bluepoint LED eco

LED point source with Process FLOW Control

Max. irradiation intensity: up to 20,000 mW/cm²
Wavelength: 365, 385 and 405 nm

System-Features

• LED power output separately adjustable
• Clean room compatible
• Processing of temperature sensitive materials
• Entry of complete program sequences
• Signal input for safe switch-off

Advantages

• Reduction of maintenance costs
• Extremely long service life
• Low temperature load
• Intelligent power control
• Compact size
• Excellent cost performance ratio
bluepoint LED eco has been developed for all applications requiring a most intensive UV irradiation. Thanks to its high intensity and the possibility to program complete process sequences, e.g. exposure series with different intensities and holding times, it is possible to realize shortest cycle and machine throughput times especially in fully automated production lines. Likewise, bluepoint LED eco can be used in the laboratory for manual irradiation.

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 365/385/405 nm +/- 10 nm. It is thus possible to adapt the intensity to any application in question.

Up to four LED heads can be connected to the very compact control unit which can emit different wavelengths. Each LED head can be activated separately. The Hönle bluepoint LED eco autonomously recognizes the type of LED head and adapts the parameters automatically.

**Applications**

bluepoint spot sources are appropriate for various applications like:

- Bonding, fixing or encapsulating of components in the electronic, optical or medical-technical sector
- Fluorescence stimulation for materials testing; suitable for automatic image processing
- High-intensive UV irradiation in the chemical, biological and pharmaceutical sector
- UV irradiation for different applications in a clean room

**Lamp activation**

The irradiation time can be adjusted for each LED head separately in range between 0.01 and 9999 seconds. The alternative is a continuous operation. With a very long non-stop irradiation, an additional passive cooling of the heads may be necessary.

Operating states, the temperatures of all connected LED heads as well as the exposure times can be read off the display at one glance. The electric lamp power output can also be adjusted between 10% and 100% in 1%-steps. The unit registers the LED operating hours as well as LED temperatures and switches off the unit in the event of a fault. The operating state of each LED are indicated by bright signal lamps which can be seen easily even at longer distances.

Due to the application bluepoint LED eco offers different modes of power control. In the standard power-mode a value between 10% and 100% is forced.

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 breaks between separate irradiation cycles the optical output can be maximised in the PeakPower mode.

The Step-mode allows individual irradiation sequences, just as the customer requires. Thereby, a sequence is created out of a maximum of four steps (time/power).
Interfaces

bluepoint LED eco has the following interfaces:

- PLC inputs: 4x LED on (can optionally be assigned to one or more LEDs)
- PLC outputs: 4x status LED with selectable function (LED on, LED off, LED error, LED warning)
- 24 V digital output with selectable function (unit on, unit error; LED on etc.)
- 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
- Release safety circuit
- Signal input for safe LED switch-off according to current safety guidelines

Process FLOW Control

With bluepoint LED eco, **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

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. Thanks 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 bluepoint LED eco:

- Large and clear display with all relevant information
- Intelligent power control (for each LED head separately)
- Entry of complete program sequences
- Step-mode for individual exposure sequences
- Compact size
- Cleanroom compatible

Technical data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED service life</td>
<td>&gt; 20,000 hours*</td>
</tr>
<tr>
<td>Max. UVA intensity</td>
<td>up to 20,000 mW/cm² **</td>
</tr>
<tr>
<td>Adjustment range of timer</td>
<td>0,01 – 9999 sec or continuous operation</td>
</tr>
<tr>
<td>Wavelengths</td>
<td>365, 385, 405 nm +/-10 nm</td>
</tr>
<tr>
<td>Power supply</td>
<td>20 V – 28 V DC or power pack</td>
</tr>
<tr>
<td>Max. input current</td>
<td>3,5 A</td>
</tr>
<tr>
<td>Dimensions (H x W x D)</td>
<td>65 x 160 x 130 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>approx. 0,5 kg</td>
</tr>
</tbody>
</table>

* typical lifetime under specified operating conditions

** depending on the LED head used, measured with Hönle UV meter with LED sensor
More Hönle LED-Units

Water cooled type
Air cooled type

**LED Spot W**
The LED Spot W allows an extremely high UV intensity output - and requires only a very small amount of space.

**LED Powerline LC**
Maximal length depends on application (lengths variable in 40 mm-steps). The LED Powerline LC is available in the wavelengths 365/385/395/405 nm.

**LED Powerline Focus**
Almost distance-independent high intensity due to focusing optics

**LED Powerline AC/IC**
Air cooled high-performance UV LED array optional with LED powerdrive IC

**LED Powerline LC**
Maximal length depends on application (lengths variable in 40 mm-steps). The LED Powerline LC is available in the wavelengths 365/385/395/405 nm.

**LED Spot 100 IC / HP IC**
The square light-emitting aperture has a size of about 100 mm x 100 mm. For bigger irradiation fields, several LED Spots 100 can be connected without gaps.

**LED Spot 40 IC**
The LED Spot 40 IC was developed for all applications requiring a compact flood unit with high intensities.

**jetCURE LED**
The high-performance array is modularly controllable and changeable (grid 82 mm) as well as continuously adjustable.

**LED Power Pen 2.0**
This handy LED point source is available in the wavelengths 365 nm and 405 nm. Depending on the wavelength it is able to generate UVA-intensities of either 10.000 mW/cm² or 16.000 mW/cm².