

Overview

The LS-C21 is a linear driver designed specifically for driving Enfield Technologies valves. It converts a proportional command voltage into a high power differential voltage to drive the valve's linear force motor (different from a solenoid valve).

The linear driver requires a dual voltage power supply: ± 12 Vdc at 24 watts. The power amplifier will accept a variable (also known as "proportional") input signal of $-10...0...+10$ Vdc. A 10 volt command results in a full valve spool shift in one direction, and maximum command voltage of -10 volts results in a full spool shift in the opposite direction. The spool is centered and all ports blocked when the input signal is at 0 Vdc, mid-way in the range.

Features

- Compact OEM linear driver
- Window Comparator with LED output
- High impedance + signal input
- Adjustable dither frequency and amplitude
- Closed loop current control
- Product includes cable harness

Specifications

Model	LS-C21
Power Requirement	± 12 Vdc @ 24 W
+signal input	$-10...0...+10$ Vdc
Output	$-1A...0...+1A$ nominal
Temperature Range	0°C to 46°C (32°F to 115°F)

The LS-C21 is an integrated power amplifier mechanically mounted to a metal base plate. The base plate has four thru holes to facilitate mounting to a metal structure to further add to the heat sinking capability

Applications

Designed for use driving LS and M2 valves

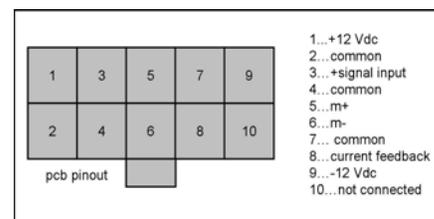
Important Notes

The base plate must be attached to a larger heat sink
There is no reverse polarity protection for the power supply inputs
All dc grounds should be common to prevent system anomalies

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Connections



- Pin 1: +12 Vdc, power supply connection
Pin 2: common (dc ground), connect to power supply common
Pin 3: +signal input, command signal connection $-10...+10$ Vdc
Pin 4: common (dc ground), command signal common
Pin 5: m+, connect to valve (brown wire of LS-Cable)
Pin 6: m-, connect to valve (blue wire of LS-Cable)
Pin 7: common (dc ground), current feedback common
Pin 8: current feedback, current feedback signal connection
Pin 9: -12 Vdc, power supply connection
Pin 10: not connected

Adjustments

NOTE: There are no gain adjustments on this module. It is designed to provide a regulated closed current loop proportional power amplifier function between a standard industrial control signal and an Enfield Technologies valve.

(RP1) Rotary potentiometer 1 is the dither amplitude adjustment. Amplitude can be adjusted between 0 (no dither) and 4 Vac (full dither) (factory set at approx. 2 Vac).

(RP2) Rotary potentiometer 2 is the dither frequency adjustment.
Frequency can be adjusted between 200 Hz and 20 kHz (factory set at approx. 800 Hz).

Indications

Green LED: The ± 12 Vdc power supply is applied
Red LEDs: Are the output of a window comparator
LEDs light when +sig is >1 Vdc and <-1 Vdc

Outputs

Current Feedback: Range $(-1...0...+1)$ Vdc (valve current 1A = 1 Vdc)