KERN TECHNOLOGIES, LLC.

KT100
KT150
KT200

LightWAVE®
Industrial CO_2 Lasers

Laser Characteristics

- Liquid Cooled
- RF Excited
- Wide Operating Power Range
- Exceptional Power Stability ±5%
- Fast Rise and Fall Time <50 μsec
- Pulsed up to Quasi-CW Operation
- Under 50 lbs.

Standard Features

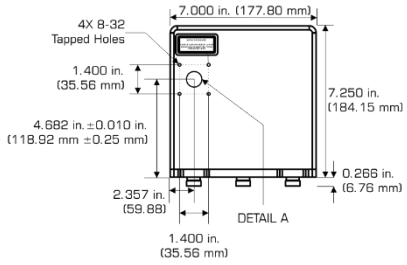
- Metal Sealed Laser Cavity
- Integrated Red Beam
- Internally Collimated
- Circular Polarized
- Integrated RF
- Common Footprint
- Overbuilt Electronics
- Manufactured in the USA

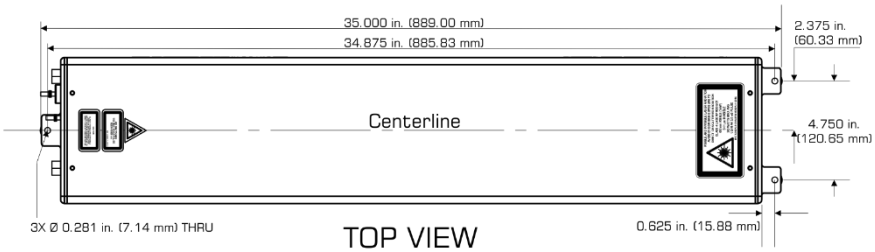
LightWAVE® KT100 | KT150 | KT200

LASER CHARACTERISTICS			
OUTPUT POWER[1]	≥100 watts	≥150 watts	≥200 watts
POWER RANGE	10-100 watts	10-150 watts	10-200 watts
PEAK POWER[2]	≥300 watts	≥350 watts	≥400 watts
DUTY CYCLE RANGE	≤40%	≤60%	≤75%
POWER STABILITY[3]	±5%	±5%	±5%
MAXIMUM PULSE ENERGY	>200 mJ	>450 mJ	>750 mJ
PULSE LENGTH	≤2.0 ms	≤3.0 ms	≤3.75 ms
PULSE RISE/FALL TIME	<50 μs		
MODE QUALITY	M^2 < 1.2		
BEAM ELLIPTICITY	<1.2		
BEAM DIAMETER AT LASER OUTPUT	0.24" ±0.04" (6.0 mm ±1.0 mm)		
BEAM DIVERGENCE (FULL ANGLE)[4]	<2.5 mrad		
POLARIZATION[4]	Circular		
MODULATION FREQUENCY	200 Hz to 200 kHz		
WAVELENGTH	10.6 μm		
PHYSICAL CHARACTERISTICS			
WEIGHT	48.5 lbs. [22 kg]		
DIMENSIONS	35" x 7" x 7.25" [889 x 178 x 184 mm]		
ELECTRICAL REQUIREMENTS			
DC INPUT VOLTAGE	48 V		
DC PEAK CURRENT	75 A		
DC CONTINUOUS CURRENT	<35 A	<45 A	<55 A
COOLING REQUIREMENTS[5]			
HEAT LOAD	1.6 kW	2.0 kW	2.4 kW
FLOW RATE	≥1.5 GPM (≥5.7 L/min)		
COOLANT MAXIMUM PRESSURE	90 PSI		
COOLANT	Distilled water with corrosion inhibitor		
COOLANT SETPOINT TEMP. RANGE	68°F - 77°F (20°C - 25°C)		
COOLANT TEMP. STABILITY	±1°F (±0.5°C)		
ENVIRONMENTAL CONDITIONS			
AMBIENT TEMP. RANGE	50°F - 100°F [10°C - 38°C]		
RELATIVE HUMIDITY	<95% non-condensing		
ALTITUDE	≤6500 ft. (2000 m)		

MECHANICAL SPECIFICATIONS

FRONT VIEW





TOP VIEW

[1] Measured at maximum duty cycle and a 5 kHz pulse repetition frequency (PRF).
[2] Measured at 10% duty cycle at 1 kHz PRF.
[3] Power stability may not be met at low duty cycle or acoustic PRF.
[4] Internally collimated and circularly polarized.
[5] Refer to the manual for details.

Disclaimer

The laser is a component of a laser system. It is the responsibility of the OEM to provide all required laser safety features. Check with CDRH for safety requirements. Do not operate laser without proper safety training. The laser parameters listed within this sheet are subject to change without notice.

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