



# OZ Optics

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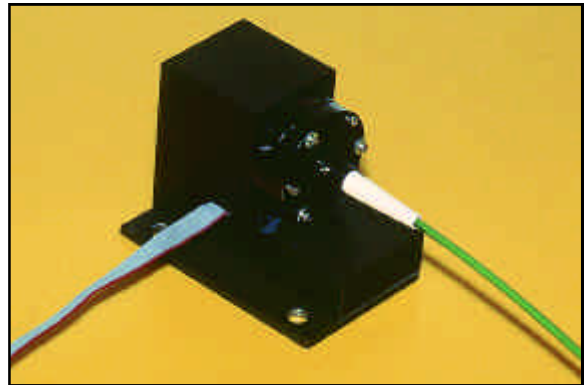
## FIBER PIGTAILED TEMPERATURE CONTROLLED LASER DIODE HOUSING

### FEATURES:

- Highly stable power output
- Highly stable wavelength
- Good coupling efficiency
- Low backreflection
- Wide wavelength range
- Singlemode, multimode, polarization maintaining fiber versions
- Adjustable output power
- Optional OEM laser diode and Peltier driver electronics
- Receptacle and pigtail versions
- Laser driver is externally TTL modulatable

### APPLICATIONS:

- Interferometric sensors
- Wavelength and power stabilized laser diode sources
- Long term stability measurements



### SPECIFICATIONS:

- **Available Wavelengths:** 635 - 1625nm
- **Backreflection:** -25, -40, -50, and -60dB
- **Connector Types:** NTT-FC/PC, Super NTT-FC/PC, Ultra NTT-FC/PC, Angled SC, Angled NTT-FC/PC, SC, AT&T-ST, SMA905, SMA906
- **Extinction Ratio:** 20, 25, or 30dB for PM fiber
- **Case Temperature Control Preset in the Factory:** From 15°C to 25°C to within  $\pm 0.1^\circ\text{C}$
- **Optical Coupling Efficiency:** 30% - 60% in SM fiber  
60% - 95% in MM fiber
- **Laser Diode Driver Electronics (OEM Version):**  
**CW:** Currents up to 120mA can be sourced in constant optical power (CW) mode.  
**TTL:** Currents up to 250mA can be sourced at frequencies up to 20MHz.  
Higher power versions are available. Contact OZ Optics for further information.
- **Peltier Driver Electronics (OEM Version):**  
Matching requirements for the unit in Figure 1 is 3 Amp, 5 Volt.  
Higher power versions are available. Contact OZ Optics for further information.

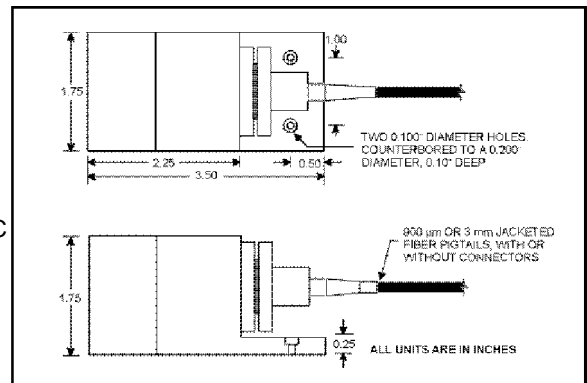


Figure 1

## PRODUCT DESCRIPTION:

The laser diode housing consists of an emitter (either a laser diode, LED, or SLED), a Peltier cooler, heatsink, and coupling optics into the fiber. The Peltier controller and laser diode driver electronics are external to the housing. A current source is required for the Peltier cooler. Upon request, OZ Optics can provide a complete OEM turnkey laser diode housing with a laser diode driver and Peltier cooler controller electronics. The control electronics for the Peltier include a temperature sensor on the laser diode side, and on the heat sink side. External control and modulation signals use pigtailed BNC connectors.

A special version of the unit comes with a blocking screw to control the light output. This allows the user to control the output power from the source without adjusting the source current. This ensures that the output wavelength from the source is as stable as possible.

The laser diode housing shown in Figure 1 is designed for diodes with less than 150mW of optical power. Oz Optics manufactures housings for diodes with more than 150mW of optical power. Contact OZ Optics for further information.

OZ Optics can also design customer specified complete laser diode to fiber delivery systems, including optical coupling mechanisms, fibers, collimators/focusers, driver electronics, and software. Contact OZ Optics for further information.

## ORDERING INFORMATION:

### Receptacle Style Housing:

Receptacle Code: 3S = Super NTT-FC/PC  
3U = Ultra NTT-FC/PC  
3A = Angled NTT-FC/PC  
5 = SMA905 & 906  
8 = AT&T-ST  
SC = SC  
SCA = Angled SC

See Table 6 of the Standard Tables data sheet for other receptacle types

Wavelength: Specify in nanometers  
(Example: 1550 for 1550nm)

**HULD-TX-W-F-P-M**

Modulation Technique: 1 = CW operation only  
2 = TTL Modulation only  
3 = Both CW and TTL

Optical Output Power, in mW, from the fiber

Fiber type: M = Multimode  
S = Singlemode  
P = Polarization Maintaining

### Pigtail Style Housing:

**LDPC-T1-W-a/b-F-BL-X-JD-L-P-M**

Wavelength: Specify in nanometers  
(Example: 1550 for 1550nm)

Fiber core/cladding sizes, in microns  
9/125 for 1300/1550nm SMF  
See Tables 1 to 5 of the Standard Tables data sheet for other standard fiber sizes

Fiber type: M = Multimode  
S = Singlemode  
P = Polarization maintaining

Backreflection level: 25, 40, 50, or 60dB.  
60dB version available for 1300nm and 1550nm only

Modulation Technique: 1 = CW operation only  
2 = TTL Modulation only  
3 = Both CW and TTL

Optical Output Power, in mW, from the fiber

Fiber length, in meters

Fiber jacket type: 1 = 900 OD Micron hytel jacket  
3 = 3mm OD Kevlar reinforced PVC cable

See Table 7 of the Standard Tables data sheet for other jacket sizes

Connector Code: 3S = Super NTT-FC/PC  
3U = Ultra NTT-FC/PC  
3A = Angled NTT-FC/PC  
5 = SMA905  
6 = SMA906  
8 = AT&T-ST  
SC = SC  
SCA = Angled SC

See Table 6 of the Standard Tables data sheet for other connector types

- NOTES:** Add "-DR" to the end of the part number to include Laser Diode Driver Electronics.  
Add "-PC" to the end of the part number to include Peltier Cooler Controller Electronics.  
Add "-PS" to the end of the part number to include a power supply.  
Add "-LD" to the end of the part number if the laser diode is to be supplied by OZ Optics.  
Add "-BL" to the end of the part number if a blocking screw is required.  
Contact OZ Optics for other versions.