



Laser Diode Module LDT – Series – Blue

PRODUCT FEATURES

- ▲ Integrated TEC and laser controller
- ▲ High stability and low noise
- ▲ Excellent power & wavelength stability

APPLICATIONS

- ▲ Spectroscopy
- ▲ Analytical and bio-instrumentation
- ▲ Flow cytometry
- ▲ Machine vision
- ▲ Sensing

Hazard Note: This laser module emits radiation that is visible and harmful to the human eye. When in use, do not look directly into the laser emitting aperture. Looking directly at laser diode emission at close range may cause eye damage.

Electrical Precaution: The case is internally connected to the circuit; damaging the anodized surface may result in failure of the laser module.



Warranty: One year. No warranty coverage for disassembly, modifications or damage due to abuse or misapplication.

SPECIFICATIONS

OPTICAL

| | |
|-------------------------------|--------------------------------|
| Wavelength* | 405 – 488 nm |
| Optical output power* | 1 – 150 mW |
| Power stability | < 0.5% |
| Laser RMS noise | < 0.5% |
| Beam Size (1/e ²) | adjustable or collimated (5mm) |
| Divergence at collimation | < 0.5 mrad |
| Laser structure | single mode laser |
| Polarization | > 100:1 |
| Pointing stability | < ± 10 µrad |
| Laser operation | CW or TTL |
| Warm-up time | < 1 min |

ELECTRICAL

| | |
|-------------------|---------|
| Operating voltage | 3.3 VDC |
| Operating current | < 1 A |

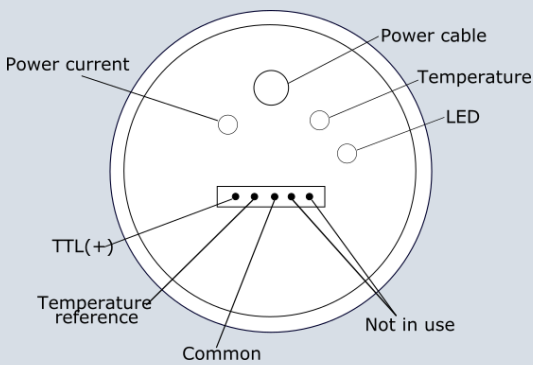
MECHANICAL

| | |
|------------------------|------------------------------|
| Dimensions (D x L) | 25.4 x 76.2 mm |
| Operating temperature | + 10°C to +40°C ** |
| Storage temperature | -40°C to + 80°C |
| Heat sink requirements | recommended for extended use |

*For detailed information on available wavelengths and output power, please see next page.

**Thermal management: The LDT series laser system is designed to dissipate heat through its body. For proper cooling, do not restrict air circulation around the device. An additional heat sink should be used to maximize the performance of the laser system.

BACK VIEW OF THE MODULE



| | |
|-----------------------|---|
| Power current | optical power adjustment by potentiometer |
| TTL | TTL – input signal |
| Temperature | setting another temperature by customer voids guarantee |
| Temperature reference | not for customer; read-out pin |

AVAILABLE WAVELENGTHS

| | |
|--------|------------|
| 405 nm | 1 – 150 mW |
| 440 nm | 10 – 50 mW |
| 473 nm | 5 – 75 mW |
| 488 nm | 5 – 40 mW |

TTL MODULATION

The LDT series laser system is TTL modulatable between 0 and the full power by applying an external TTL input signal (e.g. from function generator) using the third white wire. If the TTL input is Low, the laser power is completely off. If the TTL input is high, the laser output is at Full Power. The TTL signal can be any on-off time combination. It can also be operated continuously by applying a high signal to the TTL input if the white wire and red wire are connected together.

LDT SERIES ORDERING INFORMATION

LDT-λλλ-pppG-C-TTL

| Option | Meaning | Value |
|--------|--------------------------------------|--|
| λλλ | Wavelength | 405 – 488 nm |
| ppp | Laser output power | 1 – 150 mW |
| C | Circular laser diode beam (optional) | C |
| TTL | TTL modulation (optional) | max 1 MHz (depending on power); typically 3KHz |

E.g. LDT-405-40G-C-TTL: Laser module with 405 nm, 40 mW, circular beam and TTL modulation.

CUSTOMIZATION OPTIONS

- ▲ Custom electronic drivers with firmware and software
- ▲ Mechanical design
- ▲ Fiber-coupled versions (multimode, single mode and polarization-preserving)
- ▲ Different wavelengths
- ▲ Line optics
- ▲ USB connection