

# Digital Optics Technologies, Inc.

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## S-500 Laser Controller and Servo

Our S-500 Laser Controller and Servo is a combination of our low-noise [LC-500 Laser Current/TEC Controller](#) combined with our [LS-100 Laser Locking Servo](#) in a single, rack-mount package.

Available as a standalone unit or with a narrow-linewidth DBR laser and mount.

### Pricing:

S-500 Standalone Unit - 6400

Compatible laser modules and packages available for this unit and can be seen in the laser modules and packages tab.

#### LC-500 specs:

##### Laser Controller Specs:

##### **Current Source:**

Current Range 0-500 mA  
Current Noise Density < 200 pA/ $\sqrt{\text{Hz}}$   
RMS Noise (10Hz-100kHz) < 100 nA  
RMS Noise (10Hz-1MHz) < 150 nA  
RMS Noise (10Hz-10MHz) < 500 nA  
Monitor Resolution (Display) .1 mA  
Absolute Accuracy 2 %  
Temperature Coefficient < 1  $\mu\text{A}/^\circ\text{C}$

##### **Current Servo Input:**

Input Impedance 1000  $\Omega$   
Bandwidth > 10 MHz  
Modulation Coefficient 1 mA/V  
Input Modulation Range  $\pm 10$  V  
RF Input Bandwidth 0.5 to > 3000 MHz

##### TEC Specs

Temperature Control Output Current: up to  $\pm 3.0$  A

#### LS-100 specs:

##### **Modulation Frequency: 10kHz**

Input Impedance: 50  $\Omega$   
Input Voltage:  $\pm 0.1$  V  
Input Voltage Noise: < 5 nV /  $\sqrt{\text{Hz}}$   
Output Voltage:  $\pm 10$  V  
Proportional Gain: 20 dB

Temperature Stability: 0.00009 C (10 k $\Omega$  thermistor at 25 C) over  
one hour  
Stability Across Ambient: 0.002 C (10 k $\Omega$  thermistor at 25 C) over  
one hour