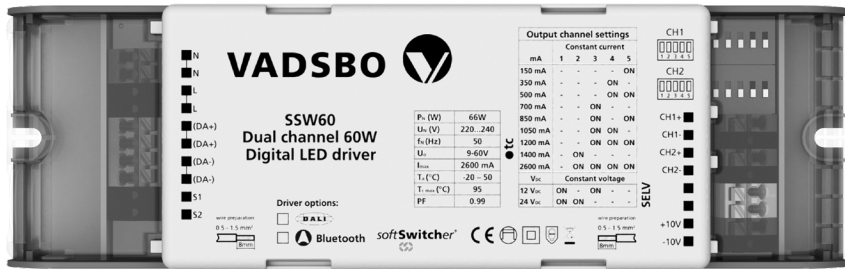


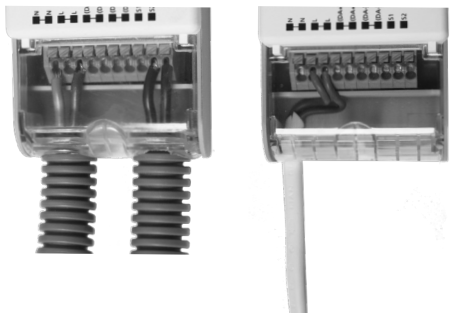
# Installation instructions SSW60 LED-controller



## Properties

- Use for constant voltage and constant current voltage-LED.
- Selectable constant currents: 350, 500, 700, 900, 1050mA etc. (Complete table further down).
- Selectable constant currents 12 och 24Vdc.
- Integrated dimmer.
- One or two push inlets (bit function) on the primary side (220–240 V AC).
- Two individually controllable outlets.
- Can be controlled with 1-10 Vdc.
- Several control modes can be used simultaneously.
- The memory function that consists of the latest set light level on turning on and off. Applies also when the controller has gone dead.
- Quick coupling terminals
- Additional terminals for phasing in and setting to 0.
- Has excess temperature, overload and short circuit protection.

## Connection



SSW60 is provided with two quick terminal covers with strain relief on both sides. If a flexible hose is required to be connected on the primary side, the enclosed extra cover is used. Flexible hose is suitably used in installations where single-insulated cables are connected, and strain relief is used when double-insulated cable is connected to the LED controller.

A suitable conductor is 1.5 mm<sup>2</sup> of the type FK/FQ or EK/EQ on the primary side. Here to the left, you can see examples of two different covers. Consider cable length in relation to load and cable size to counter voltage drop at constant voltage drops such as LED strips (CV).

## Technical data

Article number SSW60	V-360606026
Article number SSW60WCM	V-360606026WCM
Article number SSW60DALI	V-360606026D
Article number SSW60DM	V-360606026DW
Voltage	220 – 240Vac
Load	max per outlet
350mA	2-60Vdc max 21W (1-18 st LED Vf ≤ 3.3V)
500mA	2-60Vdc max 3V (30 st LED Vf ≤ 1.3V)
700mA	2-60Vdc max 42W (1-18 st LED Vf ≤ 3.3V)
900mA	2-60Vdc max 54W (1-18 st LED Vf ≤ 3.3V)
1050mA	2-60Vdc max 60W (1-17 st LED Vf ≤ 3.3V)
12Vdc	0-2600mA max 20W
24Vdc	0-2600mA max 40W
Max cable length	30m (secondary side)
Protection class	IP20 (for use indoors)
Size	173x53x29 mm
Life span	50 000h (Tc @ max 95°C)

## Connection procedures

NOTE! The installation must only be carried out by a qualified electrician. Before you start, make sure that the voltage is turned off.

- Make sure that you have pared cables of 8 mm.
- Connect phase in one of the terminals marked L.
- Connect zero in one of the terminals marked N.
- Relay phase (L) and zero (N) if necessary.

NOTE! Do not switch on the voltage until everything is connected. NOTE! Do not make any changes on the controller until the voltage is on.

NOTE! If you have used/tested the controller earlier against other loads, you must set the controller to 0 before you use it again. This is done by:

- Setting all the DIP switches to OFF mode (two channels).
- Turning on the voltage (it can be charged).
- Turning on the voltage.
- Set the DIP switches as per the load you want to use on the controller, see below.

This should be done if the controller is calibrated exactly on the basis of the desired load, to guarantee a flicker-free dimming and best light quality.

## DIP switch settings

With the help of DIP switch, you can set the type of LED (constant current or constant voltage) you want to operate and dim. The table below shows how the DIP switch can be set on the controller, per channel. The outlets are individually controllable and can be set on different currents or voltage. Be sure to set the dip switch on the basis of the load before connecting the control unit to the input voltage. Incorrect setting can damage the LED light. For example, the load is labelled 12Vdc / 350mA. Then choose the method best suited to the installation, but keep track of the maximum load of the control unit, and make sure that you connect in parallel and in serial to the constant voltage, at constant current load.

### Constant current selection for LED (CC)

Two outlets with a total max effect of 60W

mA	1	2	3	4	5
<b>Reset</b>	-	-	-	-	-
150 mA	-	-	-	-	ON
350 mA	-	-	-	ON	-
500 mA	-	-	-	ON	ON
700 mA	-	-	ON	-	-
850 mA	-	-	ON	-	ON
1050 mA	-	-	ON	ON	-
1200 mA	-	-	ON	ON	ON
1400 mA	-	ON	-	-	-
1550 mA	-	ON	-	-	ON
1750 mA	-	ON	-	ON	-
1900 mA	-	ON	-	ON	ON
2100 mA	-	ON	ON	-	-
2250 mA	-	ON	ON	-	ON
2450 mA	-	ON	ON	ON	-
2600 mA	-	ON	ON	ON	ON

Choose now:

- Bit function** – Controlling the different outlets/channels individually.
  - Connect the phase on the incoming side of the appropriate bit switch.
  - Connect S1 on one outlet of the switch.
  - Connect S2 on the other outlet of the switch.
  - Install two springs to get a spring-resilient function on the switch.

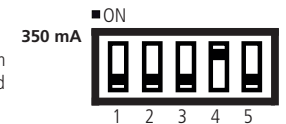
- Normal function** – Controlling the different outlets/channels individually.

- Connect the phase on the incoming side of the single pole switch.
- Connect S1 to the outlet of the switch.
- Connect S2 from the same switch outlet so that S1 and S2 are alternatively connected
- Connect S1 and S2 through the appropriate top clamp as close to the tip as possible.

Please note that the fixtures marked with 350mA, 500mA (constant current) etc. should be connected in series. LED strips and fixtures marked with 12Vdc/24Vdc should be connected in parallel. Note that the controller has two outlets. It is possible to mix-load the controller per channel, as required. For instance, 30W LED-strip (24Vdc) can be connected on channel 1 (CH 1) and simultaneously 20W fixtures (350mA) on channel (CH 2).

### Example:

Set the DIP switch on the constant current or constant voltage to which the load is to be operated according to the table below.



### Constant voltage current selection for LED (CV)

Two outlets with a total max effect of 60W

mA	1	2	3	4	5
<b>Reset</b>	-	-	-	-	-
9 Vdc	ON	-	-	ON	ON
12 Vdc	ON	-	ON	-	-
15 Vdc	ON	-	ON	-	ON
18 Vdc	ON	-	ON	ON	-
21 Vdc	ON	-	ON	ON	ON
24 Vdc	ON	ON	-	-	-
27 Vdc	ON	ON	-	-	ON
30 Vdc	ON	ON	-	ON	-
33 Vdc	ON	ON	ON	-	ON
36 Vdc	ON	ON	ON	-	-
39 Vdc	ON	ON	ON	-	ON
42 Vdc	ON	ON	ON	ON	-

# cont. Installation instructions SSW60 LED-controller

## Control

LED controller can be controlled with one or more non-locking 1-pole push buttons (toggle switch) per input terminal. If a synchronised dimming of both the channels (different loads) is required, both the control input terminals (S1 and S2) should be connected together. S1 control channel 1, S2 control channel 2.

- Of/on: Short press (50-400ms) on the button.
- Dimming Long press (>400 ms) on the button. Dimming up and down each time

The recommended max cable length between the push button and the mechanism is 15 meters. For long cables, 230V cables drawn in parallel, can affect the control. If possible, separate the control cable from other cables. Alternatively, 1-10 Vdc control can be connected. For 1-10V control, a switch on the primary side is also required to turn off the mechanism. 1-10Vdc control can be used in combination with non-locking push buttons, as both the channels are controlled by the same 1-10 Vdc input signal.

## Synchronisation of several SSW60.

Several LED controllers can be controlled by the same toggle switch. The maximum recommended number of LED controllers controlled by the same toggle switch are 20. No special synchronisation cable is required. Remember to connect S1 and S2 to synchronise them with the other devices. For the controller to be synchronised after the installation, the following steps should be followed:

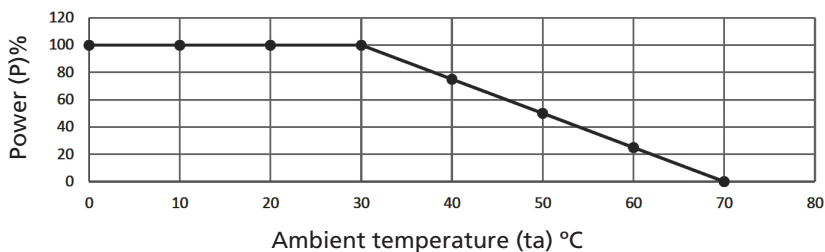
- A long press on the button, followed by a short press. Now all the controllers should be shut off.
- Long press on the button to max. Now the system is synchronised.

## Life span and placing

The LED converter converts 230 V to the right voltage level depending on the load. It has an efficiency of maximum 89% and a power factor of at least 0.99 in the entire dimming span. In the case of full load, a heat of about 7.5 W is developed. The cladding on the controller is of the type thermoplastic (PA6) and transmits heat effectively from the controller and to the outside of the cladding, and can reach a temperature of 95°C at full capacity. The controller must not be installed in an environment where there is a risk of combustible substances coming in direct contact with the surface.

In order to increase the lifespan of the mechanism, the heat from the components must be effectively discharged. In order to increase the lifespan, the controller should be installed in an as open climate as possible, for instance in a wardrobe, central unit, Hila-cover or in a so-called installation chamber. Supply of cool fresh air increases the life span of the mechanism, and the heat conducting material such as aluminium also has a positive effect on the lifespan. The controller has an estimated lifespan of 50,000 hours.

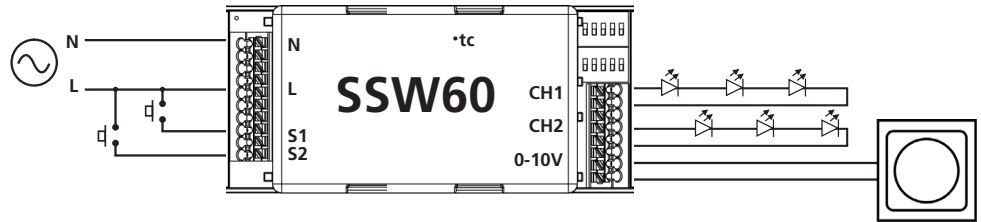
## Heat correction curve



## Installation example

SSW60 can be controlled with a 0-10 V controller while using the push button. The latest dim level is retained after a power failure, which enables control, in combination with, for instance, presence sensors.

### Bit function with 1-10V simultaneous dimmer



### Standard function with synchronised dimming (not SSW60WCM)



### Tunable-White (only SSW60WCM)

Tunable-White (TW) controls the color temperature of the load. The Tunable-White profile requires a TW-compatible four-wire load. Connect it according to the wiring diagram below. Then enter Casambi and click on units nearby. Identify the SSW60WCM that is just got plugged in, click on it to get to the menu. Choose to update the software and then select change profile to SSW60\_TW. Then add it to the network.



## Certification

EMC	EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3
LVD	EN 61347-2-13, EN 61347-1
RED	300328 v2.1.1, EN 62386-102
RoHS	EN 50581
Ecodesign	EN 50563