uniLIGHT Modul ECONOMY.8 PLUS

The E.8 light controller is the new version of the well-known 8-channel PRO control from uniLIGHT.at. The unit got a complete facelift in hardware, software and a number of features have been added, above all the support of the uniLIGHT PLUS functionality in connection with the uniLIGHT DESK.

The communication interface was therefore changed to the 3-pin data interface in connection with the MODUL-PLUS programming cable instead of a mini-USB port. With the benefit, that a successful connection to the DESK software can be displayed directly on the programming cable.

Furthermore, two electrically completely decoupled output blocks with two separate power supplies are used again. And now the matching sockets for the uniLIGHT standard plugs have been integrated, the housing has been strengthened and the performance has been increased.

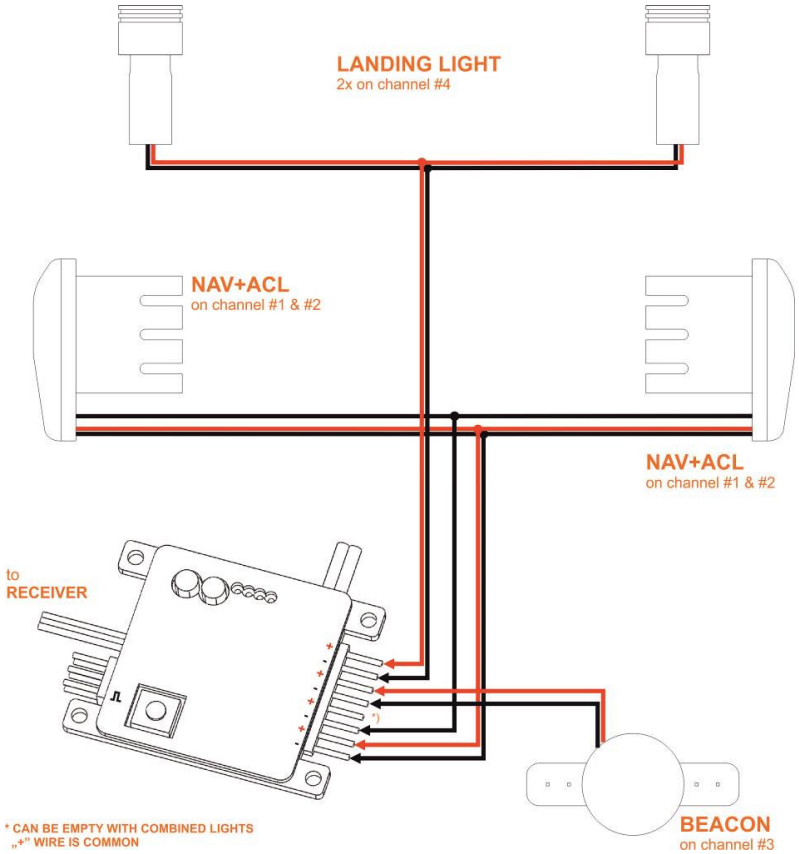
Technical Data

	MODUL-8-300-1	**ECONOMY.8**
Receiver control	4,8-9,6V	**4,8-9,6V**
current per channel	3A to 30V	**3A to 30V**
pulse current per channel	5A to 30V	**8A to 30V**
total last	10A, 2x5A	**14A, 2x7A**
galvanically isolated circuits	YES, 2x	**YES, 2x isolated**
operation also without RC signal	YES	**YES**
free programmable	YES	**YES**
soft transition programmable	YES, global	**YES, per schema**
asynchronous breaks	JES, simple	**JA, any**
Short circuit and under voltage protection	NO	**NO**
servo outputs	2	**2**
servo outputs free programmable	YES	**YES, with delay**
independent lighting scheme	5	**2 to 6 dynamic**
powerful configuration software	proprietary	**uniLIGHT DESK**

Connection

In the uniLIGHT system, lights can simply be switched in parallel. Connections can be made using a Y-cable or simply by soldering them together. With normal lighting systems, the performance limit of the control is never reached, 12-15 lights of the 040 type can be operated in parallel on one channel without any problems.

If you use lights that are not part of the uniLIGHT system, make sure that they can actually be operated with the voltage applied to the E.8 or that appropriate series resistors have been used. The thermal design must also be taken considered.



If there are several lights, the "+" pole can be combined to reduce the number of cables.

Programming transmitter/receiver

The control module is connected to a receiver channel, which is usually controlled by a 3-position switch on the transmitter. Therefore, the E.8 is pre-programmed for a 3-position switch. At -100% everything is off, at 0% the normal flight lights are active, at +100% the headlights are also active. The following functions are suggested in the default programming

channel 1: navigation light right

channel 2: navigation light left

channel 3: strobe right

channel 4: strobe left

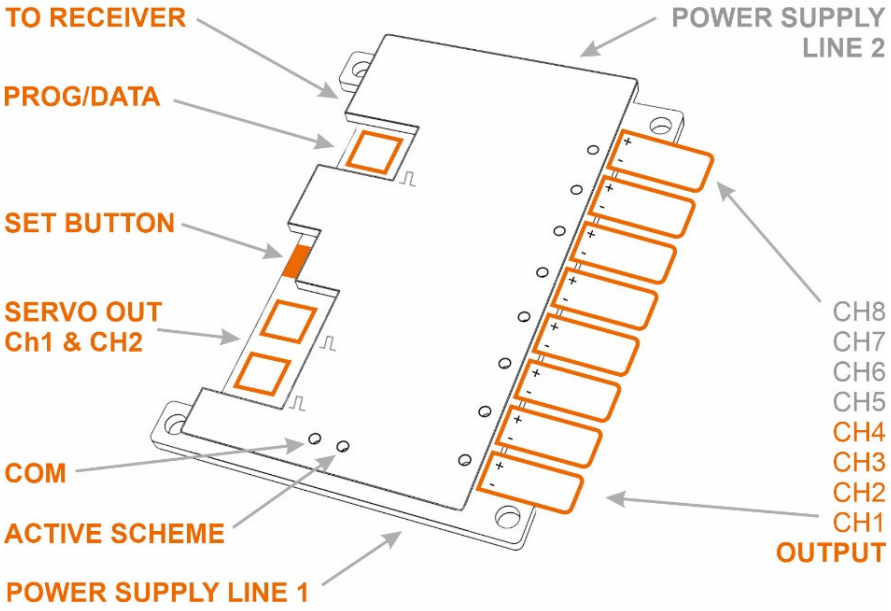
channel 5: Beacon or ACL bottom

channel 6: Beacon or ACL top

channel 7: landing spot right

channel 8: landing spot left

However, these functions can be changed completely freely, see the chapter Software.



Status COM shows when there is communication with the uniLIGHT DESK running. After start, this LED lights up continuously and indicates readiness.

Blinking status ACTIVE SCHEME indicates that a light scheme is currently running.

The two POWER SUPPLY inputs (on the back) also allow the use of two separate voltages. The output stages only become active when the supply voltage is applied to the receiver, so you do not need your own switch for the power section. The controller and both power lines are completely galvanically isolated, so you can use any power supply - even the same one of course. In most cases, these two power supplies are simply operated in parallel from the same battery, but they can also be completely different batteries.

Advanced programming transmitter

Modern remote controls can control much more over one normal channel. Complex tasks are possible via mixers, switch groups, logical elements or flight phases.

As example an airplane with landing and taxi lights. The taxi light should only come on when the landing gear is extended. These different light schemes are programmed/stored in the E.8 and then called up via a mixer in the transmitter.

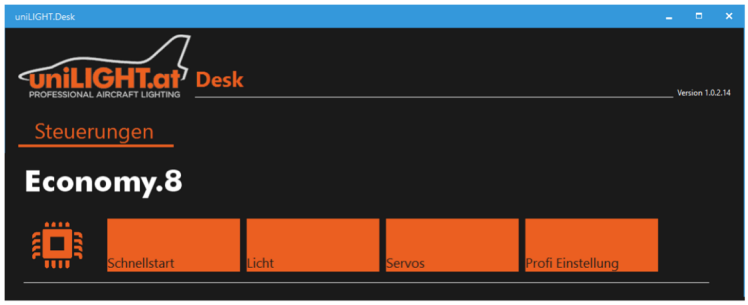
Reset

To restore the basic setting (RESET) of the uniLIGHT module, hold down the SET button and start the receiver power supply. Keep the button pressed for 10 seconds until the flashing signal changes to a steady light. -> RESET

Software

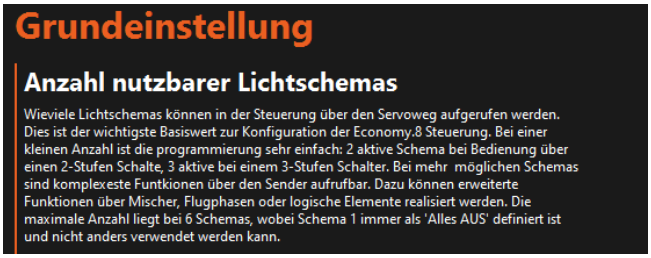
The uniLIGHT DESK software is free avaiable on the website www.unilight.at in the download area. The DESK is a dynamic application that can configure all intelligent uniLIGHT PLUS products. It independently checks for updates and downloads the configuration for new controllers in the background, which of course requires an internet connection. Sometimes it is necessary to restart the program so that updates can also be displayed. The system concept is independent of the operating platform, but is currently only available for Windows Desktop and Mobile.

After starting, search for your hardware and select a entry. Various views of the configuration are offered here in order to enable easy entry as required.



After selecting a view, the available ports are displayed. The MODUL-PLUS programming cable should already be connected to the USB port of the PC, otherwise go back one step and repeat the selection. It is also possible to choose a demo operation, but the values shown are only rough references.

Help and explanations are stored everywhere in the uniLIGHT DESK. There is always an information block for each menu. It is explained in a few sentences what this entry or this option does and which values make sense. Use this help to understand the properties of the controller.



Light Scheme

As with all uniLIGHT.at controls, the term light scheme is crucial. This designates all the data required by the currently running light pattern. Of course, there is the light pattern itself, i.e. the blinking and pause phases, i.e. when the light is on and when it is off. But it also includes the running speed (period of the signal), ramps, pause cycles and servo positions. Everything is always processed and displayed in the current light scheme and must also be saved there.

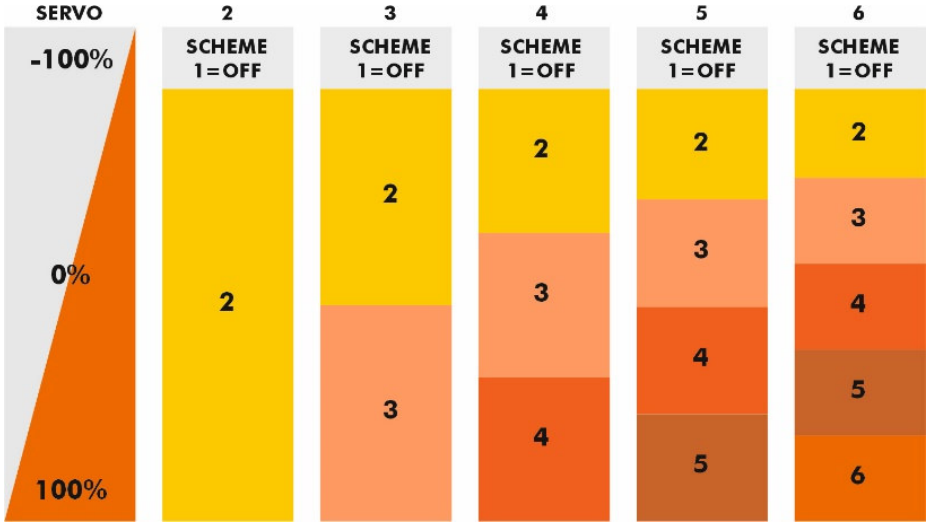
If a light scheme is changed, the settings of the new scheme takes effect immediately. e.g. in the case of ramps, the setting of the new selected light scheme is relevant for the behavior. So, a beacon can flash slowly but be switched off immediately or can glow extremely long after switch off.

Basic steps in programming

The uniLIGHT ECONOMY.8 is the first controller that can be configured dynamically. This means that not only fixed light patterns are stored, but the number of required patterns is defined right at the beginning or be added or removed. The servo travel is therefore no longer fixed, but is automatically divided according to the selection.

For example, if you select 2 usable light schemes, this corresponds to use with a 2-stage switch: at -100% everything is off, in any other position light scheme 2 is called up.

If you select 3 usable light schemes, then the servo travel is used for these three schemes, i.e. at -100% everything is off, up to just over 0% scheme 2 is called and beyond that scheme 3 is called.



If you select more usable schemes, then the available servo travel is divided up, as a constant scheme there is always only the range around -100% for scheme 1: ALL OFF.

Once this basic setting has been made, the actual definition of the light pattern can begin. The following basic steps:

1. Select the light scheme to be configured, usually starting with light scheme 2. You can select the pattern via the menu in the DESK or via a connected servo tester or receiver.

2. Click on the blocks to create a sequence of lights as desired or use the quick command buttons. The pattern can be moved in a circle with the mouse or swiping. All patterns of the current light scheme can also be emptied with the “Empty light scheme” button.

3. Configure the light pattern with ramps and/or cycles/pauses, just try it!
   Save the current light pattern if you like the settings.

4. Switch to the next light scheme and repeat the settings there.

   OR

5. Go to "Advanced Programming" (depending on the selected view) and copy the current light scheme to another memory area. When the current scheme 2 is finished, then copy to scheme 3.
6. Switch to the new scheme (here 3) and only add the changes, e.g. switching on the headlights

Equipment

A programming cable is required for configuration. Even if many known cables work, we recommend the uniLIGHT MODUL-PLUS programming cable, where an LED indicates the successful connection to the hardware and is therefore more reliable.