Power Technology Incorporated

Intelligence

A laser smart enough for the highest quality applications.

The IQ series **instrument quality laser** features ultra stability, precision, and superior optical quality needed for **high end laser applications**. The IQ features wavelengths between 375-1,600nm with up to 1,000mW output power and optional analog or ultra fast digital modulation.

The IQ is also available with an on-board microprocessor for applications requiring advanced control. This microprocessor controlled module offers precise control over crucial operating parameters. The module can be controlled by either an on-board, menu driven, local control or a Windows compatible control and monitoring software via USB or an RS-232 interface.

www.PowerTechnology.com
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Features

- PID temperature control loop & precision current source.
- CW, analog modulation, or TTL digital modulation
- Circularized or standard elliptical beam
- Optional on board microprocessor control w/ software interface

Applications

- Flow Cytometry
- Fluorescence
- Bioanalysis
- Spectroscopy
- Interferometry
- Confocal Microscopy

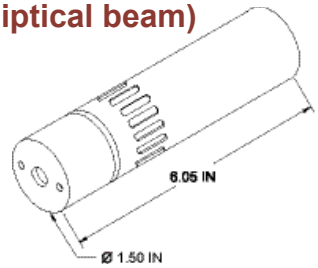
Our IQ Module incorporates a precision current source and a PID temperature control loop to provide extreme wavelength and output stability. In addition the IQ provides numerous mechanical and optical improvements over previous generation instrument quality lasers to provide increased stability and can operate at wider temperature ranges.

The IQ module operates at an efficient 5VDC. This low operating voltage helps to create less waste heat within the laser module, increasing diode lifetime, efficiency, and reliability.

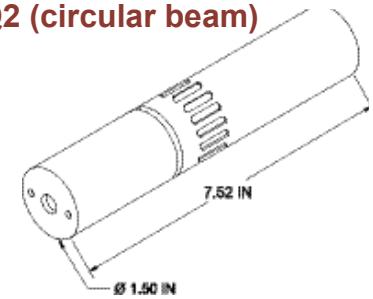
The IQ features quality glass lenses to achieve optical superiority and can host laser diodes with wavelengths from 370 to 1600nm. For added beam quality, users may choose an IQ module with **beam circulation**. IQ modules are available in CW mode with up to 1000mA of drive current, with **digital modulation** up to 100MHz, or with 70MHz **analog beam modulation**.

The IQ is also available with an **on-board microprocessor** for applications requiring advanced control. This microprocessor controlled module offers precise control over crucial operating parameters. The module can be controlled by either an on-board, menu driven, local control or a Windows compatible control and monitoring software via USB or an RS-232 interface.

IQ1 (elliptical beam)



IQ2 (circular beam)



Specifications	IQC (CW)	IQH (Digital Modulation)	IQA (Analog Modulation)
Wavelength (nm)	375 - 1600	375 - 1600	375 - 1600
Output Power (mW)	0.1 - 1000	0.1 - 1000	0.1 - 1000
Operating voltage (VDC)	5 - 15*	5 - 15*	5 - 15*
Max Operating current (mA)	3000	3000	3000
Mod. Current above bias (mA)	10 - 1200**	10 - 500**	10 - 1200**
Temperature stability (°C)	0.02	0.02	0.02
Temperature Range (°C)	5 - 40	5 - 40	5 - 40
Beam divergence (1/e², mrad)	<1	<1	<1
Modulation	CW	.2 VDC	5 VCD
Max Modulation Rate	CW	150MHz	1 or 5 VCD
Rise/fall times (ns)	--	3ns	6ns
Propagation Delay	--	12ns	23ns
Input impedance	--	50 ohms	50 or 500 ohms
Photo Diode config compatibility	9mm, 5.6mm	9mm, 5.6mm	9mm, 5.6mm
Diode Compatibility	M-, N- P-type	M-, N- P-type	M-, N- P-type
Recommended Options	G26, MB6	G26, MB6	G26, L, T, MB6

* *Optimum performance is achieved from most laser diodes when operated at 5 VCD. Please note that our 375nm, 405nm, 440nm, and 473nm lasers require a minimum of 6 VCD*
** *Not all currents can be achieved at all frequencies. When higher current is achieved , frequency may be lower. When lower current is achieved, frequency may be higher.*

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