LED Spot & LED HP controller

with Process FLOW Control

Max. irradiation intensity: up to 10,000 mW/cm²

Wavelength: 365, 385, 395, 405 and 460 nm

Air cooled

System features

• Extremely long LED service life
• Available in different wavelengths
• Four separate LED heads
• Entry of complete program sequences
• Intelligent power control

Advantages

• Reduction of maintenance costs
• Homogeneous irradiation of larger areas
• Suitable for temperature sensitive materials
• No warm-up phase
• No standby-time
LED Spot & LED HP controller with Process FLOW Control

The **LED Spot** has been developed for all applications requiring a most intensive UV irradiation on a larger area. Thanks to its high intensity and the possibility to program complete process sequences, e.g. exposure series with different intensities and holding times, shortest cycle and machine throughput times can be realized, especially in fully automated production lines.

The typical **service life of a LED is longer than 20.000 hours**. The LEDs can be switched on and off as often as necessary. They do not require a warm-up or cooling phase.

The emitted wavelengths are available in 365/385/395/405/460 nm +/- 10 nm. It is thus possible to adapt the LED head to any application in question.

The square light emitting aperture has a size of 20 x 20 mm. Depending on the selected intensity/homogeneity it can be increased considerably by changing the distance to the substrate. The resulting irradiation field can then be divided into four segments, which can be activated independently from each other.

The integrated fan provides adequate cooling even for continuous operation.

**Applications**

The LED Spot controlled by LED HP controller is appropriate for various applications, such as:

- Bonding, fixing or encapsulating of components in the electronic, optical or medical sector
- Fluorescence stimulation for materials testing and picture processing
- High-intensive UV irradiation in the chemical, biological and pharmaceutical sector

**LED Spot activation**

The irradiation time can be adjusted for each LED segment separately in range between 0.1 and 999.9 seconds or can charged to continuous operations.

The operating states and the actual temperatures of the LED segments as well as the irradiation times can be seen on the display at one glance. The electric LED power can also be adjusted between 10 % and 100 % in 1 %-steps.

The unit registers the LED operating hours as well as the unit’s operating hours.

Due to the application the **LED HP** controller offers different modes of power control. In the standard power-mode a value between 10% and 100% is forced, according to which the LED capacity gets adjusted.

The ConstPower mode allows an almost constant optical output. In this mode the intensity of irradiation is kept constant over a broad temperature range.

For a short time irradiation with longer pauses between separate irradiation cycles the optical output can be maximised in the PeakPower mode.
**Interfaces**

The LED HP controller has the following interfaces:

- **PLC inputs:** 4x LED on (can be assigned to 1 or more LED-Segments), start "Process FLOW Control" (PFC), polling input for PFC
- **PLC outputs:** 4x status LED segment (LED on, LED off, LED error, LED warning), 1x status unit (unit on, unit error, PFC is running, ...)
- **Dry contact with selectable function** (cf. PLC outputs)
- **RS 232 interface** for programming the operating parameters, for operating the unit with PLC or PC, for transferring program sequences or for downloading the update of the operating software
- **Foot switch**
- **Release safety circuit**
- **Safety code in order to protect the unit against unauthorised use**

**Process FLOW Control**

With the LED HP controller, **complete process sequences can be programmed**. They can be entered through the control system or by transferring a text file compiled on PC. The following sequences can be programmed:

- Exposure series with different intensities
- Activation of external handling components
- Holding times
- Conditional commanding depending on external control signals

**Further Features**

All parameter settings can be filed in six memory locations and reloaded when needed. The language for the menu texts can be selected between German, English, French or Italian.

**Advantages of the LED technology**

LEDs **do not emit IR radiation**. Due to the inferior temperature load of the substrate, even **temperature-sensitive materials** can be irradiated. The **different spectra** available guarantee a safe and fast curing. As LEDs do not require a warm-up phase, LED heads can be switched on and off without any problems: they are immediately ready for operation.

Moreover, the following features characterise the LED HP controller:

- Large and clear display with all relevant information
- Intelligent power control (for each LED head separately)
- Temperature compensation of the LED
- Entry of complete program sequences
Technical data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED service life</td>
<td>&gt; 20,000 hours*</td>
</tr>
<tr>
<td>adjustment range of timer</td>
<td>0,1 – 999,9 sec. or continuous operation</td>
</tr>
<tr>
<td>wavelengths in nm</td>
<td>365 385 395 405 460 4800 8000 8000 8000 10000</td>
</tr>
<tr>
<td>typical intensity in mW/cm² **</td>
<td>365 385 395 405 460 4800 8000 8000 8000 10000</td>
</tr>
<tr>
<td>power supply</td>
<td>90 V – 264 V, 47 Hz – 63 Hz</td>
</tr>
<tr>
<td>max. input current</td>
<td>2.4 A</td>
</tr>
<tr>
<td>power input</td>
<td>200 W</td>
</tr>
<tr>
<td>dimensions LED-head without connectors (H x B x T)</td>
<td>ca. 100 x 93 x 93 mm</td>
</tr>
</tbody>
</table>

* typical lifetime under specified operating conditions
** measured with Hönle LED sensors for UV meter

More Hönle LED-Units

water cooled types - wavelength available 365/385/395/405/460 nm

LED Spot W

LED head

LED point source - wavelength available 365/385/405 nm

hönle group

Curing Drying Bonding Potting Measuring

aladin eleco-efd eltosch grafix hönle mitronic panacol printconcept raesch uv-technik speziallampen