

# DC & DS Series

## 527nm Nd:YLF Green Lasers



### Features

- 527nm wavelength
- Compact, Rugged Design
- TEM00 Beam with  $M2 < 1.2$
- Pulse Rates from Single Shot to 10 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



# 527nm System Specifications

## DC Series - 1W to 3W



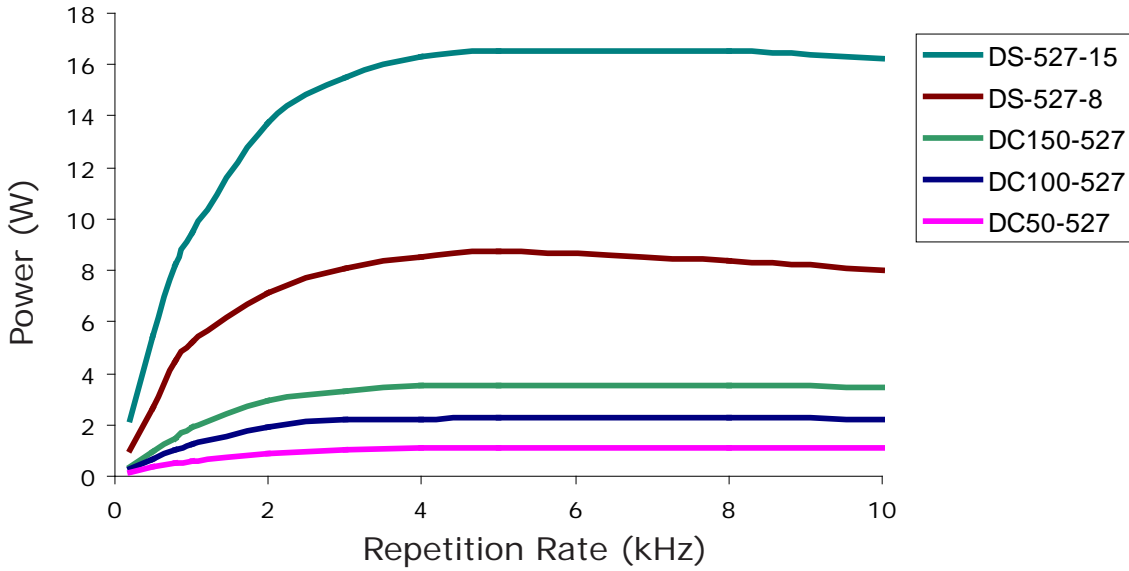
| Model                                | DC50-527                                  | DC100-527 | DC150-527                                |
|--------------------------------------|---|-----------|--|
| Average Power @ 3 kHz                | 1Watts                                    | 2Watts    | 3Watts                                   |
| Pulse Width @ 1 kHz (nominal)        | 30 ns                                     | 30 ns     | 25 ns                                    |
| Pulse Energy @ 1 kHz                 | 0.5 mJ                                    | 1 mJ      | 1.5 mJ                                   |
| Beam Mode                            | TEM <sub>00</sub> - M <sup>2</sup> < 1.2  |           | TEM <sub>00</sub> - M <sup>2</sup> < 1.3 |
| Beam Diameter @ exit (nominal)       | 0.35mm                                    | 0.5mm     | 0.7mm                                    |
| Divergence (nominal)                 | <4mRad                                    | <2mRad    |  |
| Polarization Ratio                   | 100:1 Vertical                            |           |  |
| Pulse-to-Pulse Instability           | <3% rms                                   |           |  |
| Long-Term Instability (8h +/-3deg.C) | +/- 3%                                    |           |  |
| Pointing Stability                   | < 50 urad                                 |           |  |
| Pulse Repetition Rate                | 1 Hz to 10 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 - 8W to 15W

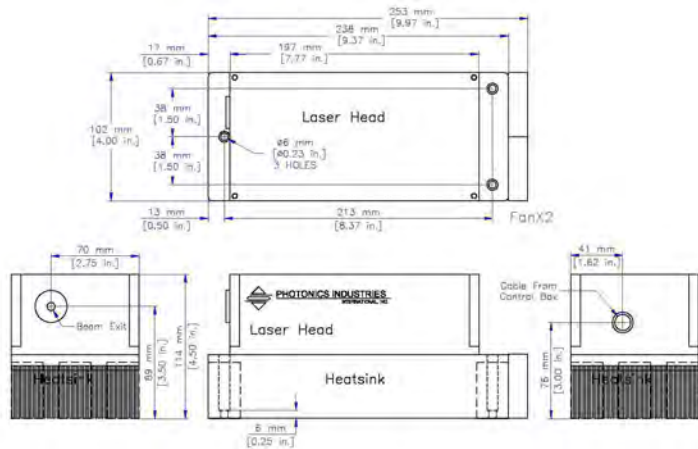


|                                      | DS-527-8                                  | DS-527-15 |
|--------------------------------------|---|-----------|
| Average Power @ 3 kHz                | 8 Watts                                   | 15 Watts  |
| Pulse Width @ 1 kHz (nomial)         | 50 ns                                     | 40 ns     |
| Pulse Energy @ 1 kHz                 | 4 mJ                                      | 9 mJ      |
| Beam Mode                            | TEM <sub>00</sub> - M <sup>2</sup> < 1.2  |           |
| Polarization Ratio                   | 100:1 Vertical                            |           |
| Beam Diameter @ exit (nominal)       | 1.0 mm                                    |           |
| Beam Divergence                      | 1.6 mrad                                  |           |
| Pulse-to-Pulse Instability           | <2% rms                                   |           |
| Long-Term Instability (8h +/-3deg.C) | <+/- 2%                                   |           |
| Pointing Stability                   | < 25 urad                                 |           |
| Pulse Repetition Rate                | Single shot to 10 kHz                     |           |
| Laser Head (WxLxH)                   | 190.5 mm, 558.8 mm, 95.25mm               |           |
| 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)                         |           |

# Performance Curve

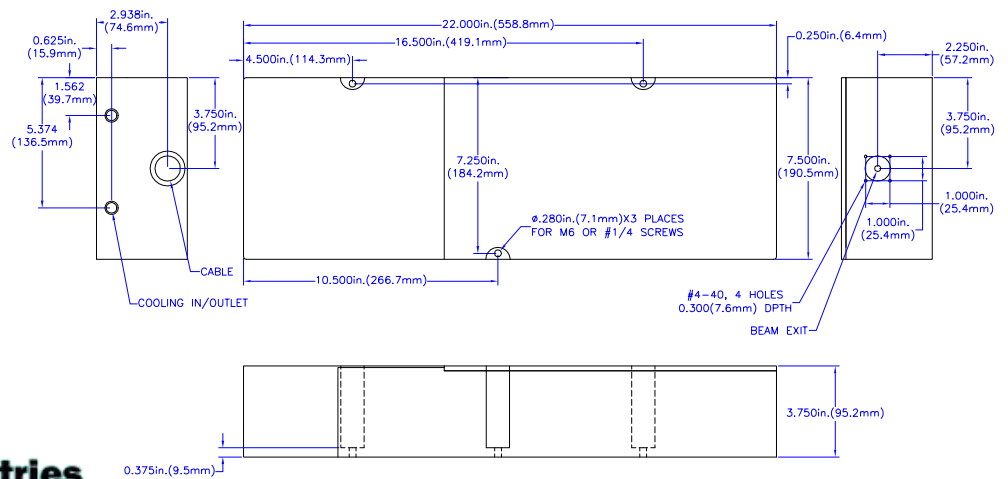


# Dimensional Drawings



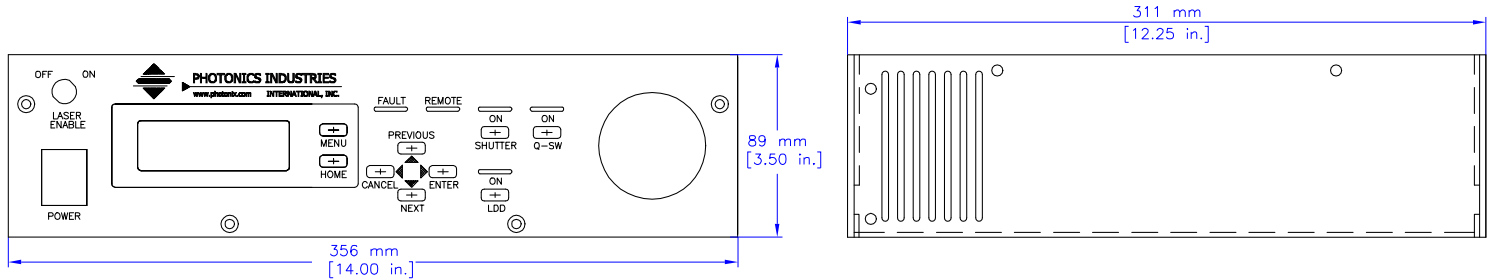
DC Laser Head

DS Laser Head

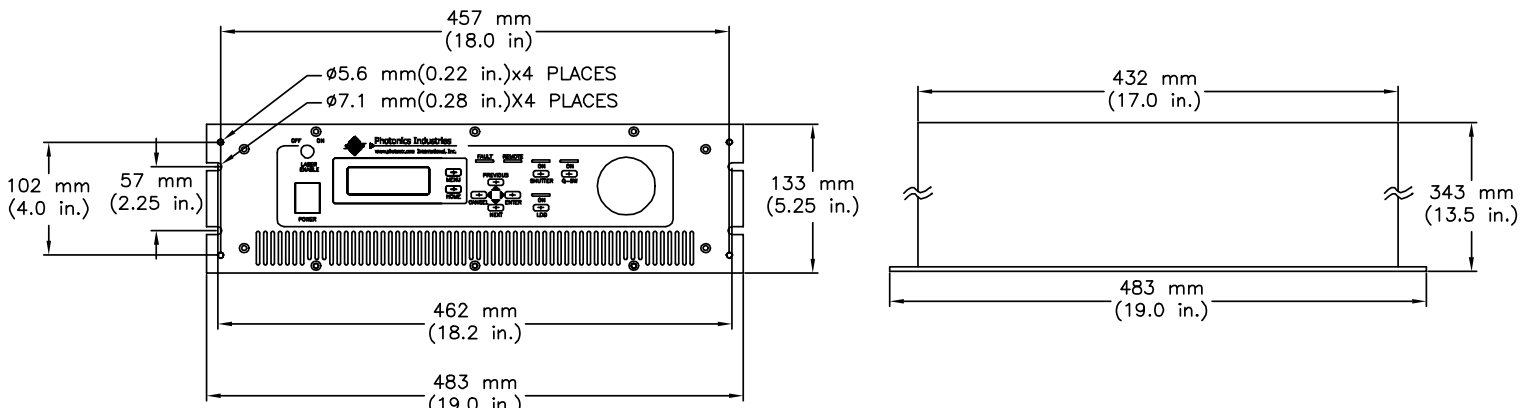


# Dimensional Drawings

## DC/DS Controller



## High Power DS Controller



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