

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.

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

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

Key specifications

- Wavelength: 1545 – 1565 nm
- Rep. rate: 100 MHz – 2.5 GHz
- Soliton pulses: < 250 fs

Options

- f_{rep} and f_{CEO} actuators
- RF output
- OEM version
- Space-grade version



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, 400 MHz, 1, 1.25, 2 or 2.5 GHz Custom design: from 100 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 | 260 x 250 x 60 mm ³ / 8 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 | |

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

Please inquire for custom modifications.

Specifications are subject to change without notice.

