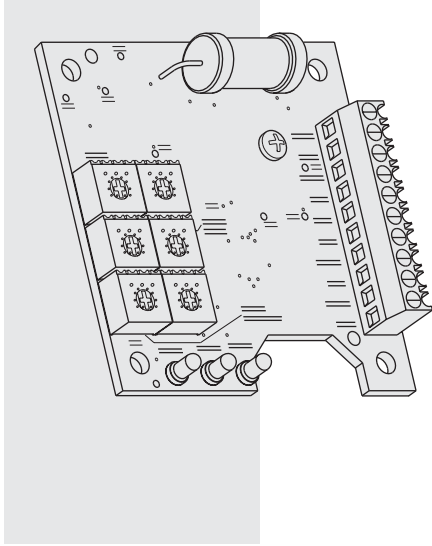


Proportional Valve Controller—PCB Only—



DESCRIPTION *0–5 VDC, 10K Pot or 0–20 mA Input*

A printed circuit board-style (PCB) control amplifier for controlling HydraForce proportional valves. Remote mounting in a protected enclosure is required.

OPERATION

This control module uses closed-loop current control with superimposed dither to supply a proportional valve solenoid with a proportional control signal. The input signal to this controller can be from a 10K potentiometer, 0–5 VDC, 0–20 mA, or from other pre-set levels.

FEATURES

- Adjustments and connections clearly labeled.
- LED indication of output power level, input level and power on/off.
- One unit covers supply voltages from 9 to 32 VDC.
- No internal fuses; circuit limits current electronically.
- Short circuit proof and reverse polarity protected.
- Can be disconnected from coil when powered.
- Maximum current adjustment does not affect minimum current setting.
- Independent ramp adjustments and internal supply for potentiometer.
- Filter eliminates electrical noise.
- Dither frequency and amplitude are adjustable for maximum valve performance.

GENERAL SPECIFICATIONS

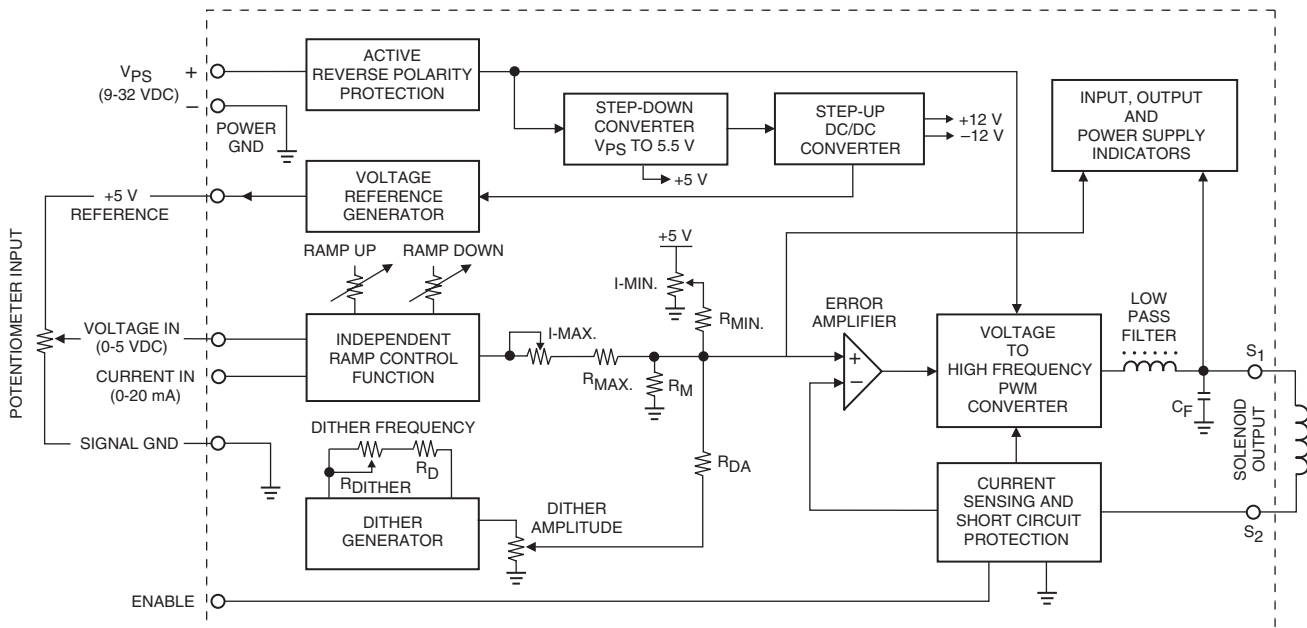
Weight: 25 g (0.88 oz.)
Connections: Screw terminals for 16–30 AWG wire

CSA Listing:
 CSA C22.2 No. 14-M91

RATINGS

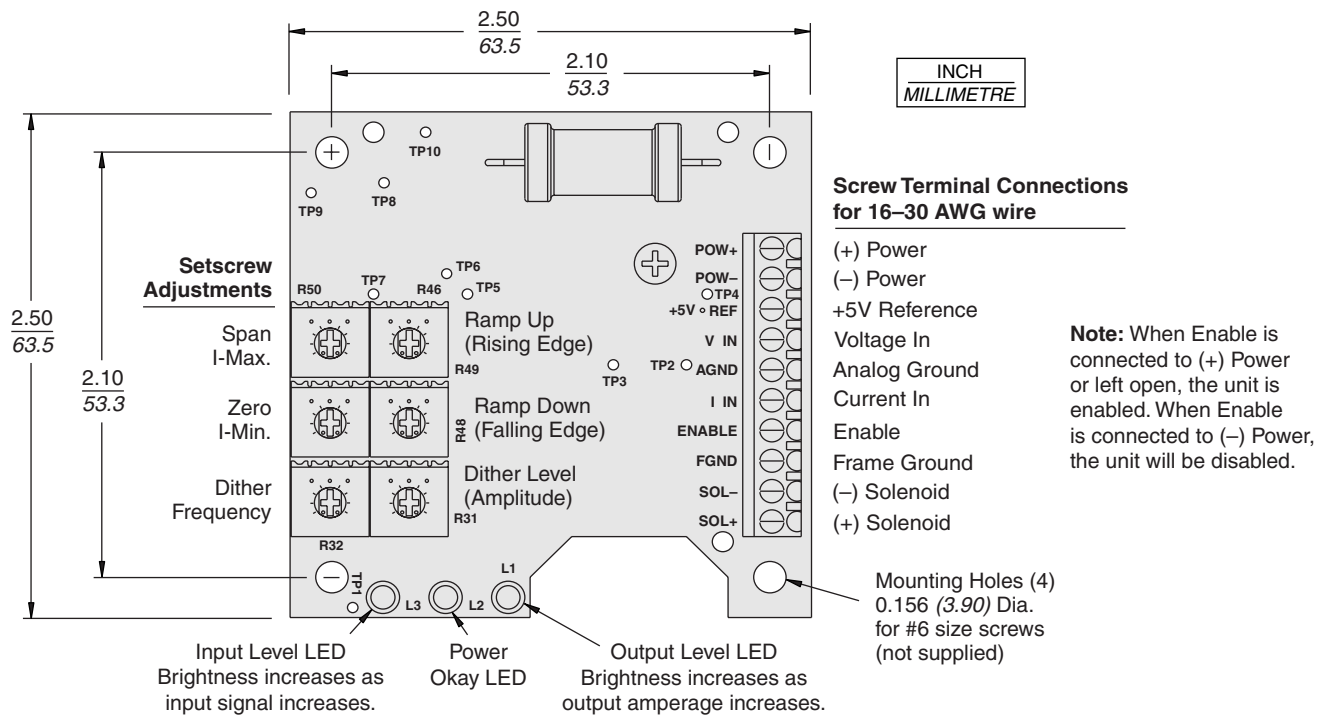
- Supply Voltage:** 9–32 VDC
 Coil rating must be matched with supply voltage: $R_{COIL} \leq (V_{SUPPLY} - 1.5 V) / I_{MAX}$.
- Control Input Signal Options:** 10K external potentiometer (accepts 5K to 50K pots), or 0–5 VDC signal, or 0–20 mA current signal (see connection diagrams)
- Input Resistance:** Voltage: 250K Ohms; Current: 33 Ohms
- Output Current:** up to 2000 mA (see ordering info.)
- Minimum Current Range:** 0–500 mA (adjustable; see ordering info.)
- Maximum Current Range:** 600–2000 mA (adjustable; see ordering info.)
- Ramp Up and/or Down:** 0.01–5.0 seconds (independently adjustable)
- Dither Frequency:** 70–350 Hz (adjustable)
- Dither Amplitude:** 0–10% of maximum current (adjustable)
- Operating Conditions:** –40° to 85°C; 0 to 85% relative humidity

SCHEMATIC



0-5 VDC, 10K Pot or 0-20 mA Input

DIMENSIONS



CONNECTIONS

For Complete Set-Up Instructions, see page 3.439.1

For Either 0-20 mA or 0-5 VDC Control: Turn ramp screws fully counterclockwise to eliminate ramping. Use I-Min. screw to set minimum speed with minimum control input. Use I-Max. screw to set maximum speed with 100% of control input.

10K Potentiometer (Pot.) Control

Supplied by User	Screw Terminal
(+) Power	(+) Power
(-) Power	(-) Power
(+) Pot.	(+) 5V Reference
10K Pot.	Voltage In
(-) Pot.	Analog Gnd.
Not Used	Current In
Enable	Enable
Frame Gnd.	Frame Gnd.
(-) Coil	(-) Solenoid
(+) Coil	(+) Solenoid

0 to 20 mA Control

Supplied by User	Screw Terminal
(+) Power	(+) Power
(-) Power	(-) Power
Not Used	(+) 5V Reference
Not Used	Voltage In
(-) 0-20mA	Analog Gnd.
(+) 0-20mA	Current In
Enable	Enable
Frame Gnd.	Frame Gnd.
(-) Coil	(-) Solenoid
(+) Coil	(+) Solenoid

0 to 5 VDC Control

Supplied by User	Screw Terminal
(+) Power	(+) Power
(-) Power	(-) Power
Not Used	(+) 5V Reference
(+) 0-5V	Voltage In
(-) 0-5V	Analog Gnd.
Not Used	Current In
Enable	Enable
Frame Gnd.	Frame Gnd.
(-) Coil	(-) Solenoid
(+) Coil	(+) Solenoid

TO ORDER

Part Number	Output	I-Min. Setting	I-Max. Setting
4000046	2000 mA Max.	0 to 500 mA	600 to 2000 mA
4000194	1200 mA Max.	0 to 150 mA	400 to 1200 mA