

HighLight DL HPR Series

Rack-mount, Industrial Diode Laser

The Coherent HighLight™ DL HPR lasers are compact, high power, fiber delivered industrial diode laser systems that offers unmatched convenience and economy for metal processing applications such as cladding, heat treating and brazing. With its standard, 19" rack mount form factor and integrated electronics, the laser is easy to incorporate into existing systems, and is well-suited for the space-constrained environments often found in automotive manufacturing and semiconductor fabrication. Also, the HighLight™ DL HPR series uses conduction-cooled diodes which do not require deionized cooling water. Finally, its 45% wall plug efficiency minimizes energy consumption and cost of ownership.

The HighLight™ DL HPR series is available in both turn-key and customized OEM configurations, along with an extensive range of options which provide the flexibility for integration into a wide variety of laser-based manufacturing systems.

FEATURES & BENEFITS

- Output power: 1,000 to 4,000 Watts
- 19" Rack for integration
- Fiber coupled
- Homogenous beam profile
- Comprehensive accessories available

APPLICATIONS

- Heat Treatment
- Cladding
- Brazing



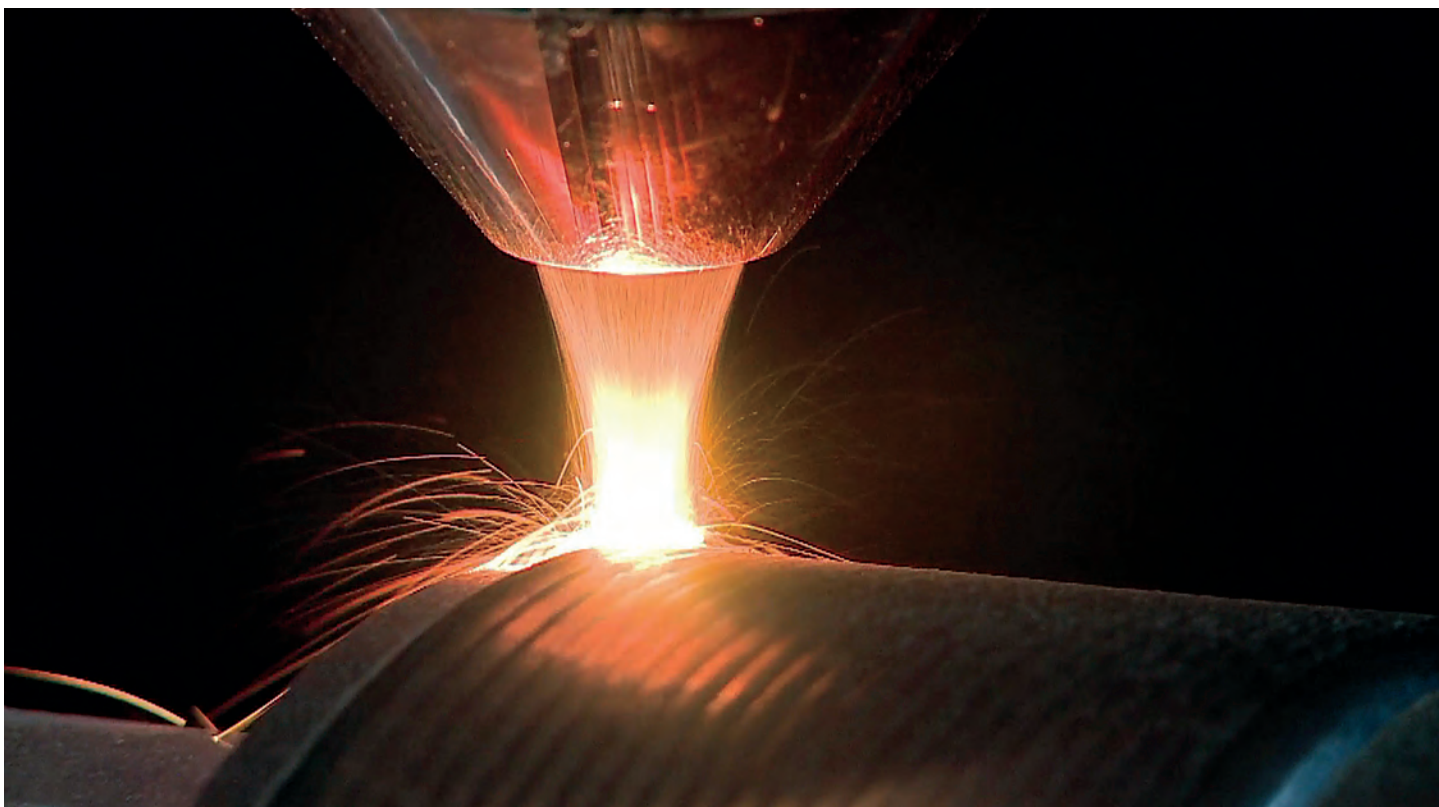
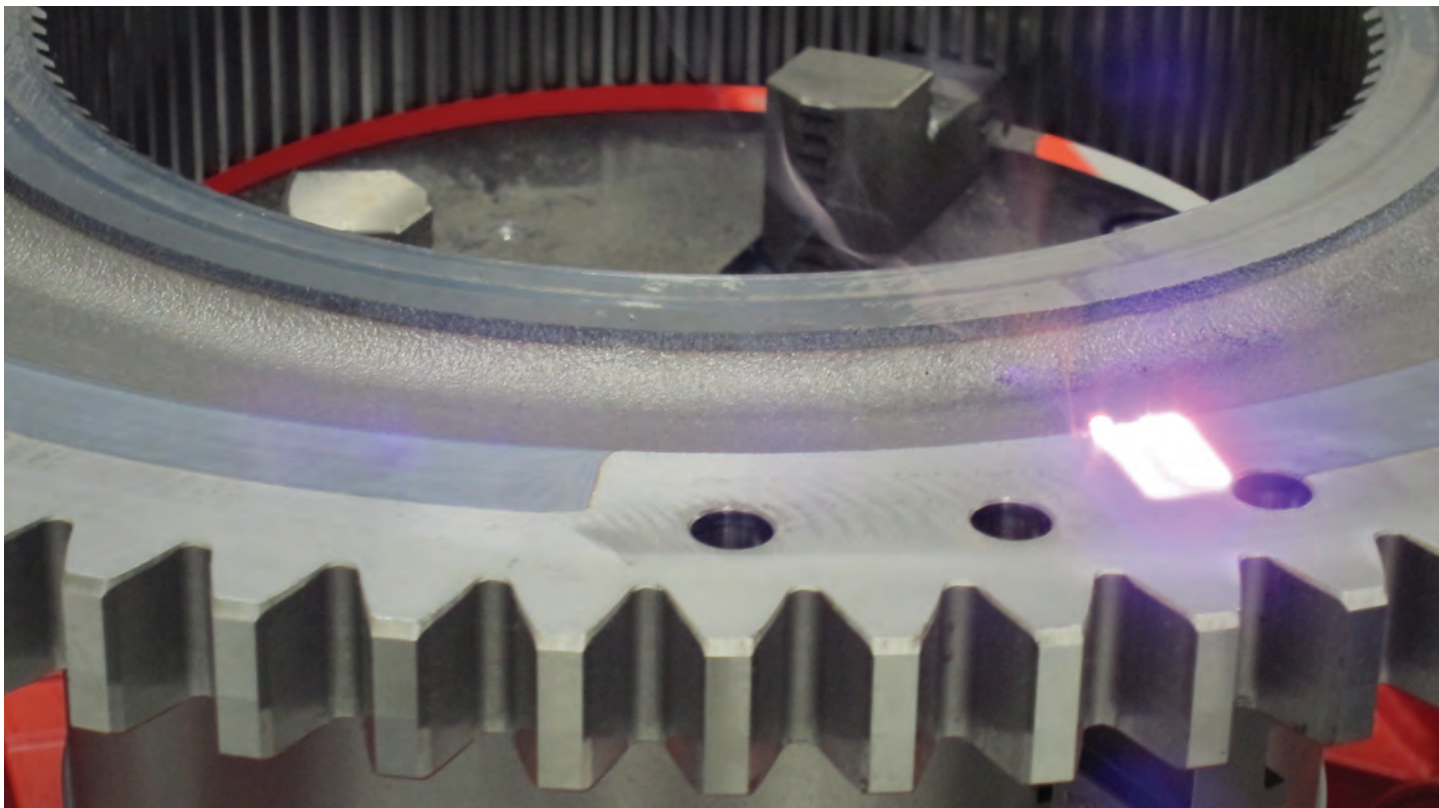
HighLight DL HPR Datasheet

| SPECIFICATIONS | HighLight DL1000HPR | HighLight DL2000HPR | HighLight DL3000HPR | HighLight DL4000HPR |
|--|---|---------------------|---------------------|---------------------|
| Nominal Power, cw (W) | 1000 | 2000 | 3000 | 4000 |
| Power Range (%) | 10-100 | | | |
| Laser Beam Quality (BPP) (mm*mrad) | 100 | | | |
| Power Stability Over 24-hour; Cooling Water $\Delta T = \pm 1$ K (%) | ± 2 | | | |
| Pulse Frequency Range LaserOn-Signal (Hz) | 1000 | | | |
| Analog Modulation (Hz) | 600 | | | |
| Wavelength (nm) | 980 & 1020 | | 940; 980 & 1020 | |
| Wavelength Tolerance (nm) | ± 10 | | | |
| ELECTRICAL RATINGS | | | | |
| Operating Voltage | 3x AC 230/400 V ± 10 %; 50/60 Hz; PE or 3x AC 277/480 V ± 10 %; 50/60 Hz; PE | | | |
| Connected Load (kVA) | approx. 4 | approx. 6 | approx. 8 | approx. 10 |
| Effective Power at Nominal Power (kW) | approx. 2.5 | approx. 5 | approx. 6.5 | approx. 9 |
| Max. Current Consumption at 400 V (A) | < 5 | < 10 | < 15 | < 20 |
| Fuses Type NH (A) | 16 | 16 | 16 | 32 |
| COOLING | | | | |
| Recommended Cooling Capacity* (kW) | 2.8 | 4 | 5.2 | 6.5 |
| Cooling Water Pressure (Max. Value) (bar) | < 5 | | | |
| Cooling Water Temperature (°C) | 22 \pm 1 K | | | |
| Cooling Water Flow Rate (Min. Value) (l/min) | 10 | | 12 | 14 |
| Pressure Drop (bar) | < 3.5 | | | |
| Water connection Laser | 2x \varnothing 15 mm hose | | | |
| Water connection Optics | 2x \varnothing 12 mm hose | | | |
| FIBER DELIVERY SYSTEM | | | | |
| Interface ** | QBH, QD | | | |
| Diameter (μ m) | 1000 | | | |
| Numerical Aperture (NA) | 0.2 | | | |
| Length (m) | < 35 | | | |
| Accessories (options) | Collimators, Focusing optics | | | |
| DIMENSIONS & WEIGHTS | | | | |
| Laser Dimension; w/o connectors (L x W x H) (mm) | ~652 x ~483 x ~267 | | | |
| Laser Weight; w/o cooling water (kg) | <70 | | | |
| ENVIRONMENTAL CONDITIONS | | | | |
| Ambient Temperature (°C) | +5 to +40 | | | |
| Humidity, Dew Point Temperature (°C) | ≤ 19 | | | |
| CUSTOMER INTERFACE | | | | |
| Analogue Power Control (V DC) | 0 to 10 (600 Hz max. modulation frequency) | | | |
| Digital Power Control (V DC) | 24 | | | |
| Interface for Control via PC | Ethernet | | | |
| OPTIONS LASER | | | | |
| | Bus Interface (CanOpen, ProfiNet,...)*** | | | |

* The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.

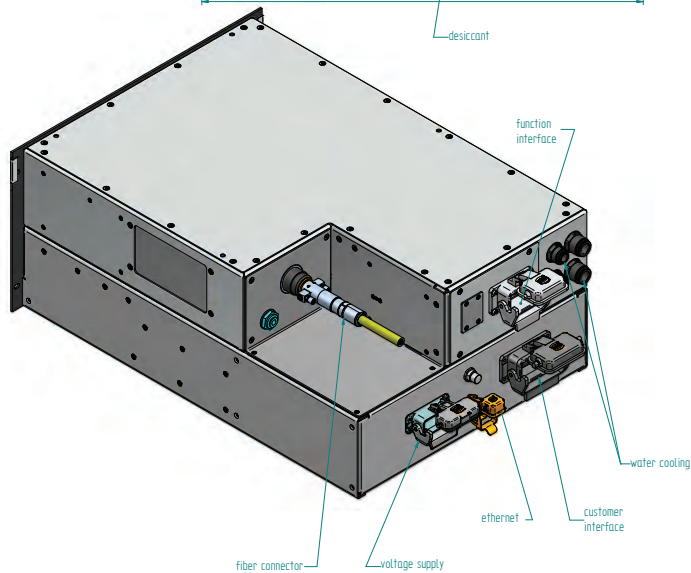
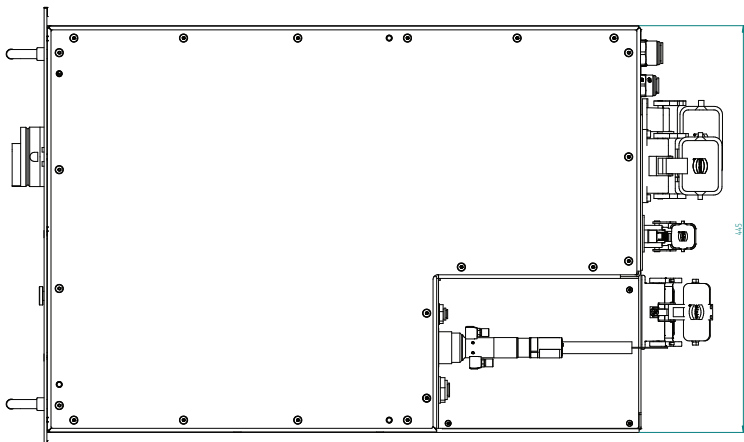
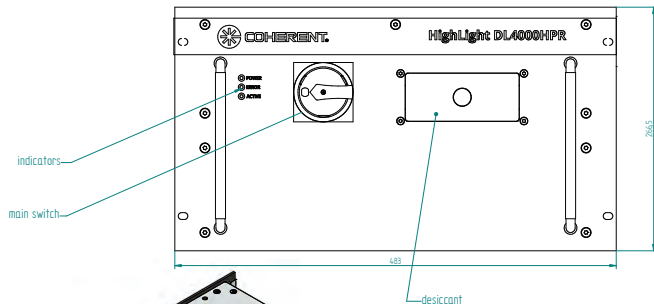
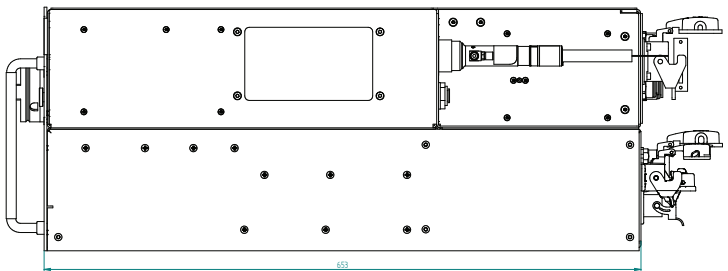
** Others on demand.

*** Other options are available upon request.



MECHANICAL SPECIFICATIONS

HighLight DL HPR Series



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent offers a limited warranty for all HighLight Lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative. Printed in the U.S.A. MC-020-18-0M0819 Copyright ©2018 Coherent, Inc.



Coherent-Dilas industrial lasers are designed in strict accordance with the respective safety regulations. We certify that each laser manufactured by our company complies with FDA Radiation Performance Standards, 21 CFR Subchapter J and with IEC 60825. Warning labels as shown in the figure appear on each Coherent-Rofin laser to indicate the respective classification.