Sintec Optronics

1550nm Femtosecond Laser

Our femtosecond laser sources are based on robust and well-engineered designs, offering an excellent reliability with the low-noise performance from soliton mode-locking. Robust 24/7 operation, user-friendly and self-starting, our lasers have been made to facilitate OEM integration and enable customers' applications.

Key Features:
- Ultra low-noise
- Transform-limited pulses
- Hermetically sealed laser
- Compact industrial design
- User-friendly
- 24/7 operation
- All-in-one system

Main Applications:
- Optical communication
- Precision microwave
- THz generation
- Amplifier seeder
- Timing distribution
- Frequency comb
- A/O converter

Key Specifications:
- Wavelength: 1550nm
- Repetition rate: up to 2.5GHz
- Clean soliton pulses: <200fs

Options:
- Repetition rate stabilization
- Customised repetition rate
- OEM version

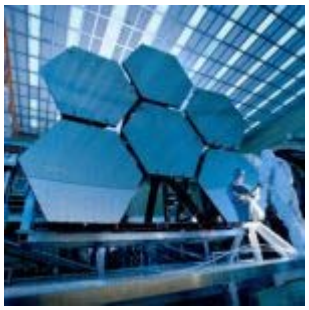
Front view

Rear view

Specifications

	STMH-1550	STMH-1550+
Construction	Oscillator, no amplifier	With amplifier
Average power	>50mW	Up to 2W
Peak power	>0.1kW	Up to 4kW
Pulse energy	>0.05nJ	Up to 1nJ
Repetition rate	Standard – 250, 500MHz, 1, 1.25, 2 or 2.5GHz. Custom design – 200MHz to 2.5GHz	Standard – 250, 500MHz, 1, 1.25, 2 or 2.5GHz. Custom design – 200MHz to 2.5GHz
Center wavelength	1560nm +/- 10nm	1560nm +/- 10nm
Spectral bandwidth	>12.5nm at 3dB	>12.5nm at 3dB
Pulse width	<200fs, transform-limited	<200fs, transform-limited
Optical output port	Fiber output (PM FC/APC), free-space	Fiber output (PM FC/APC), free-space
Beam quality	TEM_{00}, M^2<1.05	TEM_{00}, M^2<1.05
Polarisation	Linear (PER>23dB, >200:1)	Linear (PER>23dB, >200:1)
Amplitude noise	<0.1% RMS (24h)	<0.1% RMS (24h)
Timing jitter	<30fs (1kHz – 10MHz)	<30fs (1kHz – 10MHz)
Power supply	5VDC/2A	24VDC/2A
Power consumption	<10W	<50W
Cooling	Passively air-cooled	Passively air-cooled
Warm-up time	<10s (cold start)	<10s (cold start)
Laser head size/weight	240x160x89mm/5kg	240x160x89mm/5kg
Control unit	No control unit required	No control unit required
Operation temperature	+5°C to +45°C	+5°C to +45°C
Storage temperature	-10°C to +60°C	-10°C to +60°C
Relative humidity	<80% (non-condensing)	<80% (non-condensing)
Analog interface	Eg. Power mod, alarm, interlock,	Eg. Power mod, alarm, interlock,

	trigger, status	trigger, status
Digital interface	USA, RS232, ETHERNET, CAN	USA, RS232, ETHERNET, CAN



Space

- Clock distribution
- Spectrometer calibration
- Optical wireless communication

Microwave

- Radioastronomy
- Analog to digital convector
- Low-noise RF generation

Research

- Frequency-comb
- THz generation
- Spectroscopy
- Quantum

Communication

- Ultrastable Clock
- Single-source for WDM
- Free-space communication

Industry

- RF signal generator
- Fast digitizing
- LIDAR