KERN TECHNOLOGIES, LLC.

KT650

LightWAVE®
Industrial CO_2 Lasers

Laser Characteristics

- Liquid Cooled
- RF Excited
- Wide Operating Power Range
- Exceptional Power Stability ±6%
- Fast Rise and Fall Time <40 μsec
- Pulsed to Quasi-CW Operation

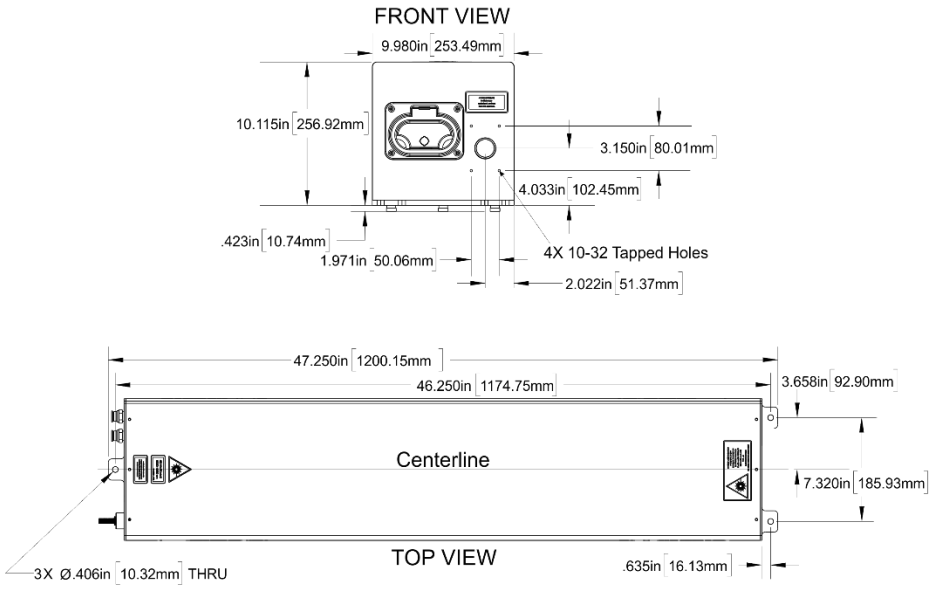
Standard Features

- Metal Sealed Laser Cavity
- Internally Collimated
- Integrated RF
- Common Footprint
- Overbuilt Electronics
- Three Point Mounting
- Manufactured in the USA

LightWAVE® KT650

LASER CHARACTERISTICS	
OUTPUT POWER[1]	≥650 watts
POWER RANGE	30-650 watts
PEAK POWER[2]	>1800 watts
DUTY CYCLE RANGE	≤75%
POWER STABILITY[3]	±6%
MAXIMUM PULSE ENERGY	>2400 mJ
PULSE LENGTH	≤3.75 ms
PULSE RISE/FALL TIME	<40 μs
MODE QUALITY	M^2 < 1.2
BEAM ELLIPTICITY	<1.2
BEAM DIAMETER AT LASER OUTPUT	0.35" ±0.04" (9.0 mm ±1.0 mm)
BEAM DIVERGENCE (FULL ANGLE)	<2.5 mrad
POLARIZATION	Linear (parallel to baseplate)
MODULATION FREQUENCY	200 Hz to 200 kHz
WAVELENGTH	10.6 μm
PHYSICAL CHARACTERISTICS	
WEIGHT	130 lbs. [59 kg]
DIMENSIONS	47.25" x 10" x 10.1" [1200 x 254 x 257 mm]
ELECTRICAL REQUIREMENTS	
DC INPUT VOLTAGE	48 V
DC PEAK CURRENT	300 A
DC CONTINUOUS CURRENT	<220 A
COOLING REQUIREMENTS[4]	
HEAT LOAD	<11 kW
FLOW RATE	≥5 GPM (≥18.9 L/min)
PRESSURE	<60 PSI
COOLANT	Distilled water with corrosion inhibitor
COOLANT SETPOINT TEMP.	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



[1] Measured at maximum duty cycle and a 5.0 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] 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.

KERN TECHNOLOGIES, LLC.

1503 Industrial Drive
Wadena, MN 56482 USA
P: 218-632-5810
F: 218-632-5811
TF: 855-634-2436
EM: info@kerntechnologies.com