

## HIGH POWER SINGLE FREQUENCY 1064 NM FIBER LASER

Continuous, High Power, Ultra Low Rin, Narrow Linewidth, Tunable

PreciLasers offers a high-power (up to 130 W), low intensity noise, narrow linewidth highly-reliable fiber laser for the optical lattice application. It is a combination of an all-fiber Ytterbium amplifier and an ultra-narrow linewidth ECDL laser at 1064 nm. The intensity noise of the laser is  $< -140$  dBc/Hz from 10 kHz to 10 MHz. The full protection system of the laser ensures long-term free of maintenance and long life time. The laser occupies only a The laser is compact and robust, which only occupies an area of  $300 \times 240$  mm<sup>2</sup>.



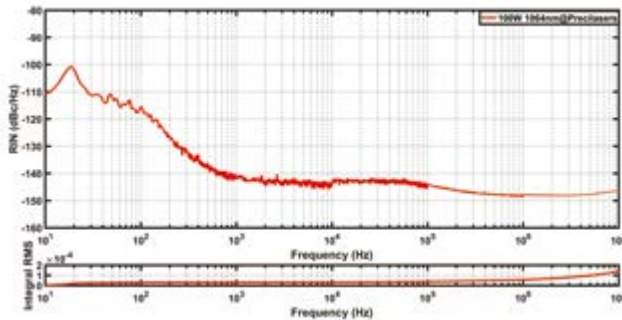
### Key Features:

- Low Intensity Noise ( $-140$  dBc/Hz @100 kHz)
- Narrow Linewidth ( $<10$  kHz)
- Good Beam quality ( $M^2 < 1.2$ )
- High Power (up to 130 W)
- Operation in harsh conditions
- Compact Size

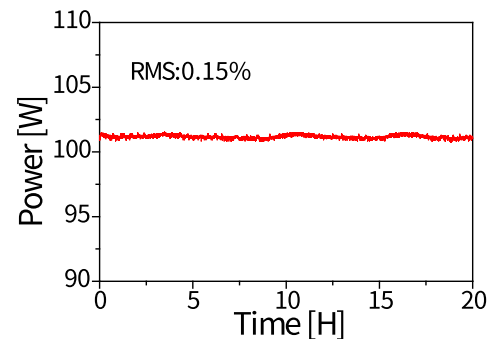
### Applications:

- Pump laser for OPO
- Optical Lattice
- Optical Traps
- Optical Tweezers
- Fundamental laser for 532 nm laser
- Holography & Interferometry
- High Resolution Spectroscopy

### Product: FA-SF-1064-100-CW

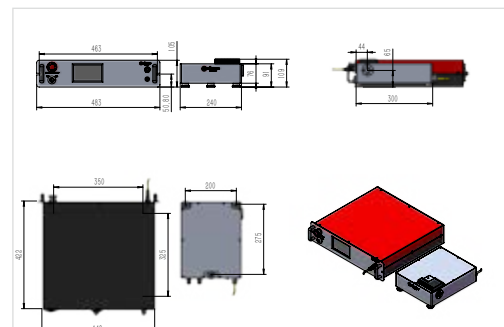


Intensity noise test of 100W single-frequency polarization fiber laser at 1064 nm

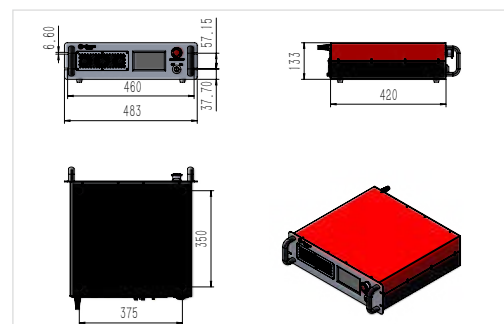


Power stability test of 100W single-frequency polarization fiber laser at 1064 nm

| Model                  | FA-SF-XX-YY-ZZ <sup>1</sup>                               |    |               |     |     |
|------------------------|---|----|---------------|-----|-----|
| Central Wavelength, nm | 1064 ± 10   |    |               |     |     |
| Output Power, W        | 10  | 30 | 50            | 100 | 130 |
| Seed Laser Power, mW   | >10   |    |               |     |     |
| Linewidth FWHM, kHz    | Down to 5 kHz (With PreciLaser <sup>1</sup> FL-SF-1XXX-S) |    |               |     |     |
| Operation Mode         | CW  |    |               |     |     |
| RIN, dBc/Hz            | RMS integration: $< 0.03\%$ (10Hz-10 MHz)                 |    |               |     |     |
| Beam Quality           | TEM <sub>00</sub> , $M^2 < 1.15$                          |    |               |     |     |
| PER, dB                | $> 23$  |    |               |     |     |
| RMS Power Stability    | $< 0.5\%$ @3hrs   |    |               |     |     |
| Output                 | Collimated Fiber output                                   |    |               |     |     |
| Cooling                | Air Cooling   |    | Water Cooling |     |     |
| Power Supply           | 50-60Hz, 100-240VAC                                       |    |               |     |     |



Size for Water-Cooling Version



Size for Air-cooling Version

1: XX: Central Wavelength; YY: Output Power; ZZ: Operation Mode;