

DCH-355 Series

Nd:YVO₄ UV Lasers



Features

- 3 Models: 0.5W, 1W & 3W* of UV Power
- Air-cooled Design
- Patented Intracavity UV Generation
- Compact, Rugged, Monolithic Laser Head
- Total Pulse Control
- TEM00 Beam with Typical M² < 1.3
- Pulse Rates from 1 Hz to 300 kHz
- RS232 Computer Control
- Field Replaceable Pump Diodes

As the first company to pioneer intracavity harmonic generation technologies and introduce the very first intracavity UV lasers in 1996, Photonics Industries remains an industry leader in producing efficient, simple, low cost of ownership (COO) lasers. Its DCH Series offers UV power from 0.5 W to 3 W with the best mode quality in the market.

Owing to key patented technologies that provide non-consumable THG crystals with no indexing required, intracavity harmonic generation is inherently a more efficient harmonic conversion that provides better pulse to pulse stability and mode quality as well as a much simpler, more compact laser configuration. In addition to its patented intracavity UV generation, the end-pumped geometry of Photonics Industries' DCH Series lasers results in even better mode quality and field replaceable pump diodes, for the lowest COO possible.

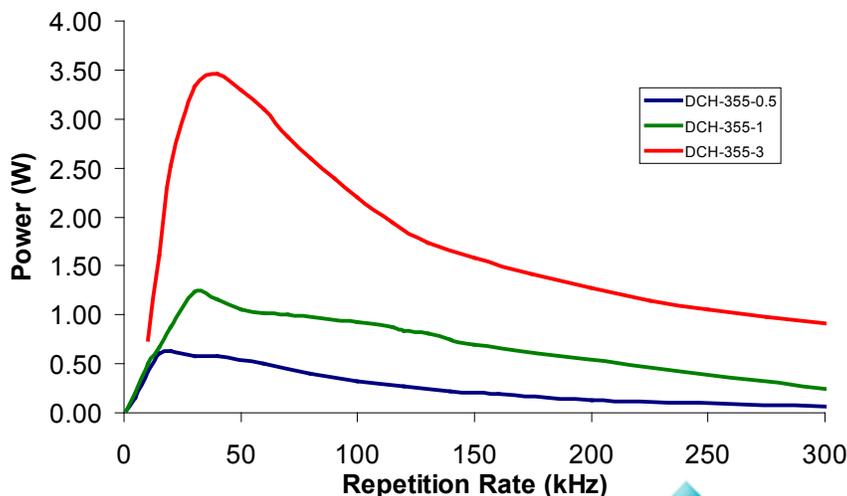
*For higher power UV models please see the DSH Series.



DCH 355 System Specifications

Technology	Air-Cooled		
Model	DCH-355-0.5	DCH-355-1	DCH-355-3
Wavelength (nm)	355		
Average Power (W) @ 40 kHz	0.5	1	3
Recommended Power Range	50% - 100%		
Pulse Energy (uJ) @ 40 kHz	~12.5	~25	~75
Pulse Width (ns) @ 40 kHz	~12	~10	~20
Repetition Rate	1 Hz to 150 kHz (Single Shot to 300 kHz w/ ext source)		
Pulse to Pulse Instability	<3% rms		
Polarization Ratio	Horizontal; 100:1		
4σ Beam Diameter @ exit	~ 0.3 mm		~0.4 mm
Beam Divergence (Full Angle Far Field)	<3 mrad		<2.5 mrad
Beam Circularity	~80%		
Spatial Mode	TEM00 - M ² <1.3		
Beam Pointing Stability	<25 urad		
Beam Position Accuracy	< 2.5 mm and < 1° from nominal		
Long Term Instability (8 hr ± 1° C)	±3%		
Interface	RS 232 / GUI / External TTL Triggering		
Maximum Heat Load (laser head)	<200 W		
Warm Up Time	<5 min from standby <20 min from cold start		
Electrical Requirement	50 to 60 Hz or 100 V to 240 V		
Dimensions	Laser Head	4 in x 4.75 in x 7.8 in	
(W x H x L)	Controller	11.5 in x 3.5 in x 9.5 in	19 in x 3.5 in (2U) x 10.25 in
Weight	Laser Head	6.5 lbs	
	Controller	10 lbs	
Relative Humidity	Non-condensing, 90% Max		
Umbilical Length	1.5 m	2.5 m	3 m
Ambient Temperature	15° to 35°C (59° to 95°F) Operating Range		

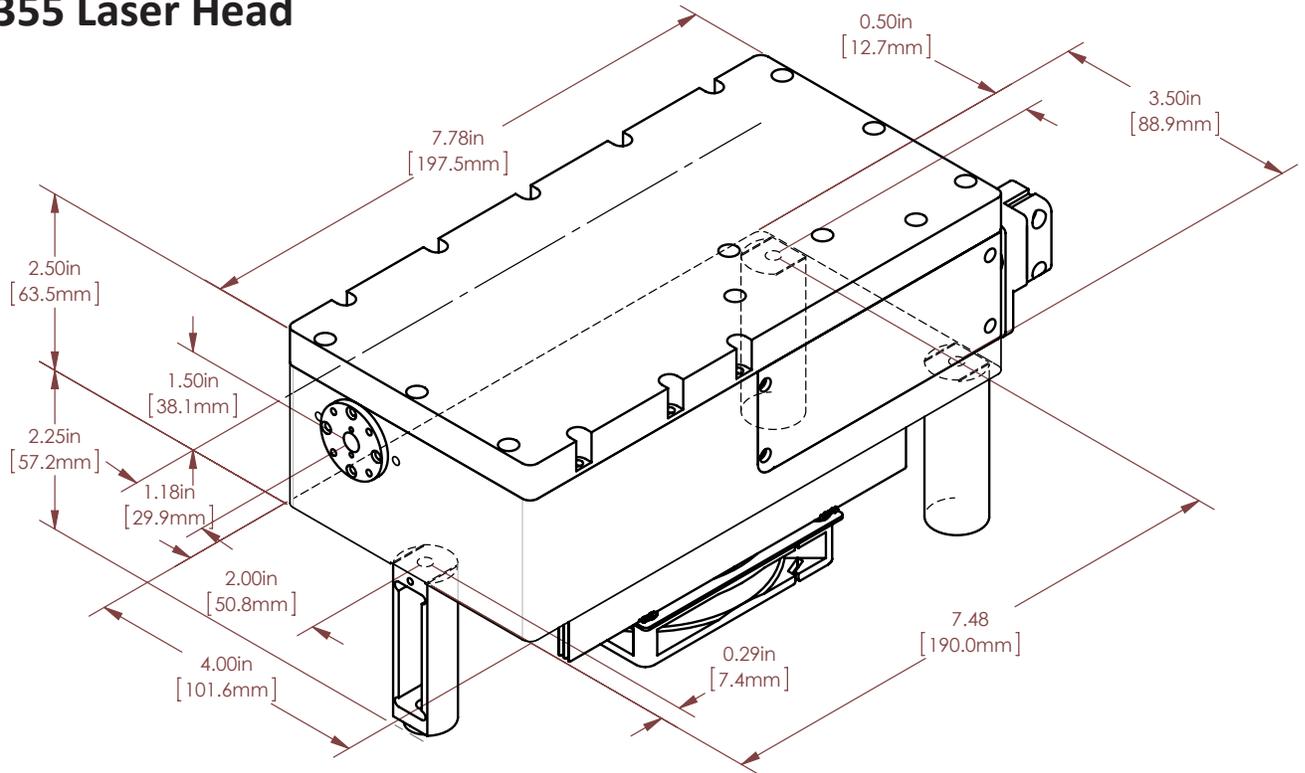
Performance Curve



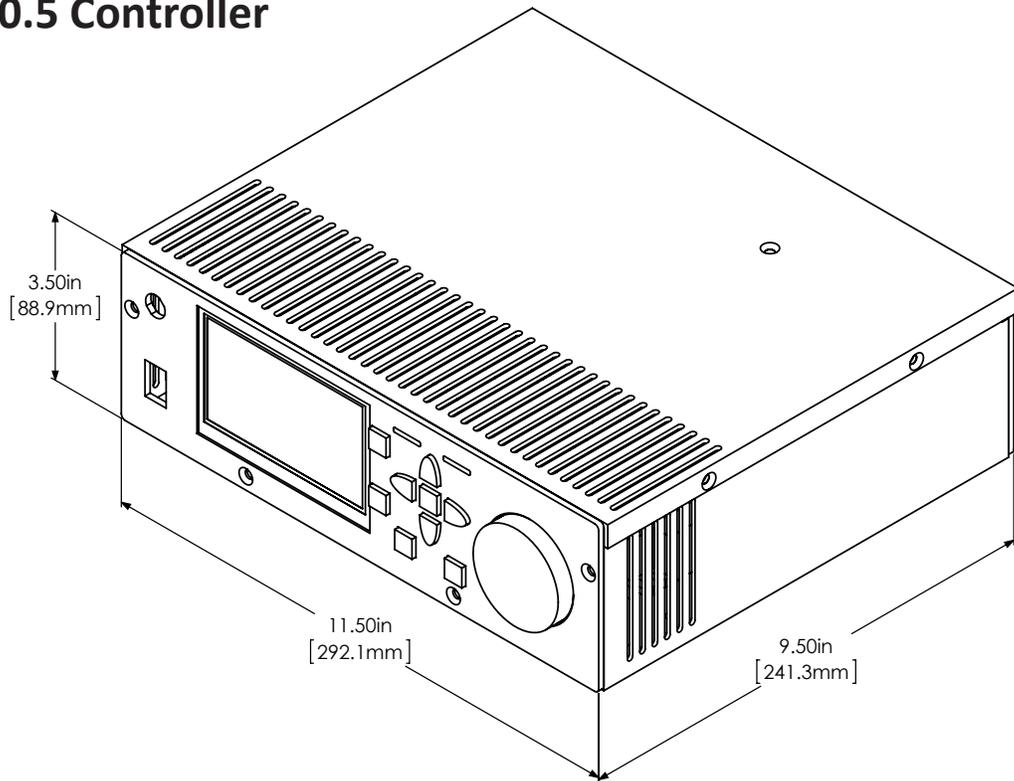
Photronics Industries
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Dimensional Drawings

DCH-355 Laser Head



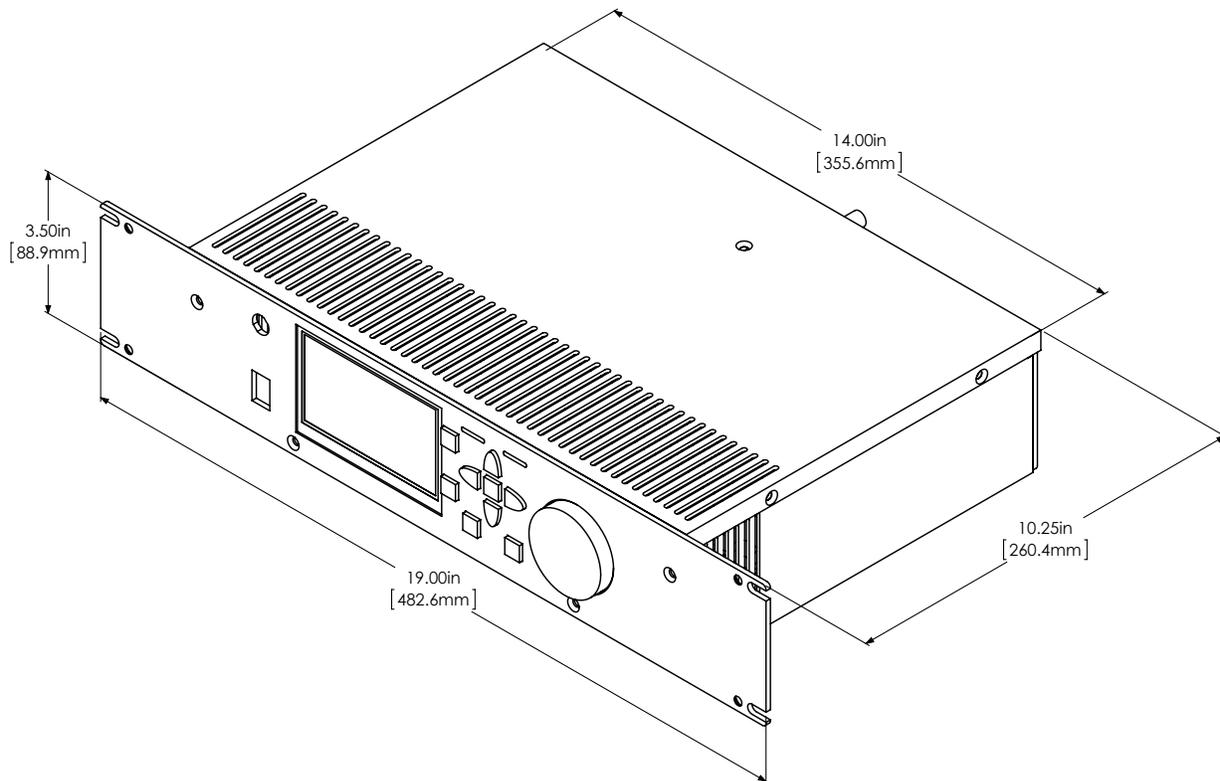
DCH-355-0.5 Controller



Photronics Industries
International, Inc.

Dimensional Drawings

DCH-355-1, -3 Controller



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Due to Photonics Industries' commitment to continuous product improvement, specifications and drawings are subject to change without notice.

Photonics Industries conforms to provisions of US 21 CFR 1040.10 & 1040.11 and is made under one or more US patents listed below:
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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