



Koheron CTL20 is a digital laser diode controller with the following features:

- Anode-grounded current driver
- -3 V to 3 V / 1.2 A TEC controller
- 7-pin butterfly laser diode packages
- -40 °C to 85 °C operating temperature range

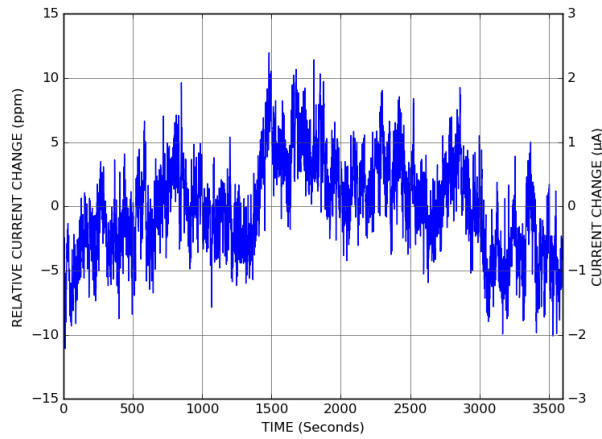
Specifications

	100	200
Current driver		
Laser current	2.5 mA to 110 mA	5 mA to 220 mA
Laser current resolution	2.5 μ A	5 μ A
Compliance voltage	2.5 V	2.5 V
RMS noise 10 Hz to 1 MHz	45 nA _{rms}	60 nA _{rms}
Current noise density 1 kHz	80 pA/ $\sqrt{\text{Hz}}$	160 pA/ $\sqrt{\text{Hz}}$
Temperature coefficient	50 ppm/ $^{\circ}\text{C}$	50 ppm/ $^{\circ}\text{C}$
TEC controller		
Compliance voltage	-3 V to 3 V	-3 V to 3 V
Maximum current	1.2 A	1.2 A
Temperature stability	0.002 $^{\circ}\text{C}/^{\circ}\text{C}$	0.002 $^{\circ}\text{C}/^{\circ}\text{C}$
Laser power monitor		
Photodiode current	0 mA to 2.5 mA	0 mA to 2.5 mA
Power supplies		
Positive supply voltage	3.5 V to 5.5 V	3.5 V to 5.5 V
Positive supply quiescent current	20 mA	20 mA
Positive supply maximum current	1.5 A	1.5 A
Negative supply voltage	-5.5 V to -5.0 V	-5.5 V to -5.0 V
Negative supply quiescent current	5 mA	5 mA
Negative supply maximum current	140 mA	250 mA
Other		
Outside dimensions	96 mm x 42 mm x 28 mm	96 mm x 42 mm x 28 mm
Weight	65 g	65 g
Operating temperature	-40 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$	-40 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$
Compatible lasers	Floating and anode-grounded diodes	Floating and anode-grounded diodes

Current driver

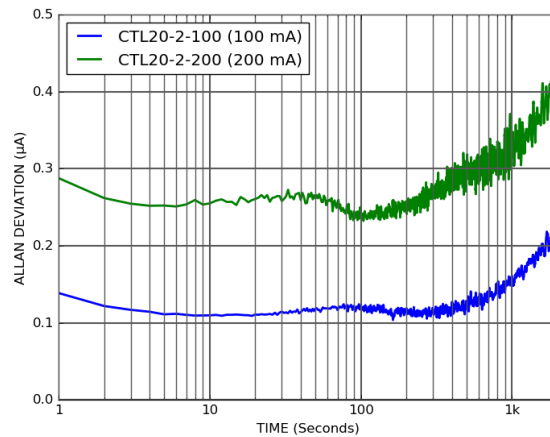
Current stability

The figure below shows the current stability over 1 hour of a CTL20-2-200 controller operated at 200 mA.



CTL20 one hour current stability

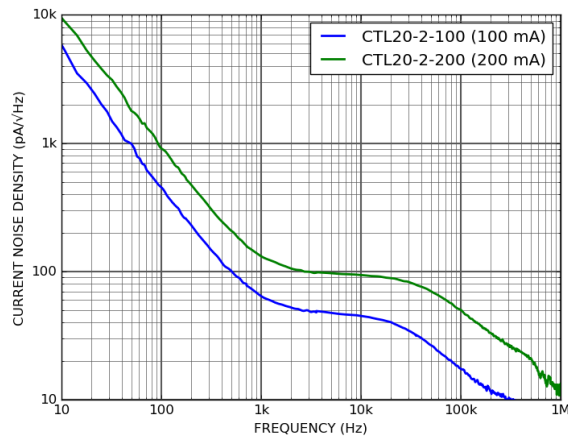
The figure below shows the Allan deviation of CTL20 controllers operated at their rated current.



CTL20 allan deviation

Current noise

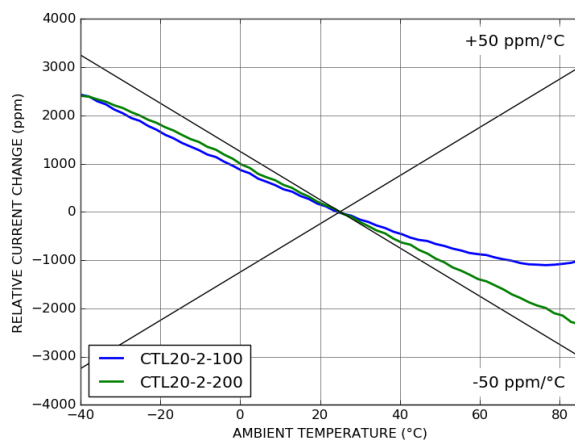
The figure below shows the current noise of CTL20-2 controllers. The CTL20-2-200 current is measured at 200 mA across a 10 Ω load, and the CTL20-2-100 at 100 mA across a 20 Ω load.



CTL20 current noise density

Temperature stability

The figure below shows the relative variation of the output current against the ambient temperature for CTL20 controllers operating at their rated current.



CTL20 temperature coefficient

Ordering codes

PRODUCT NUMBER	ATTRIBUTE
CTL20-2-100-B7	Laser current 100 mA
CTL20-2-200-B7	Laser current 200 mA