HIGH-POWER LED LIGHT ENGINE

Multicolor LED Light Engine with up to six TEC-cooled LED Modules

The Omicron LedHUB is a high power LED light source for Biotech, industrial and analytical applications. With its up to 6 different wavelengths between 340 and 950nm it can be used in applications like widefield microscopy, calcium imaging, optogenetics, chemical analysis, forensics and many more. The modular principle of the LedHUB® provides the possibility to start with only one or two wavelengths initially and user-upgradeability to further wavelengths at a later stage. The capability of fast switching between the wavelengths and high speed analogue modulation of the intensity is a key feature for demanding applications.

Dimensions:                                                                                                   Control Software:

For more online information:

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### LedHUB® Specifications:

**Model:** LedHUB® with up to 6 wavelengths

**Available wavelengths:**
- 340nm / 50mW*
- 365nm / 100mW*
- 385nm / 250mW*
- 405nm / 500mW*
- 455nm / 500mW*
- 470nm / 400mW*
- 505nm / 200mW*
- 505...600nm / 800mW* - wavelength selectable by bandpass filter
- 528nm / 250mW*
- 595nm / 250mW*
- 625nm / 500mW*
- 660nm / 500mW*
- 730nm / 600mW*
- 820nm / 600mW*
- 850nm / 600mW*
- 940nm / 600mW*

* The optical output power depends on the used fiber / liquid light guide diameter and installed bandpass filters

**Available fiber coupling types:**
- 2mm Liquid Light Guide
- 3mm Liquid Light Guide
- 5mm Liquid Light Guide
- SMA-905 connectorized Quartz fibers
- FC/PC connectorized Quartz fibers

**Excitation bandpass filters:**
- 6x Bandpass filter (1 per wavelength)
  - easily exchangeable by user
  - 25mm standard diameter filters

**External Modulation:**

**Analogue modulation input:**
- Frequency: DC...200kHz
- Rise-/falltime: <2µs
- Extinction ratio: ∞, infinite
- Input signal type: 0...5V or 0...10V (user configurable)
- Connector type: BNC or Sub-D

6x Digital modulation input:
- Frequency: DC...200kHz
- Rise-/falltime: <2µs
- Extinction ratio: ∞, infinite
- Input signal type: TTL (5V)
- Connector type: BNC or Sub-D

**Internal signal generation:**
- 6x Individually programmable PWM frequency generators (1 for each wavelength)
- Frequency: up to 200kHz
- Duty-Cycle: 1...99%

**External synchronization:**
- 1x SYNC input for synchronisation to external signals
  - Input signal type: TTL (5V)
  - Connector type: BNC or Sub-D
- 1x SYNC output for synchronisation of external units
  - Output signal type: TTL (5V)
  - Connector type: BNC or Sub-D

**Control interface:**
- Type: USB 2.0 and RS-232
- Control software: Omicron Control Center - Windows™ based laser control software

**Supplied voltage:**
- 100-240VAC, 50/60Hz, 250W max.

**Mechanical size:**
- 19 inch rack housing, 2 height units
- L x W x H: 383mm x 484mm x 88mm (without fiber coupler and connectors)

**Available options:**
- LLGA2 - Liquid Light Guide Adapter including 2mm Liquid Light Guide (1.5m)
- LLGA3 - Liquid Light Guide Adapter including 3mm Liquid Light Guide (1.5m)
- LLGAS - Liquid Light Guide Adapter including 5mm Liquid Light Guide (1.5m)
- LHSMA - Fiber coupling unit for SMA-905 connectorized fibers
- LHFCPC - Fiber coupling unit for FC/PC connectorized fibers
- LHOLYM - Olympus microscope adapter for 3mm Liquid Light Guides
- LHLEICA - Leica microscope adapter for 3mm Liquid Light Guides
- LHZEISS - Zeiss microscope adapter for 3mm Liquid Light Guides
- LHNIKON - Nikon microscope adapter for 3mm Liquid Light Guides

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**Laser Safety classification:**
- 300-400nm:
- 390-410nm:
- 400-700nm:
- 700-2000nm:

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**Control Interface**

[Diagram of control interface]

- analog inputs
- digital inputs
- cooling outlets
- RS232 connector
- Control port
- USB port
- Calibration port
- 24V DC power input