

32-1 CO₂ Laser

Ultra compact laser with 5 Watts of average power for precise marking and coding applications



High performance CO₂ laser engineered for easy integration and mounting onto compact industrial systems

- The only industrial 5 Watt CO₂ laser with an integrated RF to ensure a minimal form factor
- Easily fits into tight spaces and onto weight-sensitive marking and coding systems
- Outstanding maximum operating environment temperature (up to 40° C) ensures reliable operation in a wide range of conditions



The perfect ultra-compact, low-power CO₂ laser source for PCB marking and coding applications.

Versatile low-power CO₂ laser source that delivers clean, consistent results on a variety of materials.



Specifications

Output Specifications	
Wavelength	10.6 μm
Output Power ¹	>5 W
Power Stability (cold start) ²	±15%
Beam Quality (M ²)	<1.2
Beam Diameter ³	2.5 mm ± 0.5 mm
Divergence (full angle)	≤ 8.0 mrad
Ellipticity	<1.2
Polarization	Random
Rise Time	<150 μs
Operating Frequency	0 - 25 kHz
Power Supply	
DC Input Voltage	30 VDC
Maximum Current	4.0 A
Cooling	
Maximum Heat Load	150 W
Minimum Flow Rate	150 CFM, 2 required (air)
Environmental	
Operating Ambient Temperature	5 - 40° C
Maximum Humidity	≤80% RH, non-condensing
Physical	
Dimensions (LxWxH) mm (inches)	284 x 71 x 106 (11.2 x 2.8 x 4.2)
Weight	3.18 kg (7.0 lbs.)

Synrad's Smallest Laser

At a fraction over 284 mm (11 inches) long and only 71 mm (2.8 inches) wide, the 32-1 is Synrad's smallest laser. Engineered for compact laser processing systems, the 32-1 easily fits into desk-top sized models. At 3.18 kg (7 lbs.) the 32-1 adds minimal weight, maintains portability, and can easily be integrated into small systems. Built to operate reliably, Synrad's ultra compact 32-1 delivers a high quality laser beam in the most demanding conditions.

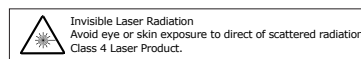
The Synrad 32-1 shown side-by-side with the 48-1 laser. The 32-1 is 34% smaller and 22% lighter than the 48-1.



1 - Power level guaranteed for 1 year from date of shipment, regardless of operating hours, within recommended coolant flow rate and temperature range.

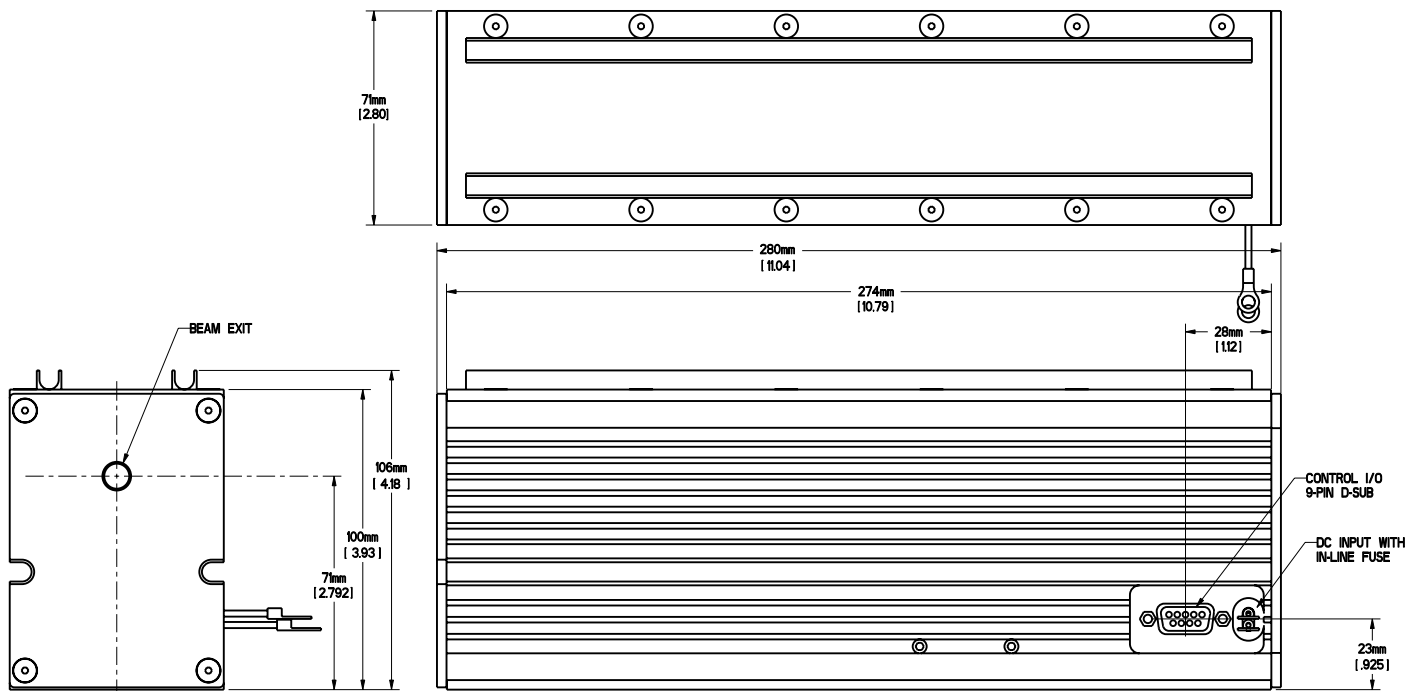
2 - Measured from cold start as $\pm(P_{max} - P_{min}) / (P_{max} + P_{min})$

3 - Measured 1/e² diameter at laser output.



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Technical Illustrations dimension are in mm (inches)



Recommended Applications



PCB Marking

The perfect ultra-compact, low-power CO₂ laser source for PCB marking and coding applications.



Package Coding

Easily applies permanent alpha numeric codes, barcodes, text, and expiration dates to a variety of packaging materials that will not smear or rub off.



Parts Marking

Apply permanent marks, text, and codes to variety of parts (both big and small) for faster, easier tracking.

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