



FLPN and FLPNT Series

Fe:ZnSe/S Nanosecond Pulsed Mid-IR Lasers

NEW PRODUCT

Fixed Frequency or Tunable
Water-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 μm
- ▶ Pulsed Energy up to 1 mJ
- ▶ Excellent Beam Quality
- ▶ Pulse Width 2-20 ns
- ▶ 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.

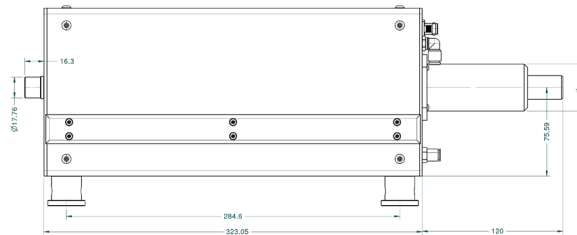
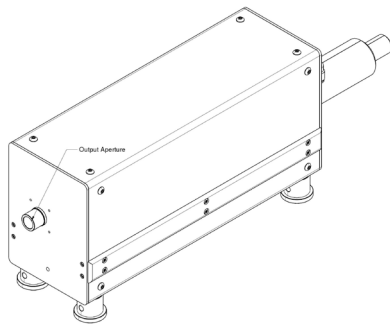
FLPN and FLPNT Series

Fe:ZnSe/S Nanosecond Pulsed Mid-IR Lasers

Optical Characteristics	FLPN	FLPNT
Mode of Operation	Pulsed	
Central Wavelength, μm	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 Waist Diameter, mm (FW, $1/e^2$)	2 Typ.	
Beam Divergence, mrad (FW, $1/e^2$)	3 Typ.	
Warm-up Time, min	5 from Standby, 15 from Cold Start	

General Characteristics	IPG Photonics CW Er or Tm Fiber Laser
Pump Laser	IPG Photonics CW Er or Tm Fiber Laser
Pump Laser Dimensions (W x D x H), mm	448 x 403 x 132
Optical Head Dimensions (W x D x H), mm	107 x 323 x 143
Optical Head Cooling	Water
Supply Voltage, VAC, 50-60 Hz	110-220
Power Consumption*, W	200 Typ.

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



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www.ipgphotonics.com/midIR

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MAX. AVERAGE OUTPUT POWER: 2 W
 MAX. PEAK OUTPUT POWER: 10 MW
 PULSE DURATION: 2-20 ns
 PULSE REPETITION RATE: 0.1-1 kHz
 WAVELENGTH RANGE: 3300-5500 nm

**DANGER - INVISIBLE LASER
 RADIATION AVOID EYE OR SKIN
 EXPOSURE TO DIRECT OR
 SCATTERED RADIATION
 CLASS 4 LASER PRODUCT**
 IEC 60825-1:2014

The Power to Transform®