

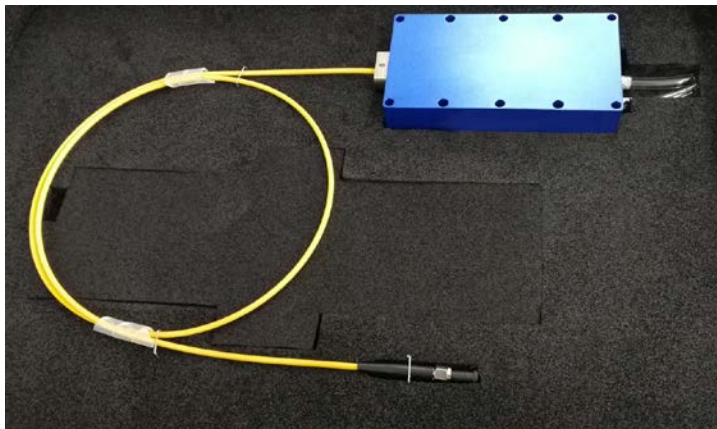
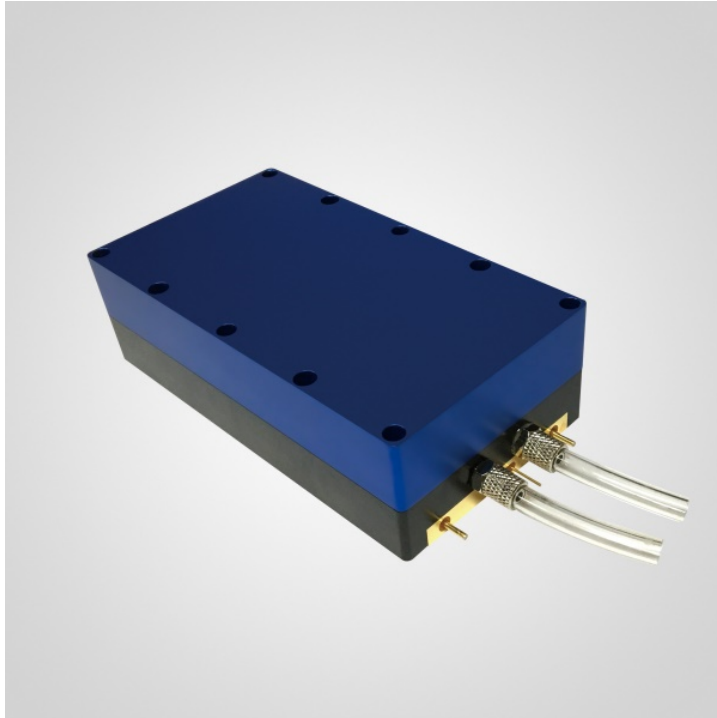
FCLD-445-20-50, 20 Watt, 50 Watt, 445 nm Fiber-Coupled Blue Diode Lasers

Attributes

- Highest Power Single-Aperture Blue Lasers Available Commercially
- Models:
 - 20 W, 105 μm , 0.22 NA Fiber Core Diameter
 - 20 W, 200 μm , 0.22 NA Fiber Core Diameter
 - 50 W, 200 μm , 0.22 NA Fiber Core Diameter
- SMA 905 Connectors
- Fiber Length 1.2 m
- Circularly Symmetric Output Beams

Applications

- Materials Processing: Rapid Engraving, Marking, Cutting
- Solid-State-Laser Pumping
- Surgery and Other Medical Treatments
- Communications
- Illumination, Laser Light Shows
- Aboard Drone Illumination Systems
- Drone Killing



Specifications

Specifications	Symbol	Unit	Value			
			min.	typ.	max.	
Parameter	CW Output Power	P_o	W	-	20 50	-
	Threshold Current	I_{th}	A	-	0.2	-
	Operating Current	I_{op}	A	-	2.5	-
	Operating Voltage	V_{op}	V	-	32 81	-
	Slope Efficiency	η	W/A	-	8 20	-
	Electrical-to-Optical Efficiency	PE	%	-	25	-
	Center Wavelength	λ_c	nm	440	-	455
	Spectral Width (FWHM)	$\Delta\lambda$	nm	-	3	-
	Thermal wavelength shift	-	$\lambda/^\circ\text{C}$	-	0.3	-
Fiber	Core Diameter 20W 20W 50W	D_{core}	μm	-	105 200 200	-
	Cladding Diameter	D_{clad}	μm	-	220	-
	Buffer Diameter	D_{buf}	μm	-	320	-
	Numeric Aperture	NA	-	-	0.22	-
	Total Fiber Length ⁽¹⁾	L_f	m	-	1.2	-
	Fiber Loose Tubing Diameter	-	mm	3mm Stainless Steel Tube		
	Fiber Connector ⁽²⁾	SMA 905				
Others	ESD	VESD	V	-	-	500
	Storage Temperature	Tst	$^\circ\text{C}$	-20	-	70
	Lead Soldering Temp	Tis	$^\circ\text{C}$	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature ⁽³⁾	Top	$^\circ\text{C}$	-	25	30
	Relative Humidity	RH	%	15	-	75
Lasers Class	4					

¹ Other fiber length available upon request.

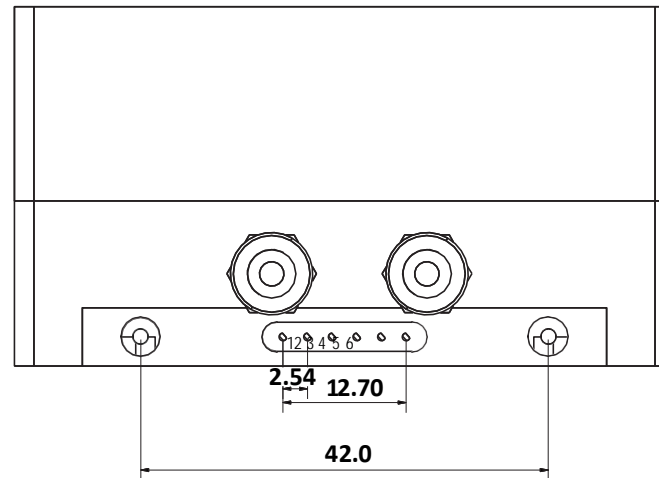
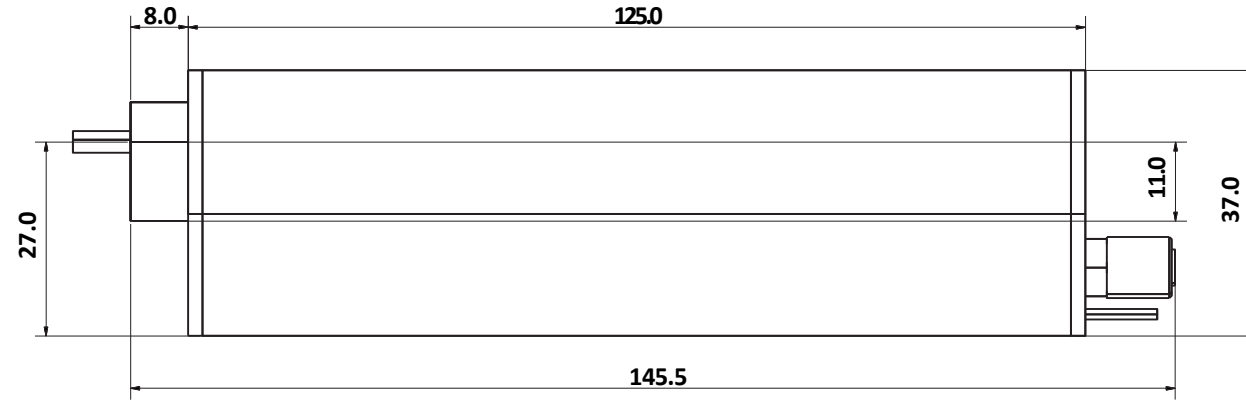
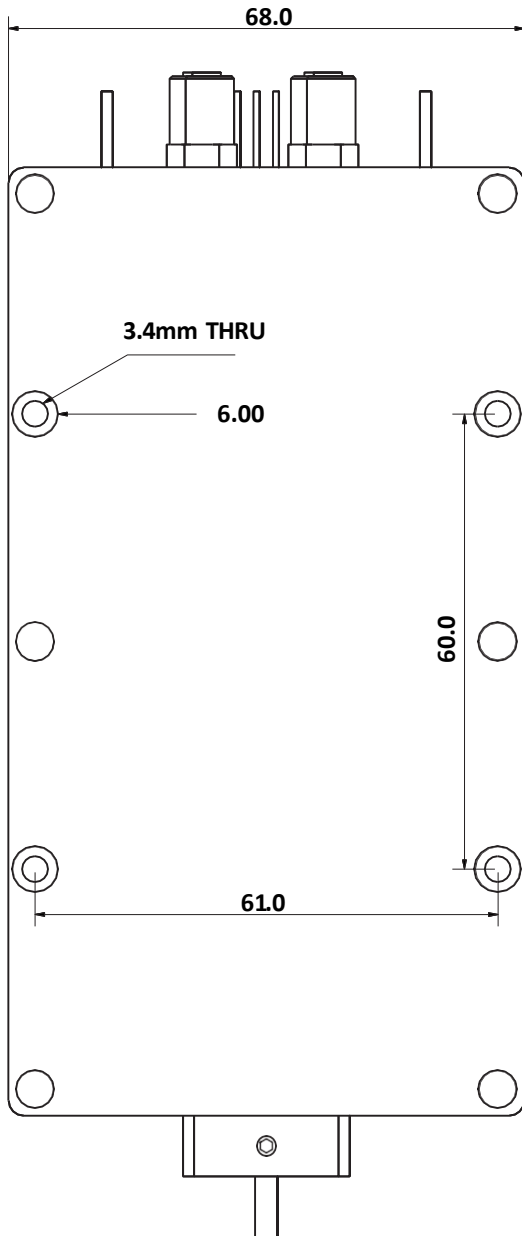
² Other connectors or bare fiber available upon request.

³ Operating temperature measured by internal thermistor.

Specifications (Continued)

Specifications		Symbol	Unit	Value		
				min.	typ.	max.
Others	Water Cooling Flowrate-50 W	R	l/min	-	33	-
	Water Cooling Flowrate-20 W	R	l/min	-	15	-
	Water Pressure (Estimated)	P	kPa	-	207-345	-
	Water Pressure (Estimated)	P	psi	-	30-50	

Dimensions (mm)



Pin	Function
1	LD (+) Pin
2	LD (-) Pin
3	Thermistor
4	Thermistor
5	PD*
6	PD*

Laser Radiation

Avoid eye and skin exposure by direct or scattered laser light.

Laser Class 4

Output power (P_o): 100W max.
Wavelength (λ): 400-500nm