



The Pearl™ P10 series is designed primarily for Solid State Pumping to maximize fundamental mode extraction from end-pumped lasers. Disk and slab laser geometries benefit when long-term mode stability and beam quality are critical.

These pump lasers use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM<sub>00</sub> 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

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## Proven Performance

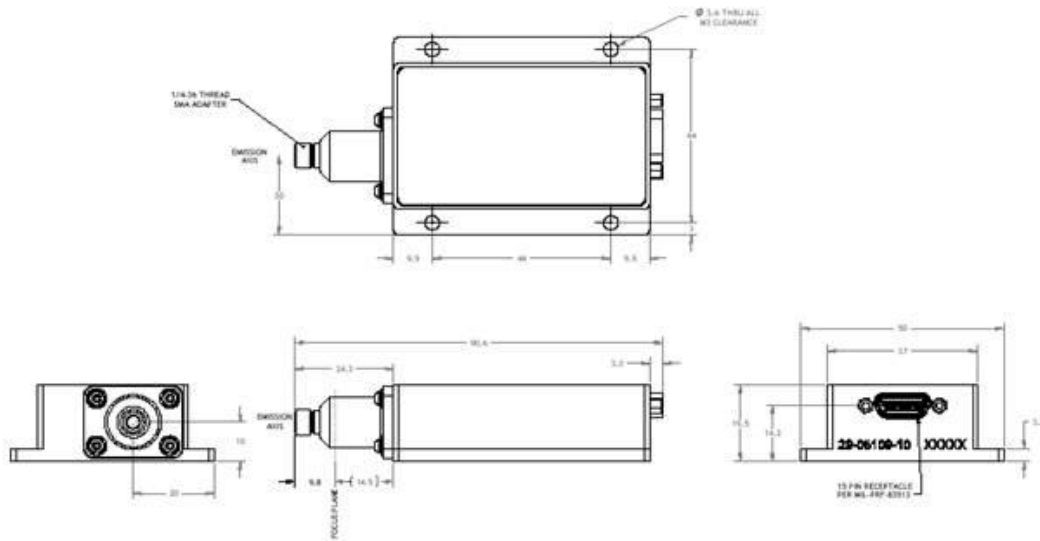
## Typical Device Performance

Package		P10			
<b>Optical</b>					
Wavelength	nm	790-830 nm			
Wavelength tolerance	nm	± 3			
CW output power	W	20	30	40	50
Fiber core diameter	µm	400 or 600			
Beam divergence	NA <sup>1</sup>	0.17			
Fiber length (standard)	m	2.0			
<b>Electrical</b>					
Power conversion efficiency (typical)	%	50			
Operating current (typical)	A	5.7			
Operating voltage (typical)	V	7.4	11.1	14.8	18.5
<b>Mechanical</b>					
Storage temperature range <sup>2</sup>	°C	-40 to +80			
Mass	gr	220			
<b>Thermal</b>					
Operating temperature <sup>2</sup>	°C	+15 to +35			
<b>Accessories</b>					
Line Generator Optic Modules					
Collimator and Spot Generator Optic Modules					
Monitor Photo Diode					
PPS™ OEM Diode Controller					
Turn-Key System					

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

<sup>2</sup> 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 primarily for Solid State Pumping. These pump diodes are designed to maximize fundamental mode extraction from solid-state lasers. A variety of DPSS laser geometries benefit when long-term mode stability and beam quality are critical.

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 TEM<sub>00</sub> 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 – 830nm, 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 lasers
- Disk lasers
- Slab lasers
- Green lasers
- High energy lasers
- Yag lasers
- YVO4 lasers
- Lasers for ordinance
- Military lasers

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## Proven Performance

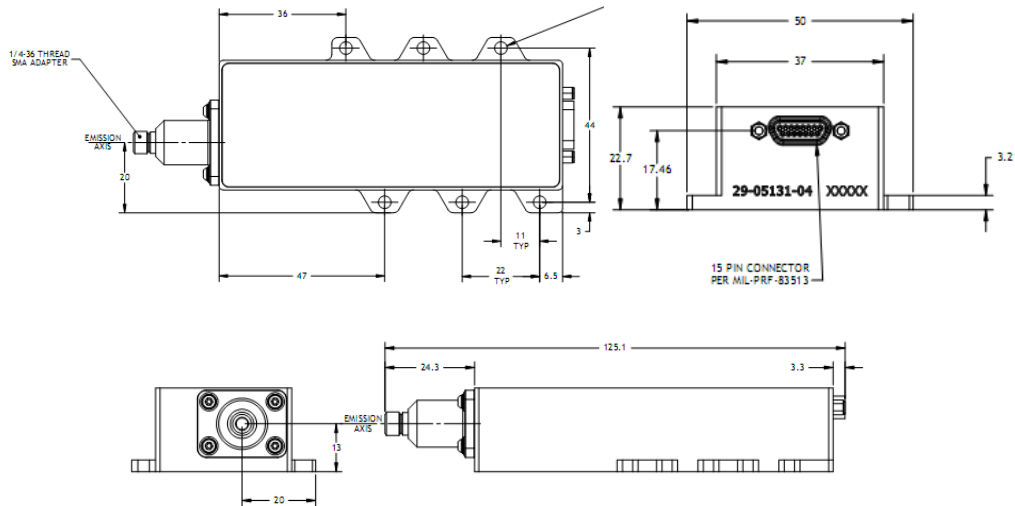
## Typical Device Performance

Package		P16		
<b>Optical</b>				
Wavelength	nm	790-830 nm		
Wavelength tolerance	nm	± 3		
CW output power	W	60	70	80
Fiber core diameter	µm	400 or 600		
Beam divergence	NA <sup>1</sup>	0.17		
Fiber length (standard)	m	2.0		
<b>Electrical</b>				
Power conversion efficiency (typical)	%	50		
Operating current (typical)	A	5.7		
Operating voltage (typical)	V	22.2	25.9	29.6
<b>Mechanical</b>				
Storage temperature range <sup>2</sup>	°C	-40 to +80		
Mass	gr	220		
<b>Thermal</b>				
Operating temperature <sup>2</sup>	°C	+15 to +35		
<b>Accessories</b>				
Line Generator Optic Modules				
Collimator and Spot Generator Optic Modules				
Monitor Photo Diode				
PPS™ OEM Diode Controller				
Turn-Key System				

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

<sup>2</sup> A non-condensing environment is required for storage and operation.

**Package Dimensions**



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

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These pump lasers use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM<sub>00</sub> 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

## Proven Performance



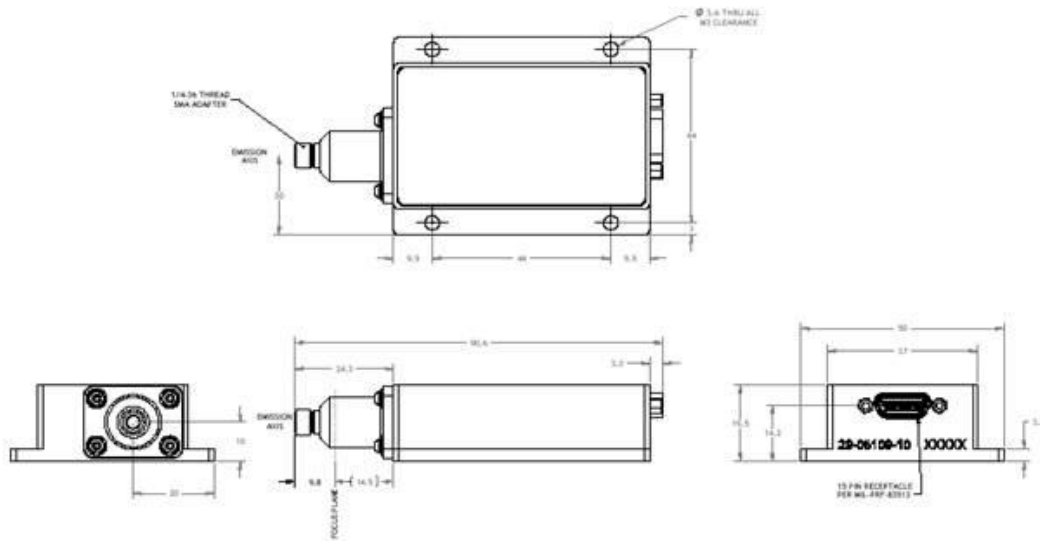
## Typical Device Performance

Package		P10			
<b>Optical</b>					
Wavelength	nm	875-890 nm			
Wavelength tolerance	nm	± 3			
CW output power	W	30	50	65	80
Fiber core diameter	µm	400 or 600			
Beam divergence	NA <sup>1</sup>	0.17			
Fiber length (standard)	m	2.0			
<b>Electrical</b>					
Power conversion efficiency (typical)	%	55			
Operating current (typical)	A	8.9			
Operating voltage (typical)	V	6.5	9.7	13.0	16.2
<b>Mechanical</b>					
Storage temperature range <sup>2</sup>	°C	-40 to +80			
Mass	gr	220			
<b>Thermal</b>					
Operating temperature <sup>2</sup>	°C	+15 to +35			
<b>Accessories</b>					
Line Generator Optic Modules					
Collimator and Spot Generator Optic Modules					
Monitor Photo Diode					
PPS™ OEM Diode Controller					
Turn-Key System					

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

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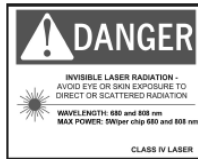
**Package Dimensions**



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The Pearl™ P16 series is designed primarily for Solid State Pumping to maximize fundamental mode extraction from end-pumped lasers. Disk and slab laser geometries benefit when long-term mode stability and beam quality are critical.

These pump lasers use a revolutionary fiber technology, PowerCore™, which delivers high-brightness, Gaussian or top-hat pump profiles to maximize overlap with the TEM<sub>00</sub> cavity mode for efficient brightness conversion to 1 μm. With the option to add VBG locking, the Pearl™ provides flexibility to pump architecture. The industry-leading efficiency of these wavelength-stabilized 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
- VBG locking
- Plug and play compatibility with nLIGHT's DL system
- Electrically isolated housing

## Applications

- Rod Pumping
- Disk Pumping
- Slab Pumping

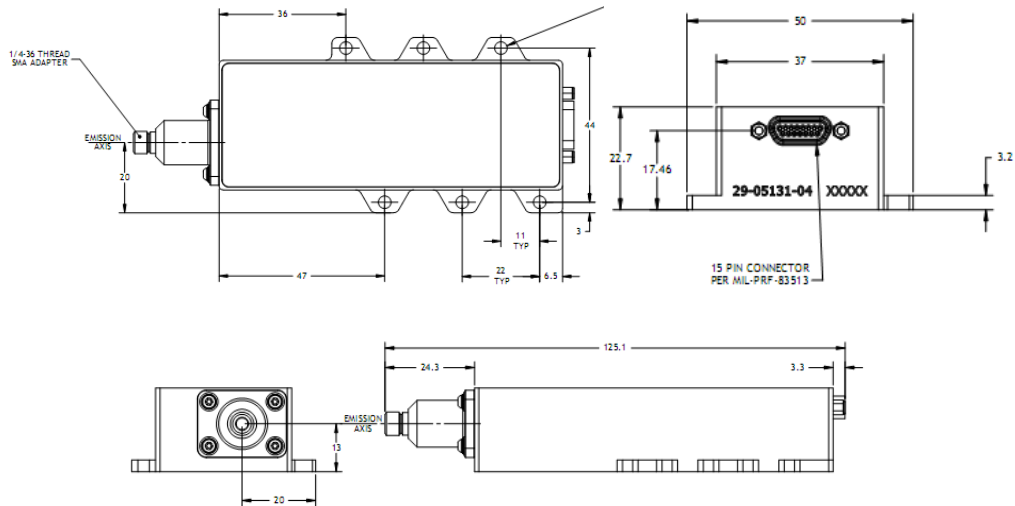
## Typical Device Performance

Package		P16		
<b>Optical</b>				
Wavelength	nm	875-890 nm		
Wavelength tolerance	nm	± 3		
CW output power	W	100	115	130
Fiber core diameter	µm	400 or 600		
Beam divergence	NA <sup>1</sup>	0.17		
Fiber length (standard)	m	2.0		
<b>Electrical</b>				
Power conversion efficiency (typical)	%	55		
Operating current (typical)	A	9.3		
Operating voltage (typical)	V	19.4	22.7	25.9
<b>Mechanical</b>				
Storage temperature range <sup>2</sup>	°C	-40 to +80		
Mass	gr	220		
<b>Thermal</b>				
Operating temperature <sup>2</sup>	°C	+15 to +35		
<b>Accessories</b>				
Line Generator Optic Modules				
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Monitor Photo Diode				
PPS™ OEM Diode Controller				
Turn-Key System				

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