



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 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<sub>2</sub> lasers, the all-digital UC-2000 features an easy-to-read LCD screen and easy setup. Available in standard or rack-mountable packages.

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
- 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
- Optional panel mount design available



An Excel Technology Company

# UC-2000

## Universal Laser Controller

### Specifications

Power Input .....	15-50 VDC, 35 mA 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 .....	3.5 $\mu$ s
In closed loop mode .....	> 10 $\mu$ s
Clock Frequency .....	$\pm$ 10% accuracy

### Environmental Specifications

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

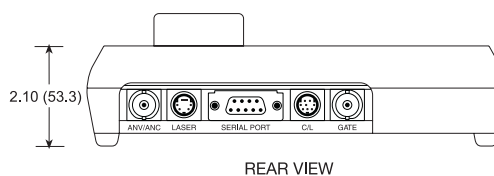
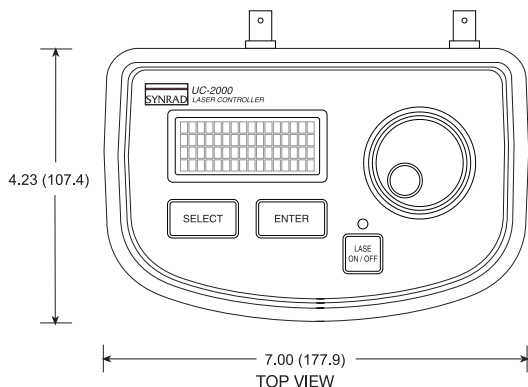
### Dimensions

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 .....	1 $\mu$ s, 5 kHz Tickle signal
Manual .....	PWM Adj Knob .....	1 $\mu$ s, 5 kHz Tickle signal, 0-95% (or 99%) PWM duty cycle at 5, 10, or 20 kHz
Analog Current (ANC) .....	4-20 mA current, $\pm$ 5%, 100mA max, Input resistance=220 $\Omega$ to ground	1 $\mu$ s, 5kHz Tickle signal @ 4mA, to 99% PWM duty cycle signal at 5, 10, or 20 kHz @ 20 mA
Analog Voltage (ANV) .....	0-10 VDC, $\pm$ 5%, +15VDC max, Input resistance=10k $\Omega$ to ground	1 $\mu$ s, 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 .....	1 $\mu$ s, 5kHz Tickle signal, 0-99% PWM duty cycle at 5, 10 or 20 kHz
ANV Closed Loop Control* .....	0-10 VDC, $\pm$ 5%, +15VDC max, Input resistance=10k $\Omega$ to ground	1 $\mu$ s, 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 Loop, or ANV Closed Loop 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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