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LDV980CxWI
980nm CW Microchannel Water-Cooled Vertical Diode Laser Stack

Description

The LDV980CxWI is an 980nm wavelength, vertical stacked diode laser array providing 40W/bar, 80W/bar, or 100W/bar CW and generating output powers up to 1600W. The CW diode laser array employs micro-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 Micro-Channel Water-Cooled Vertical Stacked Array
- Containing up to 16 bars (Up to 100W CW/bar)
- High output power: Up to 1600W
- Spectral width: <5 nm
- High reliability, High efficiency

Applications

- Pumping
- Industrial
- Medical

Product Overview

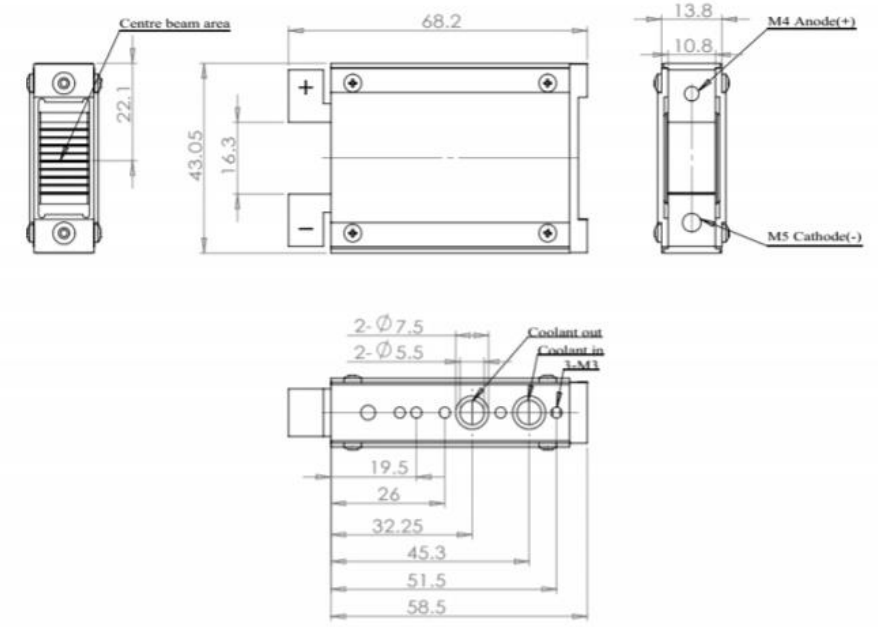
The following table lists the available part numbers, as well as the total output power, output power per bar, number of bars, and cooling method of each of the part numbers.

Part Number	Total Output Power	Output Power per Bar	Number of Bars	Cooling Method
LDV980C200WI	200W	40W	5	Microchannel Water-Cooled
LDV980C360WI	360W	40W	9	Microchannel Water-Cooled
LDV980C640WI	640W	40W	16	Microchannel Water-Cooled
LDV980C400WI	400W	80W	5	Microchannel Water-Cooled
LDV980C720WI	720W	80W	9	Microchannel Water-Cooled
LDV980C1280WI	1280W	80W	16	Microchannel Water-Cooled
LDV980C500WI	500W	100W	5	Microchannel Water-Cooled
LDV980C900WI	900W	100W	9	Microchannel Water-Cooled
LDV980C1600WI	1600W	100W	16	Microchannel Water-Cooled

Specifications (T_C = 25°C)

Optical Characteristics											
Parameter	**Symbol**	**Value**									**Unit**
Center wavelength	λ_c	980									nm
Operation mode		CW									-
Output power	P_o	200	360	640	400	720	1280	500	900	1600	W
Output power/bar	P_o/bar	40	40	40	80	80	80	100	100	100	W
Bar quantity		5	9	16	5	9	16	5	9	16	
Spectral width	$\Delta\lambda$	<5									nm
Bar space		1.8									mm
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	<7	<7	<25	<25	<25	<25	<25	<25	A
Operating current	I_{op}	<40	<40	<40	<95	<95	<95	<110	<110	<110	A
Operating voltage/bar	V_{op}	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	V
Thermal Characteristics											
Parameter	**Symbol**	**Value**									**Unit**
Max. inlet pressure		65									psi
Cooling rate/bar		≥0.3									1/min
Cooling medium particle size		≤15									μm
Cooling medium conductivity		5 to 10									μs/cm
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.