

# DC & DS Series

## 532nm Nd:YVO<sub>4</sub> Green Lasers



### Features

- 532nm Green Laser Radiation
- Compact, Rugged Design
- TEM00 Beam with M2 < 1.3
- Pulse Rates from Single Shot to 300 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



# 532nm System Specifications

## DC Series - 1W to 8W



	DCH-532-1	DCH-532-2	DCH-532-8
Avg. Power @ 40 kHz	1W	2W	8W
Pulse Width @ 40 kHz (nominal)	40ns	35ns	20ns
Pulse Energy @ 40 kHz	25uJ	50uJ	200uJ
Beam Mode	TEM <sub>00</sub> - M <sup>2</sup> < 1.3		
Beam Diameter @ exit (nominal)	0.4mm		0.55mm
Divergence (nominal)	<3mRad		
Polarization Ratio	100:1 Vertical		
Pulse-to-Pulse Instability	<2% rms		
Long-Term Instability (8h +/-3deg.C)	+/- 2%		
Pointing Stability	< 25 urad		
Pulse Repetition Rate	1 Hz 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)		

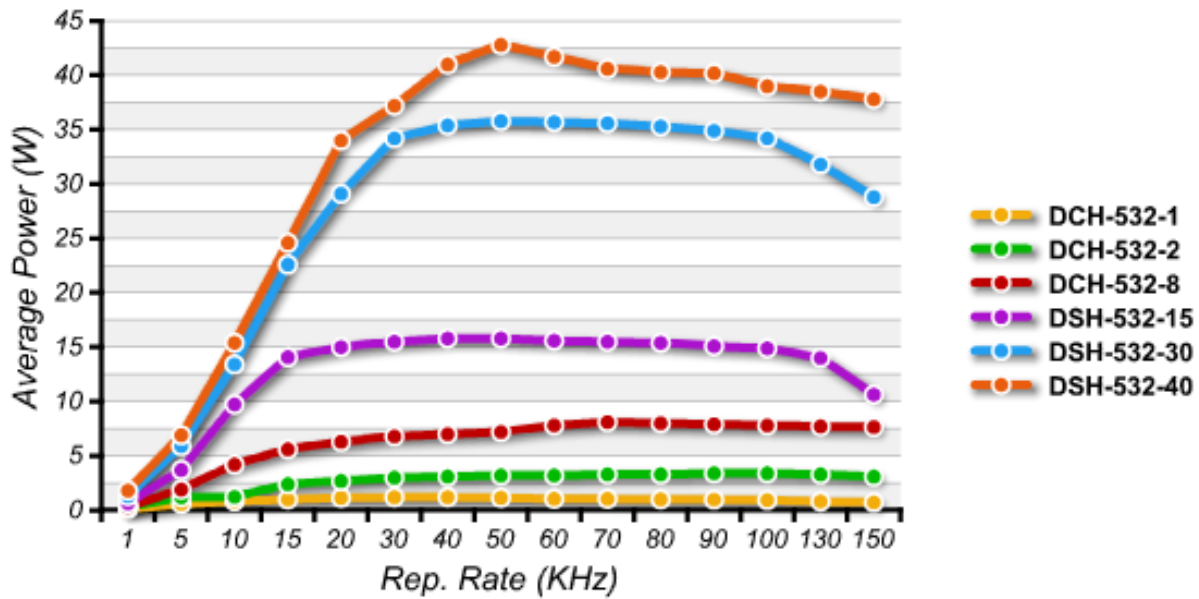
## DS Series - 15W to 50W



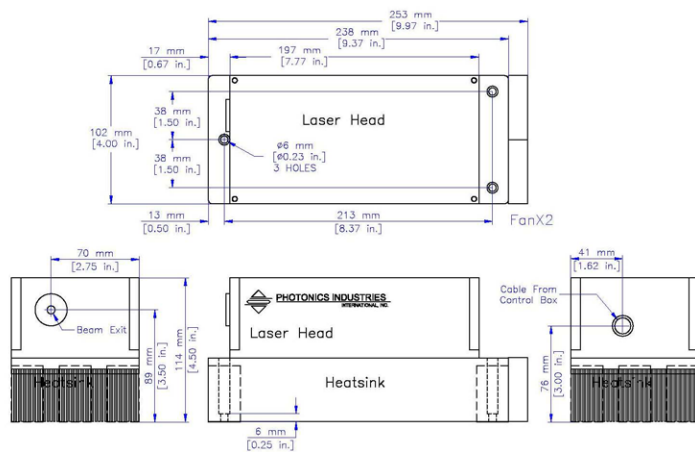
	DSH-532-15	DSH-532-30	DSH-532-40	DSH-532-50
Wavelength	532 nm	532 nm	532 nm	532 nm
Avg. Power @ 40 kHz	15 Watts	30 Watts	40 Watts*	50 Watts*
Pulse Width @ 40 kHz (nominal)	30 ns	20 ns	40 ns*	40 ns*
Pulse Energy @ 40 kHz	0.375mJ	0.75mJ	0.5mJ*	0.625mJ*
Beam Mode	TEM00 - M <sub>2</sub> < 1.1		TEM00 - M <sub>2</sub> < 1.3	
Beam Diameter @ exit (nominal)	0.7 mm		2 mm	
Beam Divergence	<1.5 mrad		<0.5 mrad	
Polarization Ratio	100:1 Vertical		100:1 Vertical	
Pulse-to-Pulse Instability	<2% rms		<2% rms	
Long-Term Instability (8h +/-3C)	<+/- 2%		<+/- 2%	
Pointing Stability	< 25 urad		< 25 urad	
Pulse Repetition Rate	Single shot to 150 kHz		20kHz to 300kHz	
Laser Head (WxLxH)	190.5 mm x 558.8 mm x 95.25mm		304.8mm x 660.4 mm x 95.25mm	
Controller Dimensions (WxLxH)	356mm x 311mm x 89mm	483mm x 343mm x 133mm	483 mm x 343 mm x 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)			

\*Specified at 80kHz.

# Performance Curve

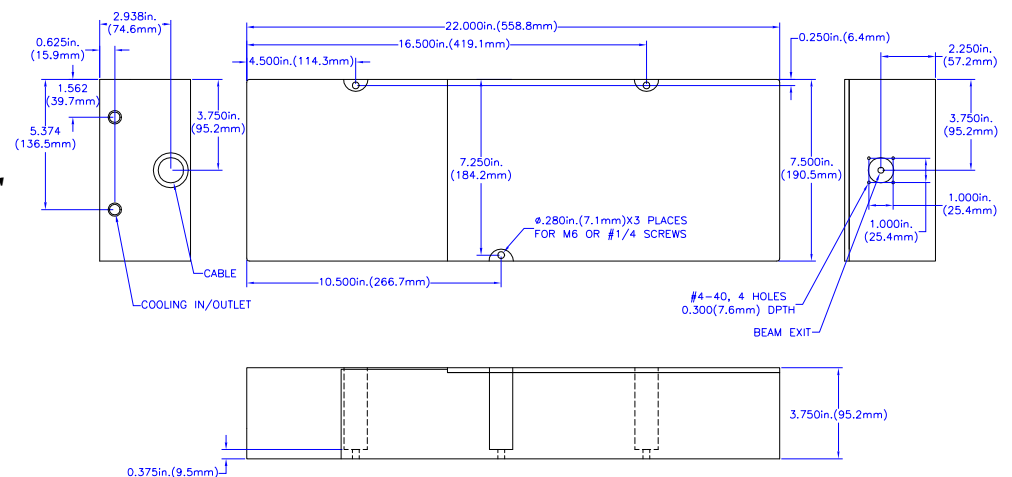


# Dimensional Drawings



DC Laser Head

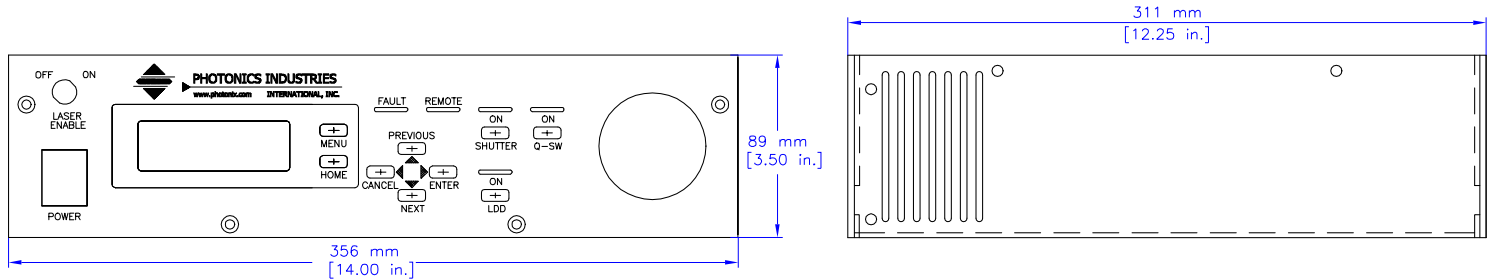
DS Laser Head\*



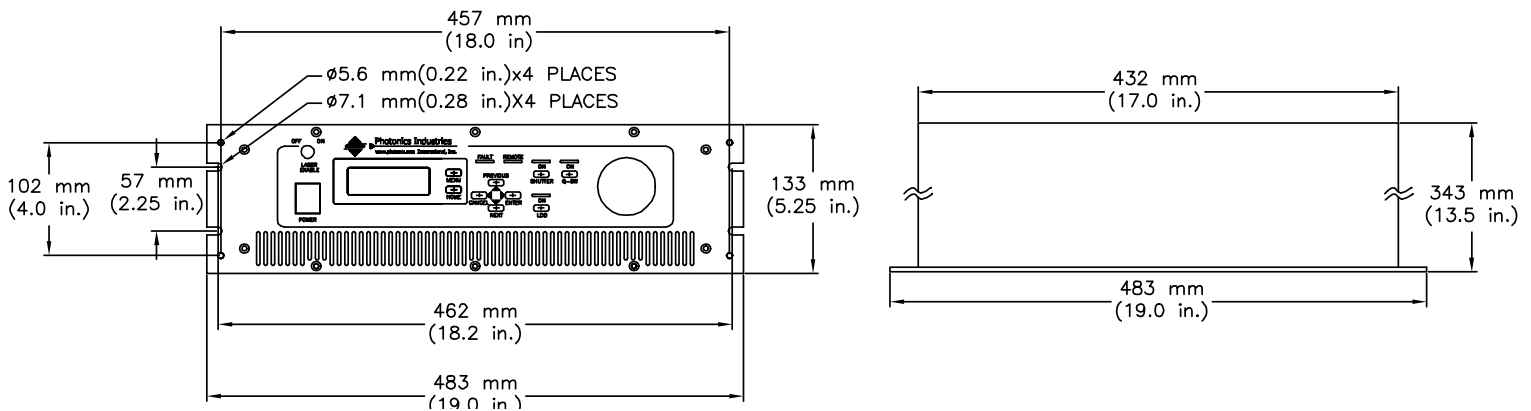
\* Dimensional drawings for DSH-532-40 and DSH-532-50 are available upon request.

# 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;  
 6,327,281; 6,356,578; 6,246,707; 6,229,839; 6,108,356; 6,061,370; 6,028,620; 5,936,938; 5,898,717 and Pending Patents

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