

EO-Q2

HIGH ENERGY Q-SWITCHED LASER



- Up to 70 mJ pulse energy
- Air cooled
- Variable pulse repetition rate
- Build-in sync pulse generator for triggering of user equipment
- Remote monitoring and control via build-in Ethernet interface
- Optional 2nd, 3rd, 4th or 5th harmonic generators
- Optional attenuator for fundamental wavelength

APPLICATIONS

- Light Induced Breakdown Spectroscopy (LIBS)
- Time-of-Flight Spectroscopy (TOFS)
- Light Induced Fluorescence (LIF) Spectroscopy
- Flash photolysis
- Matrix Assisted Laser Desorption/Ionization (MALDI)
- Pulsed light deposition (PLD)
- Remote sensing
- Laser ablation

Quantas EO-Q2 models employs MOPA (Master Oscillator/Power Amplifier) architecture in order to produce high pulse energies while maintaining low divergence

output. Two models are available, offering 50 mJ @ 20 Hz or 70 mJ @ 10 Hz pulse energies.

SPECIFICATIONS ¹⁾

Model	Quantas EO-Q2-YAG	Quantas EO-Q2-YLF
Wavelength	1064 nm	1053 nm ²⁾
Pulse energy		
Fundamental	50 mJ @ 1064 nm	70 mJ @ 1053 nm
2 nd harmonic	25 mJ @ 532 nm	35 mJ @ 527 nm
3 rd harmonic	15 mJ @ 355 nm	20 mJ @ 351 nm
4 th harmonic	7 mJ @ 266 nm	11 mJ @ 263 nm
5 th harmonic	2.5 mJ @ 213 nm	3.5 mJ @ 211 nm
Maximum pulse repetition rate ³⁾	20 Hz	10 Hz
Pulse duration ⁴⁾		< 8 ns
Pulse-to-pulse energy stability		< 1 % rms ⁵⁾
Power drift		± 3% ⁶⁾
Beam profile	Bell shaped, > 75% fit to Gaussian	
Beam divergence	< 1.5 mrad ⁷⁾	
Beam diameter ⁸⁾	3 mm	3.5 mm
Polarization	Linear, horizontal	
Optical jitter	< 1 ns rms ⁹⁾	

PHYSICAL CHARACTERISTICS & OPERATING REQUIREMENTS

Laser head (W × L × H)	113 × 400 × 112 mm
Harmonics generator module (W × L × H) ¹⁰⁾	113 × 242 × 112 mm
Controller unit (W × L × H)	85 × 165 × 50 mm
Power adapter, typical (W × L × H)	50 × 125 × 31 mm
Operation environment	15–28 °C, 10–80% humidity – non-condensing 90–240 V AC, <35 W, 47–63 Hz ¹¹⁾

- ¹⁾ The parameters marked typical are not specifications. They are indications of typical performance and might vary unit-to-unit. Unless stated otherwise all specifications are measured at 1053 or 1064 nm at maximum pulse repetition rate.
- ²⁾ 1064 nm version is available by request. Inquire for detailed specifications.
- ³⁾ Factory-set pulse repetition rate is fixed at 10 Hz or 20 Hz. Variable pulse repetition rate is possible when laser is externally triggered.
- ⁴⁾ FWHM at 1053 nm or 1064 nm. Shorter pulse duration is available by request. Inquire for detailed specifications.

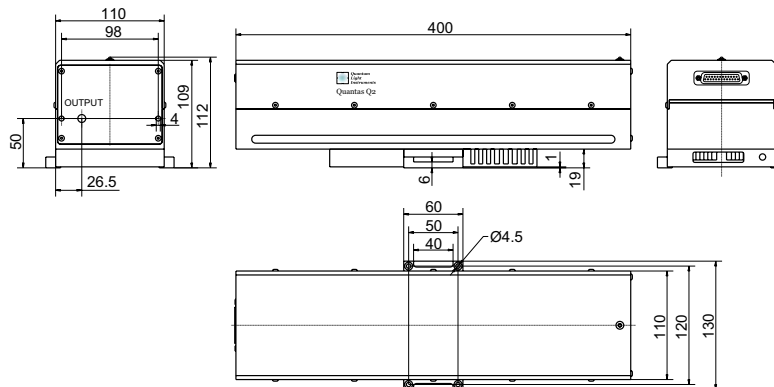
- ⁵⁾ Averaged from 300 pulses.
- ⁶⁾ Over 8 hour period after 20 minutes of warm-up when ambient temperature variation is less than ±2 °C.
- ⁷⁾ Full angle measured at the 1/e² level.
- ⁸⁾ Beam diameter is measured 20 cm from laser output at the 1/e² level.
- ⁹⁾ In respect to Q-switch triggering edge of pulse.
- ¹⁰⁾ Attenuator is build-in into harmonics generator module.
- ¹¹⁾ Laser can be powered from appropriate 12 VDC power source. Inquire for details.

RELATED PRODUCTS

Laser Safety Eyewear
See page 1.16.



Visualizers
See page 1.16



Technical drawing of EO-Q2 laser