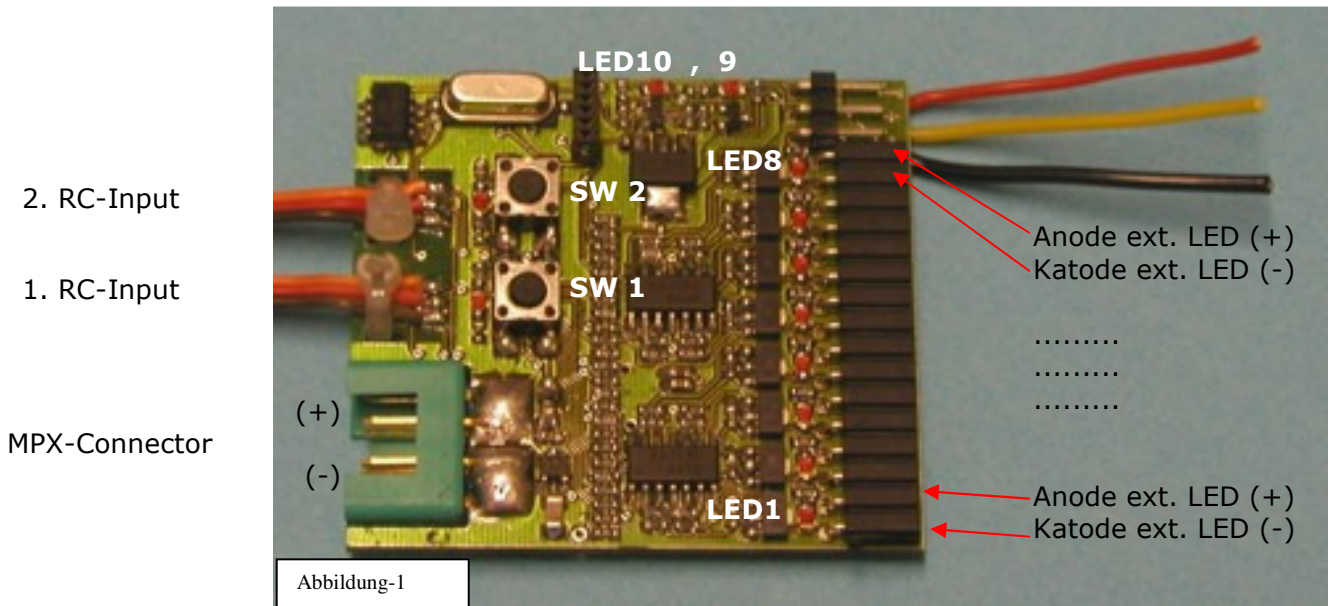


Quickstart Multilight-Mini

Module shown
without shrink
tube and cooling
for a better view

Multilight-Mini



What is Multilight mini?

Multilight mini is a complete solution for model lighting. You can connect:

- Eight lighting modules for position lamps, beacon lights and headlights (taxilight, landing light)
- An additional output is used for e.g. halogen lamps (up to 20V/4A)
- An output to control a servo e.g. to drive out a hidden headlight.

Multilight mini is flexible. Choose between six functional combinations and 12 different flashing patterns. Adjust switching points (decide when your lights are on or off) and RC-Inputs. **Use this manual for programming reference and read it carefully.** Multilight mini will adapt to your needs in lighting and light switching. Each function may be programmed independent from the others.

Definitions – what we name the items

- Green MPX Connector: Connect Current source for lighting modules here. 4 cells are enough. Max. 6V. Separate battery recommended
- 1. and 2. RC-Input: Control your lighting functions. You may use the first only or the second in addition.
- SW1 + SW2 are used for programming. When programming RC-Functions, SW1 and SW2 are to be used with the according RC-inputs. See the control LEDs when pressed
- Control-LEDs (1-10) signal the state of your outputs. Used for programming control

First Steps – Connect your Multilight.

Do not connect external LEDs. Connect at least the 1. RC-Input to your radio (gas channel) or servotester. Connect the external power source at the MPX-Connector. After initialisation sequence multilight will begin to show lights according to the impulse-length of the input(s)

Preprogrammed functions:

- * Basic function 3) → 3 Positionlamps, 3 Beacons, 2 Headlights

- * Flashing pattern 4) → Triple flash parallel every second
- * All RC-functions (except switching channel) on 1. RC-Input, Switching channel on 2. RC-Input

Current source for the power line

Use 4 cells NiCd or NiMh for best results. 2000mAh are suitable for a normal flight day. Refer to picture one for polarisation. If you have a double current source in your model (like emcotec DPSI) you can use this as a current source (Be aware of max. current ratings of your DPSI or other current control product) We do not recommend using LiPo cells. **Using a higher input voltage will not provide you with more light**

Switch channel: see "Abbildung-1"

Internal current source: Use red (+) and black(-) to connect your external device like a 6V Halogen lamp. Max. Current rate: 4A

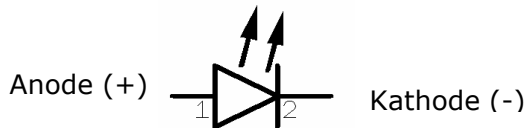
External current source: Use black (-) to connect to the minus of external current source. Use yellow to connect to the minus connector of your external device. Connect the plus of your external device and connect it to the external plus. Max rate: 20V/4A

Usage without RC-Control

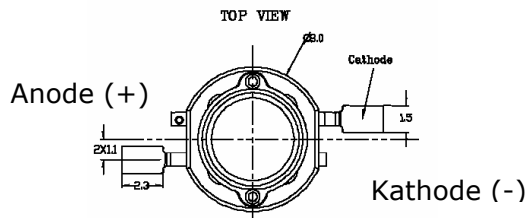
There may be the necessity to use multilight without RC-Control (on a show for example). Simply switch on the power source. Multilight mini will display the program used last.

Connecting lights

LED-Symbol:



Luxeon Emitter



Dimensions Luxeon Emitter:

Diameter base: 8mm
Diameter dome: 6mm

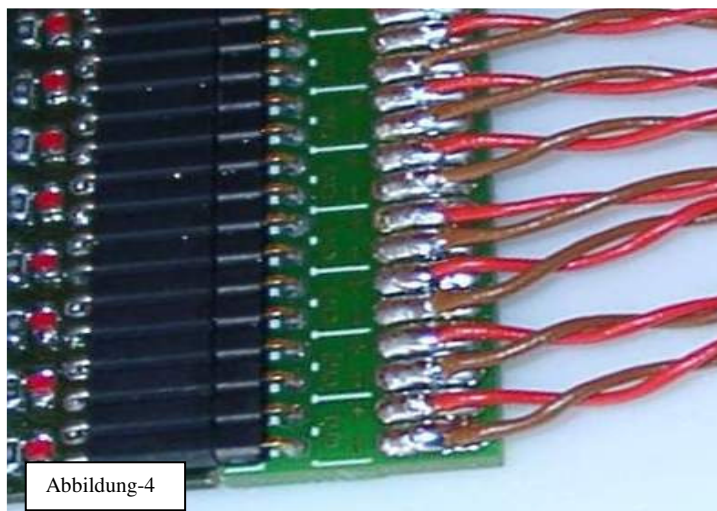
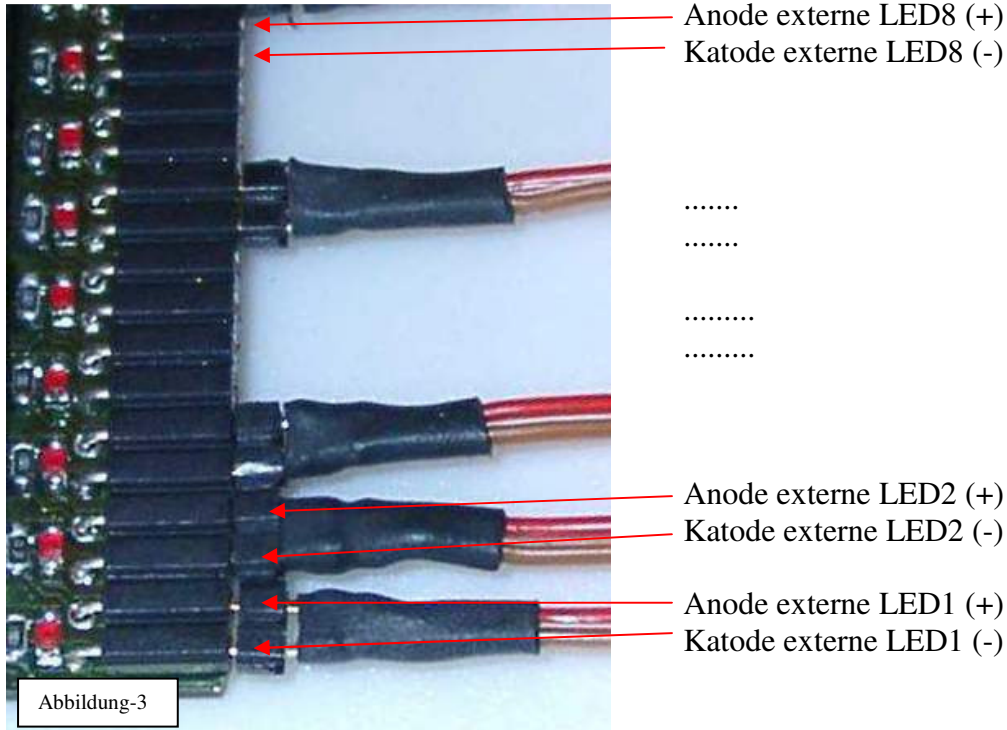
Luxeon Emitter colors

Have a look from above on your Emitters (without current source attached): You will find the white one looking yellow, the red one looking red and the green one looking clear

Caution: Do not look into your emitters with current source applied. May damage your eyes!
Connect Luxeon Emitters only to Output 1..8. Do not connect them to the switching output.

Connect LEDs.

Use a RM 2.54 double pin for single Luxeons or our adapter plate (recommended)



Cooling

The electronic board has a cooler applied, it may become hot, dont worry.

The Luxeon Emitters must have cooling for permanent lights like position lamps and headlights. We provide tube or flat coolers as well as a heat sink glue for individual mounting separate or in complete sets. Contact your dealer!

Do not use Luxeon Emitters without proper cooling. They will be damaged almost immediately

We recommend our tube coolers for cooling or the flat coolers applied with heat sink glue. The headlight modules come ready with cooling.

Programming Multilight-Mini

You can choose from the following options:

1. 6 Basic functional combinations
2. 12 flashing patterns
3. 5 switching points for RC-Control

Although all programming steps can be made independent, we recommend that you follow the steps above and check whether multilight works according to your ideas after every step.

Preparations

- Connect RC-Inputs to a radio or servotester. Switch it on.
- Connect external power source to Multilight mini
- Wait until initialization ends.
- You are now prepared.

Principles of programming:

Use your servotester or Radio to bring Multilight mini in one of the following programming modes:

- Basic func. combination: Impuls lenght below $<1.3\text{ms}$ (e.g. throttle back).
All lights should be off now.
- Flashing pattern: Impuls lenght between 1.3ms and 1.7ms
Beacons and position lamps may be on
- Switching points: Impuls lenght above 1.7ms
All lights may be on in delivery state

After your decision press both SW1 and SW2 to start programming for at least a second.

a) Choose functional combination:

After start of programming use your radio or servotester to choose on of the following basic programs:

- Rotating-Beacon (5) and Position lamps (3)
- Beacon lights (5) and Position lamps (3)
- Beacon lights (3), Position lamps (3) and Headlights (2)
- Beacon lights (4), Position lamps (2) und Headlights (2)
- Headlights (4) and Position lamps (4)
- Beacon lights (4) and Headlights (4)

We signal the function like follows:

- Rotating-Beacon → LEDs flashing one after the other
- Beacon lights → synchronous short flashes
- Position lamps → synchronous longer flashes
- wie Headlights → synchronous longer flashes

If you are satisfied, press both SW1 and SW2 to leave programming mode ... you will see a repeat of your choose.

b) Choose flashing patterns:

If you choose to program flashing pattern, you can use the following list for reference (May be change without notice in newer software releases)

1. Rotating-Beacon,
2. Double flash with short pause or long pause
3. Triple flash with short pause or long pause
4. Double flash 1-2, followed by double flash 3-5
5. Quad flash one output after the other
6. Interchanging double flash output 1-2 and 3-5
7. Interchanging double flash output 1-2 / 3-4 / 5

8. all 50ms on/400ms off
9. all 100ms on/400ms off

If you are satisfied, press both SW1 and SW2 to leave programming mode ... you will see a repeat of your choose.

c) Switching positions

Note: Only use this with the channels of your radio where your multilight mini will be working with. Program these switching points when you are finished with the programming of the rest of your model. This is the most complex part of programming Multilight mini. You should be cautious here.

Multilight mini provides the following switching points that have to be maintained during this programming process (you cannot leave programming before you are finished with all positions)

- All light off
- Beacon lights on
- Position lamps on (may include beacon lights on)
- Headlights on
- Switching channel on.

Hints:

- SW1 and SW2 are related to 1. RC input and 2. RC input.
- You may not need all switching points for your function. Just give them a "fake" position.
- One switching point may be used for more than one function.
- You can even have an „on" position in the „all lights off" position
- You must connect the 2. RC-Input for this programming Step
- We organized special cases to be switched together. You will see, when programming

After you have entered programming mode for switch positions, you will see an initialization, followed by output 1-3-5-7-9 lit.

1.) Bring both RC inputs in the position where all lights should be off (even if you want one on in the „off" position. Press SW1 or SW2 for a second or longer. You will see initialization again followed by output 3 lit.

2. Bring the RC input for "Beacon lights on" in the right position (where beacon lights should be on) and press the switch for the channel that will be used for switching the beacon lights for at least a second (Multilight mini will detect RC-input and position then). You will see initialization again followed by output 5 lit.

3. Do the same for position lamps (with the result of output 7 lit)

4. Do the same for headlights (with the result of output 9 lit)

5. Finally do the same for switching channel (with the result of output 9 flashing) followed by output 1+3+5+7+9 flashing indicating that you are finished.

Had a problem programming? Don't panic. Switch off current source for some seconds and start over again.

General error indicator:

- LED of SW2 is flashing: You may have used 2. RC input for programming instead of the 1. RC-input. Change it, switch off current source for some seconds and start over again.



Aktualisiert: Juni 2009

Technical data:

Outputs: 10 (8 for lights, one switching channel and one for special purposes)
8 current source outputs for Luxeon Emitter with increased current for flashing modes
Max. rates switching channel: 4A internally, 20V/4A with external current source
Current input: 4-5 NiCd/NiMH, max. 6V recommended
Software updateable, special solutions possible
Size: ca. 49*54*8 mm
Weight: approx. 23g

Contact:

Please contact your dealer first in case of trouble. He should know what to do. If not, please contact us (eMail recommended)

- **Wendler Modellbau**

Rainer Wendler
Schwarzheider Str. 11
12627 Berlin
Tel. +49 (0) 30 99902093
Fax: +49 (0) 30 99902094
Mail: office@airfighter.eu
Web: www.airfighter.eu

- **Bei speziellen technischen Fragen und Vorschlägen, neuen Blitzmuster-Programmierungen und Updates, Reparaturen usw.**

IBS - Ingenieurbüro Süßenguth
Schulstrasse 15
27412 Tarmstedt
Tel.: +49 (4283) 98 08 41
Mail: info@ib-suessenguth.de

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