

SUNRISER 4+



SUNRISER 4

The smart lighting control,
simple to operate,
great in function!

**SPECIAL
OFFER**

Do you want the lighting control system
to be ready to go straight away?

Exactly according to your ideas?

Then the "Programming service" is
service is just the thing for you!

See page 107

Features:

- **Immediate start** possible with pre-installed lighting programmes.
- **Programming without PC etc.**, settings are made directly on the device via multibutton and LED display.
- **Assistance function** for easy and quick programming of a daily schedule.
- Compatible with all our LED bars
- 4 separately and **individually programmable channels**
- Individual lighting programmes can be created and in turn assigned to one or more channels. This guarantees maximum flexibility and functionality.
- **Each day of the week can be programmed separately and individually if required!**
- **SmartControl** - for an optimal life span of the LEDs, they are never controlled with maximum voltage.
- **SunRiser algorithm** - the dimming function is based on a unique algorithm that provides an absolutely smooth and jerk-free dimming curve - unique to all our SunRiser lighting controls!

Functions:

- Time for switching on/off
- Sunrise and sunset
- Duration of dimming phases
- Light output adjustable 0-100
- Function test per channel
- Change of summer/winter time
- Static dimming periods (cloudy, rainy day, etc.)
- If required, **lunch break** with start time, duration, light output 0-100%
- **Maintenance function:** Temporary full output for work on the aquarium

Example of a light composition:

Channel 1: Sunrise and sunset, light colour RED or SUNSET.

Channel 2: Main lighting, light colour: TROPIC, DAY, or SKY etc.

Channel 3: Main lighting, light colour: POLAR, REEF or MARINE etc.

Channel 4: Moonlight, light colour: e.g. ROYAL BLUE

SunRiser 4+ Operation / function

SunRiser 4+
LEDaquaristik.de



Use the **Multibutton** to make the settings by the "press and turn" method or page through the menu. .

Monday 11:55 Programme	Programs 4/26 Program D 6/24	Program D 6/24 1/ 6 07:30 0%	Delete? D 07:30 Yes => No
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Programs is a sequence of timed events and contains up to 24 program points. Each of these points contains a time (Hours:Minutes) and the associated brightness value in %.

4 programs A, B, C, D are preprogrammed on the unit as supplied (4/26).

Program D contains 6 individual program points (6/24). Program point 1/6 gives the brightness value of 0% at 07:30. See left. Thus the light switches on at 07:30 because the following program point 2/6 schedules a brightness value of 80% at 09:00. **(see table right!)**

The device dims (dims or brightens) the light evenly and linearly with respect to time as the program runs from one program point to the next. In this case, the light is brightened from 0% to 80% within 90 minutes (07:30-09:00). The current program can be deleted, amended or added to with new points or a program. **Each of the 26 programs (A-Z) can have a maximum of 24 points!** Save yourself work and **copy a complete program**, which you can then either edit to suit your needs or use unchanged.

Example of a simple daily lighting routine: :

Time	Output
08:00	0%
10:00	100%
20:00	100%
22:00	0%

Result:

The light switches on at 08:00
Sunrise from 08:00 to 10:00
From 10:00 to 20:00 100% output
Sunset from 20:00 to 22:00
The light switches completely off at 22:00

Hour? D 07:30 07:30	0%
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Minute? D 07:30 07:30	0%
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Brightness 0% 07:30	0%
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Program D New point	Hour? Prg.D 09:00
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Minute? Prg.D 09:00	
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Brightness Prg.D 09:00	80%
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Program A Copy	Copy Program A.. to Program B
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Program A Assistant	Assistant Standard A SunRise Standard
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Sunrise Hour: 08	A
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Sundawn Hour: 20	A
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Sunrise/-set In 120 Minuten	A
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Assistant SunRise Effect	A
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Sunrise Hour: 08	A
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Sundawn Hour: 20	A
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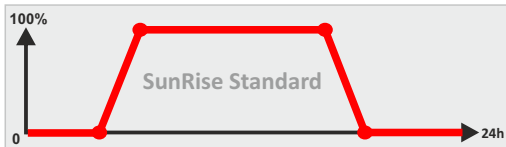
Program Delete?	A
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Delete? Prg. A No Yes	A
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The **Assistant function** allows you to quickly and easily create the daily lighting routine. All you have to specify are the times for sunrise (Start or Light on), Sunset (beginning of the dimming phase) and the duration of these phases. All the rest of the **program points are automatically set for you.**

The assistant adds these points to existing programs! The assistant offers two variants: Standard and Effect. "SunRise Effect" is particularly good at allowing effect colours such as morning reds (RED) to be introduced for short periods. "

"SunRise Standard" on the other keeps the light of the sunrise (e.g. SUNSET) on at a high value over the whole day. See the graphs on the left! You can also edit the program manually.



Monday 11:55
Assign LED

Assign LED. Every channel or every LED (#1 to #4) is assigned a previously created program. More than one programme can be assigned: e.g. if you wish to have **different lighting scenarios on different days of the week**.

Programs for...
LED #4 ABCHHHH

In this example the programs ABCHHHH are assigned to LED #4. The sequence of letters ABCHHHH provides an overview of the week. Monday: A, Tuesday: B, Wednesday: C, the rest of the week (everyday): H

LED #4 ABCHHHH
Everyday H

If no programme is assigned to a day of the week, then the ordinary day setting applies.

#4 Everyday H
Program H

Monday 11:55
Maintenance

Maintenance
for XXX minutes

The **maintenance function** is suitable for times when you are working on the aquarium, and full lighting output is not necessary. The current light program is suspended manually and the duration set by the user. All 4 LED channels are activated. **LED off.** Using this option, you can switch off the light for a specific period. The light program is suspended for this period and then continued. Suitable, e.g. for introducing new fish etc.

Monday 11:55
LED off

LED off
for XXX minutes

Monday 11:55
Function test

Function test
LED #3 776

Function test #3
Power: 1000

A **function test of individual LED channels** can be very helpful. An output value between 0-1000 is entered. If the menu point is quit, the current light programme continues.

Monday 11:55
Settings

Settings
Set time

Weekday Thu
Thursday

Settings. An important and crucial point: The **setting of the current time:** day of the week, hours, minutes

Settings
Maintenance

Maintenance
Power: 1000

Maintenance function. Enter the light output (0-1000) that you wish to be provided during the maintenance function period. As with the function test, the brightness level is not a percentage value but a PWM or output value. Thus a value of 500 is not 50% brightness!

Settings
Summertime

One hour...
.. forward

Summer/winter daylight-saving time The current time can be put back or forward.

Settings
Initial value

Initial value
LED #1 0

Initial values are the output values of the LED(s) when the device was switched off. They apply if no program has been assigned to start or if individual channels are to be manually adjusted.

Settings
Display

Brightness
100

If the lighting of the **display** malfunctions, the brightness can be adjusted or the complete display switched off when it is inactive.

Monday 11:55
Info

Info. This displays current information about operating time, brightness and output values as well as the assigned weekly lighting routine for LED #1 to #4. You can also reset the device including the example program by double-clicking in the **factory default settings**.

Pre-installed example program	07:30	08:00	09:00	10:00	20:00	21:00	22:00	22:30	Function
Program A - LED #1	-	0%	-	100%	100%	-	0%	-	Daylight
Program B - LED #2	-	-	0%	100%	100%	0%	-	-	Daylight
Program C - LED #3	5%	0%	-	-	-	-	0%	10%	Moonlight
Program D - LED #4	0%	-	80%	100%	80%	50%	-	0%	Sunrise /sunset



Suitable for maximum 60W (5A/12V) power per channel - total power channel 1-4 maximum 180W (15A/12V) . Double assignment per channel is possible, taking into account the maximum total and maximum connected load in total and per channel. Not compatible with an LED splitter. The device must not be placed on or inside the aquarium cover!

SunRiser 4+ Principle of operation

1. Create a program

A program is the time sequence that controls brightness values at the set times. Example using the pre-installed program A, which comprises 4 points:

1/4	08:00	Uhr	0%
2/4	10:00	Uhr	100%
3/4	20:00	Uhr	100%
4/4	22:00	Uhr	0%

◀ The light switches on from 8 o'clock and slowly dims up to 100% within 2 hours. From 10 to 20 o'clock the light shines constantly with 100%. From 8 pm the light dims down again until it reaches 0% at 10 pm and thus switches off.

For example, to add a lunch break, the program is expanded to eight points as follows

1/8	08:00	Uhr	0%
2/8	10:00	Uhr	100%
3/8	11:45	Uhr	100%
4/8	12:00	Uhr	0%
5/8	13:45	Uhr	0%
6/8	14:00	Uhr	100%
7/8	20:00	Uhr	100%
8/8	22:00	Uhr	0%

◀ Now the light is dimmed to 0% within 15 minutes from 11:45 and remains switched off from 12 to 13:45. It then switches on again at 13:45, dims up within 15 minutes and reaches 100% again at 14:00.

It is important that a program is covered by "0% points", otherwise the light will never switch off completely.

If in the example above the 1/8 point would be missing, the illumination would only be at 0% at exactly 22:00 o'clock, already one second later the brightness increases again until 100% is reached at 10:00 o'clock.

Up to 26 separate programs (A-Z) can be created, each containing up to 24 points. These programs are then assigned to the LEDs and weekdays...

2. Assign LED

The SunRiser 4+ has 4 connectors on the rear side where up to 4 LEDs can be connected and controlled separately. In the factory setting 4 programs (A, B, C, D) are stored on the device, which are assigned to these channels LED #1 to LED #4. This means that channel LED #1 is assigned program A on all days of the week. LED #2 B, LED #3 C and the channel LED #4 the program D.

On page 60 of the operating instructions, the table shows the individual switching times, assignment, brightness and function of these programs in the daily schedule.

It is mandatory that a created program is assigned to one (or even several) LEDs, only then the program will be started. As soon as the assignment has been made, the program starts automatically according to the current time.

Assignment of the pre-installed programs (factory setting):

LED #1 AAAAAAA	LED #2 BBBBBBB	LED #3 CCCCCCC	LED #4 DDDDDDD
Monday	Tuesday	Wednesday	Thursday
Friday	Saturday	Sunday	

For special lighting times on LED #1 and LED #2 at the weekend, two new programs E and F are created and assigned as required:

LED #1 AAAAAAE	LED #2 BBBBBF	LED #3 CCCCCCC	LED #4 DDDDDDD
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On LED #1 to 3 the same light settings should run daily, on LED #4 e.g. a moonlight should be operated with its own time/program:

LED #1 AAAAAAA	LED #2 AAAAAAA	LED #3 AAAAAAA	LED #4 CCCCCCC
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High-Power-Solution for SunRiser

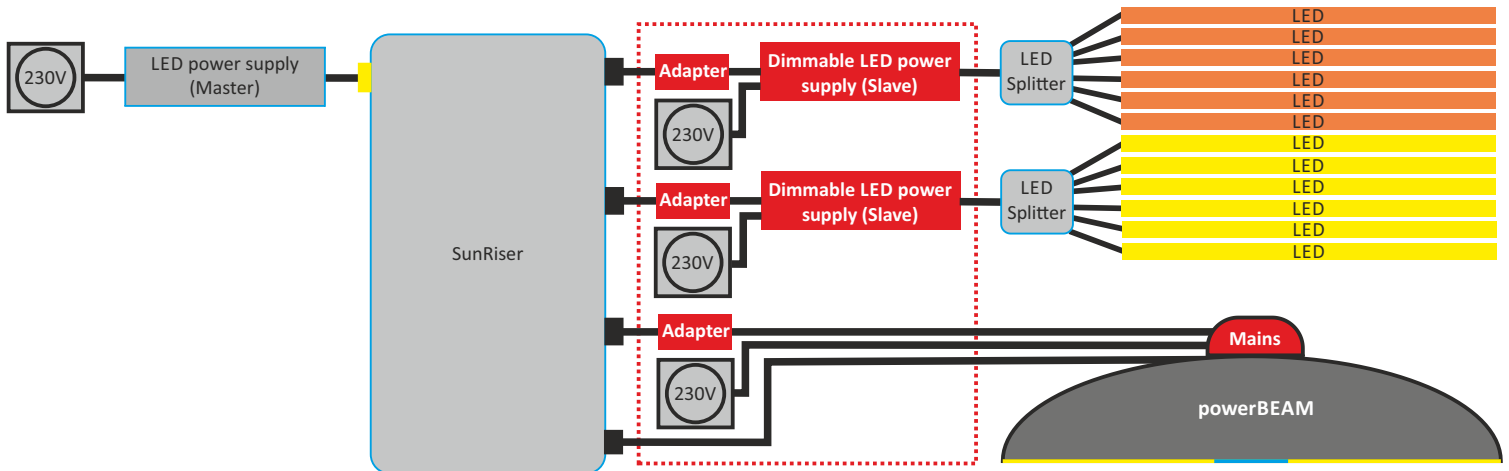
With the High-Power-Solution, a specially configured and dimmable LED power supply unit is used on an output channel of the SunRiser lighting control system. This so-called master/slave operation enables a connected load of up to 192W (-10%) per channel on a SunRiser!

Functional description:

In the standard application, a SunRiser draws power from an LED switching power supply and sends it to the LEDs via its output channels. Thus, the maximum possible number of LED bars to be connected is limited by the maximum power of the power supply unit, or by the maximum connected load of the control unit and the individual channel. In the example of the SunRiser 8, this means a maximum of 240W/12V. For extensive projects, the limit of feasibility is quickly reached and a second or third system must be used.

High-Power-Solution: The master/slave solution described below offers a considerable increase in performance. One of our "standard" LED switching power supplies of any power serves as the master. The 35W model is already sufficient, and only supplies power to the lighting control system itself. As slaves, specially configured LED power supplies are connected to the output(s) of the lighting control system. These are available with a connected load of either 120W or 192W (minus 10% reserve). A single SunRiser 8 can thus control a maximum of 8x 192W/12V (-10%), which would correspond, for example, to approx. 48 eco+ LED bars of 100cm each. Even 8x aquaLUMix 144cm on one SunRiser 8 can be realised in this way.

In addition, the slave power supply units can be set up decentrally for lighting control. This means that only the control cable needs to be extended and the cables of the LEDs can be kept short. This neither impairs the efficiency of the LEDs nor increases their susceptibility to interference due to extreme cable lengths. To connect several LED bars to one power supply unit, you will find the LED splitter in our shop. Of course, all LEDs connected to a slave power supply unit are dimmed/controlled together.



High-Power-Solution

Please note:

The power supply unit may only be used with the supplied adapter plug on the SunRiser 4+, SunRiser 8 or DIMIX6.

The power supply units should be operated with LEDs that require at least 60% of the max. connected load.

The dimming function of the power supply units cannot technically implement the 1-10% dimming range. A very weak glow of the LEDs, as allowed by the SunRiser in normal operation, is not possible here. For this minimum range, an LED bar connected directly to the lighting control system should be used.

Compatible with: SunRiser 4+, SunRiser 8, DIMIX6

Scope of delivery: 1x power supply unit including connection adapter to an output/channel of the products listed above.



The switch-on point

Using the High Power Solution or powerBEAM with the SunRiser 4+ and 8

As already mentioned in the product description, the dimming range between 1-10% is technically not feasible. However, to ensure that the light switches on at 1% as programmed and not only with a time delay from an undefined range >10%, the SunRiser 4 and 8 controllers offer the option of setting the "switch-on point" individually in their settings.

The switch-on point is used to determine the lowest possible PWM value at which the connected LED (powerBEAM / High-Power-Solution) switches on. This value is then saved and from now on processed as the lowest (1%) setting when the light is switched on.

If several channels are used with powerBEAM or High-Power-Solution, the switch-on value must be set individually in each case.