



The Pearl™ fiber laser pump series is optimized to meet the demanding requirements of high brightness pumping with minimal cladding light and embedded feedback protection.

Pearl pump lasers use a proprietary fiber coupling technology to eliminate light in the cladding. nLIGHT's proprietary single-emitter integration technology enables high power pumping without the need for fiber combiners, thus maximizing efficiency, cost-effectiveness and useful life.

## Features

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- 1 $\mu$ m feedback protection
- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Ultra-low cladding light
- Industry-leading wall-plug efficiency
- Plug and play compatibility with OptoTools™ DL system
- Electrically isolated housing

## Applications

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- Erbium/Ytterbium fiber lasers
- CW/pulsed fiber lasers

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**Proven Performance**

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## Typical Device Performance

| Package format                                  |                 | P10        | P16  |
|---|-----------------|------------|------|
| <b>Optical</b>                                  |                 |            |      |
| Wavelength                                      | nm              | 915 ± 5    |      |
|   | nm              | 938 ± 5    |      |
|   | nm              | 976 ± 3    |      |
| CW output power                                 | W               | 70         | 120  |
| Fiber core diameter                             | µm              | 200        |      |
| Beam divergence                                 | NA <sup>1</sup> | 0.16       | 0.16 |
| Spectral width (FWHM)                           | nm              | 5          |      |
| Slope efficiency                                | W / A           | 10         | 16   |
| <b>Electrical</b>                               |                 |            |      |
| Power conversion efficiency                     | %               | 52         |      |
| Threshold current                               | A               | 0.6        |      |
| Operating current                               | A               | 8.2        | 8.1  |
| Operating voltage                               | V               | 17.1       | 27.4 |
| Series resistance                               | Ω               | 0.4        | 0.6  |
| <b>Mechanical</b>                               |                 |            |      |
| Storage temperature range <sup>2</sup>          | °C              | -40 to +80 |      |
| Mass  | gr              | 100        | 180  |
| <b>Thermal</b>                                  |                 |            |      |
| Thermal resistance <sup>3</sup>                 | °C / W          | 0.6        | 0.4  |
| Operating temperature <sup>2</sup>              | °C              | +15 to +35 |      |
| Wavelength temperature coefficient <sup>4</sup> | nm / °C         | 0.32       |      |
| <b>Accessories</b>                              |                 |            |      |
| Fiber termination (distal end)                  | SMA or pigtail  |            |      |
| PPS™ OEM laser diode driver                     |                 |            |      |
| DL System with DiodeSafe™                       |                 |            |      |

<sup>1</sup> Numerical aperture (NA) is the sine of the half-angle encircling 90% of the optical energy from the fiber.

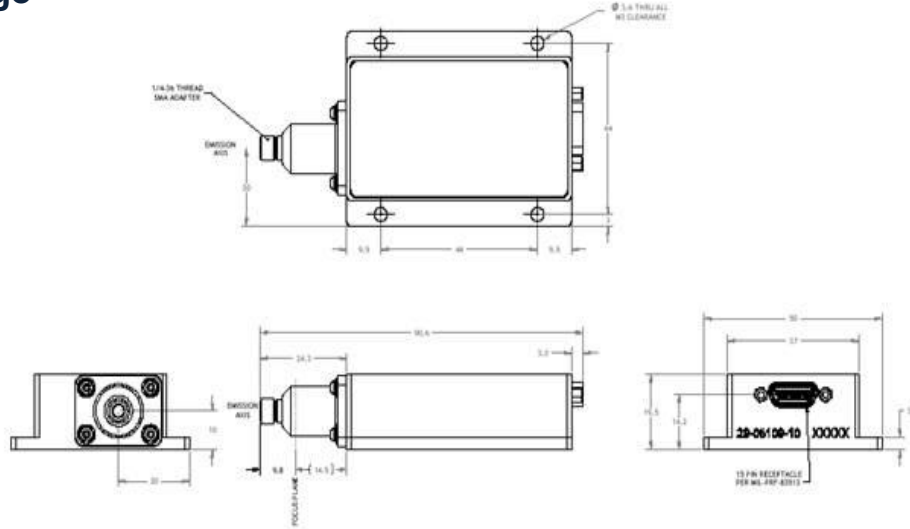
<sup>2</sup> A non-condensing environment is required for storage and operation.

<sup>3</sup> Thermal resistance is the diode junction temperature shift per incremental Watt of heat load.

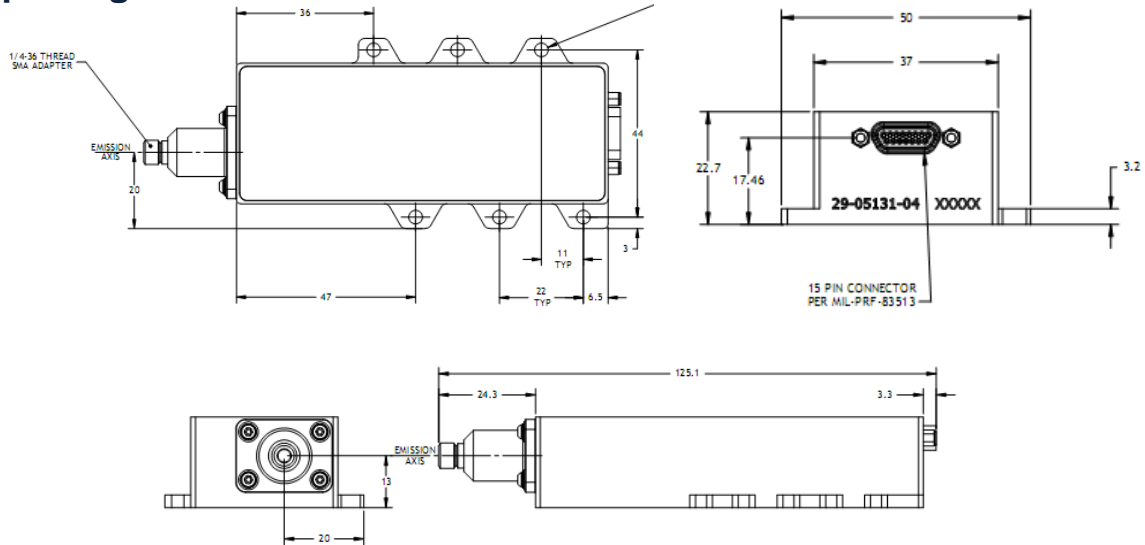
<sup>4</sup> The wavelength temperature coefficient is the wavelength shift per °C change at the diode junction.

**Package Dimensions**

**P10 package**



**P16 package**



**CFR Regulation**

These components do not comply with the federal regulation (Title 21 CFR, Chapter 1, Subchapter J) as administered by the Center for Device and radiological Health. Purchaser acknowledges that their products must comply with these regulations before they can be sold to an end-use.

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**Notice**

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