SLICE-DCC Dual Current Controller

The SLICE-DCC is a compact, efficient CW current controller for driving pump diodes; semiconductor optical and tapered amplifiers; and diode, interband, and quantum cascade lasers.



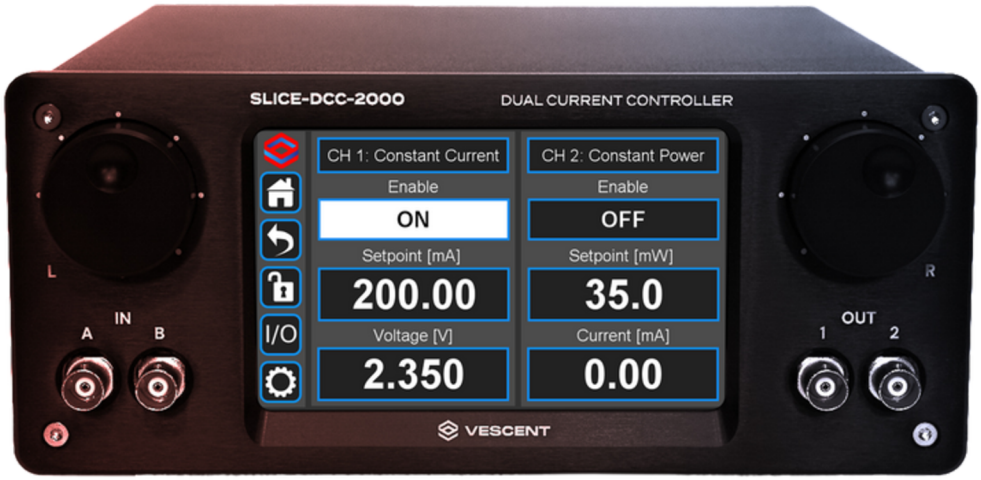
SLICE-DCC Dual Current Controller

Part of the Vescent SLICE series of high-performance, economical photonic control electronics, SLICE-DCC offers two channels of low-noise current control. 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 diode or a quantum cascade laser with the same device and the same efficiency.

The two channels operate independently, including the automatic compliance voltage. Controlled via a touch screen or an API command set, the SLICE-DCC includes all the features you expect from your current controller: high modulation bandwidth, power leveling, interlocking, and current limiting & diode protection circuits.

The SLICE-DCC employs Vescent's proprietary hybrid switching / linear power supply technology to deliver unsurpassed current noise performance.

SLICE-DCC Dual Current Controller



SLICE-DHV Touchscreen GUI



SLICE-DHV Back Panel

Features

- Currents up to 2,000 mA per channel
- Low noise
- High-modulation bandwidth
- Ideal for pump diodes and optical amplifiers

SLICE-DCC Specifications

Parameter	DCC-200 Value	DCC-500 Value	DCC-1000 Value	DCC-2000 Value
Current Driver Performance				
Channels	2			
Control	Touchscreen, Serial API			
Operation Modes	Constant Current, Constant Power			
Maximum Current per Channel	200 mA	500 mA	1000 mA	2000 mA
Current Noise in Constant Current mode (rms 100 Hz to 1 MHz)	1.5 µA	4 µA	10 µA	15 µA
Current Modulation Input Impedance - Rear	>20 kΩ			
Current Modulation Input Impedance - Front	50 Ω or 1 MΩ			
Modulation Bandwidth[1]	DC to >1 MHz			
Modulation Input Range	±10 V			
Modulation Depth	±10 mA	±25 mA	±50 mA	±50 mA
Modulation Transfer Function	1 mA/V	2.5 mA/V	5 mA/V	5 mA/V
Current Resolution	10 µA	10 µA	20 µA	100 µA
Drift	<25 µA/°C			
Power Stability[2]	0.1% rms			
Monitor Photodiode Input Current Range	±5 mA			
Maximum Compliance Voltage	12 V			
Triggering	5 V TTL			
Input Voltage				
Input Line Voltage	100-240 VAC			
Frequency	50-60 Hz			
Phase	1 phase			
User-serviceable fuse	T 2.0 A L 250V			

[1] -3 dB point. Front & rear modulation ports.

[2] Relative to maximum power in constant power mode.

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SLICE-DCC Specifications Continued...

Parameter	DCC-200 Value	DCC-500 Value	DCC-1000 Value	DCC-2000 Value
Environmental				
Operating Temperature	>15 and <30 °C			
Humidity	<60%			
Dew Point	<15 °C			

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