

# FLPN and FLPNT Series

## Fe:ZnSe/S Nanosecond Pulsed Mid-IR Lasers

Fixed Frequency or Tunable  
Air-cooled Optical Head



### Applications

- ▶ Medical Applications
- ▶ Remote Sensing
- ▶ Materials Processing
- ▶ MALDI Mass Spectroscopy
- ▶ Industrial Process Control
- ▶ Environmental Monitoring



### Features

- ▶ Selectable Wavelength  
3.6 - 5.0  $\mu\text{m}$
- ▶ Pulsed Energy up to 1 mJ
- ▶ Pulse Width 2 - 20 ns
- ▶ Excellent Beam Quality
- ▶ Repetition Rate 0.1 - 1 kHz

IPG Photonics offers the Fe:ZnSe/S nanosecond pulsed Mid-IR laser. Customers can select a fixed frequency or tunable model in the 3.6 - 5.0 micron range. The FLPN and FLPNT series provide pulse energies over 0.5 mJ, a variable pulse duration between 2 - 20 ns and a pulse repetition rate up to 1 kHz. Unlike other Mid-IR lasers in this wavelength range, the FLPN laser does not require cryogenic cooling. The laser is pumped by IPG's efficient and reliable erbium or thulium fiber laser. IPG's FLPN pulsed Mid-IR laser is used for sensing, environmental monitoring and medical applications.

# FLPN and FLPNT Series

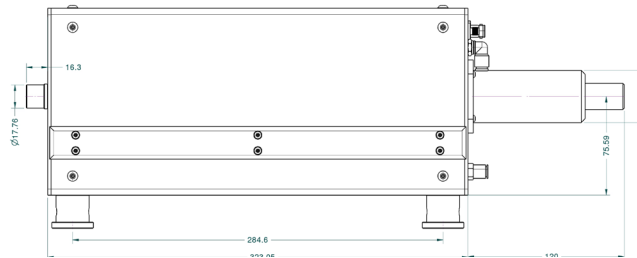
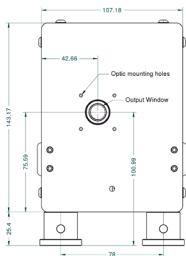
## Fe:ZnSe/S Nanosecond Pulsed Mid-IR Lasers

Optical Characteristics	FLPN	FLPNT
Mode of Operation	Pulsed	
Central Wavelength, $\mu\text{m}$	3.5 - 5.0 fixed, customer selected	3.7 - 4.8, tunable
Spectral Linewidth, nm	< 20, typ. <10	
Pulse Energy, mJ	0.1 - 1.0	
Pulse Duration, ns	2 - 20	
Repetition Rate, kHz	0.1 - 1 kHz	
Polarization	Linear or Random	
Beam Mode, $M^2$	< 1.2	
Beam Diameter (FW, $1/e^2$ ), mm	2 typ.	
Beam Divergence, mrad	3 typ.	
Warm up Time, min	5 from standby, 15 from cold start	

### General Characteristics

Pump Laser	IPG Photonics CW Er or Tm Fiber Laser
Pump Laser Dimensions (WxDxH), mm	448 x 403 x 132
Optical Head Dimensions (WxDxH), mm	107 x 323 x 143
Optical Head Cooling	Air
Supply Voltage 50 - 60 Hz, VAC	110 - 240
Power Consumption*, W	200 typ.

\* Electrical power consumption depends on the output power of the system

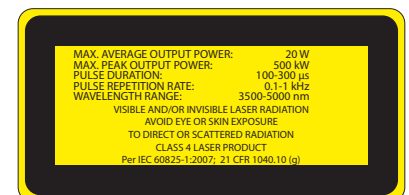


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