

DSS 1064-Q

Diode Pumped Passively Q-Switched Solid State Laser

- 1064 nm
- Pulsed (≤ 1.5 ns)
- $> 90 \mu\text{J}$
- Up to 20 kHz
- External and Internal Trigger
- Free Beam or Fiber Coupling
- Single Pulse Operation



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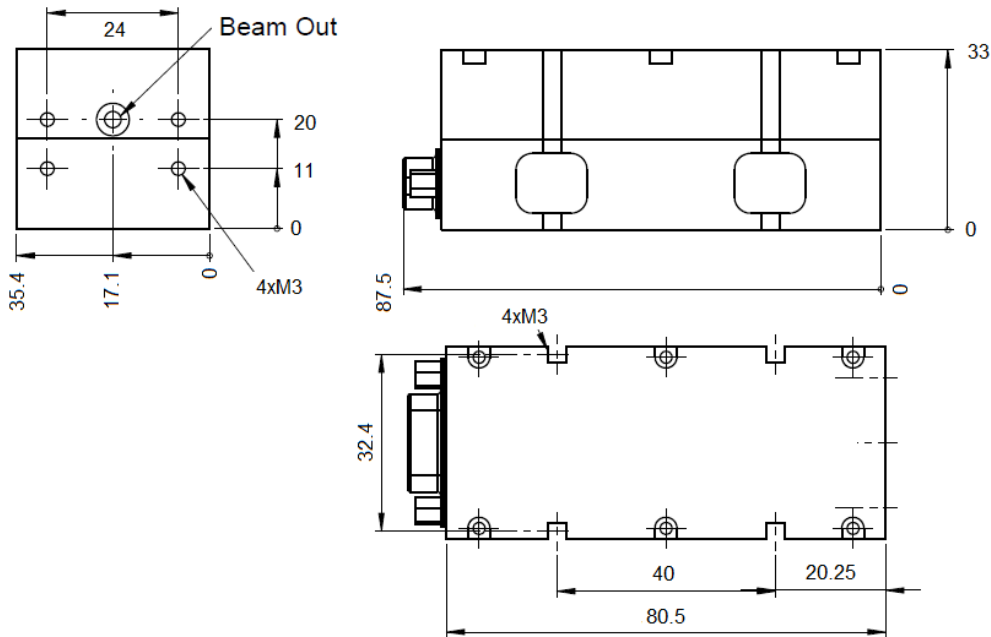
Optical Data		DSS1064-Q1	DSS1064-Q2	DSS1064-Q3	DSS1064-Q4
Wavelength		1064 nm			
Pulse Energy		$> 10 \mu\text{J} @ 15\text{kHz}$	$> 20 \mu\text{J} @ 10\text{kHz}$	$> 50 \mu\text{J} @ 1\text{kHz}$	$> 90 \mu\text{J} @ 1\text{kHz}$
Peak Power		$> 6.5 \text{ kW} @ 15\text{kHz}$	$> 13 \text{ kW} @ 10\text{kHz}$	$> 30 \text{ kW} @ 1\text{kHz}$	$> 60 \text{ kW} @ 1\text{kHz}$
Pulse Repetition Rate		$\leq 20 \text{ kHz}$	$\leq 10 \text{ kHz}$	$\leq 2.5 \text{ kHz}$	$\leq 1 \text{ kHz}$
Pulse Width, FWHM		$\leq 1.5 \text{ ns}$			
Polarization Ratio		$> 100:1$ vertical			
Pulse Energy Drift ¹⁾		$< \pm 5 \%$	$< \pm 5 \%$	$< \pm 5 \%$	$< \pm 5 \%$
Pulse-To-Pulse RMS ²⁾		$< 3\% @ 15\text{kHz}$	$< 2\% @ 10\text{kHz}$	$< 2\% @ 1\text{kHz}$	$< 2\% @ 1\text{kHz}$
Laser Classification		4 / IV	4 / IV	3B / IIIb	3B / IIIb
Optical Output	Spatial Mode	TEM ₀₀			
	Beam Divergence, 2 θ	$< 3.0 \text{ mrad}$	$< 3.0 \text{ mrad}$	$< 4.0 \text{ mrad}$	$< 4.0 \text{ mrad}$
	Beam Diameter	$500 \pm 100 \mu\text{m}$	$500 \pm 100 \mu\text{m}$	$600 \pm 100 \mu\text{m}$	$650 \pm 100 \mu\text{m}$
Electrical Data	Power Consumption	10 W (max.40 W)	13 W (max.40 W)	15 W (max.70 W)	22 W (max.80 W)
	Operating Voltage	12 V DC			
	Line Voltage	90 - 265 V AC			
	Marking	CE			
Interfaces	RS 232, USB				
	External Trigger (TTL, rising edge) single shot (pulse on demand) – max. repetition rate				
	Interface for TTL-control and power monitor				
Miscellaneous	Warm-up Time	$< 5 \text{ min}$			
	Operating Temperature	18 - 38 °C			
Options	Stand-alone system (incl. key-switch, heat-sink and manual shutter; CDRH compliant)				
	Synchronization signal output (rise time $< 2 \text{ ns}$)				
	Fiber coupling for fiber with core diameter $> 70 \mu\text{m}$				
	Manual shutter or electrical beam blocker				
	External beam expander (e.g. 3x)				
	Manual or electrical attenuator				

¹⁾ Drift over 6 hours, energy averaged over 10 sec after 5 min of continuous operation, temperature variation $\pm 3 \text{ }^\circ\text{C}$ and $< 3 \text{ }^\circ\text{C}/\text{hour}$.

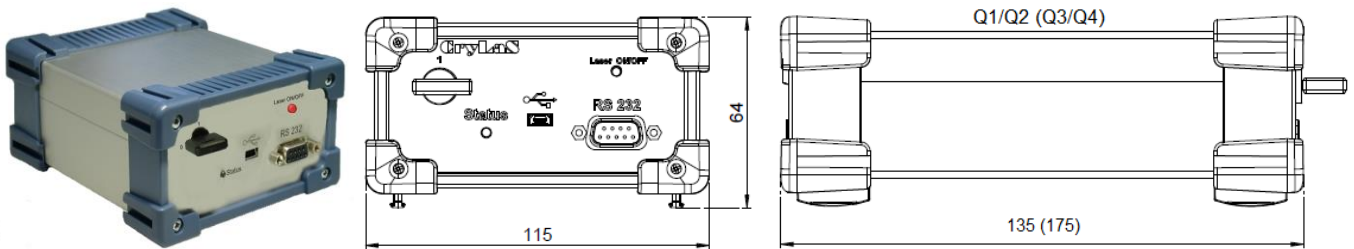
²⁾ RMS over 1000 pulses after 5 min of continuous operation.

Dimensions

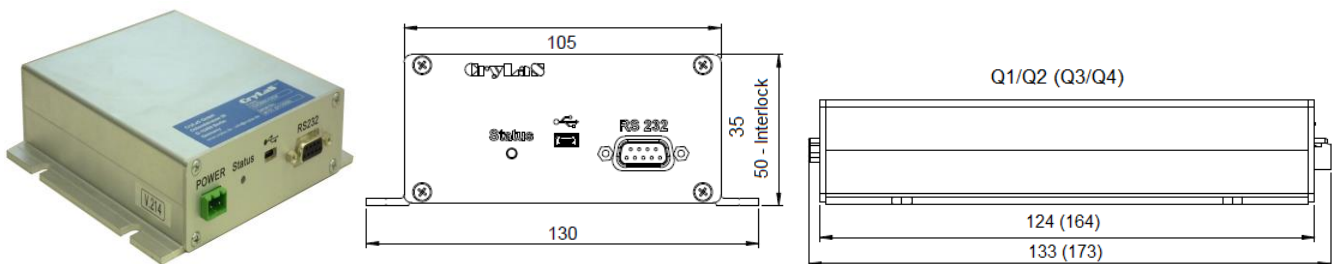
Laser Head: 87.5 x 35.4 x 33 mm



Controller Stand-Alone: Q1, Q2: 135 x 115 x 64 mm; Q3, Q4: 175 x 115 x 64 mm



Controller OEM: Q1, Q2: 133 x 130 x 35 (50) mm; Q3, Q4: 173 x 130 x 35 (50) mm (OEM-IL)



Laser Safety Label

The DSS1064-Q lasers are class 4 / IV or 3B / IIIb according to IEC 60825-1:2014

<p>wavelength: 1064 nm max. output: 30 µJ pulse duration: < 1,7 ns max. repetition rate: 22 kHz</p> <p>Complies with IEC 60825-1:2014 Complies with 21CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 28, 2001</p>	<p>wavelength: 1064 nm max. output: 50 µJ pulse duration: < 1,7 ns max. repetition rate: 11 kHz</p> <p>Complies with IEC 60825-1:2014 Complies with 21CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 28, 2001</p>	<p>WARNING - INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION</p> <p>CLASS 4 LASER PRODUCT</p>	<p>wavelength: 1064 nm max. output: 300 µJ pulse duration: < 1,7 ns max. repetition rate: 1.2 kHz</p> <p>Complies with IEC 60825-1:2014 Complies with 21CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 28, 2001</p>	<p>wavelength: 1064 nm max. output: 150 µJ pulse duration: < 1,7 ns max. repetition rate: 2,7 kHz</p> <p>Complies with IEC 60825-1:2014 Complies with 21CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 28, 2001</p>	<p>WARNING - INVISIBLE LASER RADIATION AVOID EXPOSURE TO BEAM</p> <p>CLASS 3B LASER PRODUCT</p>	
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Q1 series

Q2 series

Q3 series

Q4 series