



LED Light Source SL 3500

PSI LED Light Sources are arrays of high-performance light emitting diodes (LEDs) that can operate in multiple regimes: flash, continuous light, harmonically modulated light, or they can work with a user-defined modulation. Different versions of the device vary spectrally from blue to far-red.



LED Light Sources can be used as standalone units or they can be integrated into cultivation area or other PSI instruments – FluorCams, Photobioreactors or FytoScopes. Base LED clusters can be used to outfit growth rooms.

Their function can be substantially enhanced by the Light Controller LC100, which provides precise control over the light mode, intensity and timing, or by the Light Studio Software, which enables computer control of the Light Sources. Both the Light Controller and the Light Studio Software offer the possibility to create user-defined protocols.

APPLICATIONS

- Plant science
- Agricultural and biotechnology research
- Plant growth and development
- Plant biomedicine

KEY FEATURES

- High light output – up to $3,000 \mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$ at the distance of 20 cm (depends on the LED type).
- Uniform light distribution over the desired area
- Precise intensity control in the range of 1 to 100 %
- Minimum undesirable heating effects to experimental material
- Hardware or software control of the light regime and intensity
- Different color versions
- Standard colors available: white cold, white warm, blue royal, red-orange, red, blue, green
- Tri-color versions available in 20×20 cm and 20×30 cm sizes
- Long lifetime of LEDs (min. 60,000 hours)

LED LIGHT SOURCE VERSIONS

The panels are manufactured in number of versions differing in the panel size and illuminated area and in light color of the panel (from UVA to far-red).

Stand Alone Standard Panel Size with exact number of mounted LEDs:

Panel size 13 × 13 cm

Model A – Single color;
72 mounted LEDs

Panel size 20 × 20 cm

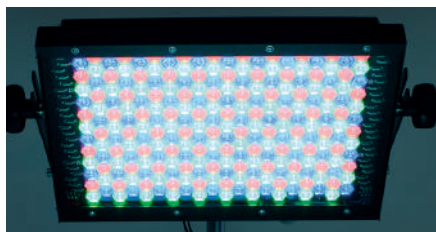
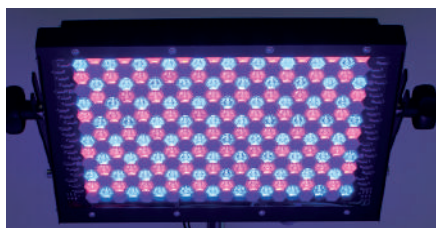
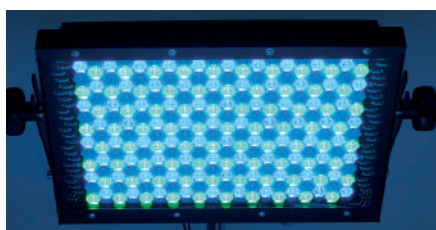
Model B – Single color;
180 mounted LEDs

Model C – Tri-color RGB
(Red-Green-Blue);
168 (3 × 56) mounted LEDs

Panel size 30 × 20 cm

Model D – Single color; 104 mounted LEDs

Model E – Tri-color RGB (Red-Green-Blue) with far-red; 240 (3×80) mounted LEDs, 4 far-red LEDs



▼ LIGHT CONTROL

Light Controller LC100 (optional)

- User-friendly operation
- Precise control over the light mode, intensity and timing (seconds to hours)
- Supports up to 4 lights/colors in SL 3500 and up to 8 lights/colors in LED Fyto-Panels
- Each light /color can be configured and controlled independently
- Light modulation according to a predefined function (continuous, pulse, sine, triangle)
- Two light/dark phases
- User-Defined Custom Protocol with many defined functions of a light phase (optional)
- Daylight Protocol for cloudy sky simulation (optional)
- No PC needed

Light Studio Software (optional)

- User-friendly GUI for protocol writing
- Day/night simulation – dawn and dusk simulation
- Precise control over the light mode, intensity and timing – timing from seconds to hours
- Supports up to 4 lights in different color
- Each light (color) can be configured and programmed independently
- Light modulation according to a predefined function (continuous, pulse, sine, triangle) or user-programmed function
- Unlimited number of light/dark phases

▼ TECHNICAL SPECIFICATION

- **PPFD:**
3,000 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$
at the distance of 20 cm
- **Light Sources:**
455 nm, 530 nm, 617 nm, cool white (4,500–10,000 K) and others
- **Custom-Defined Protocols (optional):**
Variable timing and scripts
- **Communication Port:**
I2C communication (used for Light Controller LC100 and Light Studio Controller)
- **Power Input:**
From 75 to 500 W (depend on type and color)
- **Electrical:**
90–240 V
- **Standard accessory:**
stand with LED panel holder
- **Optional accessory:**
 - Light Controller LC100
 - Light Studio Controller with Light Studio software
- **Panel External Dimension:**
 - **Model A:** 17.5 × 17.5 × 11 cm, (with holder screws: 17.5 × 28 × 11 cm)
 - **Model B, C:** 25 × 22.5 × 11 cm, (with holder screws: 25 × 33 × 11 cm)
 - **Model D, E:** 23.5 × 34.5 × 11 cm, (with holder screws: 23.5 × 45 × 11 cm)

