

# Iradion® Infinity Series

Ceramic CO<sub>2</sub> Lasers, Model 15XX



The new **Iradion Infinity** CO<sub>2</sub> laser series combines the exceptional performance of a monolithic ceramic resonator with the latest RF design into a single integrated package. The result is a compact, efficient, and powerful laser with fast rise and fall time and great optical characteristics.

<b>Feature</b>	<b>Benefit</b>
Pure ceramic	No contamination, no leaks
Low thermal expansion	Enhanced laser stability
Fast driver electronics	Quick rise and fall time
High efficiency	Air cooled up to 120 Watts
30% fewer parts	Higher reliability
Adjustable power <1 W to MAX	Flexibility
Long lifetime	No need to ever refill tube
OEM configurations available	Optimized for your application

**IRADION**  
Ceramic Core CO<sub>2</sub> Lasers

[www.iradionlaser.com](http://www.iradionlaser.com)

# Specifications

Infinity 15XX* Models	154-9.3μm	155	156-9.3μm	156	158	1510	1512
Rated Optical Power (Watts)	40	50	60	60	80	100	120
Mode Quality (M2)	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2	≤ 1.2
Beam Ellipticity	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1
Beam Diameter (mm) 1/e <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Beam Divergence (mrad, full angle)	<7	<7	<7	<7	<7	<7	<7
Wavelength (μm)	9.3	10.2, 10.6	9.3	10.2, 10.6	10.2, 10.6	10.2, 10.6	10.2, 10.6
Rise Time (μs)	<75	<75	<75	<75	<75	<75	<75
Power Stability, Fan Cooled (% from Cold)	<± 7 %	<± 5 %	<± 7 %	<± 5 %	<± 5 %	<± 5 %	<± 5 %
Power Stability, Water Cooled (% from Cold)	<± 5 %	<± 3 %	<± 5 %	<± 3 %	<± 3 %	<± 3 %	<± 3 %
Polarization	Random	Random	Random	Random	Random	Random	Random
Cooling	Air, fan, water	Air, fan, water	Air, fan, water	Air, fan, water	Air, fan, water	Air, fan, water	Air, fan, water
Input Power (Watts)	1125	620	1500	1000	1125	1500	1500
Input Voltage / Current	45V / 25A	31V / 20A	50V / 30A	40V / 25A	45V / 25A	50V / 30A	50V / 30A
Weight (kg/lbs)	14.7 / 32.4	14.7 / 32.4	14.7 / 32.4	14.7 / 32.4	14.7 / 32.4	14.7 / 32.4	14.7 / 32.4

Specifications are preliminary and subject to change without notice

## Laser Interface

Connectors	15 pin D	RJ45
Fire Command	Yes	Yes
Interlock	Yes	Yes
Fault Signal	Yes	Yes
RS232 Comm*	Yes	Yes
Ready Signal	Yes	No
Key Switch Control	Yes	No
Forward RF Signal	Yes	No
Reflected RF Signal	Yes	No
Lase Light Signal	Yes	No
Temperature Warn	Yes	No

### Indicator lights:

LASE    ● ●    FAULT IN  
 LOCK    ● ●    TEMP  
 READY ● ●    POWER

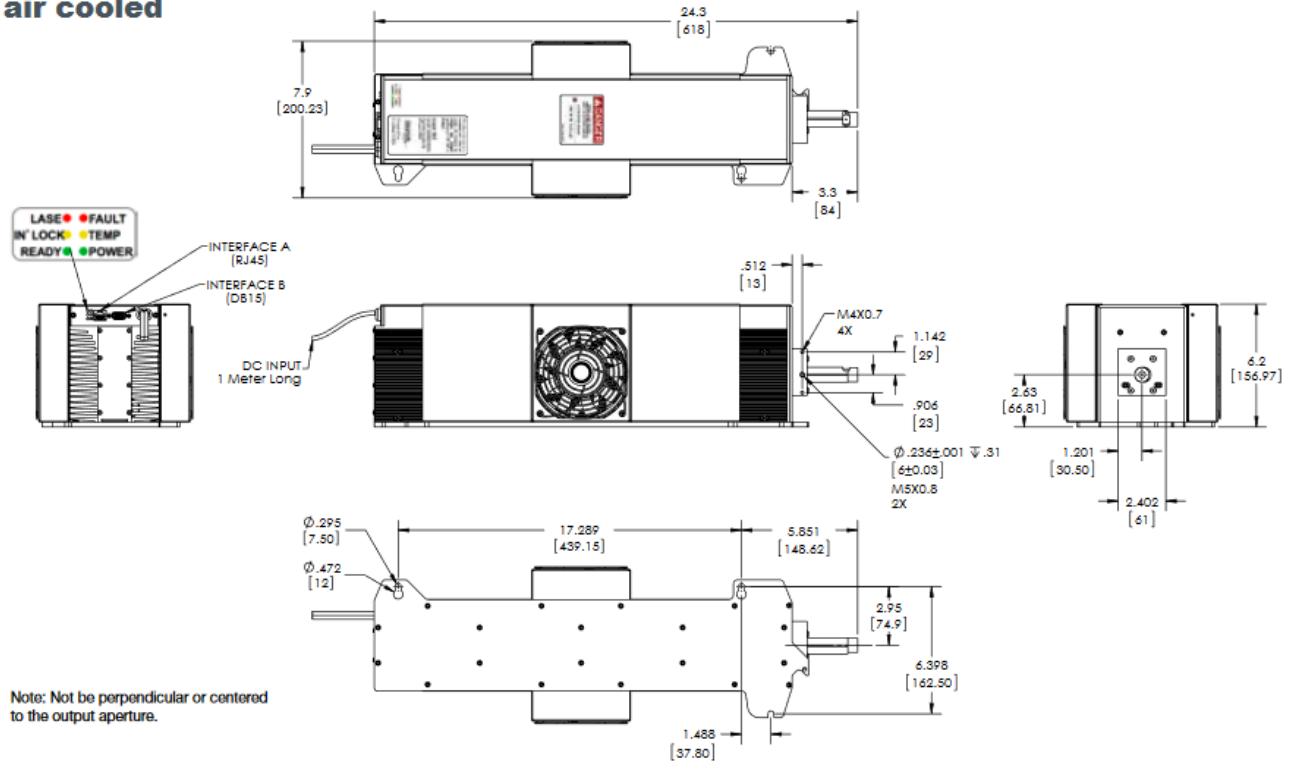
\* The laser control card can be monitored via RS232 communications. A variety of signals, laser information, and the temperature can be interfaced to your host controller



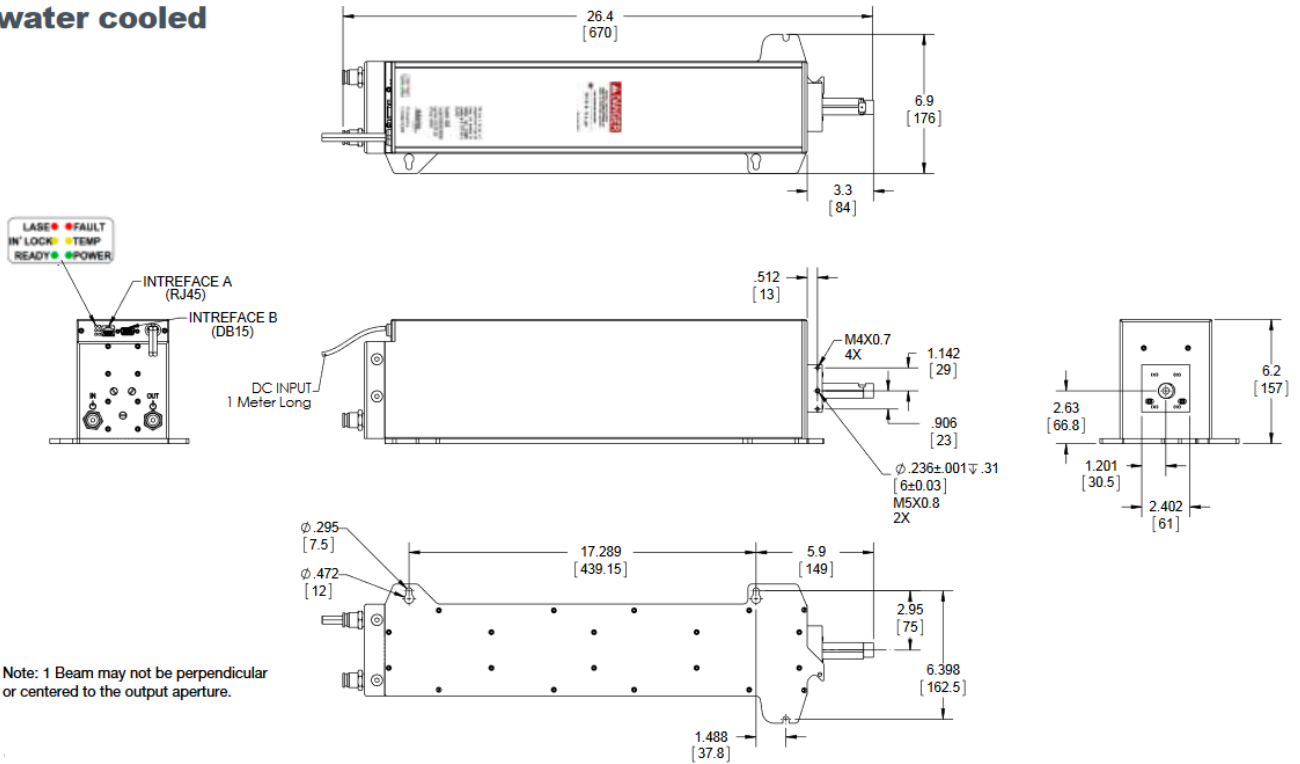
# Outline Drawings

1 Meter  
Power Cord

## Dimensions air cooled



**water cooled**



Note: 1 Beam may not be perpendicular or centered to the output aperture.

**Order Information: 15XX\***

\*Model designator:

F = for fan cooled

W = for water cooled

A = for air cooled (no fans)

Example: 60 Watts water cooled 156W

Patents: US 7460577 B2  
US 8295319 B2



Invisible Laser Radiation  
Avoid eye Skin exposure to  
direct or scattered radiation.  
Class 4 Laser Product.

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**IRADION**

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