# 1950nm SLD Benchtop Light Source


## Product Description

Idealphotonics' modular laser control is based on an advanced microprocessor control system, combined with high-precision ATC and ACC (APC) control circuits to achieve highly stable laser output, while ensuring that the light source is quick and intuitive to operate. We can also provide corresponding communication interfaces and control software according to user requirements to achieve computer control. This light source uses a one-key recovery function (Run/Stop button) to effectively help customers return to the previous working state. This is a highly integrated modular

system light source that uses PC-side software intelligent control. Customers can set the required working temperature and current according to their needs. It is very suitable for experimental scientific research and production testing. In addition, we need to modulate the laser in some application fields. We have connected two external modulation ports, one for high frequency and one for low frequency, to better meet customers' needs for multiple uses of one machine.

## Product features

Support one-key restore function (no need to restart and preheat)、 Software remote control, intelligent control 、 Stable output power, continuously adjustable、 Compact structure、 High-precision ACC and ATC control circuit、 Built-in high and low modulation bandwidth BNC interface

## Part Number

MP-SLDS-1950-5-60-SA-M

## Application area

Fiber optic transmission system、 Fiber optic gyroscope、 Fiber optic sensor、 Optical coherence tomography、 Test light source

## Core parameters

| Wavelength | Spectral Width | Output Power |
|---|---|---|
| 1950nm | 60nm | 5mW |

## General Parameters

Driver Parameters

| characteristic | Min. | Max. | Unit | Note |
|---|---|---|---|---|
| Power supply voltage | 4.8 | 6.1 | VAC | DC, it is recommended to use a regulated power supply |
| Power | 0 | 10 | W | |
| Laser driver current | 0 | 149 | mA | Patch cord optional |
| | | 378 | | |
| | | 624 | | |
| Current resolution (LSB) | Max current/65536 | | V | |
| Response frequency | 0 | 25 | MHz | -3db |

| | | | | |
|---|---|---|---|---|
| Temperature control range | -10 | 50 | ℃ | |
| Temperature resolution | 0.001 | | ℃ | |
| Temperature stability | | 0.002 | ℃ | Requires enclosure cooling |
| TEC input current | -1.5 | 1.5 | A | |
| TEC input voltage | -4.4 | +4.4 | V | |
| Analog input | 0 | 2.5 | V | |

Laser parameters

| Parameters | Symbol | Min. | Typical value | Max. | Unit |
|---|---|---|---|---|---|
| Wavelength | λ | | 1950 | | nm |
| Spectral width | Δλ | 50 | 60 | 70 | nm |
| Threshold current | Ith | | 30 | 40 | mA |
| Operating current | Iop | | 200 | 300 | mA |
| Output power | Pf | 3 | 5 | 10 | mW |

| | | | | | |
|---|---|---|---|---|---|
| Fiber type | SM1950 | | | | |
| Operating voltage | Vf | | 1.8 | 2.5 | V |
| Thermistor | RT | 9.5 | 10 | 10.5 | KΩ |
| Connector type | FC/APC | | | | |

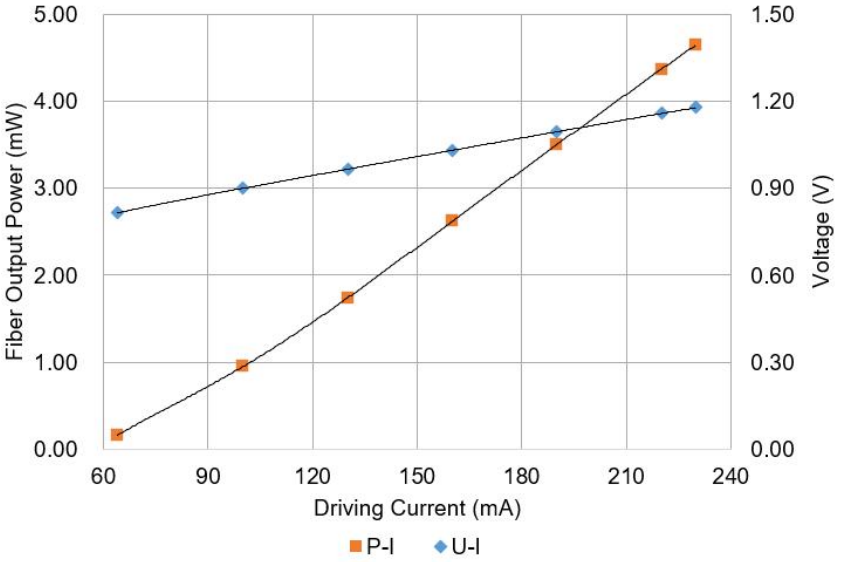
Laboratory measured photoelectric data

| Optical and Electrical Data | | | | | | |
|---|---|---|---|---|---|---|
| No. | Parameter | Symbol | Unit | Testing result | Requirement | Condition |
| 1 | Threshold current | $I_{th}$ | mA | 64 | ⩽80 | at 25.0°C |
| 2 | Bias during operation | $I_o$ | mA | 230 | ⩽230 | at 4.65mW power |
| 3 | Bias voltage | $V_f$ | V | 1.178 | ⩽3 | at 4.65mW power |
| 4 | Slope efficiency | DE | mW/mA | 0.03 | 0.01-0.05 | at 4.65mW power |
| 5 | Operating temperature | T | °C | 25 | 15-35 | at 4.65mW power |

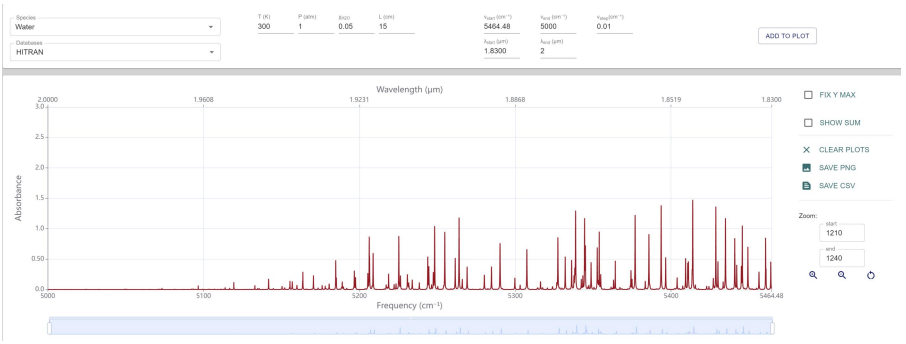
| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | Thermistor resist | R | Ohm | 10000 | 9500~10500 | at 25.0°C |
| 7 | wavelength | Λ | nm | 1954.80 | 1950±10 | at 4.65mW power |
| NOTE: Imax=230mA | | | | | | |
| Laser Diode characteristic graph | | | | Optical mapping and data | | |

## Test spectrum

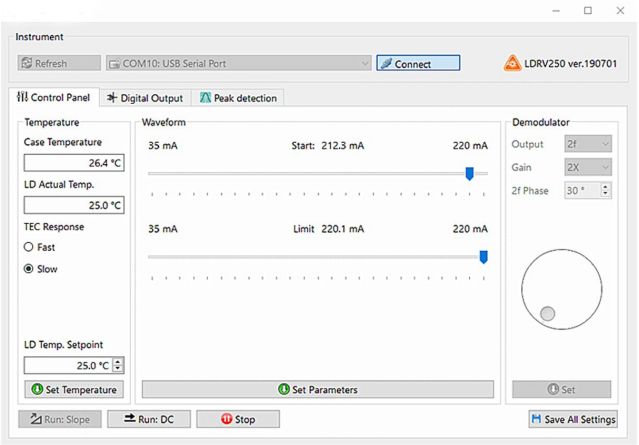
## Power curve



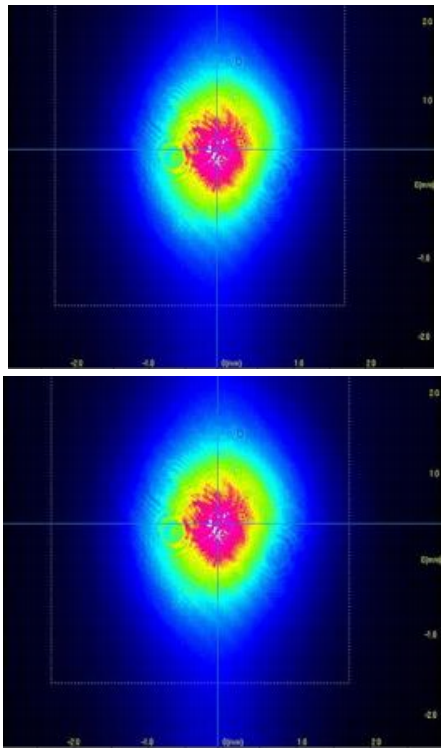

## The burr is water peak absorption, and the actual emission spectrum is smooth



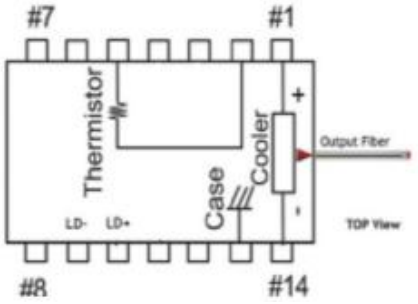
## Control software interface




## Beam quality



## Pin Definition




| | |
|---|---|
| 1 | Thermoelectric Cooler(+) |
| 2 | Thermistor |
| 3 | NC |
| 4 | NC |
| 5 | Thermistor |
| 6 | NC |
| 7 | NC |
| 8 | NC |
| 9 | Laser Cathode(-) |
| 10 | Laser Anode (+) |
| 11 | NC |
| 12 | NC |
| 13 | Case Ground |
| 14 | Thermoelectric Cooler(-) |