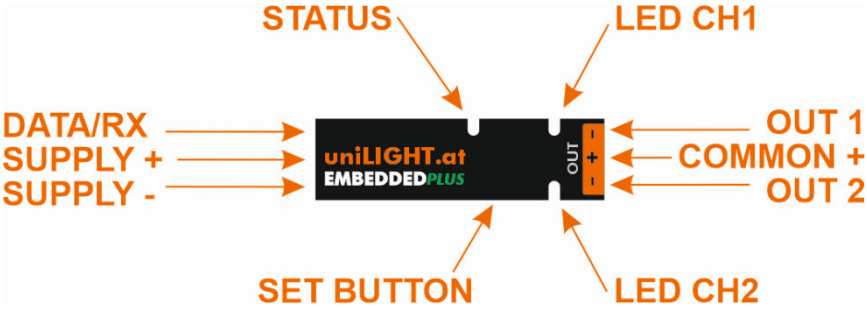
uniLIGHT Modul EMBEDDED

The EMBEDDED is the smallest but most advanced lighting control from uniLIGHT.at. At approx. 7x30x2.5mm, it's so small like thee matches and can be integrated directly into lights or industrial applications. It supports 1 ½ functions: i.e. a fully configurable channel and a second switched channel, e.g. to operate the navigation light of a DUAL light.

It is equipped with an abundance of adapted old and new functions and is therefore suitable for almost all applications. As member of the uniLIGHT*PLUS* family, it can be fully programmed and configured with the programming cable and the uniLIGHT DESK. The button can only be used to change the flashing pattern in solo mode and the speed of the pattern.

Just like other uniLIGHT controls, the EMBEDDED can be connected to a battery either directly or vis the included Y-cable. With uniLIGHT.at lights this is usually a 2S LiPo battery. As an innovation, it can also be connected directly to a HV receiver system.

With the EMBEDDED, we renounced our standard plugs for the lights because in most cases the controller should be placed directly in the lamp and soldered. Due to the fixed wiring, there is also no short circuit and no reverse polarity protection, which was removed to reduce the size.



Functions of the EMBEDDED

Most of the functions can be configured via the uniLIGHT.at DESK. You can find this tool on the homepage at https://www.unilight.at/info/download.html.

The DESK is a dynamic desktop application that can change depending on the level of development and available devices. If you cannot see the selection option for the uniLIGHT EMBEDDED after the first start, then wait a few seconds until the internet update has run in the background and start the program again. Then select the EMBEDDED and go through the configuration. Notes and explanations for each setting can be seen directly in the DESK, so here is just a brief summary of the functions:

Settings Light Channel

Classic settings such as the cycle time (frequency of the signal) and a ramp, i.e. a smooth switching transition, can be freely programmed here. Furthermore, a minimum value for the switched-off state (variable basic level – e.g. SportNav) as well as a maximum value (reduction of the maximum brightness – energy saving, brightness, night mode) can be set here.

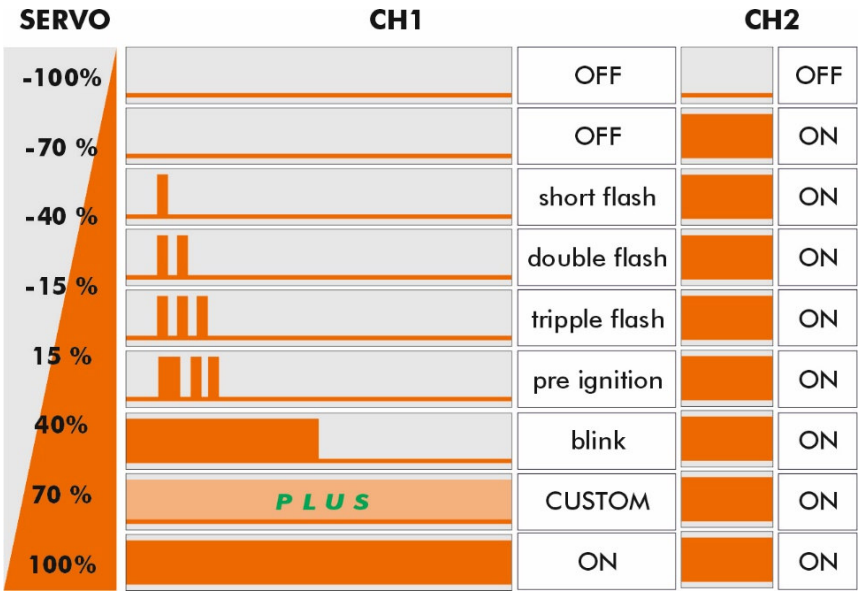
Settings Light Pattern

As usual, the EMBEDDED has already stored some common light pattern that can be called up via the servo travel. In parallel, channel 2 is only activated in addition to the light pattern. The specialty here is the freely definable COSTOM light pattern that can be freely defined via the DESK. A 32-bit block is available that can be configured independently or via an assistant.

To configure the pattern, use the usual handling of the touch control of a mobile phone. The pattern can be changed by activating, copying or moving bit by bit.

In these settings you can also definde to load the CUSTOM scheme when the system is started.

Hinweis The % values can vary depending on the manufacturer, simply adjust the path until the desired signal is displayed live.



Undervoltage

Here you can see the current supply voltage, define a sensitivity and a value for a lower switching threshold. If the limit is undershot, the light is deactivated and the blue status LED flashes.

Temperature

The controller can measure the temperature of the lamp if it is directly connected to it. For this purpose, it is usually glued directly to the heat source with the black ICs. The temperature value can also be calibrated. The actual function is to switched off the lamp after a maximum temperature has been reached. The second, new option, is the automatic power adjustment of the lamp to prevent it from being switched off (e.g. critical functions such as night flight, official strobe).

System Settings

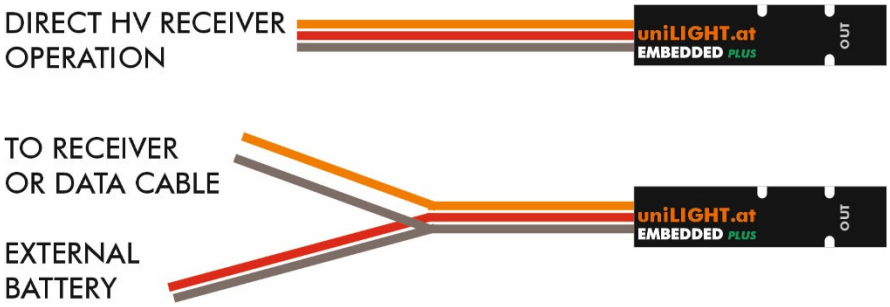
Indicated advanced functions for operation. For example, the time base of the light signals can be changed from the internal timer to the pulse rate of the receiver. This means that several EMBEDDED controls can be operated synchronously on the sam receiver.

A quick system start can also be activated. This eliminates the initialization process and the EMBEDDED starts directly in data mode.

CONNECTION

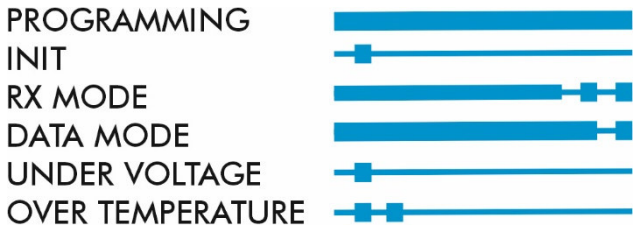
As already mentioned, the EMBEDDED can be connected directly to an HV receiver system. However, note the power requirements of the connected lights and the load capacity of the receiver.

With the supplied Y-cable it can be connected with an own battery and an independent data source, means receiver or programming cable. Please note that the two sides are no longer galvanically separated.



STATUS LED

Some information about the operation can be seen about the blue status LED. With starting, the initialization flashes the control for approx. two seconds with a short interval, it is checked if a valid servo signal is present. In this case, it is confirmed with the RX mode (continuous light with two short pauses), without signal the data mode is selected (continuous light with one short pause). Errors due to supply voltage or overtemperature can also be represented. If you are unsure, use the data cable and the DESK to obtain further information.



Settings on the Modul

With the side button, 3 things can be done:

1. If the button is kept shortly while the control is switched on, the programming mode is activated. The blue LED illuminates continuously. If you now press the button repeatedly, the various stored light patterns will also be displayed without a receiver signal. The selected one is saved to the later operation without RX.
2. If the button is held for 10 seconds when the control is switched on, a hardware reset is performed and all settings are lost.
3. When the button in operation is pressed, the speed of the light pattern can be adjusted. This then becomes slower and after overflow then again very quickly.

Technical Data

MODUL EMBEDDED

connection voltage:	4,8-9,6V
weight (without cable):	1g
size:	7.3x30.8x2.6mm (W/L/H)
current max:	3A, bis 16V
impulse current max:	5A, bis 16V
galvanish seperated system:	NO
operation without RC Signal:	YES
operation in **uniLIGHT*PLUS*** datamode	YES
variable speed effects:	8 + 1 free to configure