

# BEOC

Brockton Electro-Optics Corp

*Laser Power Controllers,  
offering long term beam  
power stability better  
than .025% rms.*

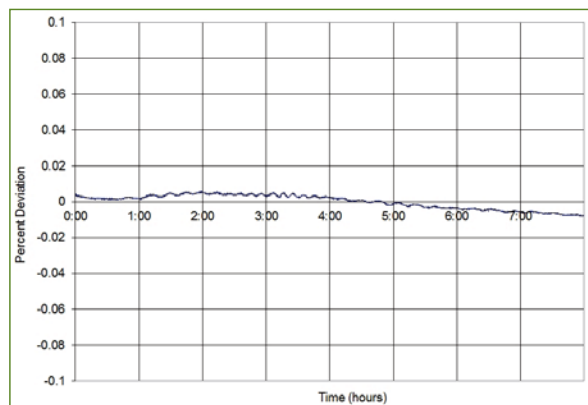


The LPC works with virtually any polarized CW or mode-locked laser. Your laser can now be controlled via front panel controls, a USB interface, or an analog input jack. A single system can attenuate, stabilize and display laser power. Options are available to accept external feedback from your own photodiode, PMT or any device of your choosing.

- Wavelength ranges from 425 to 1700 nm
- Attenuation of beam power over a 40:1 range
- Stabilizes beam power to 0.025% long term
- Reduction of laser noise from DC up to 5kHz
- Typical low power He-Ne stability: better than 30 ppm over 5 minutes
- Power handling up to 4W standard; 65W custom.

The LPC's precise control of laser power is valuable in numerous applications.

- Achieve precise powers for single molecule experiments
- Adjustment of laser power without changing lamp currents
- Remove baseline noise and 1/f noise from spectra
- Control beam power with Ti:Sapphire lasers
- Metrology
- Microscopy

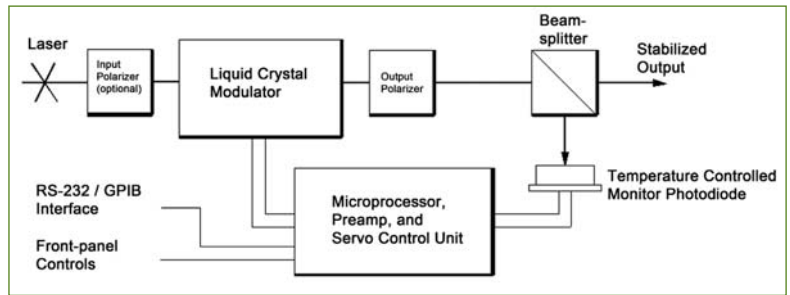


Typical stability plot with 4mw HeNe laser

The LPC is a patented intensity control system which fits externally in the beam of most lasers .It uses a high-speed liquid crystal element together with a thermally-controlled monitor photodiode to regulate the beam intensity at a user-selected level (see Figure 2). The LPC operates by modulating the laser beam, with no connections to the laser itself.

Among the LPC’s features are its compact size and large aperture, making it easy to align. Its liquid crystal modulator allows use with IR lasers, and offers high power handling. A modulation input permits analog selection of the desired output power, while a reference output provides a signal proportional to the monitor photodiode reading.

Specifications	
Clear aperture	4.0 mm
Transmittance	85%
Long-term stability	0.025% rms
Noise attenuation	200:1 at 1 hz (typical)
Servo bandwidth	up to 5 kHz
Power display accuracy	5% (typical)
Minimum input laser power	0.5 mW
Operating temperature	+15°C to + 35°C
Storage temperature	-10°C to +45°C



LPC block diagram

**General Information:**

- Operates with collimated, polarized laser sources, either CW, mode-locked or with pulse rates greater than 50kHz.
- Consists of an optics module and rack-mountable electronics module, connect by a 10ft Cable.
- Can be controlled from the front panel, or via USB interface. (GPIB interface optional: coming soon)

**Standard Models**

- LPC-VIS2 for lasers to 4 W, 425-780 nm
- LPC-NIR2 for lasers to 4 W, 700-1100 nm
- LPC-IR2 for lasers to 1 W, 950-1700 nm
- LPC-VTN2 for lasers 450-900 nm
- Contact us for Custom configurations

**Options and Accessories**

- RD-40-Vis/NIR, Remote detector for VIS/NIR
- RD-40-IR, Remote detector for IR
- RD-40-UV For use with doubled or tripled beams
- LPC-GPIB, GPIB interface (coming soon)
- LPC-IP, input polarizer for use with unpolarized lasers
- LPC-EXT-CBL, Extended-length cable set; 20ft
- LPC-VIO for use with external detectors and preamps

**Custom Capabilities:**

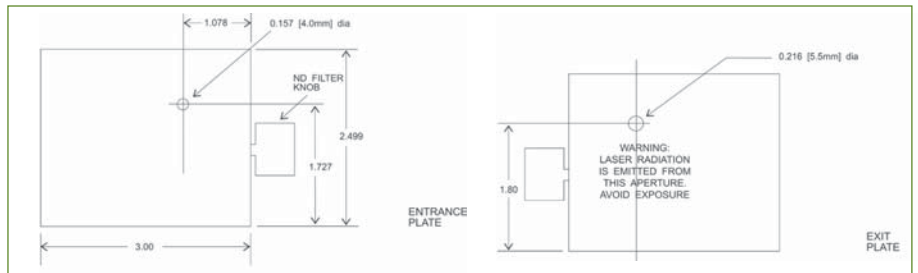
The LPC can be customized to work with powers up to 65 watts. Low power operation to 375nm is possible as is operation up to 2100nm. Custom OEM units are also available for integration into new or existing systems. Visit our website for additional information.

**Warranty:**

One year full parts and labor warranty against defects in manufacture or materials.

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Optics module layout

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