SI-LUX640

SPECIALISED IMAGING

Laser illumination system

Up to 400W lighting power

640nm wavelength

Flexible triggering/ synchronisation

The Specialised Imaging LUX640 laser illumination system provides up to 400W of lighting power at pulse frequencies up to 10MHz or single pulses up to 30µS.

Simple triggering allows the SI-LUX640 to interface with most high-speed cameras ranging from High-speed video to Ultra highspeed framing cameras.

The 2m laser output light guide includes user interchangeable low coherence beam expanders.

FEATURES

- ☐ Low coherence
- ☐ Pulse width from 10ns – 30µs
- ☐ Pulse frequency range from single to 10MHz
- ☐ Compact design

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OPTICAL

Beam Expanders	φ25mm and φ50mm versions
Wavelength	640nm ± 6nm
Output power	200W (-10/ + 30%) or 400W (-10/ + 20%)
Power drop	~ 0.2% / µs for pulses less than 5µs

INPUT / OUTPUT SIGNALS

Sync. Input	+5V TTL (BNC connector) (laser pulse duration = duration of +5V state)
Indicators	Green LED – Laser is powered & ready
Software	Custom software compatible with Microsoft Windows Operating Systems for Control.
Electrical Input	Mains 100-240V AC 50-60Hz

SAFETY FEATURES

Laser rating	Class 3b
Safety features	Key operated master control power on/off Connector for remote Interlock Capping shutter on lens and laser head
Visual indicator	Green LED = Laser is powered & ready Red LED = interlock indicator Laser classification stated on unit

ENVIRONMENTAL

Storage temperature	-10°C to +50°C
Operating temperature	-5°C to +40°C
Humidity	10—90% RH non condensing
Vibration shock	10—40 Hz Max. 10g in any direction
EMC	Meets all UKCA/EU harmonised standards

TIMING PARAMETERS

Max pulse rate	10MHz
Min. single pulse duration	~10ns
Max. single pulse duration	30µs (max. power drop 20%)
Rise time	~10ns (10%...90%)
Fall time	~5ns
Delay	80ns +/-10ns between input to start of light pulse (incl. control cable delay)
Jitter	<5ns
Operating limits	Max. 0.03% duty cycle for unlimited operation Max. 100% duty cycle for 30µs laser operation

MECHANICAL

Dimension (w/d/h)	**Laser:** 6.2cm x 15cm x 3.6cm (6" x 2.4" x 1.4") **Master control box:** 12cm x 6cm x 12cm (4.7" x 2.4" x 4.7")
Weight	**Laser:** 0.5Kg (1.1lbs) **Master control box:** 0.5Kg (1.1lbs)
Light guide	2m
Control cable	2m between control/safety box & laser

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