

## 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 30 $\mu$ S.

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 – 30 $\mu$ s
- Pulse frequency range from single to 10MHz
- Compact design

### 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)	<b>Laser:</b> 6.2cm x 15cm x 3.6cm (6" x 2.4" x 1.4") <b>Master control box:</b> 12cm x 6cm x 12cm (4.7" x 2.4" x 4.7")
Weight	<b>Laser:</b> 0.5Kg (1.1lbs) <b>Master control box:</b> 0.5Kg (1.1lbs)
Light guide	2m
Control cable	2m between control/safety box & laser

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FM87429