

## 2050nm benchtop with software control DFB light source 2mW



### ● 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 high and stable output of the laser, 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), which can effectively help customers return to the previous working state. This is a



highly integrated modular system light source, which 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 for some application fields. We have connected two 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 and compact structure、 High-precision  
ACC and ATC control circuit、 Built-in high and low modulation bandwidth  
BNC interface

## ● Part Number

MP-LDC-250-M-2050

## ● Application area

Laser sensor、 Mode-locked fiber laser、 Ytterbium-doped fiber amplifier、  
Test and measurement

## ● Core parameters

| Center Wavelength | Output Power | Connector |
|-------------------|--------------|-----------|
| 2050nm            | 2W           | FC/APC    |

## ● General Parameters

### Driver Parameter

| Parameter                     | Min. | Max. | Unit | Notes           |
|-------------------------------|------|------|------|-----------------|
| Power supply voltage          | 100  | 230  | VAC  | Mains power     |
| Power                         | 5    | 20   | W    |                 |
| Laser drive current           | 0    | 128  | mA   | Jumper optional |
|                               |      | 266  |      |                 |
|                               |      | 590  |      |                 |
| Laser drive voltage           | 0    | 3.1  | V    | @250mA          |
| Response frequency            | 0    | 15   | MHz  | -3db            |
| Temperature control range     | 0    | 5    | °C   |                 |
| TEC output current            | -1.5 | 1.5  | A    |                 |
| TEC output voltage            | -4.4 | 4.4  | V    |                 |
| Analog input (low frequency)  | -2.5 | 2.5  | V    |                 |
| Analog input (high frequency) | -2.5 | 2.5  | V    |                 |
| PD monitoring range           | 0    | 2    | mA   |                 |

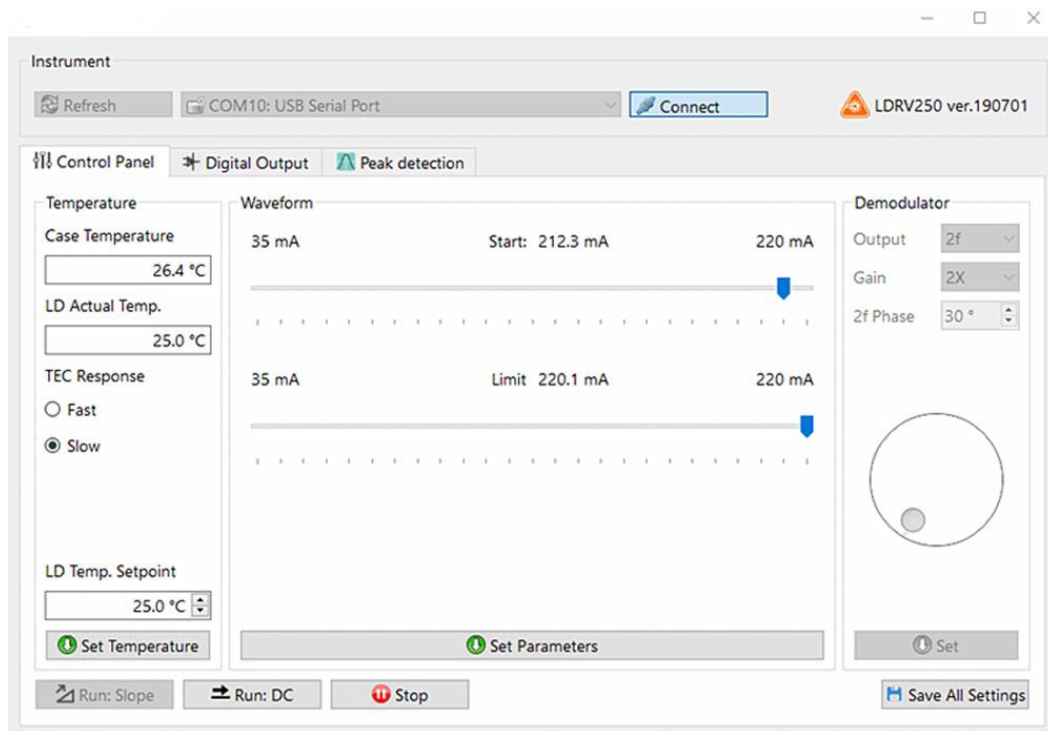


## Laser Parameter

| Parameter                                 | symbol                   | Min. | Typical | Max. | Unit       |
|---|--------------------------|------|---------|------|------------|
| Central wavelength                        | $\lambda$                | 2049 | 2050    | 2051 | nm         |
| Side mode suppression ratio               | SMSR                     | 30   | 40      |      | dB         |
| Threshold current                         | $I_{th}$                 |      | 20      | 30   | mA         |
| Operating current                         | $I_{op}$                 |      | 80      | 120  | mA         |
| Output power                              | $P_f$                    | 2    | 3       | 5    | mW         |
| Current-wavelength tuning coefficient     | $\Delta\lambda/\Delta I$ |      | 0.015   |      | nm/mA      |
| Temperature-wavelength tuning coefficient | $\Delta\lambda/\Delta T$ |      | 0.12    |      | nm/K       |
| Forward voltage                           | $V_f$                    |      | 1.3     | 2    | V          |
| Thermistor                                | $R_T$                    | 9.5  | 10      | 10.5 | K $\Omega$ |
| Fiber type                                | SMF-28E                  |      |         |      |            |
| Connector type                            | FC/APC                   |      |         |      |            |



## Control software interface

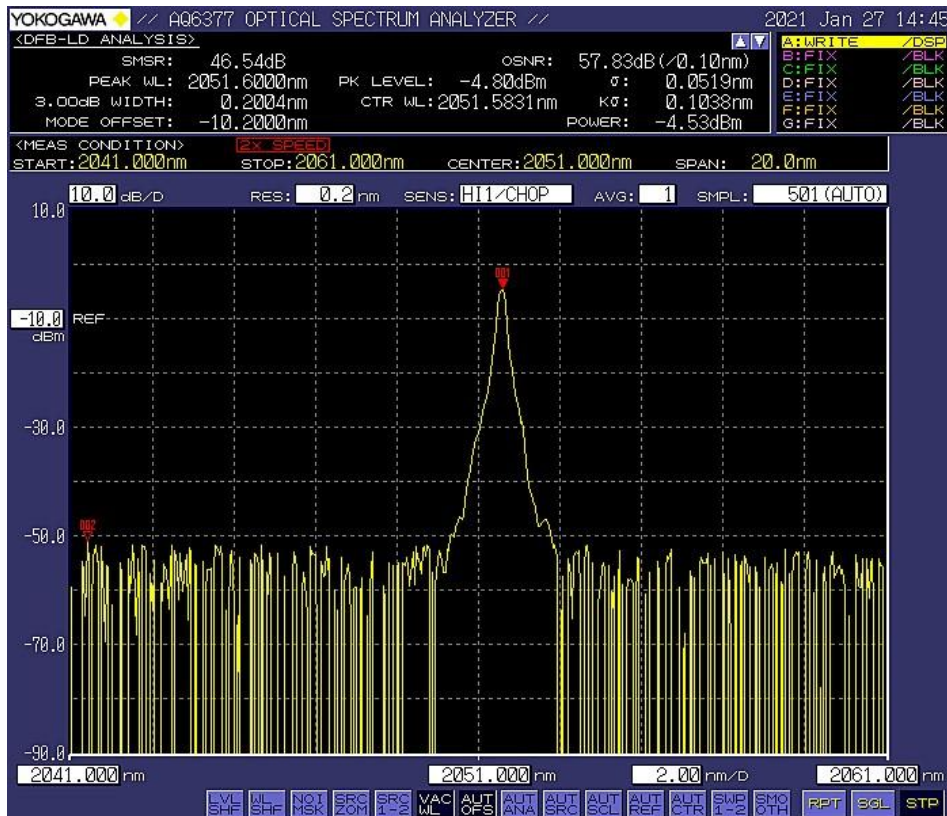


**Note:** You can customize the temperature setting protection current.

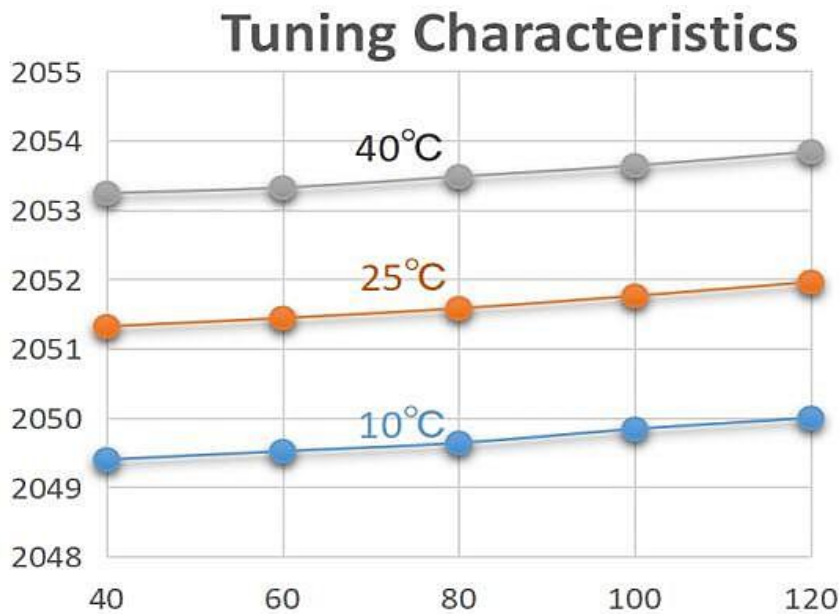
## USB communication protocol, plug in three-phase mains



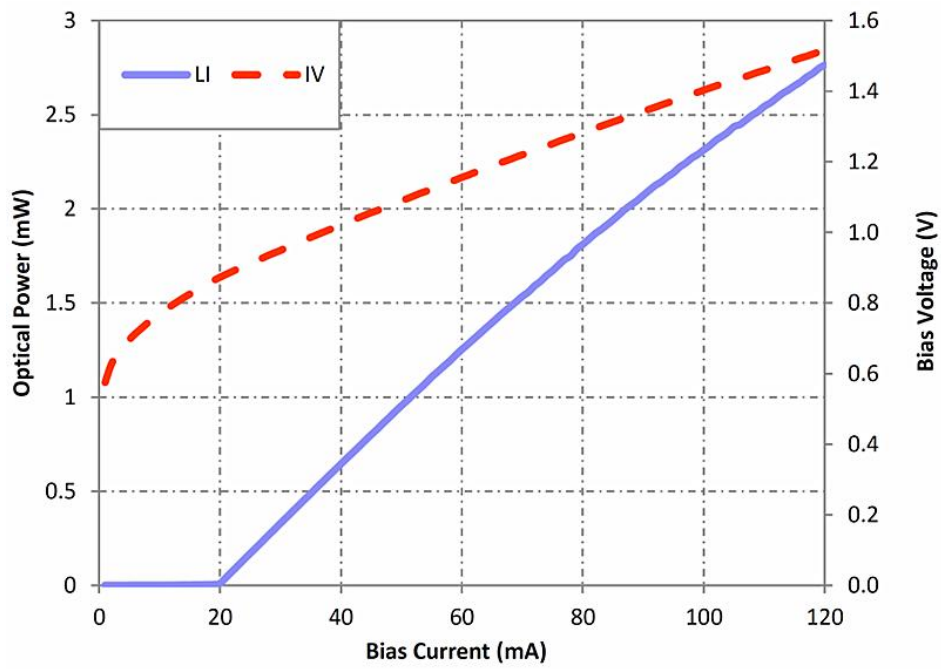
## Spectral



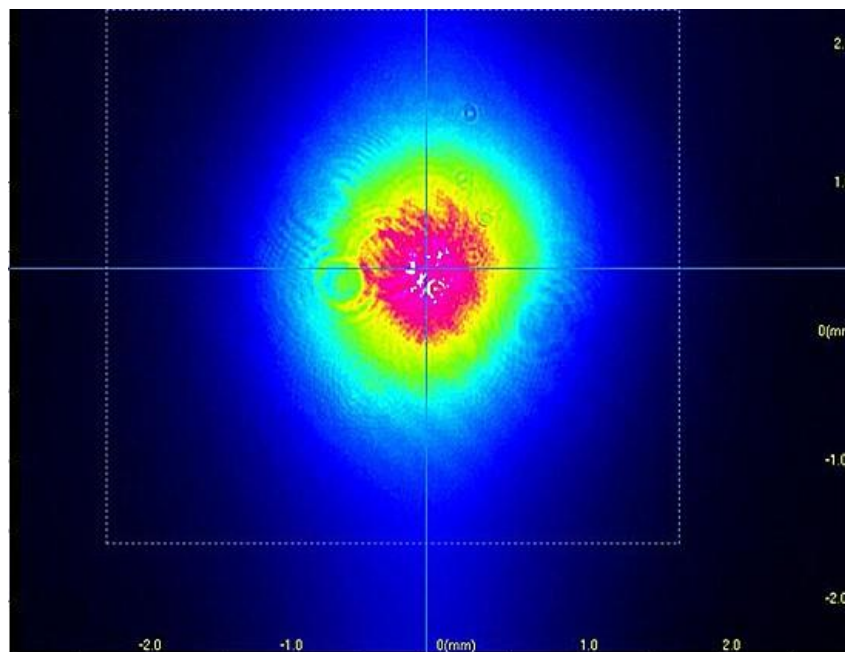
## Wavelength tuning curve



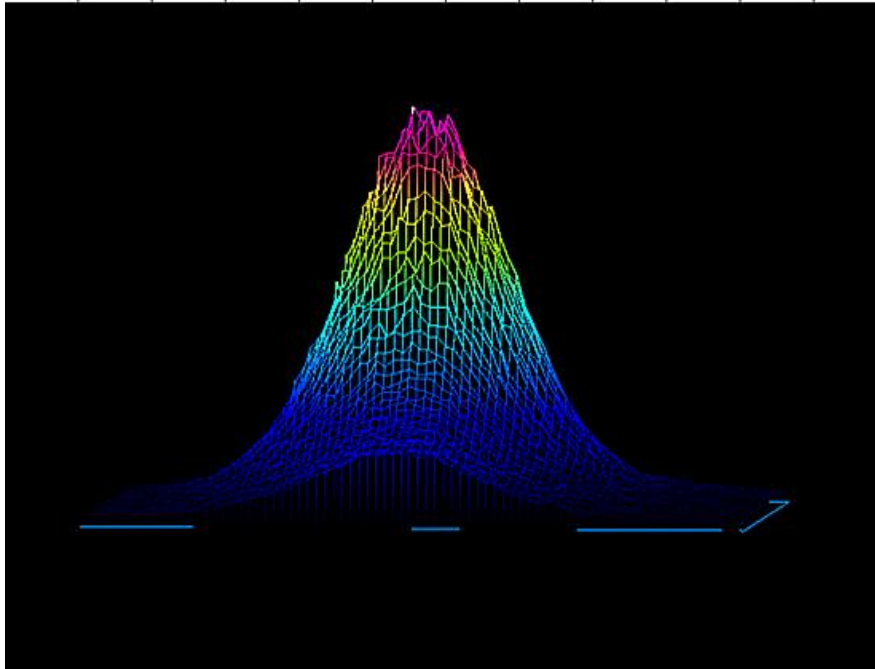
## Power curve



## Light spot analysis



2D



3D

## Power stability curve

