



The Pearl™ P10 is designed for Material Processing to optimize the demanding industrial requirements of continuous performance with ease of integration.

These pump lasers use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM₀₀ cavity mode for efficient brightness conversion to 1 μm. The industry-leading efficiency of these pump sources is enabling compactness, reliability and simplified cooling for the next generation of solid-state laser systems. Pearl's embedded nXLT™ single-emitter technology is resetting the benchmark for high-brightness semiconductor laser reliability.

Features

- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Industry-leading wall-plug efficiency >50%
- Field-replaceable, PowerCore™ mode-stable fiber
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

Applications

- Rod Pumping
- Disk Pumping
- Slab Pumping

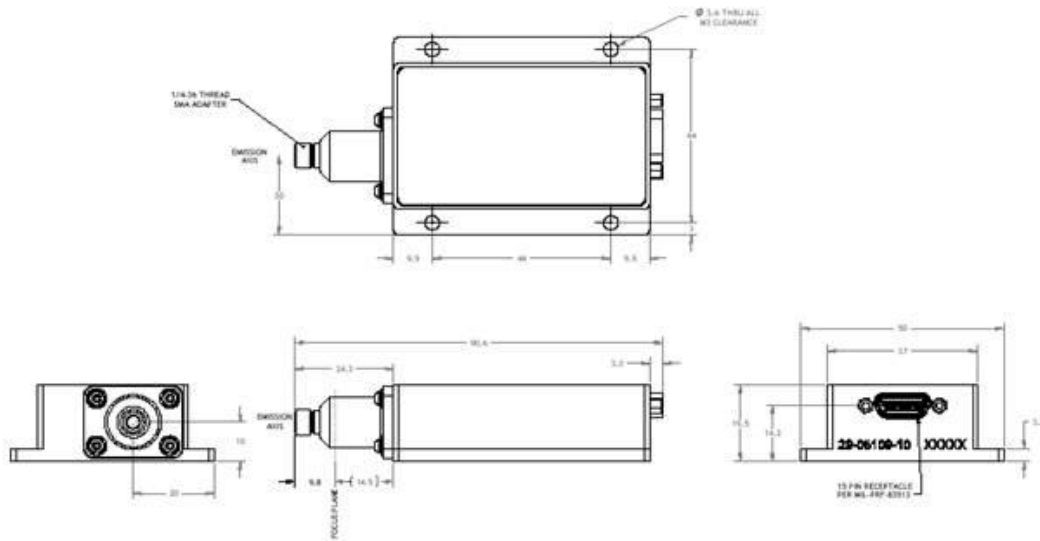
Typical Device Performance

Package		P10			
Optical					
Wavelength	nm	790-830 nm			
Wavelength tolerance	nm	± 10			
CW output power	W	20	30	40	50
Fiber core diameter	µm	400 or 600			
Beam divergence	NA ¹	0.17			
Fiber length (standard)	m	2.0			
Electrical					
Power conversion efficiency (typical)	%	50			
Operating current (typical)	A	5.7			
Operating voltage (typical)	V	7.4	11.1	14.8	18.5
Mechanical					
Storage temperature range ²	°C	-40 to +80			
Mass	gr	220			
Thermal					
Operating temperature ²	°C	+15 to +35			
Accessories					
Line Generator Optic Modules					
Collimator and Spot Generator Optic Modules					
Monitor Photo Diode					
PPS™ OEM Diode Controller					
Turn-Key System					

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

² A non-condensing environment is required for storage and operation.

Package Dimensions



CFR Regulation

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60 – 80W, 790 – 830nm, the Pearl™ P16 series is designed for Material Processing. These pump diodes are designed to optimize the demanding industrial requirements of continuous performance with ease of integration.

These fiber-coupled high power pump diodes use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM₀₀ cavity mode for efficient brightness conversion to 1 μm. nLIGHT's high power laser diode provide industry-leading efficiency to enable compactness, reliability and simplified cooling for the next generation of solid-state laser systems. Pearl's embedded nXLT™ single-emitter technology is resetting the benchmark for high-brightness diode based laser reliability.

Features

- 790 – 830, 60 – 80W
- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Industry-leading wall-plug efficiency >50%
- Field-replaceable, PowerCore™ mode-stable fiber
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

Applications

- Rod Pumping
- Disk Pumping
- Slab Pumping

Proven Performance

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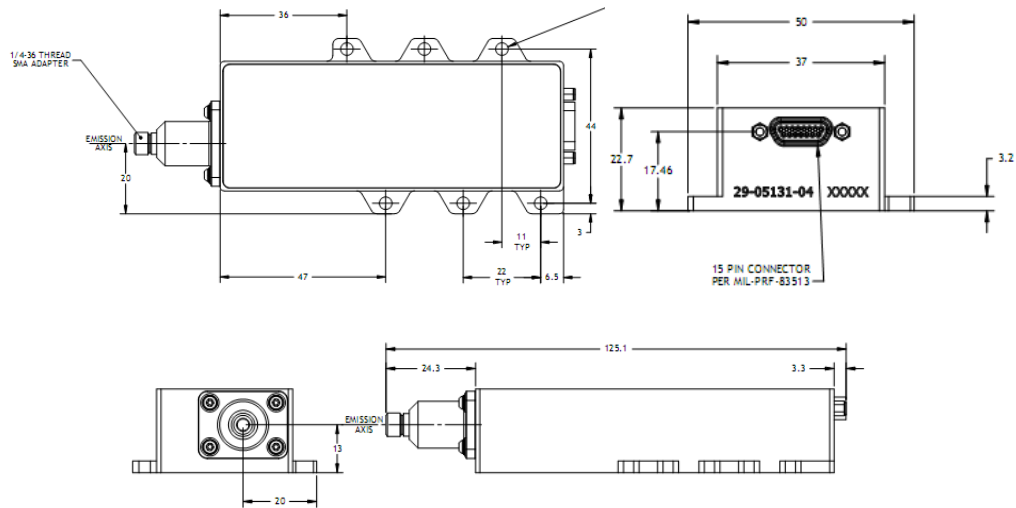
Typical Device Performance

Package		P16		
Optical				
Wavelength	nm	790-830 nm		
Wavelength tolerance	nm	± 10		
CW output power	W	60	70	80
Fiber core diameter	µm	400 or 600		
Beam divergence	NA ¹	0.17		
Fiber length (standard)	m	2.0		
Electrical				
Power conversion efficiency (typical)	%	50		
Operating current (typical)	A	5.7		
Operating voltage (typical)	V	22.2	25.9	29.6
Mechanical				
Storage temperature range ²	°C	-40 to +80		
Mass	gr	220		
Thermal				
Operating temperature ²	°C	+15 to +35		
Accessories				
Line Generator Optic Modules				
Collimator and Spot Generator Optic Modules				
Monitor Photo Diode				
PPS™ OEM Diode Controller				
Turn-Key System				

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Package Dimensions



* 800um fiber 0.13NA configuration increases the length of P10 Package 10.06 mm

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30 – 80W, 900 – 990nm, the Pearl™ P10 is designed for Material Processing. These pump diodes are designed to optimize the demanding industrial requirements of continuous performance with ease of integration.

These fiber-coupled high power pump diodes use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM₀₀ cavity mode for efficient brightness conversion to 1 μm. nLIGHT's high power laser diode provide industry-leading efficiency to enable compactness, reliability and simplified cooling for the next generation of solid-state laser systems. Pearl's embedded nXLT™ single-emitter technology is resetting the benchmark for high-brightness diode based laser reliability.

Features

- 900 – 990, 30 – 80W
- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Industry-leading wall-plug efficiency >50%
- Field-replaceable, PowerCore™ mode-stable fiber
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

Applications

- Rod Pumping
- Disk Pumping
- Slab Pumping

Proven Performance

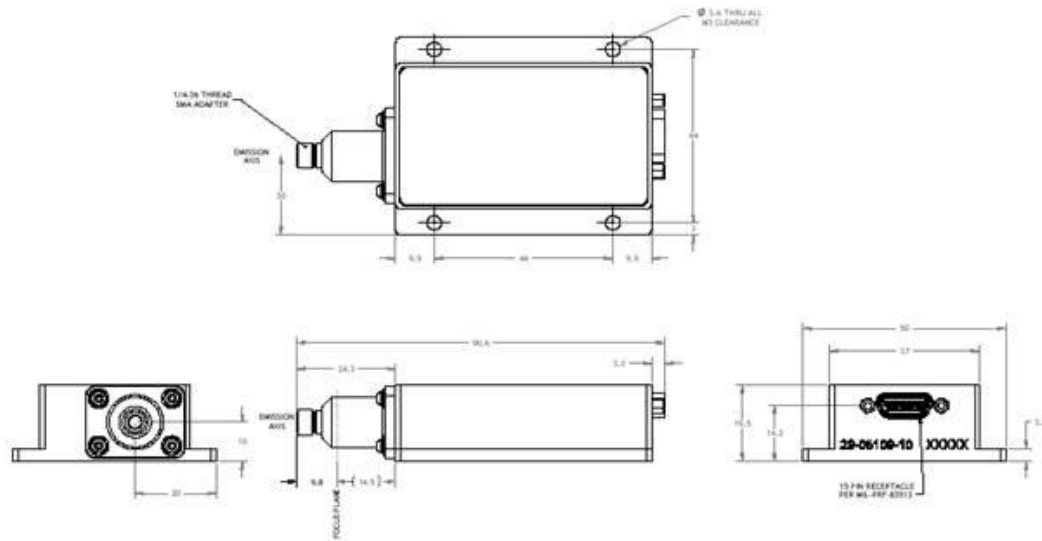
Typical Device Performance

Package		P10			
Optical					
Wavelength	nm	900-990 nm			
Wavelength tolerance	nm	± 10			
CW output power	W	30	50	65	80
Fiber core diameter	µm	200 or 400			
Beam divergence	NA ¹	0.17			
Fiber length (standard)	m	2.0			
Electrical					
Power conversion efficiency (typical)	%	52			
Operating current (typical)	A	9.0			
Operating voltage (typical)	V	6.8	10.2	13.6	17.0
Mechanical					
Storage temperature range ²	°C	-40 to +80			
Mass	gr	220			
Thermal					
Operating temperature ²	°C	+15 to +35			
Accessories					
Line Generator Optic Modules Collimator and Spot Generator Optic Modules Monitor Photo Diode PPS™ OEM Diode Controller Turn-Key System					

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Package Dimensions



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The Pearl™ P16 is designed for Material Processing to optimize the demanding industrial requirements of continuous performance with ease of integration.

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Features

- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Industry-leading wall-plug efficiency >50%
- Field-replaceable, PowerCore™ mode-stable fiber
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

Applications

- Rod Pumping
- Disk Pumping
- Slab Pumping

Proven Performance

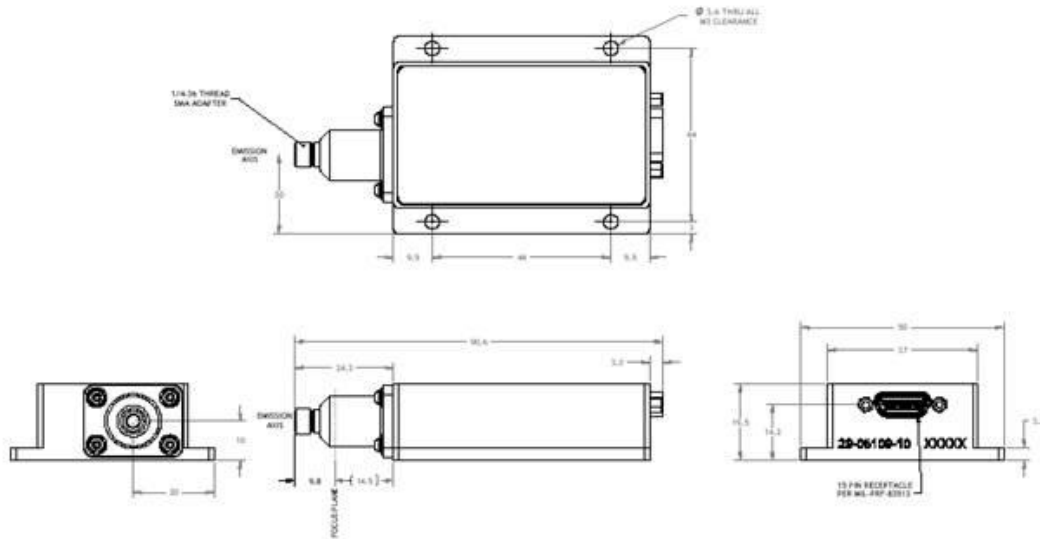
Typical Device Performance

Package		P16		
Optical				
Wavelength	nm	900-990 nm		
Wavelength tolerance	nm	± 10		
CW output power	W	95	110	130
Fiber core diameter	µm	200 or 400		
Beam divergence	NA ¹	0.17		
Fiber length (standard)	m	2.0		
Electrical				
Power conversion efficiency (typical)	%	52		
Operating current (typical)	A	9.0		
Operating voltage (typical)	V	20.4	23.8	27.2
Mechanical				
Storage temperature range ²	°C	-40 to +80		
Mass	gr	220		
Thermal				
Operating temperature ²	°C	+15 to +25		
Accessories				
Line Generator Optic Modules				
Collimator and Spot Generator Optic Modules				
Monitor Photo Diode				
PPS™ OEM Diode Controller				
Turn-Key System				

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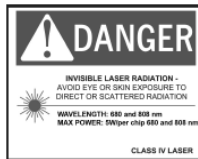
Package Dimensions



CFR Regulation

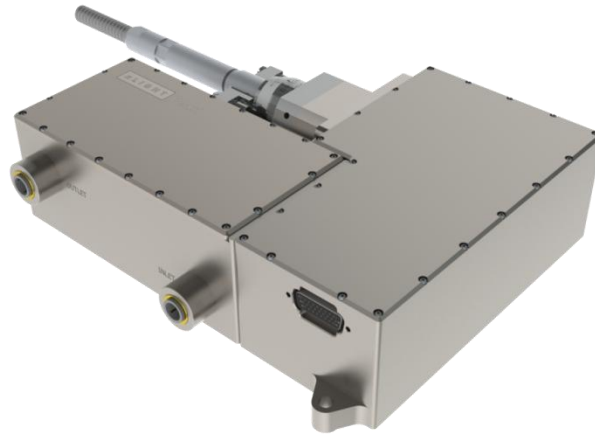
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The Pearl™ P72 is designed for Material Processing to optimize the demanding industrial requirements of continuous performance with ease of integration.

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Features

- Patented nXLT™ diode protection for extended life
- Low-current, fault-tolerant architecture
- Industry-leading wall-plug efficiency >50%
- PowerCore™ mode-stable fiber
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

Applications

- Plastic Welding
- Soldering
- ACF Bonding
- PV Annealing
- FPD Annealing
- Marking

Proven Performance

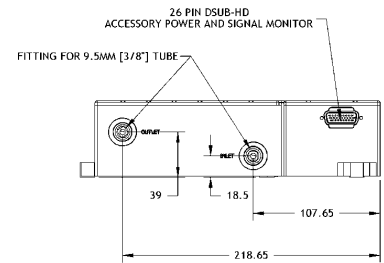
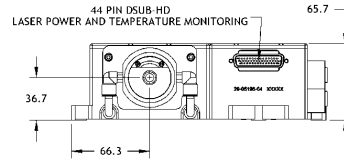
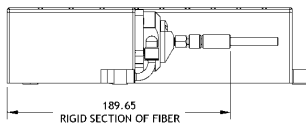
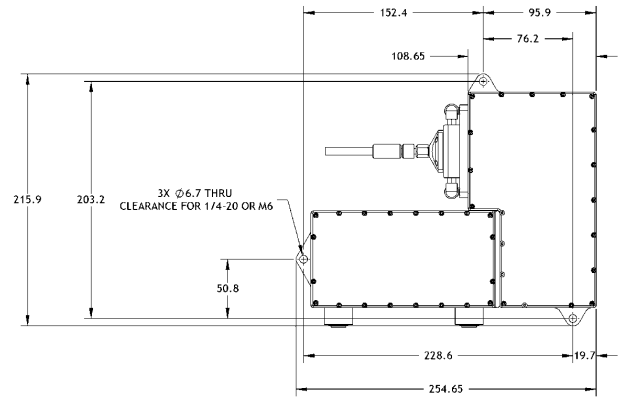
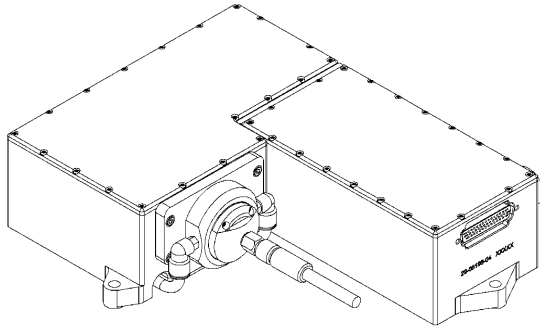
Typical Device Performance

Package		P72			
Optical					
Wavelength	nm	900-990 nm			
Wavelength tolerance	nm	± 10			
CW output power	W	200	300	400	500
Fiber core diameter	µm	400			
Beam divergence	NA ¹	0.17			
Fiber length (standard)	m	5m Mitsubishi D80			
Electrical					
Power conversion efficiency (typical)	%	46			
Operating current (typical)	A	8.6	9.3	9.7	9.5
Operating voltage (typical)	V	51.5	70.8	90.1	115.8
Mechanical					
Storage temperature range ²	°C	-40 to +80			
Mass	gr	220			
Thermal					
Operating temperature ²	°C	+20 to +30			
Accessories					
Line Generator Optic Modules					
Collimator and Spot Generator Optic Modules					
Monitor Photo Diode					
PPS™ OEM Diode Controller					
Turn-Key System					

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² A non-condensing environment is required for storage and operation.

Package Dimensions



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