

ProLite® Xt Prosario™

Compact Fiber Coupled Diode Laser Bars



The ProLite Xt Prosario Advantage

- >60 W out of 400 μm , 0.22 NA single-core detachable fiber
- Multiple wavelength ranges from 780 nm to 980 nm
- Durable water-tight housing for reliable use in a variety of harsh industrial environments
- Accommodates fiber cores from 400 μm to 800 μm
- Available NAs 0.22 and 0.11
- Field-standard drop-in footprint, mounting pattern and electrical connections for easy installation
- Standard features include electrically isolated case, photo-detector monitor port, internal thermistor, and optional pilot alignment beam

The new Oclaro™ Prosario™ diode lasers build upon the proven performance of the highly successful ProLite® Xt diode laser series. In addition to unrivaled reliability and robustness, the Prosario fiber coupled diode laser bars offer superior value with unprecedented power and brightness of more than 60 W out of a 400 μm , 600 μm or 800 μm fiber—across a broad wavelength range from 780 nm to 980 nm.

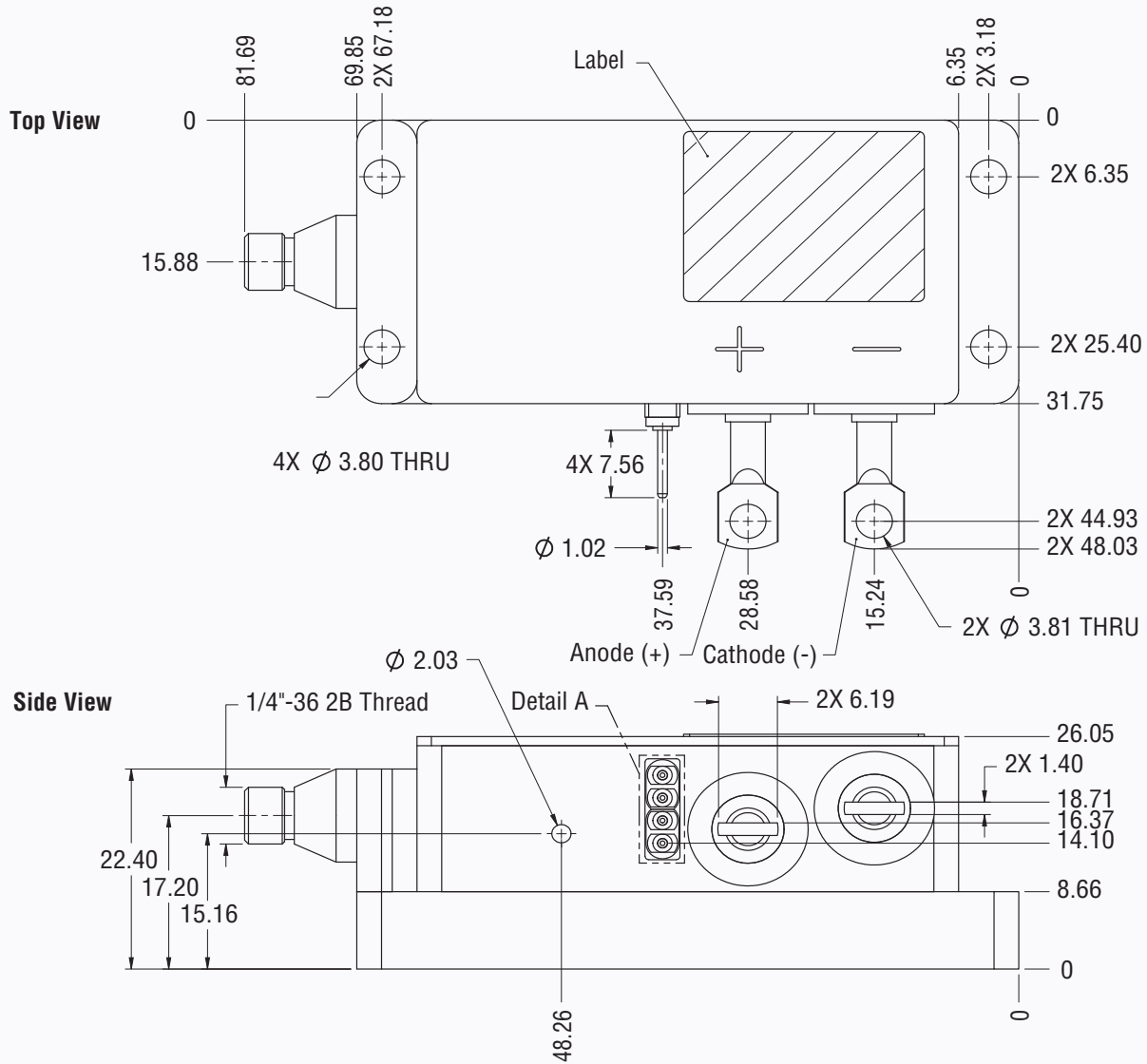
The Prosario diode laser packaging was designed with the customer's needs in mind. The compact size, industry-standard footprint, mounting pattern and electrical connections make it an easy drop-in replacement for existing systems, or upgrading in power within the Prosario family. A detachable single-core fiber provides easy low-cost field replacement minimizing downtime for fiber pumping, plastics welding, and medical applications where serviceability is critical. And, the environmentally sealed housing enables Prosario lasers to be used in harsh high-humidity environments.

Other industry-leading features and refinements include a photodetector port for external power monitoring and feedback, and an internal thermistor for accurate temperature monitoring and improved power and spectral stability. Each Prosario diode laser module is electrically isolated allowing simple multi-module integration. An optional red (658 nm) pilot beam is also available with more than 1 mW of output power.

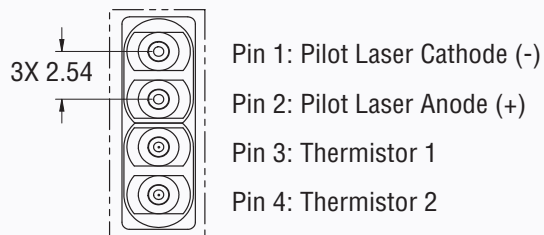
Applications

- Solid state laser pumping
- Material processing, including laser soldering, brazing and welding
- Biosciences
- Medical/Life and health sciences
- Defense and security

Prosario Dimensions



Dimensions in mm



Detail A (Scale 4:1)

Electrode and Connector Detail

Specifications

Output Characteristics	P42-808-50-01	P42-λλλ-50-01	P42-808-60-01	P42-λλλ-60-01	P61-808-50-01	P61-λλλ-50-01	P61-808-60-01	P61-λλλ-60-01
Wavelength ¹	808 ±3 nm	880 ±3 nm, 915 ±5 nm, 938 ±3 nm, 976 ±3 nm	808 ±3 nm	915 ±5 nm, 938 ±3 nm, 976 ±3 nm	808 ±3 nm	880 ±3 nm, 915 ±5 nm, 938 ±3 nm, 976 ±3 nm	808 ±3 nm	915 ±5 nm, 938 ±3 nm, 976 ±3 nm
Spectral Width (FWHM)	2.5 nm	3 nm	2.5 nm	3 nm	2.5 nm	3 nm	2.5 nm	3 nm
Maximum Spectral Width (FWHM)	≤4 nm	≤5 nm	≤4 nm	≤5 nm	≤4 nm	≤5 nm	≤4 nm	≤5 nm
Output Power P _o ²	50 W	50 W	60 W	60 W	50 W	50 W	60 W	60 W
Operating Current I _{op} ²	58 A	60 A	76 A	72 A	58 A	60 A	76 A	72 A
Maximum Operating Current I _{op}	65 A	68 A	85 A	80 A	65 A	68 A	85 A	80 A
Threshold Current I _{th}	<12 A	<12 A	<16 A	<12 A	<12 A	<12 A	<16 A	<12 A
Fiber Core Diameter ³	400 μm				600 μm			
General Specifications								
Optical								
Typical Conversion Efficiency (Ex-Fiber)	45% @ I _{op}	50% @ I _{op}	42% @ I _{op}	50% @ I _{op}	45% @ I _{op}	50% @ I _{op}	42% @ I _{op}	50% @ I _{op}
Typical Beam Divergence	95% power within 0.22 NA				95% power within 0.11 NA			
Electrical								
Maximum Operating Voltage					2 V			
Maximum Reverse Voltage					3 V			
Maximum Negative Current Transient					25 μA			
Mechanical								
Fiber Cable Length ³					1 m plastic			
Fiber Connector Type					SMA-905			
Environmental								
Operating Temperature Range					20°C to 35°C			
Operating Humidity					Non-condensing			
Storage Temperature Range					-20°C to 50°C			
Options								
Integrated Red Aiming Laser								
Power					>1 mW			
Center Wavelength					658 nm ±10 nm			
Typical I _{op}					30 mA			

Notes

- Centroid wavelength at 25°C, measured at the integrated thermistor
- Lower powers available
- Standard Jumper Options:
 - NA 0.22: 400 μm, 600 μm, 800 μm jumper options
 - NA 0.11: 600 μm, 800 μm jumper options
 - Standard jumper lengths: 1 m, 3 m, 5 m
 - Standard jumper materials: stainless steel or plastic