

DC & DS Series

1064nm Nd:YVO₄ IR Lasers



Features

- 1064nm IR Laser Radiation
- Compact, Rugged Design
- TEM00 Beam with M2 < 1.2
- Pulse Rates from Single Shot to 150 kHz
- RS232 Computer Control
- External TTL Triggering
- Low Power Air-Cooled
- High Power Closed Loop Chiller

Optional Features

- Pulse Energy Control to Vary Output from 10% to 98%
- Beam Expander from 2 mm up to 10 mm
- Output Power Monitor

Applications

- LCD Repair
- Wafer Marking
- Lidar
- Solar Cell Scribing/ Production
- Stereo lithography–Rapid Prototyping
- Mass Spectrometer
- MALDI-TOF
- Semiconductor Processing
- Interferometry
- Non-Contact Inspection
- Fluorescence
- Holography Micro-Marking
- Laser Marking, Scribing
- Via Hole Drilling
- Laser Singulation
- OPO, Ti: Sapphire Pumping
- High Speed PIV
- Laser Micromachining
- Rapid Prototype-Stereo Lithography
- Fiber Bragg Grating Manufacturing



1064nm System Specifications

DC Series - 1W to 10W



Model	DCH-1064-1	DCH-1064-2	DCH-1064-4	DCH-1064-8	DCH-1064-10*
Avg. Power @ 40 kHz	1W	2W	4W	8W	10W
Pulse Width @ 40 kHz (nominal)	45ns	35ns	30ns	20ns	25ns
Pulse Energy @ 40 kHz	25uJ	50uJ	100uJ	200uJ	250uJ
Beam Mode	TEM00 - M2 < 1.3				
Beam Diameter @ exit (nominal)	0.8mm				
Divergence (nominal)	<3.5mRad				
Polarization Ratio	100:1 Horizontal				
Pulse-to-Pulse Instability	<2% rms				
Long-Term Instability (8h +/-3deg.C)	+/- 2%				
Pointing Stability	< 25 urad				
Pulse Repetition Rate	Single Shot to 150 kHz				
Laser Head (WxLxH)	102mm, 253mm, 114mm				
Controller Dimensions (WxLxH)	356mm, 311mm, 89mm				
Electrical Requirement	100 to 120V, 200 to 240 V @ 50/60 Hz				
Relative Humidity	Non condensing, 90% Max				
Ambient Temperature	15° to 35°C (59° to 95°F) Operating Range				
Umbilical Length	3 meter (10 feet)				

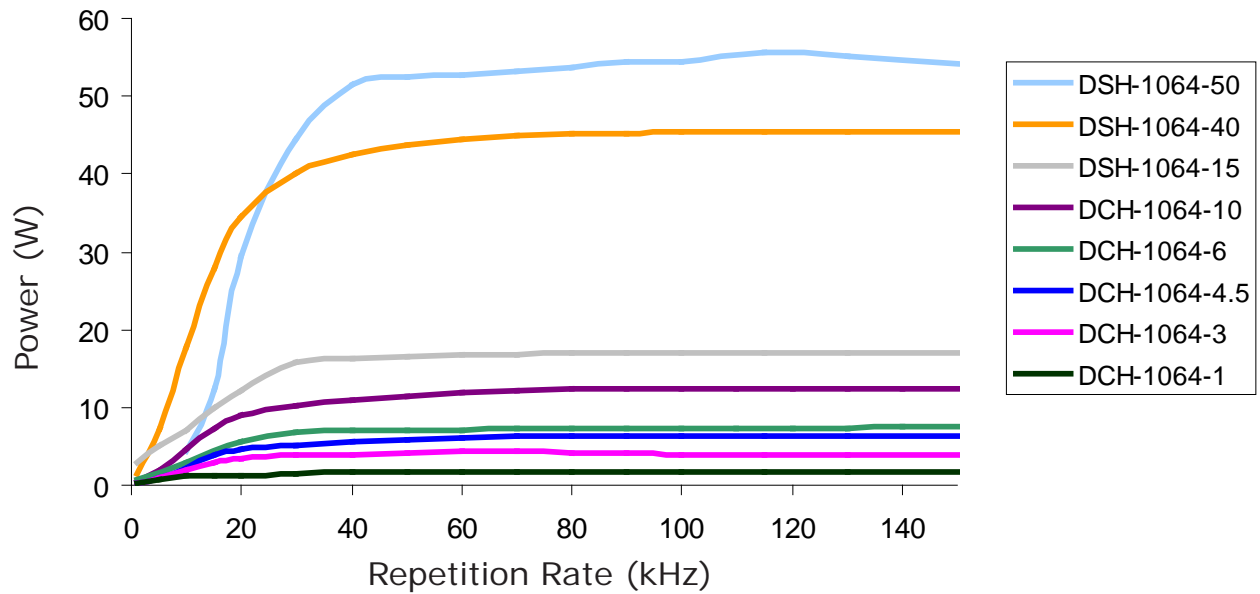
*DCH-1064-10 includes a cooling plate and chiller. Please contact the factory for dimensions.

DS Series - 15W to 50W

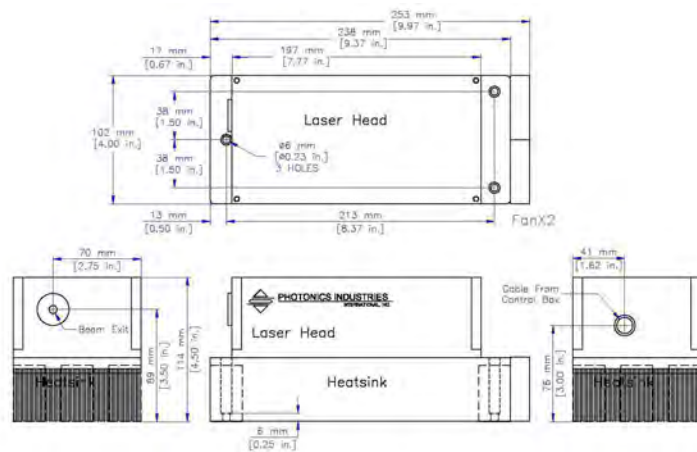


Model	DSH-1064-15	DSH-1064-40	DSH-1064-50
Wavelength	1064 nm	1064 nm	1064 nm
Avg. Power @ 40 kHz	15 Watts	40W	50W
Pulse Width @ 40 kHz (nominal)	35ns	30ns	30ns
Pulse Energy @ 40 kHz	0.375mJ	1mJ	1.25mJ
Beam Mode	TEM00 - M2 < 1.1		
Polarization Ratio	100:1 Horizontal		
Beam Diameter @ exit (nominal)	1.0 mm		
Beam Divergence	<2.5 mrad		
Pulse-to-Pulse Instability	<2% rms		
Long-Term Instability (8h +/-3C)	<+/- 2%		
Pointing Stability	< 25 μrad		
Pulse Repetition Rate	Single shot to 150 kHz or CW		
Laser Head (WxLxH)	190.5 mm, 558.8 mm, 95.25mm		
Controller Dimensions (WxLxH)	(DSH-1064-15,30) 356mm, 311mm, 89mm (DSH-1064-40,50) 483 mm, 343 mm, 133 mm		
Electrical Requirement	100 to 120V, 200 to 240 V @ 50/60 Hz		
Relative Humidity	Non condensing, 90% Max		
Ambient Temperature	15° to 35°C (59° to 95°F) Operating Range		
Umbilical Length	3 meter (10 feet)		

Performance Curve

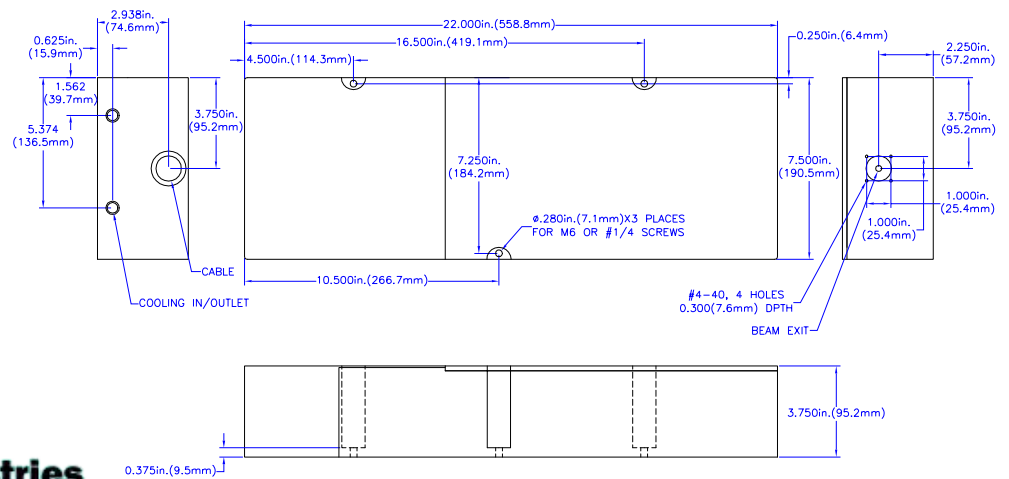


Dimensional Drawings



DC Laser Head*

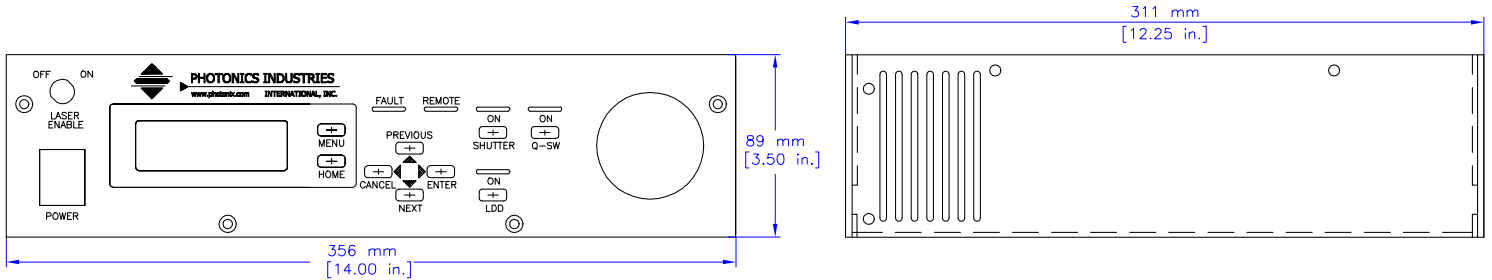
DS Laser Head



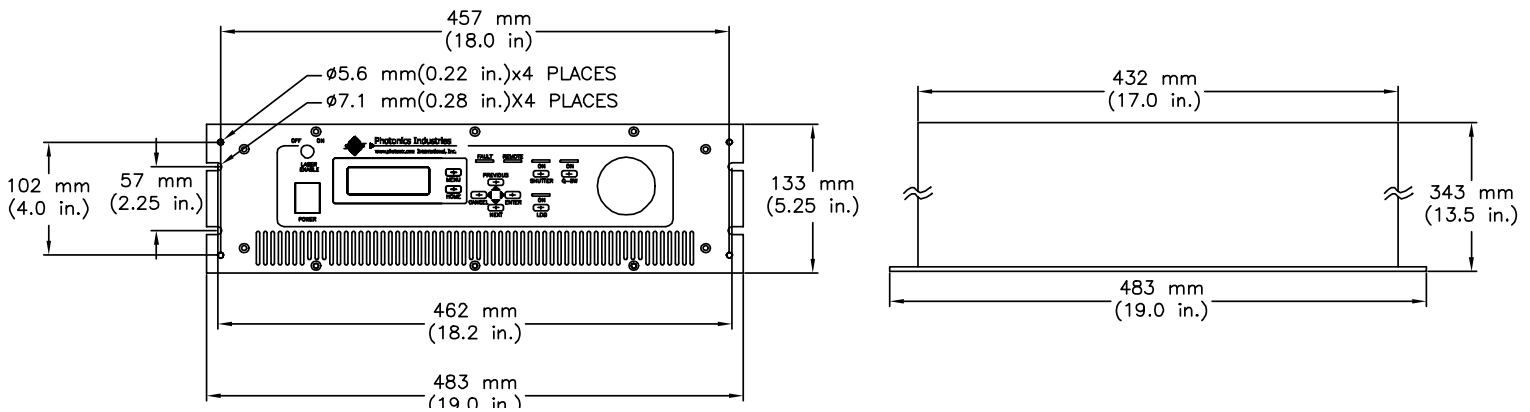
* Dimensional drawings for DCH-1064-10 are available upon request.

Dimensional Drawings

DC/DS Controller



High Power DS Controller



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7,346,092; 7,082,149; 7,079,557; 6,999,483; 6,980,574; 6,961,355; 6,842,293; 6,762,405; 6,690,692; 6,587,487; 6,584,487; 6,366,596;
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