

LED Spot & LED HP controller

with Process FLOW Control

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 heating phase
- No standby-time

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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 10.000 hours. The LEDs can be switched on and off as often as necessary. They do not require a heating or cooling phase.

The emitted wavelengths are available in 365/375/385/395/405 nm +/- 5 nm. It is thus possible to adapt the LED head to any application in question.

The quadrate light emitting aperture has a size of 20 mm 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 the 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

Lamp activation

The irradiation time can be adjusted for each LED segment separately in range between 0.1 and 999.9 seconds or can be 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

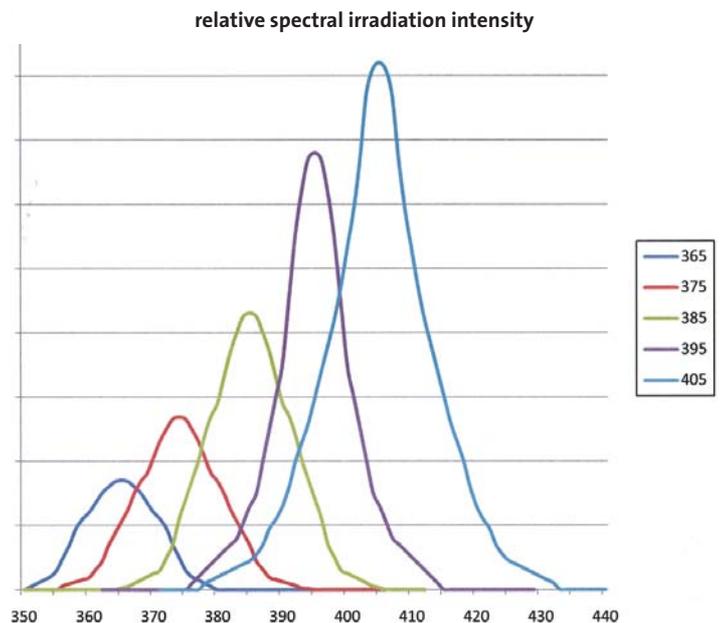
The LED HP controller has the following interfaces:

- 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 heating 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

typical LED service life	> 10.000 hours*
adjustment range of timer	0,1 – 999,9 sec. or continuous operation
wavelengths in nm	365 375 385 395 405
typical intensity in mW/cm ² **	550 1050 1300 2900 3600
power supply	90 V – 264 V, 47 Hz – 63 Hz
max. input current	2,4 A
power input	200 W
dimensions LED-head without connectors (H x B x T)	ca. 100 x 93 x 93 mm

* depending on operating conditions and ambient temperature

** measured with Hönle LED sensors for UV meter



More Hönle LED-Units

water cooled types - wavelength available 365/375/385/395/405 nm



LED point source - wavelength available 365/385/400 nm



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