

**Instrument
Quality****Laser
Head****Small OEM Laser Head
With Integrated TE Cooler****Features**

- Integrated TE cooler
- Superior heat dissipation
- Small form factor
- Quality glass optics
- Precision centering
- Small beam size
- Good pointing stability

Mechanical Dimensions

- 0.75 inch diameter
- 1.55 inch length
- 12 inch cable length
- Black anodize finish

TE Cooler Specifications

- $I_{\max} = 2.0$ Amps
- $V_{\max} = 8.5$ Volts
- $Q_{\max}(\text{TEC}) = 7.1$ Watts
- $DT_{\max} \geq 48^{\circ}\text{C}(\text{realized})^*$

Wiring Specifications*

Blue LD Cathode
 White LD Anode
 Yellow PD Anode
 Red TEC +
 Black TEC -
 Orange 10K Thermistor
 Orange 10K Thermistor

* Some diodes may require alternate connections and color codes.

* Diode off.

Ordering

Available laser diodes are listed on PTI's website. A sales representative will help you formulate an accurate part number according to your wavelength and power requirements.

Power Technology, Inc.

The IQ laser head is an Instrument Quality (IQ) OEM laser head with superior thermal, mechanical, and optical specifications.

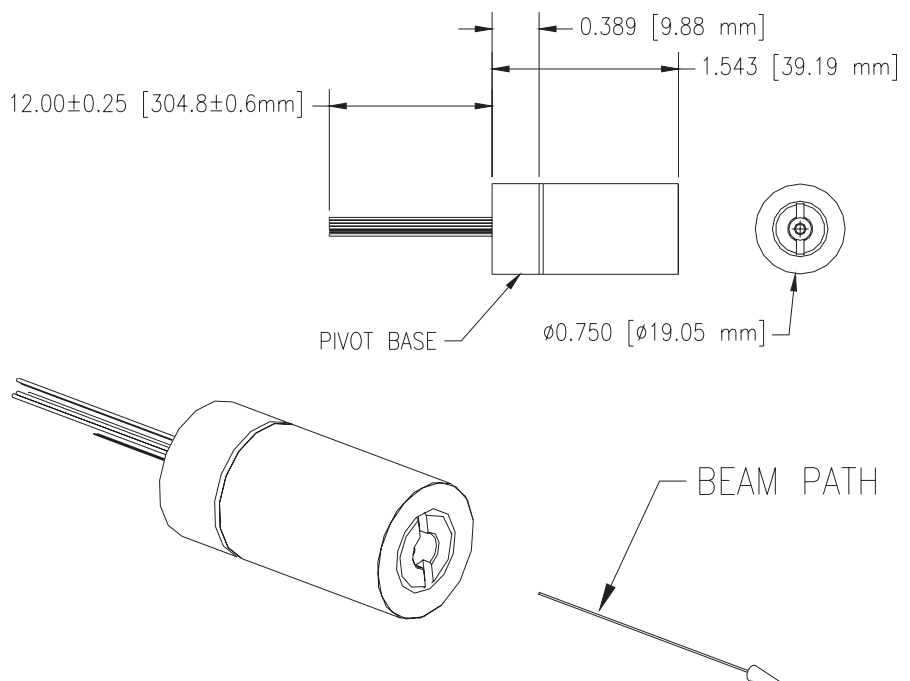
The IQ laser head features a custom-made TE Cooler capable of moving 7.1 Watts of heat from the hot side to the cold side of the cooler. Unlike other laser modules that pull heat from one side of the laser diode, the heat in the IQ is removed symmetrically from the diodes largest heat bearing surface - the bottom. A 10k thermistor is provided to monitor the laser temperature.

At the heart of the IQ laser head is a proprietary design that provides maximum heat transfer from the laser diode to the IQ's base, a high degree of centering accuracy, and very good beam pointing stability. The head's centering feature actually aligns the

diode to the mechanical center of the brass mounting base while negating the angular displacement found in all laser diodes. This produces a truly centered laser beam. The alignment can be easily adjusted by the customer to suit their particular needs. Since most laser diodes have a chip mounting tolerance of $\pm 50\mu\text{m}$ and an angular mounting tolerance of $\pm 3^{\circ}$, this feature becomes critical in producing a really high quality laser module.

The IQ laser head should only be mounted around the brass-mounting base. This provides maximum beam pointing stability and the best thermal transfer to the customer supplied heat sink or to PTI's accessory heat sink.

An IQ temperature controller with a PID control loop and a IQ laser diode driver are available to complete any instrument.



DS_IQ Head 9-99