Product Portfolio

Rack-mountable package available

UC-2000 Universal Laser Controller provides total control of your laser

easy control of power, duty cycle, and modulation frequency

Synrad's second generation laser controller, the UC-2000 has evolved from years of experience with UC-1000 controllers currently being used in hundreds of applications at customer sites throughout the world. The UC-2000 provides an easy user interface for total control of laser power, duty cycle, and modulation frequency.

Power control is achieved by pulse width modulation (PWM) at selectable clock frequencies of 5, 10, and 20 kHz. Compatible with Synrad's entire line of CO_2 lasers, the all-digital UC-2000 features an easy-to-read LCD screen, easy setup, and improved functionality.

Features of the UC-2000 include:

- Real-time LCD display of operating mode and PWM power settings
- Control knob sets laser power in 0.5% or 5% increments
- PWM output pulses synchronized with gating signal
- Built-In Laser indicator
- Remote analog voltage or analog current power control
- DB9 serial connection allows UC-2000 control through an RS232 serial port from a computer or PLC
- Real-time display of power setpoint and actual closed loop power regulation

SYNRAD®
An Excel Technology Company

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UC-2000

Universal Laser Controller

Specifications

Power Input .....15-50 VDC, 35mA max.
PWM Output .....100 mA, 50W CMOS driver
Gate Input .....TTL or CMOS compatible, logic low 0-+0.9 VDC (laser off), logic high +2.8-+5.0 VDC (laser on)
Gate On Time, min.....1 PWM pulse period
In closed loop mode .....> 10ms
Clock Frequency .....± 10% accuracy

Environmental Specifications

Operating Temperature .....0°C-40°C
Humidity .....0-80%, non-condensing

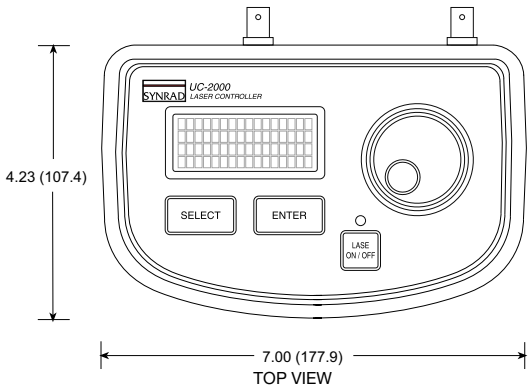
Dimensions

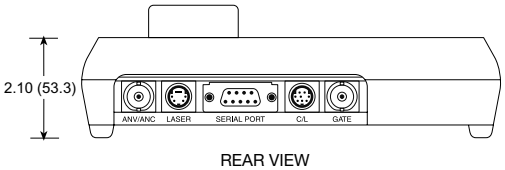
Length .....7.00 in (177.9 mm)
Width .....4.23 in (107.4 mm)
Height .....2.10 in (53.3 mm)
Weight .....1.14 lbs (0.52 kg)

Operating Modes

	Input	Output
Standby	none	1µs, 5 kHz Tickle signal
Manual	*PWM Adj Knob*	1µs, 5 kHz Tickle signal, 0-95% (or 99%) PWM duty cycle at 5, 10, or 20 kHz
Analog Current (ANC)	4-20 mA current, ±5%, 100mA max, Input resistance=220Ω to ground	1µs, 5kHz Tickle signal @ 4mA, to 99% PWM duty cycle signal at 5, 10, or 20 kHz @ 20 mA
Analog Voltage (ANV)	0-10 VDC, ±5%, +15VDC max, Input resistance=10kΩ to ground	1µs, 5kHz Tickle signal @ 0 V (<100 mV), to 99% PWM duty cycle signal at 5, 10 or 20 kHz @ 10 VDC
Manual Closed Loop Control*	*PWM Adj Knob*	1µs, 5KHz Tickle signal, 0-99% PWM duty cycle at 5, 10 or 20 kHz @ 10 VDC
ANV Closed Loop Control*	0-10 VDC, ±5%, +15VDC max, Input resistance=10kΩ to ground	1µs, 5kHz Tickle signal @ 0 V (<100 mV), to 99% PWM duty cycle at 5, 10 or 20 kHz @10 VDC
Remote	Software commands via RS232 serial port protocols	Manual, ANC, ANV, Man. Closed or ANV Closed mode signal

*Available only for Synrad's 48-1 (10W) and 48-2 (25W) lasers with a factory installed 48-CL Closed Loop Stabilization Kit





dimensions are in inches (millimeters)

1.800.SYNRAD1

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