# LDH980CxWA
# 980nm CW Macrochannel Water-Cooled Horizontal Diode Laser Stack

## Description

The LDH980CxWA is an 980nm wavelength, four-bar horizontal linear diode laser array providing up to 100W/bar CW and generating output powers up to 400W. The CW diode laser array employs macro-channels and enables water-cooling. The diode laser array is designed to provide the highest reliability and efficiency in pumping, industrial and medical applications.

## Features

- 980nm Macro-Channel Water-Cooled Horizontal Linear Array
- 4 bars (Up to 100W CW/bar)
- High output power: Up to 400W CW
- Spectral width: <5 nm
- High reliability
- High efficiency

## Applications

- Pumping
- Industrial
- Medical

## Product Overview

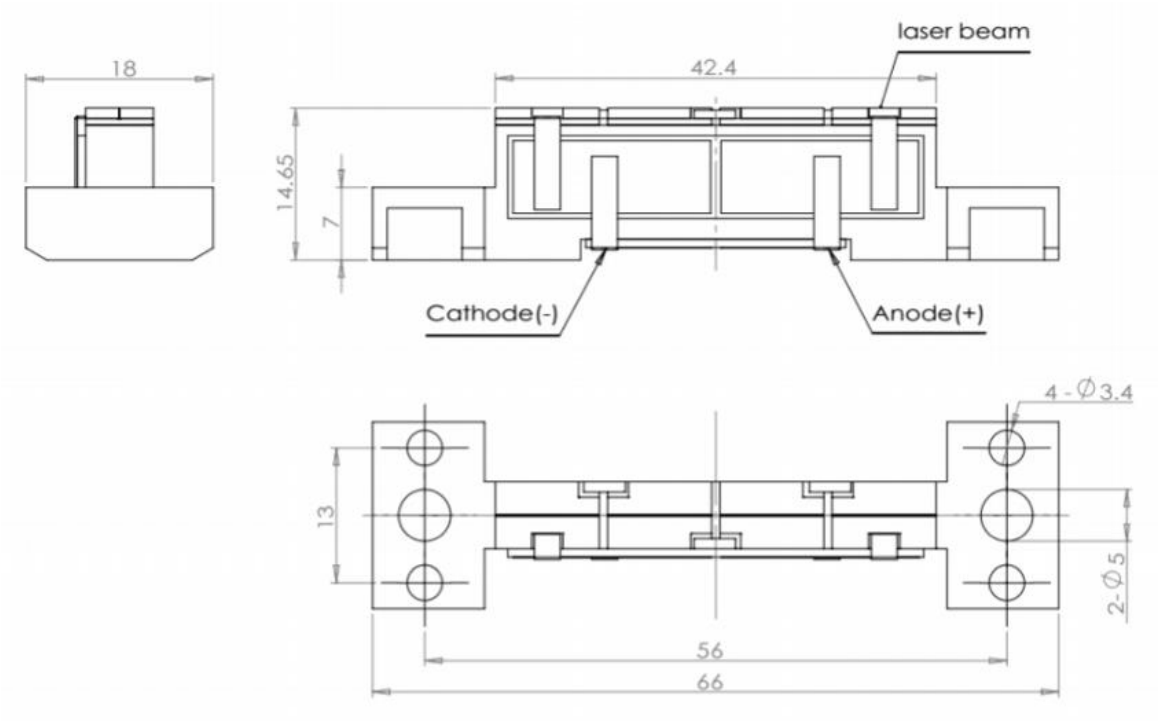
The following table lists the available part numbers, as well as the total output power, output power per bar, number of bars, and cooling method of each of the part numbers.

| Part Number | Total Output Power | Output Power per Bar | Number of Bars | Cooling Method |
|---|---|---|---|---|
| LDH980C160WA | 160W | 40W | 4 | Macrochannel Water-Cooled |
| LDH980C240WA | 240W | 60W | 4 | Macrochannel Water-Cooled |
| LDH980C320WA | 320W | 80W | 4 | Macrochannel Water-Cooled |
| LDH980C400WA | 400W | 100W | 4 | Macrochannel Water-Cooled |

## Specifications ($T_C$ = 25°C)

| **Optical Characteristics** | | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Symbol** | **Value** | | | | **Unit** |
| Center wavelength | $\lambda_c$ | 980 | | | | nm |
| Operation mode | | CW | | | | - |
| Output power | $P_o$ | 160 | 240 | 320 | 400 | W |
| Output power/bar | $P_o$/bar | 40 | 60 | 80 | 100 | W |
| Spectral width | $\Delta\lambda$ | <5 | | | | nm |
| Bar quantity | | 4 | | | | - |
| Wavelength Temperature coefficient | | 0.28 | | | | nm/°C |
| Fast axis divergence | $\theta_\perp$ | <39 | | | | deg |
| Slow axis divergence | $\theta_\parallel$ | <10 | | | | deg |
| **Electrical Characteristics** | | | | | | |
| **Parameter** | **Symbol** | **Value** | | | | **Unit** |
| Threshold current | $I_{th}$ | <7 | <15 | <25 | <25 | A |
| Operating current | $I_{op}$ | <40 | <70 | <95 | <110 | A |
| Operating voltage/bar | $V_{op}$ | <2.0 | <2.0 | <2.0 | <2.0 | V |
| **Thermal Characteristics** | | | | | | |
| **Parameter** | **Symbol** | **Value** | | | | **Unit** |
| Operating temperature | $T_{op}$ | 15 to 35 | | | | °C |
| Storage temperature | $T_{stg}$ | -10 to +60 | | | | °C |

## Mechanical Outline (unit: mm)




## Notes

- Specifications are subject to change without notice. Ensure that you have the latest specification by contacting us prior to purchase or use of the product.
- Please make sure that the laser diode is operated under the temperature between 15 °C and 35 °C, as high temperature will increase threshold current, decrease exchange rate and accelerate the aging.
- Please take measures to avoid condensation, which will cause aging of laser diode.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Observing visible or invisible laser beams with human eye directly, or indirectly, can cause permanent damage. Do not look directly into the laser output port.