



KT650

LightWAVE®

Industrial CO₂ Lasers



Laser

Characteristics

- Liquid Cooled
- RF Excited
- Wide Operating Power Range
- Exceptional Power Stability
- Fast Rise and Fall Time
- Pulsed up to Quasi-CW

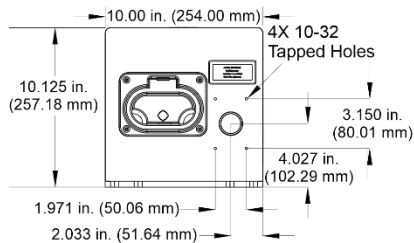
Standard Features

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

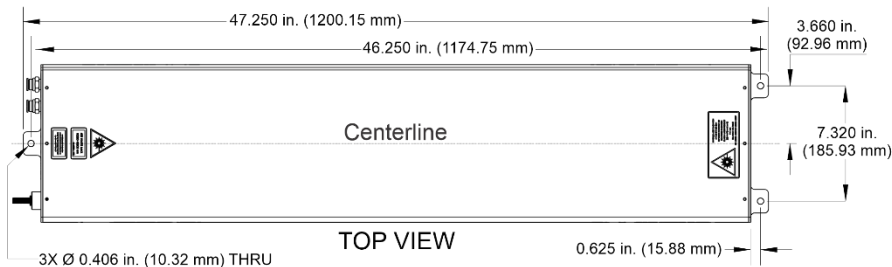
LASER PARAMETERS		KT650-9.4	KT650-10.2	KT650-10.6
WAVELENGTH (μm)		9.4	10.2	10.6
OUTPUT POWER ¹ (W)		≥500	≥575	≥650
POWER RANGE (W)		30-500	30-575	30-650
TYPICAL PEAK POWER ² (W)		≥1500	≥1650	≥1800
DUTY CYCLE RANGE (%)		≤75		
POWER STABILITY ³ (%)		±6		
MAXIMUM PULSE ENERGY (mJ)		>2400		
PULSE LENGTH (mS)		≤3.75		
PULSE RISE/FALL TIME (μs)		40/60		
MODE QUALITY		M ² < 1.2		
BEAM ELLIPTICITY		<1.2		
BEAM DIAMETER ⁴		0.35" ±0.04" (9.0 mm ±1.0 mm)		
BEAM DIVERGENCE - FULL ANGLE (mrad)		<2.5		
POLARIZATION		Linear (parallel to baseplate)		
MODULATION FREQUENCY (kHz)		0.2 to 200		
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 (V)		48		
DC PEAK CURRENT (A)		300		
DC CONTINUOUS CURRENT (A)		<220		
COOLING REQUIREMENTS ⁵				
HEAT LOAD (kW)		<11		
FLOW RATE		≥6 GPM (≥22.7 L/min)		
COOLANT MAXIMUM PRESSURE (PSI)		100		
COOLANT		Distilled water with corrosion inhibitor		
COOLANT SETPOINT TEMP. RANGE		68°F - 77°F (20°C - 25°C)		
COOLANT TEMP. STABILITY (MAX)		±1°F (±0.5°C)		
ENVIRONMENTAL CONDITIONS				
AMBIENT TEMP. RANGE		50°F - 100°F [10°C - 38°C]		
RELATIVE HUMIDITY ⁴		Non-Condensing		
ALTITUDE		≤6500 ft. (2000 m)		

MECHANICAL SPECIFICATIONS

FRONT VIEW



TOP VIEW



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.

- 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 Beam diameter at 6" from laser output.
⁵ Refer to the manual for details.



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