

SLICE-DCC



Dual-Channel Low-Noise Current Controller

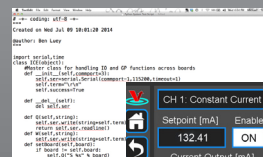
A SLICE of our Integrated Control Electronics Line, the SLICE-DCC is a compact, dual-channel cw current controller for driving diode, interband, and quantum cascade lasers as well as semiconductor optical amplifiers, tapered amplifiers, and pump lasers. Part of the Vescent SLICE series of high-performance, economical photonic control electronics, SLICE-DCC offers two channels of low-noise constant current or constant power operation. Proprietary self-adjusting power supply technology automatically sets the compliance voltage to as high as 12 V - *but no higher than necessary to drive your load* - allowing you to drive a traditional diodes or a quantum cascade lasers with the

same device and the same efficiency. The two channels operate independently - including the automatic compliance adjustment so you can drive any combination of loads.

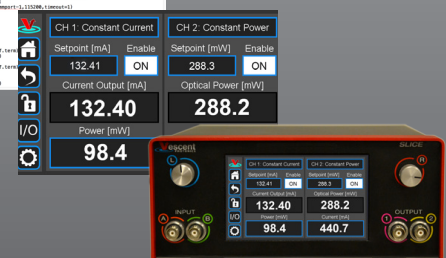


SLICE-DCC Current Controller

The SLICE-DCC includes all the features you expect from your current controller, including high modulation bandwidth, power leveling, interlocking, and current limiting & diode protection circuits. Not to mention ease of use through a touch screen, PC-based GUI, or an API command set. The proprietary power supply design accepts all standard AC mains voltages and is highly efficient but minimizes switching noise.



Control SLICE through the front panel, a GUI, or serial commands



Features:

- 2 independent current sources
- Self adjusting compliance voltage to 12 V
 - Drive traditional & GaN diodes, interband & quantum cascade lasers
- Low noise
- Power Leveling
- Soft start protects load from surging

Applications:

- Diode lasers, tapered amplifiers, SOAs
- Interband and quantum cascade lasers
- Pump diodes
- Magnet coils



SLICE-DCC Performance Specifications

Performance						Units
Channels		2				
Operation Modes		Constant Current or Constant Power				
Current Maximum ¹		200	500	1,000	2,000	mA
Noise ²	Typical	1.5	4	6.6	12	μA
	Maximum ³	2.5	5.5	9	15	
Current Set Point Resolution		0.01	0.02	0.05	0.1	mA
Max Compliance Voltage ⁴		12				V
Constant Current Mode						
Modulation Bandwidth		>1				MHz
Current Accuracy		100				μA
Drift		<25				μA/°C
Constant Power Mode						
Power Fluctuations ⁵		0.1				%, rms
Input		±5 mA photodiode signal				
Transimpedance Amp		Integrated				
Interface						
Control		Front-panel touch screen, PC-based GUI, API				
Connections		Host control: USB Type B				
Power Input		100 - 240 VAC; 50, 60 Hz				
Physical						
Dimensions ⁶		11.6 x 8.7 x 4.0 (depth x width x height)				Inches

All specifications subject to change without notice.

¹Depends on model choice

²RMS integrated over 100 Hz to 1 MHz

³Worst-case noise at max current and max compliance voltage

⁴Automatically adjusts to your load requirements

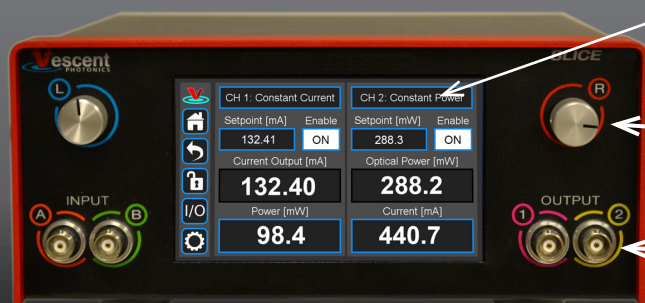
⁵In constant power mode; fluctuation of monitor photodiode current

⁶Two SLICE units will fit on a 3U 19" rack mount tray

Touch screen for easy set up and control

Rotary knob interface allows fast, precise value entry

User-assignable front-panel I/O for monitor and interlocking



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