

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.



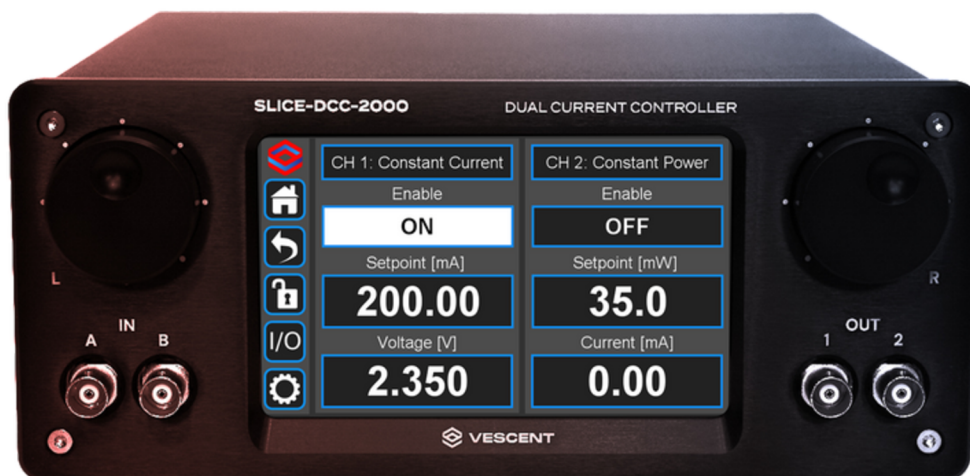
SLICE-DCC Dual Current Controller

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-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 μ A | 4 μ A | 10 μ A | 15 μ A |
| Current Modulation Input Impedance - Rear | >20 k Ω | | | |
| Current Modulation Input Impedance - Front | 50 Ω or 1 M Ω | | | |
| Modulation Bandwidth ¹ | DC to >1 MHz | | | |
| Modulation Input Range | \pm 10 V | | | |
| Modulation Depth | \pm 10 mA | \pm 25 mA | \pm 50 mA | \pm 50 mA |
| Modulation Transfer Function | 1 mA/V | 2.5 mA/V | 5 mA/V | 5 mA/V |
| Current Resolution | 10 μ A | 10 μ A | 20 μ A | 100 μ A |
| Drift | <25 μ A/ $^{\circ}$ C | | | |
| Power Stability ² | 0.1% rms | | | |
| Monitor Photodiode Input Current Range | \pm 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.



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 | | | |

Elliot Scientific Limited

Unit 11 Sandridge Park, Porters Wood, St Albans,
AL3 6PH, United Kingdom
Tel: +44 (0)1582 766300 Fax: +44 (0)1582 766340
www.elliotscientific.com sales@elliotscientific.com

