

MENHIR-1550 SERIES

Menhir Photonics femtosecond laser sources are based on robust and well-engineered designs, offering excellent reliability with the lowest phase noise and timing jitter on the market from soliton mode-locking. Continuous 24/7 operation, user-friendly and self-starting, the MENHIR-1550 series has been designed to facilitate OEM integration and enable the specific customers' needs (f_{rep} , f_{CEO} , external reference, ...).

Key features

- Ultra-low noise
- Transform-limited pulses
- Compact industrial design
- Harsh environment resistant
- User friendly
- Turnkey system
- 24/7 operation
- All-in-one system

Applications

- Precision microwave
- Optical communication
- THz generation
- Timing distribution
- Frequency combs
- Analog/digital converter
- Ultra-low noise microwave generation

Key specifications

- Wavelength: 1545 – 1565 nm
- Repetition rate: 0.2 – 2.5 GHz
- Soliton pulses: < 250 fs

Options

- f_{rep} and f_{CEO} actuators
- RF output
- OEM version
- Special customizations



Specifications

Parameters	MENHIR-1550 (Oscillator without amplifier)	MENHIR-1550+ (Oscillator with amplifier)
Average power	> 50 mW	Up to 2 W
Peak power	> 0.1 kW	Up to 4 kW
Pulse energy	> 0.05 nj	Up to 1 nj
Repetition rate	Standard: 216, 250 MHz, 1, 1.25, 2 or 2.5 GHz Custom design: from 200 MHz to 2.5 GHz*	
Center wavelength	1555 +/- 10 nm	
Spectral bandwidth	> 10 nm (at -3 dB)	
Pulse width	< 250 fs, Transform limited	
Optical output port	Fiber output (PM FC/APC), Free space	
Beam quality	TEM ₀₀ , M ² < 1.05	
Polarization	Linear (PER > 23 dB, > 200:1)	
Amplitude noise	< 1% [1 h], < 0.05% [1 Hz – 10 MHz]	
Timing-jitter	< 30 fs [1 kHz – 10 MHz]**	

* Please inquire for specific repetition rate.

** Please inquire for better timing-jitter requirements.

General

Power supply	5 VDC / 2 A***	24 VDC / 2 A***
Power consumption	< 10 W	< 50 W
Cooling	Passively air cooled	
Warm-up time	< 10 s (cold start)	
Dimensions / Weight	262 × 150 × 100 mm ³ / 5 kg	
Operating temperature	+5°C to 45°C	
Storage temperature	-10°C to +60°C	
Relative humidity	< 80% (non-condensing)	
Control unit	No control unit required / All-in-one system	
Analog interface	Status, Trigger, Alarm, Interlock, Power modulation	
Digital interface	USB, RS232, Ethernet, CAN	

*** Power supply for 100 – 120 VAC or 220 – 240 VAC can be provided.

Please inquire for custom modifications.

Specifications are subject to change without notice.

