

If other laser diode mounts are used, connect the laser diode and, if provided, the photodiode with shielded cables to "LD OUTPUT" (5) according to the pin assignment shown in Fig 2.3.

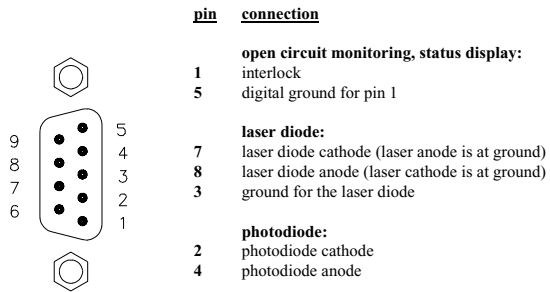


Fig. 2.3 Pin assignment of jack "LD OUTPUT"

**Selecting the laser pins to use:**

Determine which laser pin (anode or cathode) is attached to your laser package. This will be connected to pin 3. If the floating laser pin is the cathode attach it to pin 7 and leave pin 8 unconnected. If the floating pin is the laser anode, attach it to pin 8 and leave pin 7 unconnected.

**Safety Interlock**

Pin 1 and pin 5 of the LD OUTPUT jack (5) are contacts to allow for an optional externally connected Interlock switch. Open contacts on this switch will prevent the unit from operating or shut the unit down if it is already operating. The unit can only be Enabled if the switch contacts are closed.

If no interlock switch is used, this feature can be bypassed by connecting Pin 1 to Pin 5 with a wire as shown in Fig. 2.4.

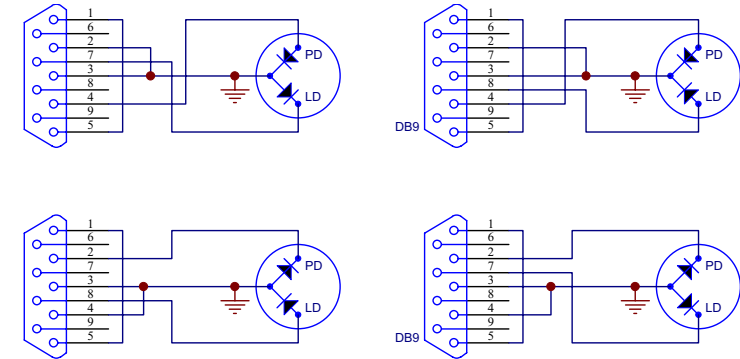
**Connecting the laser diode and photodiode**

Connect laser diode and photodiode according to Fig. 2.4 to the LDC 500.

The ground connection of the laser diode (pin 3) may be connected to the anode of the photodiode (pin 4) or to the cathode of the photodiode (pin 2). This connection should be as close as possible to the laser diode to avoid measurement errors.

If the polarity selected with the switch "LD POL" (6) and the connection of the laser diode do not agree, no current will flow through the laser diode.

The laser diode is always driven with respect to ground. Compared to a floating driver stage, this operating mode has the advantages of higher security for the laser diode and better stability of the laser current.



Note: Pin 3 of the DB9 is always at the signal ground. This allows the case of laser to be grounded for ESD protection.

Fig. 2.4 Connecting laser diode and photodiode

If the photodiode should be operated with bias, a battery can be connected in series to the photodiode.

With polarity LDA grounded, connect the positive terminal of the battery to the cathode of the photodiode and the negative terminal of the battery to pin 2.

With polarity LDC grounded, connect the negative terminal of the battery to the anode of the photodiode and the positive terminal of the battery to pin 4.

**Note:**  
A wrong polarity of the battery may destroy the photodiode.

**2.3.4 Constant current mode (CONST I)**

**Procedure to operate in constant current mode:**

- Switch on the LDC 500 (refer to chapter 2.2).
- Select a suitable current limit "ILIM" (refer to chapter 2.3.1).
- Select the appropriate laser polarity (refer to chapter 2.3.2).
- Connect the laser diode (refer to chapter 2.3.3).
- Select the display "ILD" with button (18) or (19).