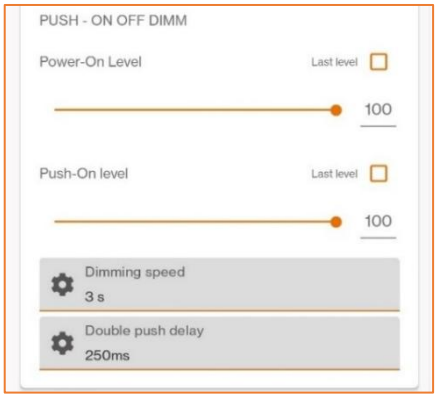
Fade time: the time in seconds that the output takes to make a transition from one level of light intensity to another.

[9] In the case of applications under severe thermal conditions, it is advisable to lower the PWM frequency to a minimum (307 Hz).

Control Type

The control type section allows you to set the pushbutton or switch behaviour when connected to the "INPUT" terminals.

PUSH - ON OFF DIMM



This Control Type shall be used with a N.O. Pushbutton connected to the "INPUT" terminals. When the Control Type is configured as *PUSH – ON OFF DIMM*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought immediately as soon as the device is powered.

Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

Push-On level: it is the intensity value to which the output is brought when the device is accessed by means of a button.

Last level: enable the memory function. The Push-On level will correspond to the last level assumed before the output was turned off by button.

Dimming speed: it is the time needed to dim the light from 100% to 0%.

Double push delay: allows you to set the speed at which you need to perform the double-quick press.

PUSH - ON OFF

This Control Type shall be used with a N.O. Pushbutton connected to the "INPUT" terminals. When the Control Type is configured as *PUSH – ON OFF*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought immediately as soon as the device is powered.

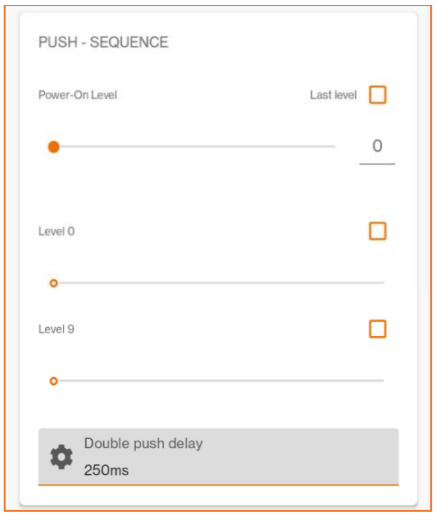
Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

Push-On level: it is the intensity value to which the output is brought when the device is accessed by means of a button.

Last level: enable the memory function. The Push-On level will correspond to the last level assumed before the output was turned off by button.

Double push delay: allows you to set the speed at which you need to perform the double-quick press.

PUSH - SEQUENCE



This Control Type shall be used with a N.O. Pushbutton connected to the "INPUT" terminals. When the Control Type is configured as *PUSH – SEQUENCE*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought immediately as soon as the device is powered.

Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

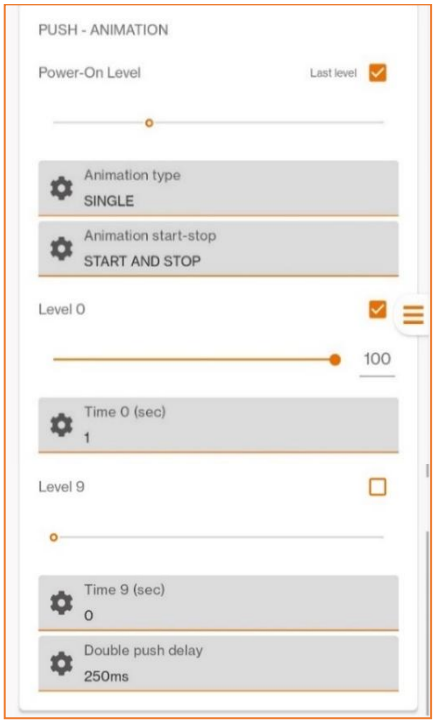
Level 0...Level 9: up to 10 levels in sequence can be set from the provided sliders. First you must enable the level from the checkbox on right side.

Checkbox: enable the level.

Dimming speed: it is the time needed to dim the light from 100% to 0%.

Double push delay: allows you to set the speed at which you need to perform the double-quick press.

PUSH - ANIMATION



This Control Type shall be used with a N.O. Pushbutton connected to the "INPUT" terminals. When the Control Type is configured as *PUSH – ANIMATION*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought immediately as soon as the device is powered.

Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

Animation type: in *SINGLE* mode, when the button is pressed, the animation will be executed only once; in *CONTINUOUS* mode, the animation will continue to repeat until the button is pressed.

Animation start-stop: in *START* mode, each time the button is pressed, the animation will start from the beginning. In START and STOP mode, pressing the button starts or stops the animation at the current level; at the next restart, the animation will start from the last level assumed.

Level 0…Level 9: up to 10 levels in sequence can be set. To enable a level, check the box on the right side and set the light intensity with the slider.

Time 0 (sec)… Time 9 (sec): you must set the duration (Time) of each level within the animation.

Double push delay: allows you to set the speed at which you need to perform the double-quick press.

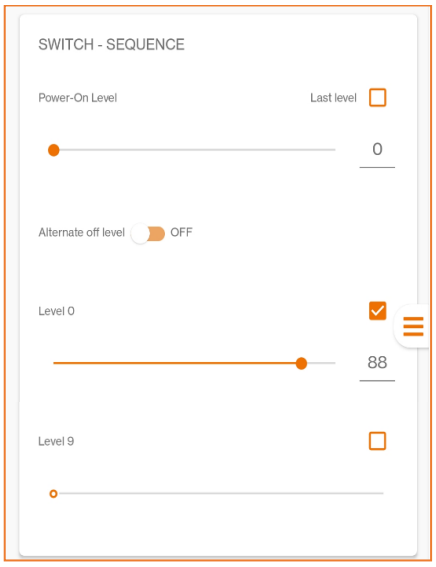
SWITCH - TWO LEVELS

This Control Type shall be used with a Switch connected to the "INPUT" terminals. When the Control Type is configured as *SWITCH – TWO LEVELS*, you can set the following parameters.

Level 0: when the switch is OFF (contact opened) the output brightness will be set with the Level 0 value.

Level 1: when the switch is ON (contact closed) the output brightness will be set with the Level 1 value.

SWITCH - SEQUENCE



This Control Type shall be used with a Switch connected to the "INPUT" terminals. When the Control Type is configured as *SWITCH – SEQUENCE*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought as soon as the device is powered if the switch is ON (contact closed). Note that if the switch is OFF (contact opened) the output will remain OFF.

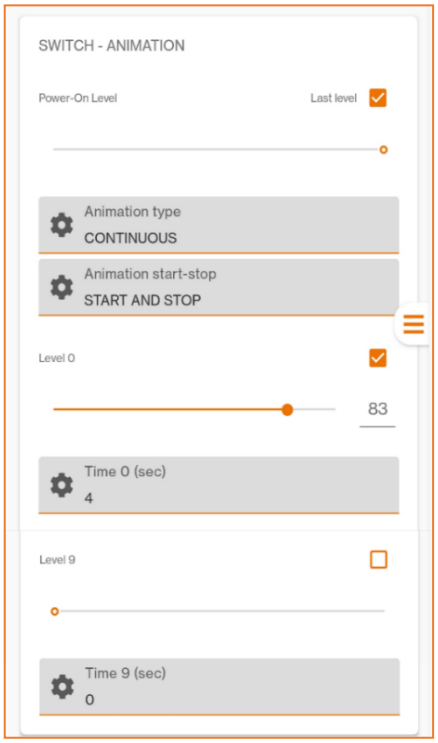
Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

Alternate off level: if you *Enable (ON)* this function, a switch-off level will always be set between one level and the next. This way, if the switch is OFF (contact opened) the light will always be OFF. When the switch is ON (contact closed) the light will assume one of the set levels from time to time in sequence. If you *Disable (OFF)* this function, the light intensity will change from one level to the next with each transition of the switch (from ON to OFF and vice versa).

Level 0…Level 9: up to 10 levels in sequence can be set from the provided sliders. First you must enable the level from the checkbox on right side.

Checkbox: enable the level.

SWITCH - ANIMATION



This Control Type shall be used with a Switch connected to the "INPUT" terminals. When the Control Type is configured as *SWITCH – ANIMATION*, you can set the following parameters.

Power-On Level: it is the intensity value to which the output is brought as soon as the device is powered if the switch is ON (contact closed). Note that if the switch is OFF (contact opened) the output will remain OFF.

Last level: enable the memory function. The Power-On level will correspond to the last level assumed before the supply voltage was removed.

Animation type: in *SINGLE* mode, when the switch turns to ON (contact closed), the animation will run only once; in *CONTINUOUS* mode, the animation will continue to repeat until the switch is turned OFF (contact opened).

Animation start-stop: in *START* mode, each time the switch turns from OFF to ON (contact closed), the animation will start from the beginning; when the switch is turned OFF (contact opened), the output turns OFF.
In *START and STOP* mode, when the switch turns from OFF to ON (contact closed) the animation starts; when the switch is turned OFF (contact opened), the animation stops at the current level and then will start from this level when the switch turns ON (contact closed).

Level 0...Level 9: up to 10 levels in sequence can be set. To enable a level, check the box on the right side and set the light intensity with the slider.

Time 0 (sec)… Time 9 (sec): you must set the duration (Time) of each level within the animation.