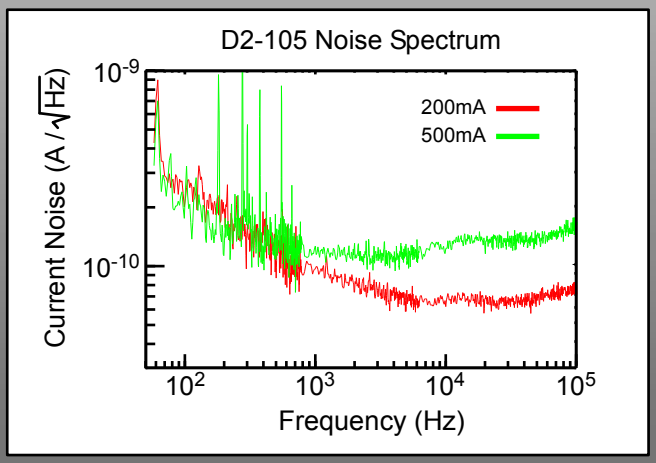
D2-105 Diode Laser Controller
Ultra-Low Noise & High Bandwidth

	D2-105	D2-105-500	Units
Current Source			
Current range	0-200	0-500	mA
Current noise density	<100	<200	$pA/\sqrt{Hz}$
RMS Noise (10Hz - 100kHz)	<50	<100	nA
RMS Noise (10Hz - 1MHz)	<100	<150	nA
RMS Noise (10Hz - 10MHz)	<300	<500	nA
Monitor Resolution (Display)	0.1	1	mA
Absolute accuracy	2	2	%
Temperature coefficient	<1	<5	µA/°C
Current Servo Input			
Input impedance	1000	1000	Ω
Bandwidth	>10	>10	MHz
Modulation coefficient	1	1	mA/V
Temp Servo Input			
Input impedance	100	100	kΩ
Temp modulation coefficient			
Gain = Low	-20	-20	mK/V
Gain = High	-600	-600	mK/V
Temperature Control			
Temperature setpoint range	1-50	1-50	°C
Long term stability (T2)	~1	~1	mK/day
Max TEC current (voltage)	1 (4)	1 (4)	A (V)

The D2-105 is a precision diode laser current source based on the Libbrecht-Hall* circuit. Two stages of temperature control provide long-term frequency stability. ***Front panel BNC ports enable both high-speed (> 10 MHz) servo control of the laser's frequency and RF modulation directly to the laser current output SMA***. Powered with an external power supply (D2-005) or user provided power via a breakout board (D2-001).



Features:

- Ultra-low-noise design
- Two-stage temp control w adjustable PID
- High-speed servo and RF inputs
- Temperature Modulation Input

*Libbrecht and Hall, A Low-Noise, High-Speed Current Controller, Rev. Sci. Inst. 64, pp. 2133-2135 (1993).

Vescent Photonics, Inc.
www.vescent.com
Denver CO
(303) 296-6766
sales@vescent.com

Vescent Photonics