



LDD Local Controller



Advantages

- *Duplicates LDD Interface
- *No external power required
- *Front Panel Display
- *10 Turn Pot for Iprogram

The LDD Local Controller can program and monitor an LDD power supply. Although LDD laser diode drivers are intended for OEM applications, the LDD Local Controller permits the LDD to be used as a laboratory bench top diode driver. The controller connects direction to the LDD laser diode driver and no external power source is required. The controller can perform all the interface functions required by the LDD interface. A front panel meter can be selected to monitor Iprogram, Imonitor and Vmonitor. A 10 turn potentiometer is used to program the output current of the LDD.



LDD CONTROLLER OPERATION



Description of Control Functions

CONTROL FUNCTION	DESCRIPTION
PROGRAM	1 turn pot to vary output current from 0 to $I_{out_{max}}$
TOGGLE TO SELECT METER INPUT	This switch is toggled to select I-PROGRAM , V-MONITOR , or I-MONITOR meter display.
INTERLOCK	This switch simulates the interlock function of the LDD interface. When set to ON , interlock is closed. Interlock must be closed in order for power supply to deliver current to lamp.
ENABLE	On/Off Control for LDD. When ENABLE switch is ON, LDD will deliver current as programmed by the PROGRAM control.

LDD CONTROLLER OPERATING INSTRUCTIONS

1. Before Applying AC Power:
 - a. Connect LDD to laser diode
 - b. Connect LDD Controller to power supply
 - c. Set controller functions as follows:
 - i. **ENABLE** – OFF
 - ii. **INTERLOCK** – ON
 - iii. Turn **PROGRAM** fully counter clockwise for 0A out.
2. Apply AC power
 - a. Power supply fans should operate.
 - b. Toggle switch until **I-PROGRAM** is selected for meter display.
 - c. Set output current to desired value (you can also set output current to 0A and then program current after unit is **ENABLED**).
 - d. Toggle **SELECT METER INPUT** switch to **I-MONITOR**
 - e. Turn **ENABLE** switch to ON. Check **I-MONITOR** display to verify output current is as programmed. Switch meter to **V-MONITOR** to check if output voltage is as expected.

LDD CONTROLLER CONTROL CONNECTOR

Connector Type: 9 pin D-sub Female

It is not necessary to connect to this connector for CW operation from the Control Box. This connector provides the ability to access the ENABLE and INTERLOCK functions. This connector also provides the ability to pulse the output.

Pin #	Pin Name	Functional Voltage Level	Description
1	Enable (input)	High = RUN = +5V to +15V Low = OFF = 0V	The Enable function turns the output section of the power supply ON and OFF. When the power supply is enabled, current is delivered to load as programmed via the PROGRAM potentiometer on the LDD Controller. Rise times resulting from Enable are approximately 25msec. This is a soft start function and not intended for pulsing. To use this remote function, the ENABLE switch on the LDD Controller must be set to OFF.
2,6,7	N/C		
3	Interlock (input)	Open = OFF Connect to GND = RUN	The Interlock function can be connected to external interlock switches such as door or overtemp switches. To use this remote function, the Interlock function on the LDD Controller must be set to OFF.
4	N/C		
5	PULSE (input)	+5V to +15V = Iprogram ON GND = Iprogram OFF	Grounding PULSE function to pin 8 or 9 will reduce the current program set by the LDD Controller PROGRAM potentiometer to 0A. This function can be used for low frequency pulsing (up to 1kHz) of LDD output. Rise/fall times of 1msec are typical.
8	GND		Interface GND
9	GND		Interface GND