

LumiDLP™

3300B Modular Illuminator

Features

- UV Powers of 25-35 Watts (18 die array)
- Designs for Large Format TI DLP™ Chipsets
- Non-imaging Etendue Preserving Optics
- Bi-telecentric Lens System
- Recirculating Liquid Heat Exchanger
- Field Replaceable Light Engine – FRU



Applications

Industrial

- Direct imaging Lithography
- Laser Markings and Repair Systems
- Computer to Plate Printers
- Rapid Prototype Machines
- 3D Printers

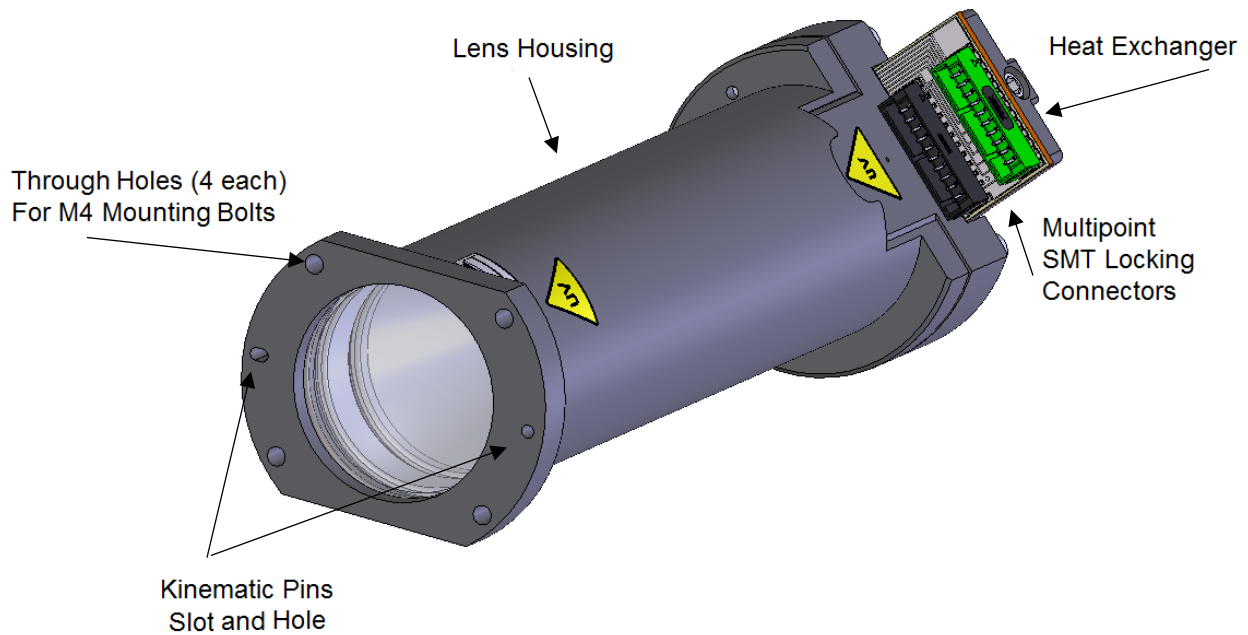
Medical

- Ophthalmology
- Photo Therapy
- Hyperspectral Imaging

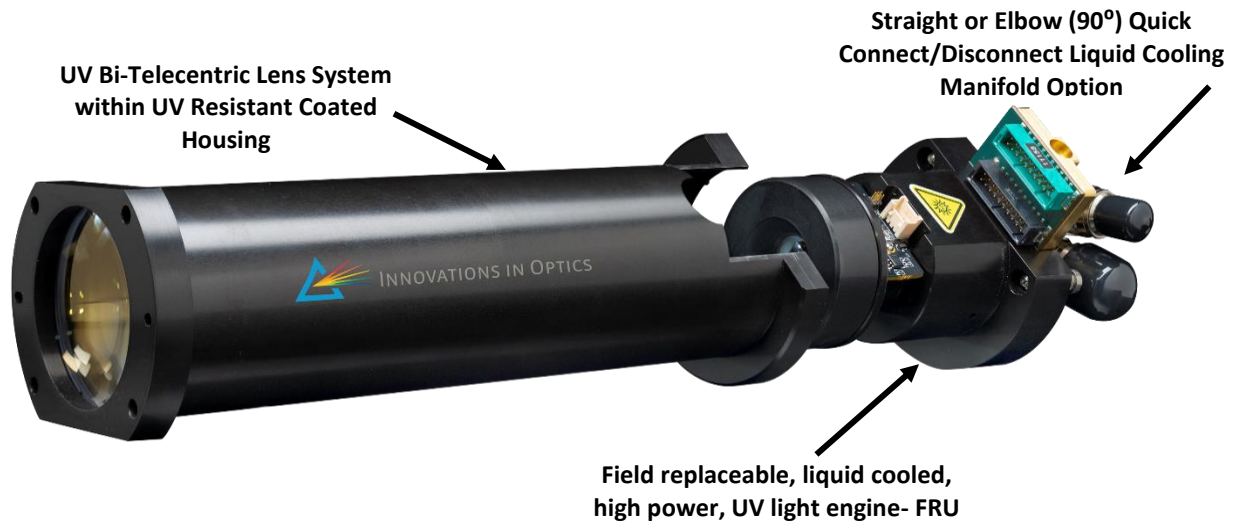
The LumiDLP™ Illuminator allows unprecedented speed and resolution for Ultraviolet DLP applications by providing highly uniform flux density over large areas. The patented, modular device couples a densely packed UV-LED array to a high efficiency, non-imaging collection optic integrated with a telecentric imaging optic optimized to the DLP chipset.

The LumiDLP™ is sold as a kit, including the optics module and a driver. The optics module is easily mounted with kinematic registration on a flange mount. The field replaceable unit (FRU) provides fast, easy light engine replacement with no need for re-alignment or adjustment.

LumiDLP™ – Illuminator Assembly



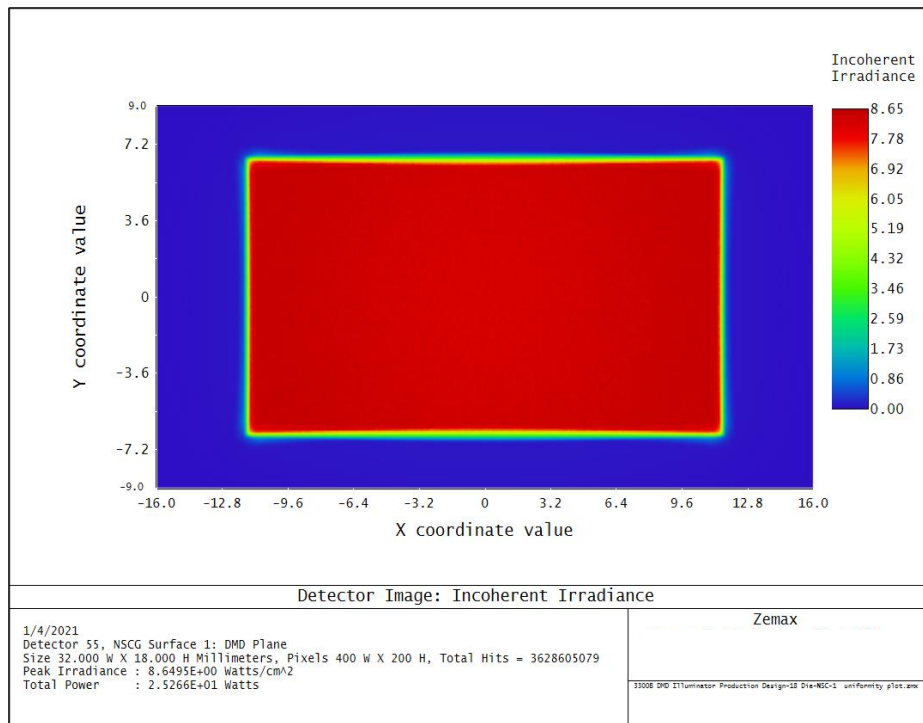
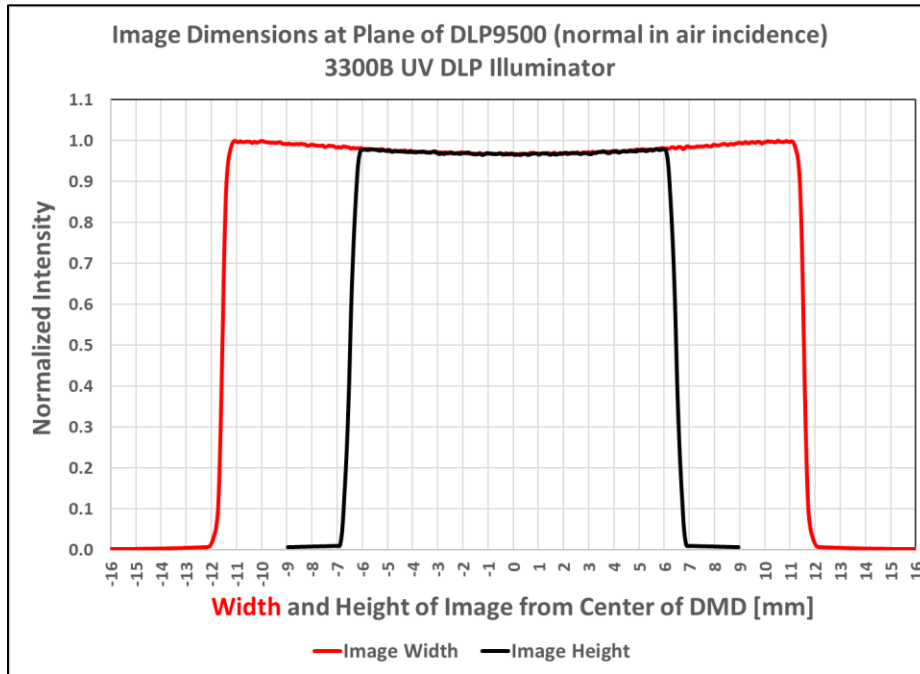
Modular Design for Field Serviceability



- **Field Replaceable Unit (FRU) is pre-aligned, calibrated, with quick disconnects for coolant**
- **Provides fast, easy replacement with no need for re-alignment or adjustment**

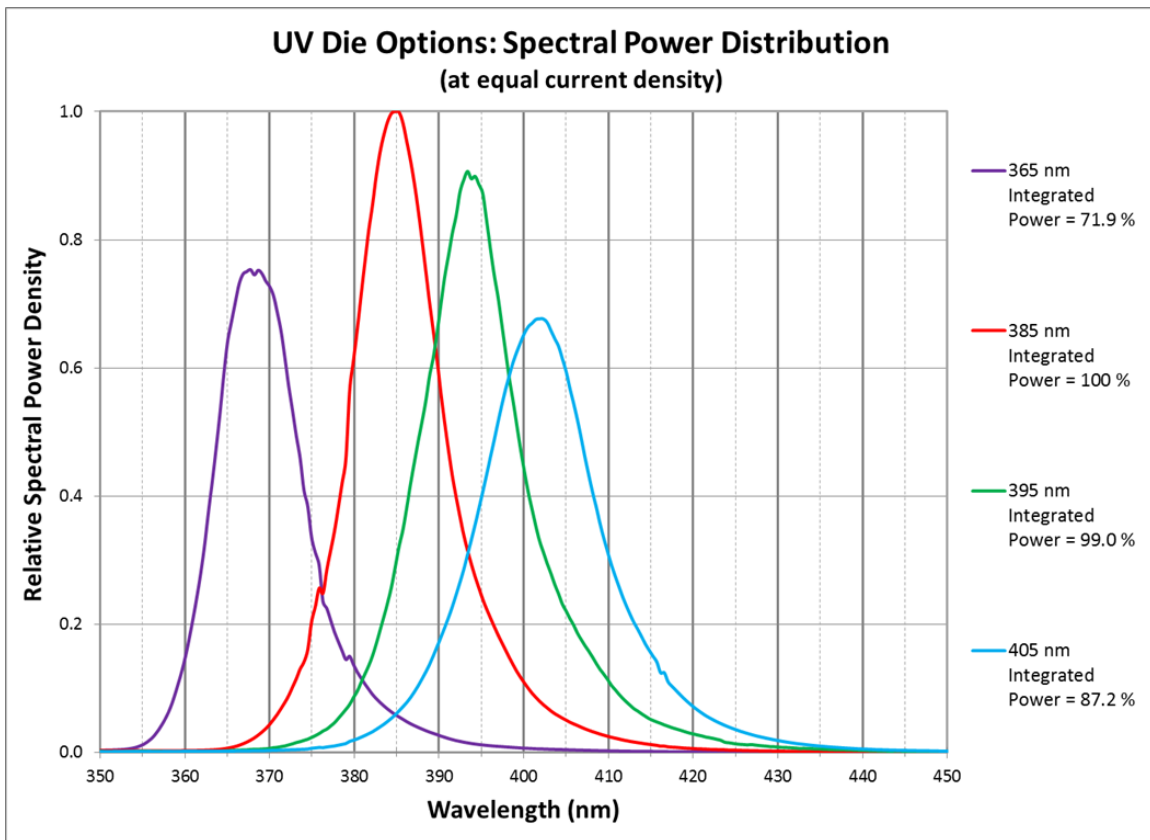
LumiDLP™ – Excellent Spatial Uniformity

- LumiDLP™ optical design provides highly uniform flux density over large areas
- Radiant flux is confined to 12° acceptance half-angle and DLP active area
- Illumination overflow of the DLP relaxes positional tolerances along optical axis

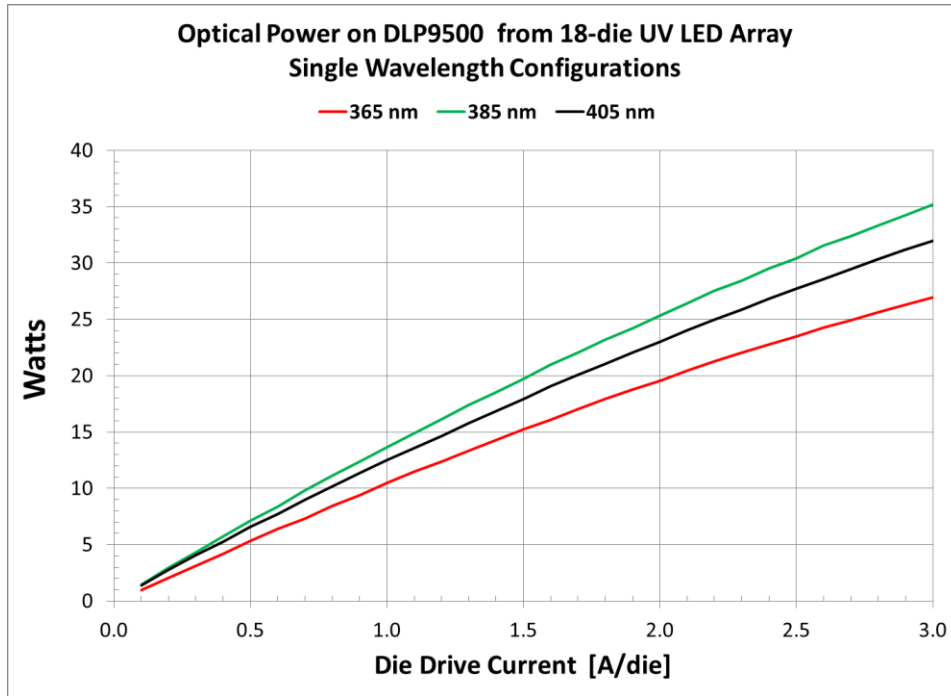


LumiDLP™ UV LED Die Options for 3300B

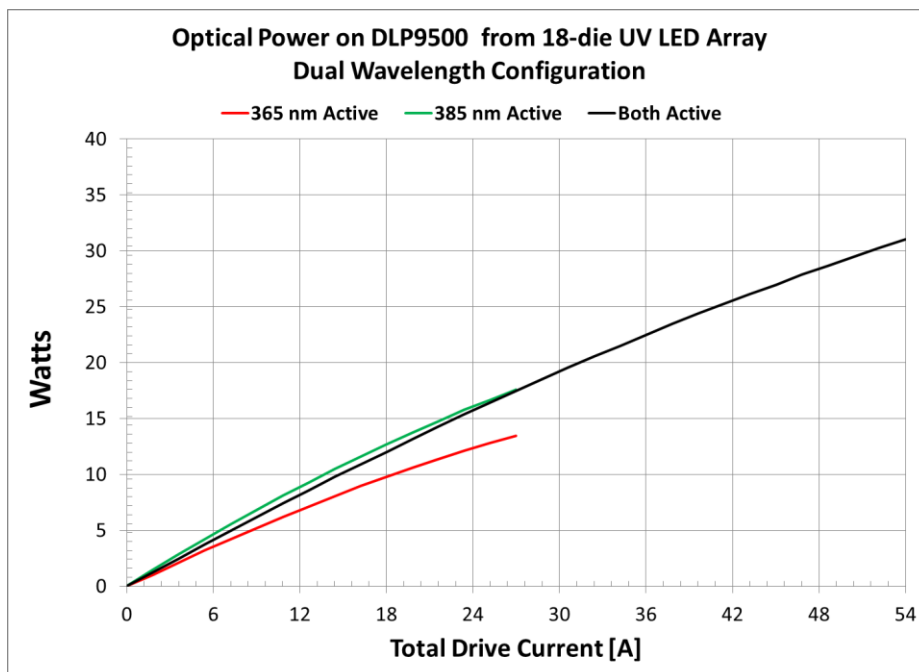
- LED die are available in a range of UV and Violet wavelengths
- For example - Mercury - Xenon Lamp
 - 365nm – i-line
 - 405nm – h-line
- Mix of die is ideal for thicker UV resists
- Array can be populated to fit your needs



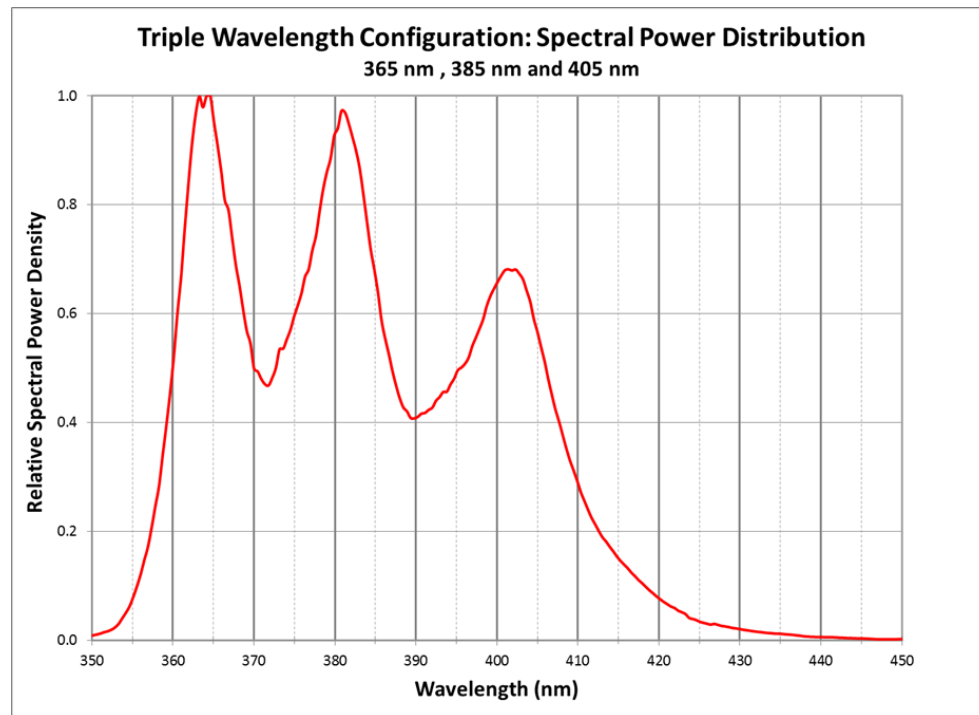
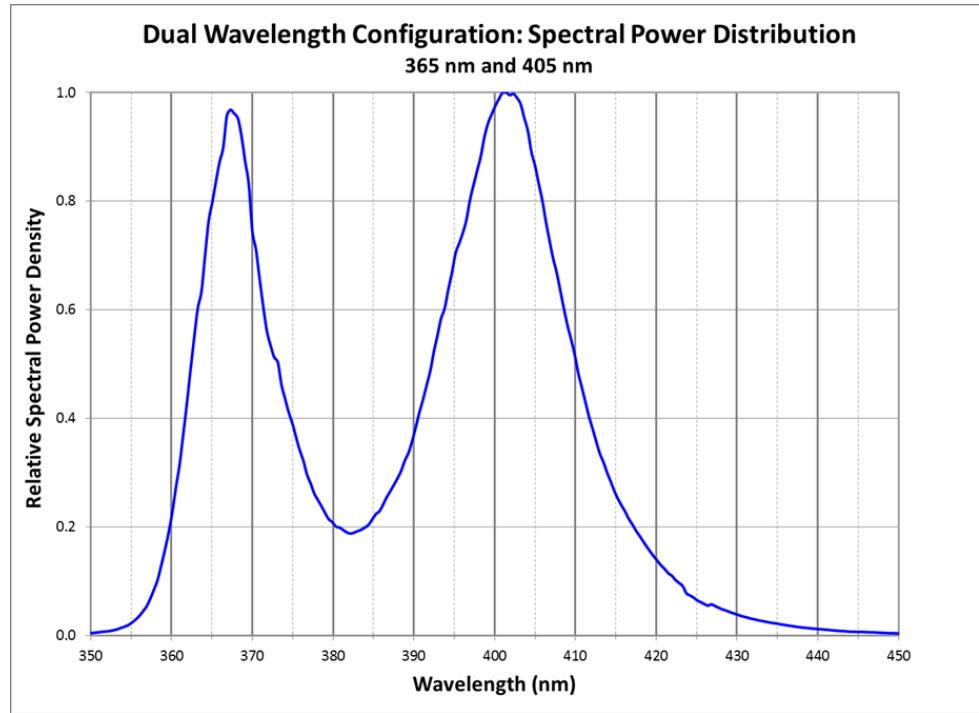
LumiDLP™ Total Flux – Single Wavelength



LumiDLP™ Total Flux – Dual Wavelength Configuration



LumiDLP™ Wavelength Combination Options

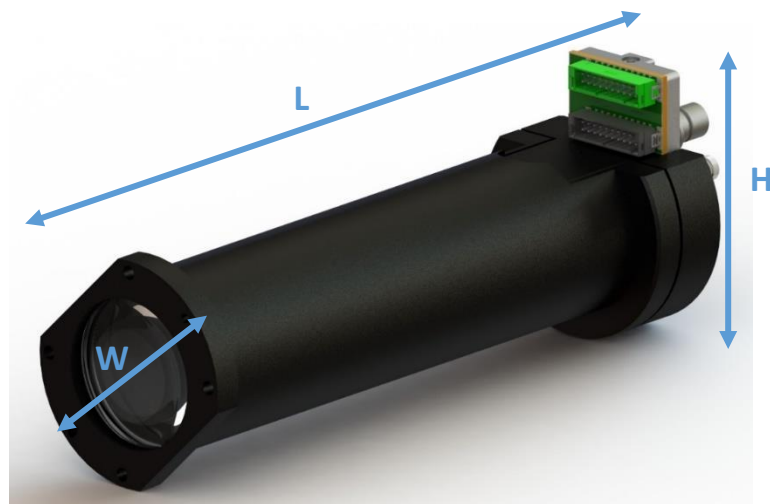


LumiDLP™ Specifications

PARAMETER	SPECIFICATION	COMMENT
Optical power output at 3 amps drive current	≥ 35 Watts	18 die array
Drive current per channel / die	Min 0.30 Amps Max 3.0 Amps	Continuous operation. Die can be driven individually.
Available wavelength bins	365 – 405nm	Contact Sales Engineer
Output numerical aperture	NA=0.208	Matches DLP +/- 12°micromirror tilt angle
Numerical aperture overfill	+/- 10%	Peak-to-peak (P-P)
Electrical power input	300W	Typical Maximum
Operating environment	15°C to 35°C	5% to 85%, relative humidity, non-condensing
Thermal impedance	10 kΩ	At 25° C
Thermistor B _{25/85}	3574-3646	For 10 kΩ
Cooler Fittings	Quick Disconnect/No Spill	Right angle (articulating) or In-line
Liquid Cooling Supply	Use in-line filter on inlet	Must be 20 μm rating
Mounting Flange	Four through holes on 68mm diameter	10mm depth for M4 bolts
	Kinematic Hole/Slot	Locks position/rotation

LumiDLP™ Dimensions

Length (L)	272.0 mm
Width (W)	76.0 mm
Height (H)	85.5 mm



Multi-channel Driver/Controller 5500A Series



Features:

- **Single constant current source**
- **Uniform drive current across array for precise exposure control**
- **Up to 5A each for up to 18 UV-LED die (maximum recommended for LumiDLP™ is 3.0A per die)**

Connectivity:

- **Command set for Ethernet and Modbus serial communication**
- **External trigger**

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