

Inlite™ III

High Energy Nd:YAG

The Inlite series of pulsed Q-switched laser systems provides high levels of performance and reliability for Industrial and OEM applications.

The Inlite is designed for new and existing users of pulsed lasers allowing easy integration, simple external control and ease of service in a compact package. The cast aluminum body structure is designed to minimize misalignment due to changes in temperature or vibration. The optics cavity is sealed to prevent contamination. Both lamp electrodes are accessible during lamp changes, eliminating problems with corrosion and broken lamps.

Options and accessories can be added to tailor the laser performance parameters to your application. Inlites are used for remote sensing, sample testing, mass spectroscopy, LIF and LIBS.



Applications

Industry:

- > Material sorting (recycling)
- > Weld inspection
- > Cleaning
- > LIBS

Science:

- > LIDAR
- > Thomson Scattering
- > Laser Thermal Annealing
- > Pump Source
- > LIF, PLIF, LIBS

Medical:

- > Skin Surfacing
- > Tattoo Removal
- > Pump Source
- > Medical device manufacturing

Key Features

- > Hardened design for reliable operation in industrial environments
- > Modular power supply in both rack mount and tower configurations
- > Easy flashlamp replacement without realignment of the laser oscillator
- > Cast aluminum resonator structure for a long-term thermal and mechanical stability
- > Options and accessories available to simplify integration

Specifications

	Inlite III - 10	Inlite III - 20	Inlite III - 30
Repetition Rate (Hz)	10	20	30
Energy (mJ)			
1064 nm	450		400
532 nm	200		180
355 nm	65		55
266 nm	45		35
Pulsewidth ¹ (ns)			
1064 nm		6 - 8	
532 nm		6 - 8	
355 nm		5 - 7	
266 nm		5 - 7	
Linewidth (cm-1)		1	
Divergence ² (mrad)		< 1.5	
Beam Diameter ³ (mm)		7	
Jitter ⁴ (±ns)		< 1	
Energy Stability ⁵ (±%)			
1064 nm		2.0 ; 0.6	
532 nm		4.0 ; 1.3	
355 nm		6.0 ; 2.0	
266 nm		8.0 ; 2.7	
Polarization			
1064 nm		Horizontal	
532 nm		Vertical	
355 nm		Horizontal	
266 nm		Horizontal	

¹ Full width half max

² Full angle for 86% (1/e²) of energy

³ At the output coupler

⁴ With respect to external trigger

⁵ The first value represents shot-to-shot for 3 σ of pulses, the second value represents RMS;

All specifications at 1064 nm unless otherwise noted.

Dimensions

Optical Head (LxWxH)	323 x 84 x 94 mm (12.7 x 3.3 x 3.7 in.)
Power Supply - Tower (LxWxH)	572 x 254 x 432 mm (22.5 x 10 x 17 in.)
Power Supply - Rack (LxWxH)	559 x 432 x 267 mm (22 x 17 x 10.5 in.)

Weight

Optical Head	4.5 kg (10 lbs)
Power Supply	30 kg (66 lbs)

Water

Closed loop water to air heat exchanger (2 l. deionized water):
 Closed loop water to external cooling water available.

Others

Electrical Service	200 - 240 V (6 A), 50/60 Hz
Room Temperature	18.3 to 29.4° C (60 to 85° F)
Umbilical Length	3.0 m (9 ft 10 in)

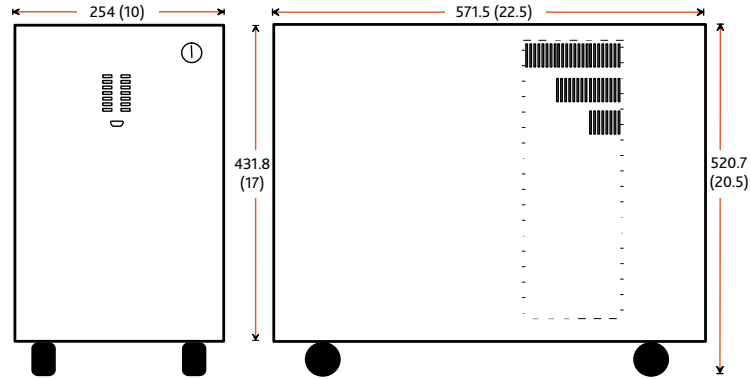
Accessories

- Harmonics modules for 532, 355, or 266 nm output
- Dichroic beam separation module
- Internal pyro-electric power detectors for IR, harmonics
- External pyro-electric power detector for system loop
- Automated continuously variable attenuator, optical losses reduce energy specifications by 15%, except the 30 Hz model, which is 25%.

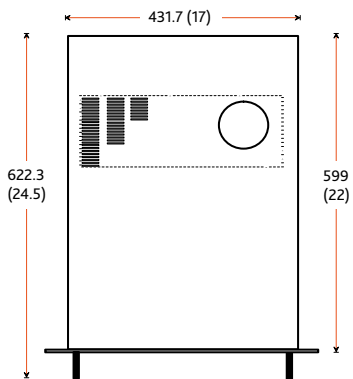
Inlite III Physical Layout

All dimensions are in mm (inches)

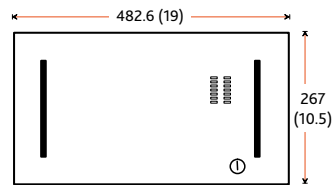
Top View
Tower Supply



Top View
Rack Mount Power Supply

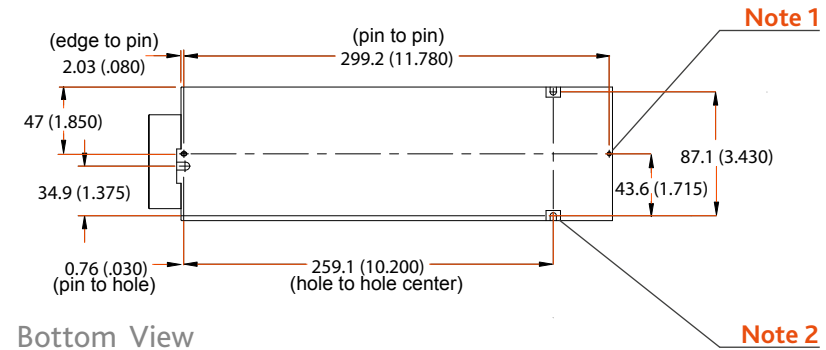
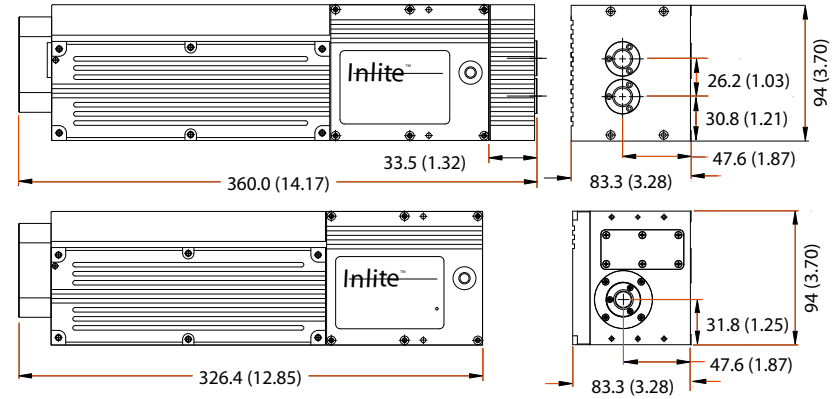


Front View



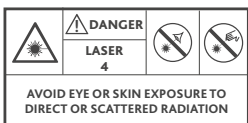
Note: Faceplate is 10.5" in height.
Body of supply is 10.0" to height,
centered on faceplate.

Top View
Laser Head



Bottom View

Note 1: 3/32" location pin (2x)
Note 2: Clearance Slots for M4
Allen head screws (3x)



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