

LDTC Laboratory Series

Combination Laser Driver & Temperature Controller Instrument with IntelliTune® PID Control



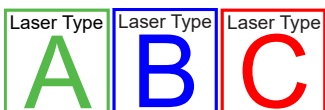
FEATURES

- LD2TC5 LAB offers up to 2 A of laser current and 5 A of TEC current
- LD5TC10 LAB offers up to 5 A of laser current and 10 A of TEC current
- Compliance voltages of 10 V (laser) and 15 V (TEC)
- Stable, low-noise laser current. Noise as low as 3.5 μ A or 8.5 μ A from 1 Hz to 100 kHz
- Laser modulation bandwidth up to 450 kHz
- Temperature stability better than 0.0009°C with thermistor
- Compatible with a variety of temperature sensors
 - » Thermistors & 2-wire RTDs
 - » Linear voltage & current sensors
- Touchscreen with intuitive user interface
- Safety features for maximum protection
 - » Adjustable current limit, with Brick-Wall Never-Exceed circuitry
 - » Load failure protection
 - » Temperature limits on the load
 - » Current/voltage limits for both TEC and laser
 - » Automatic laser shutdown upon TEC error available

FEATURES

- IntelliTune® sets ideal PID control parameters for optimal time to temperature or disturbance rejection
- Operates all laser diode/photodiode configurations
- Constant Laser Current or Constant Power modes
 - » Three photodiode ranges available: 0.5, 5, or 100 mA
 - » Photodiode bias voltage available
- Complete command set for remote control from computer
- Feature-rich for research projects
 - » USB interface with LabVIEW® Virtual Instrument application
 - » Field upgradeable firmware
 - » Sophisticated error handling
 - » Save and recall functions for specific parameter sets
- CE compliant
- AC input, auto detect, 100-240 \pm 10% VAC, with a 50/60 Hz power-line frequency

* LabVIEW is a registered trademark of National Instruments.



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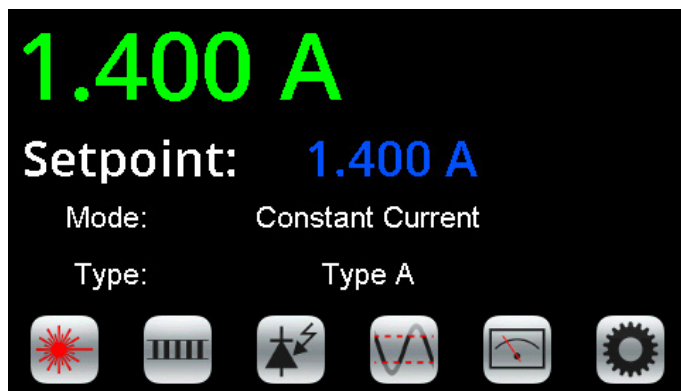
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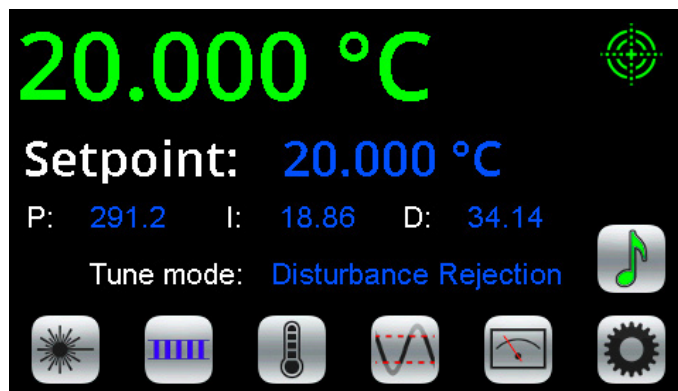
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Combination Laser Driver & Temperature Controller Instrument with IntelliTune[®] PID Control

INTUITIVE USER TOUCH SCREEN INTERFACE



LD Control Screen

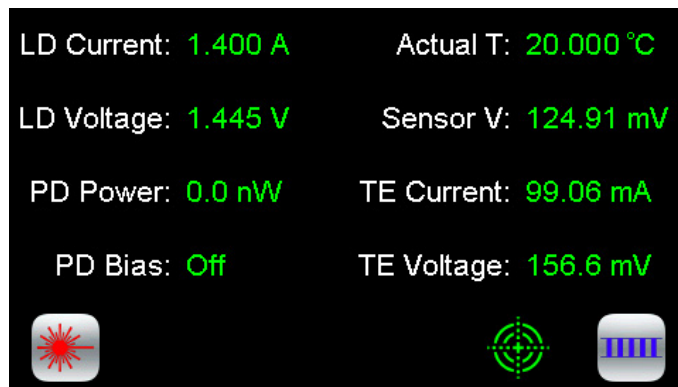


TC Control Screen

APPLICATIONS

The advanced and reliable circuitry of the LDTC LAB Series instruments achieves better than 0.0009°C temperature stability with thermistors while also providing stable, low-noise (as low as 3.5 µA RMS) laser diode current.

The combination laser driver and temperature control instruments are well-suited for research in electro-optical, biomedical, spectroscopy, and defense systems wherever precision temperature control and low-noise laser current is required.



Dual Monitor Screen

ELECTRICAL SPECIFICATIONS

INSTRUMENT SPECIFICATIONS

DRIVER OUTPUT CURRENT	LD2TC5	LD5TC10	UNIT	NOTE
LD Output Current	2	5	A	
TC Output Current	5	10	A	
LD Compliance Voltage	0-10		V	
TC Compliance Voltage	0-15		V	
Temperature Stability, 1 Hour	0.0009		°C	25°C Ambient, On Ambient
Temperature Stability, 24 Hours	0.005		°C	25°C Ambient, Off Ambient
Temperature Coefficient	20		ppm / °C	
LD Current Cumulative Noise	3.5	8.5	µA _{RMS}	From 1 Hz to 100 kHz
LD Noise Current Density	20	40	nA / √Hz	
LD Current Stability	120		ppm	
LD Current Modulation Bandwidth	450		kHz	Constant Current Mode

ORDERING INFORMATION

LD2TC5 LAB	2 A, 10 V Laser Diode Driver 5 A, 15 V Temperature Controller Instrument
LD5TC10 LAB	5 A, 10 V Laser Diode Driver 10 A, 15 V Temperature Controller Instrument
THERMISTORS	Various Thermistors Available
CABLES & CONNECTORS	Various connector kits and cables are available

Free, effective, and responsive technical support is available.

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