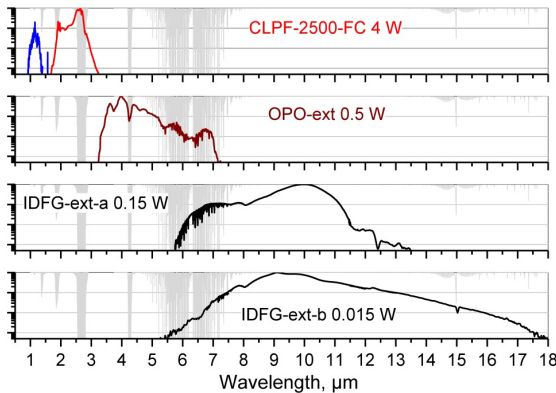




CLPF-2500-FC Series

Femtosecond Middle-IR Optical Frequency Combs

NEW PRODUCT



Spectral Coverage Achieved with CLPF-2500-FC series



IPG Photonics introduces an important addition to the family of middle-IR femtosecond lasers. **NEW CLPF-2500-FC** optical frequency combs provide access to the whole Vis-to-IR spectral range (500 nm to 18 μm) with record-breaking Watt-level average power. The CLPF-2500-FC optical frequency combs are pumped by IPG's efficient and reliable CW fiber lasers.

CLPF-2500-FC optical frequency combs feature pulse repetition frequency and carrier envelope offset frequency stabilization. Optical lock to a stabilized 1064 nm laser and automated pulse repetition frequency tuning are offered as options for dual comb spectroscopy applications.

Please discuss your needs with an IPG Photonics representative.



Applications

- ▶ Dual Comb Spectroscopy
- ▶ FTIR Spectroscopy
- ▶ Nano-imaging, Nano-spectroscopy
- ▶ Metrology
- ▶ Time-resolved Spectroscopy
- ▶ Studies of Ultrafast Dynamics
- ▶ Nonlinear Optics



Features

- ▶ Two Cycle Pulses with up to 4 W Power in 2-3 μm Band
- ▶ Sub Two Cycle Transients with up to 0.15 W Power in 6-12 μm Band
- ▶ Few Cycle Pulses with up to 0.5 W Power in 3-7 μm Band
- ▶ Complete Set of Electronics for Comb Stabilization
- ▶ Seamless Dual Comb Integration

CLPF-2500-FC Series

Femtosecond Middle-IR Optical Frequency Combs

Optical Characteristics	CLPF-2500-25-24-2-FC	+OPO-ext	+IDFG-ext-a	+IDFG-ext-b
Central Wavelength, nm	2500	4800	10000	10000
Spectral Bandwidth FWHM, nm	500	500	1500	3000
Spectral Bandwidth (-20 dB level), nm	1000	2000	5000	10000
Average Power, W	2	0.5	0.15	0.015
Pulse Energy, nJ	25	6	1.6	0.16
Typ. Pulse Duration, fs	<24	<100	<100	<100
Repetition Rate*, MHz	80			
Polarization	1			
Long Term Power Stability**, %	Linear, >90:10			
Output Beam Mode, M ²	≤1.5			
Beam Diameter (FW, 1/e ²), mm	3.5 ±0.5			
Beam Divergence, mrad	<2.5			
Warm up Time, min	15-60			

* Custom repetition rates are available upon request.
 ** After 1 hour warm up, over 2 hours, ambient T ±2°C
 *** Preliminary

General Characteristics	IPG Photonics Erbium CW Fiber Laser
Integrated Pump Laser	IPG Photonics Erbium CW Fiber Laser
Pump Laser Dimensions (W × D × H), mm	448 × 403 × 132
Optical Head Dimensions*** (W × D × H), mm	152 × 433 × 122
Supply Voltage 50-60 Hz, VAC	110-240
Power Consumption, W	200 Typ.

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MAX. AVERAGE OUTPUT POWER: 40 W
 MAX. PEAK OUTPUT POWER: 1 GW
 PULSE DURATION: 30 fs
 PULSE REPETITION RATE: <500 kHz
 WAVELENGTH RANGE: 2000-2700 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®