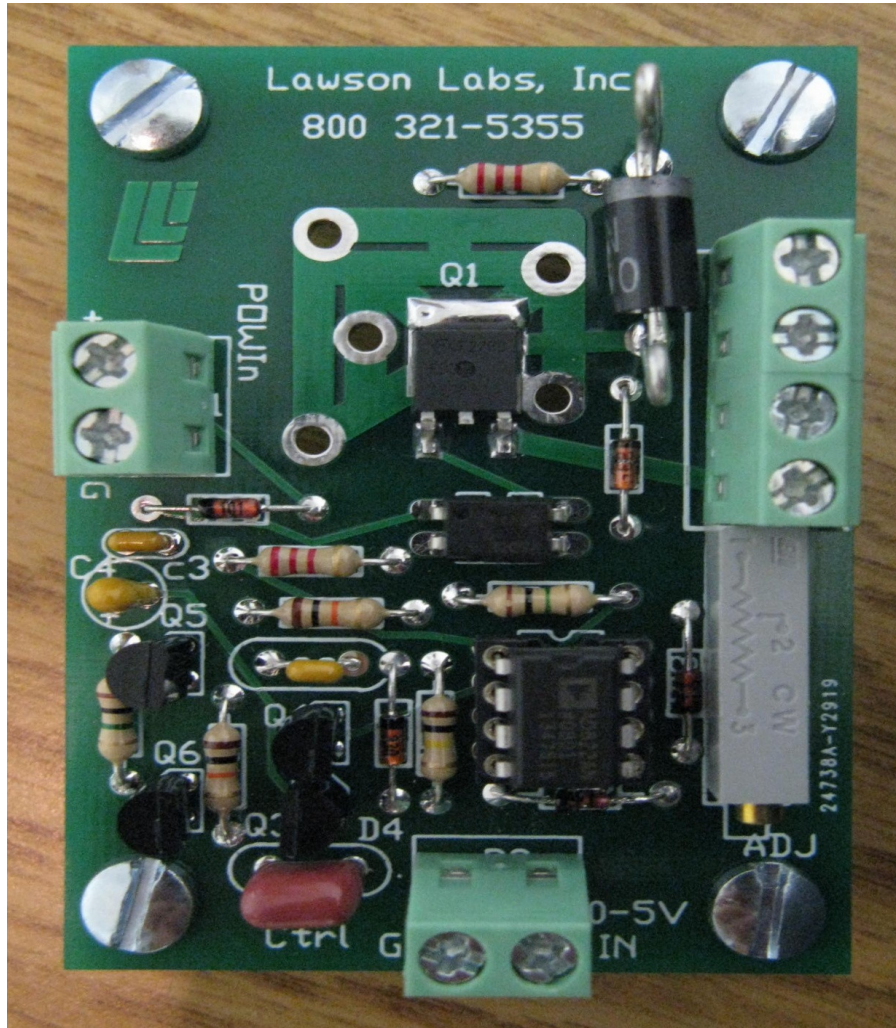


Proportional Valve Drive Instruction Manual

PDr2 Rev A

8/24/2016

Optically isolated power driver for valves, solenoids, DC heaters, DC motors, and other DC loads.



Output	up to 2 amps at 8 to 24 volts, isolated or not
Input power supply	8 to 20 volts
Input control voltage	0-5 volts (or 0-10 volts)
Size	1.9" x 2.7" x 0.6"

Efficiency over 98%, no heatsink needed.

No extra cooling is needed. Only 5 deg C temperature rise in still air driving a 1 Amp load.

Power input current 6 ma typical at 1500 Hz modulation frequency.

Modulation frequency is preset, and can be adjusted to suit.

Load can be inductive or resistive.

Gain is adjustable via on-board trim, 0 - 100% range.

Output is monotonic

Linearity is excellent from .2 to 4.8 volts input (0-5 volt range)

Options:

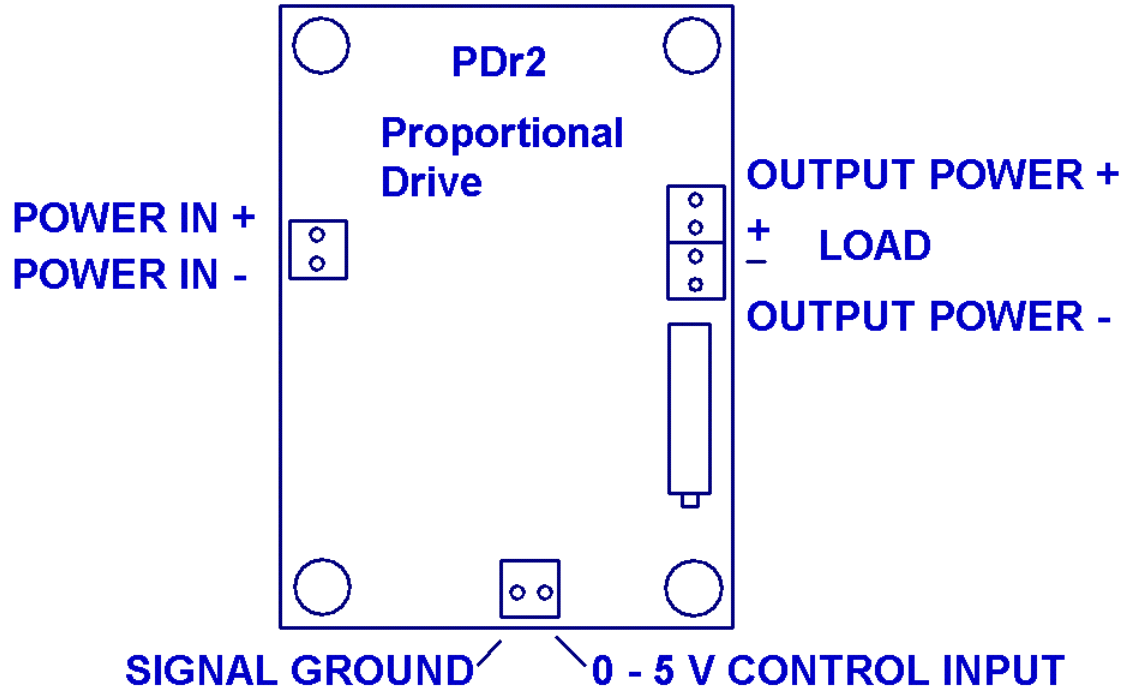
An offset adjustment trimpot can be added

4-20 MA input can be added

The optical isolation can be removed, if it is not needed.

Ask about other variations.

CONNECTIONS



Power In can be connected to the Data system input power.

The Output is optically isolated. Connect the output power power supply between the

+ and - terminals. The load connects to the + and - LOAD terminals.
If isolation is not required, the + and - power terminals can be strapped together.

Sequencing note: Power the input before the output unless it doesn't matter that the load will be fully ON without input power. (If required, we can provide a default OFF version.)

OPERATION

The PDR2 is optimized for use inside a control loop. The temperature, pressure, position, etc. that is being controlled can be sensed and read by the analog data system. Then, the analog output can be adjusted according to a programmed set of rules in order to balance the system.

Adjust the ADJ trimpot for the desired maximum output with a full-scale input. If the input signal range is 0 -10 volts, turn down the sensitivity so that the desired maximum output is seen with a 10 volt input. Clockwise rotation increases sensitivity.

Output should be zero with 0 volts in.

There is a non-linear zone near zero volts input. Typically, above a 100 mv control input (0 -5 volt range), the output is fully linear.

There may be a similar non-linear zone as the maximum power region is approached.