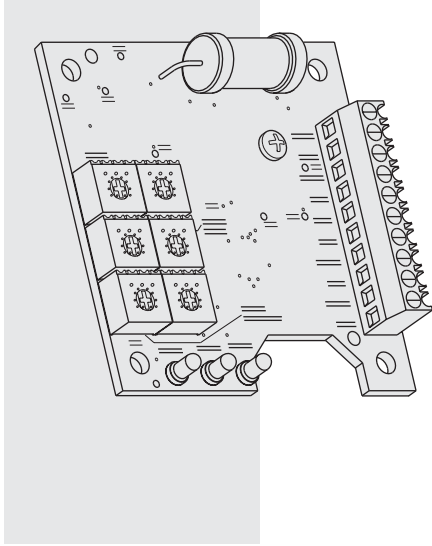


# Proportional Valve Controller—PCB Only—



**DESCRIPTION**      *0–10 VDC 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 0–10 VDC source.

**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.
- Filter eliminates electrical noise.
- Dither frequency and amplitude are adjustable for maximum valve performance.

**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:** 0–10 VDC

**Input Resistance:** 250K Ohms

**Output Current:** up to 2000 mA (see ordering info.)

**Minimum Current Range:** 0–500 mA (adjustable)

**Maximum Current Range:** 600–2000 mA (adjustable)

**Ramp Up and/or Down:** 0.01–5.0 seconds (independently adjustable)

**Dither Frequency:** 70–350 Hz ( $\pm 10\%$ )

**Dither Amplitude:** 0–10% of maximum current (adjustable)

**Operating Conditions:** –40° to 85°C; 0 to 85% relative humidity

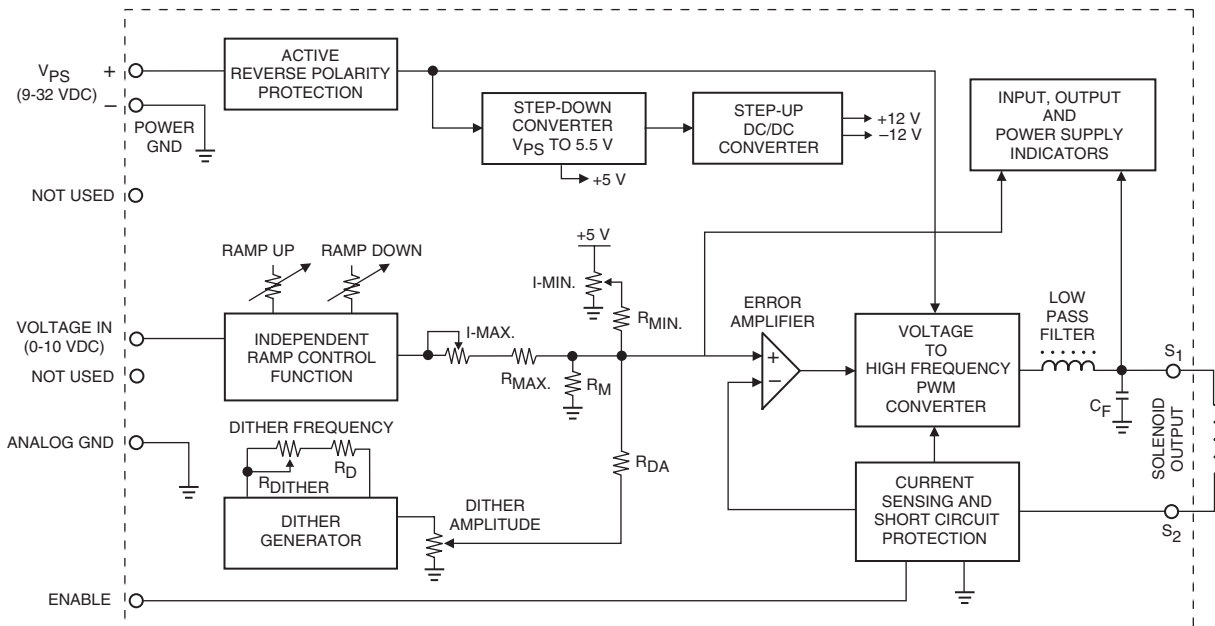
**GENERAL SPECIFICATIONS**

**Weight:** 25 g (0.88 oz.)

**Connections:** Screw terminals for 16–30 AWG wire

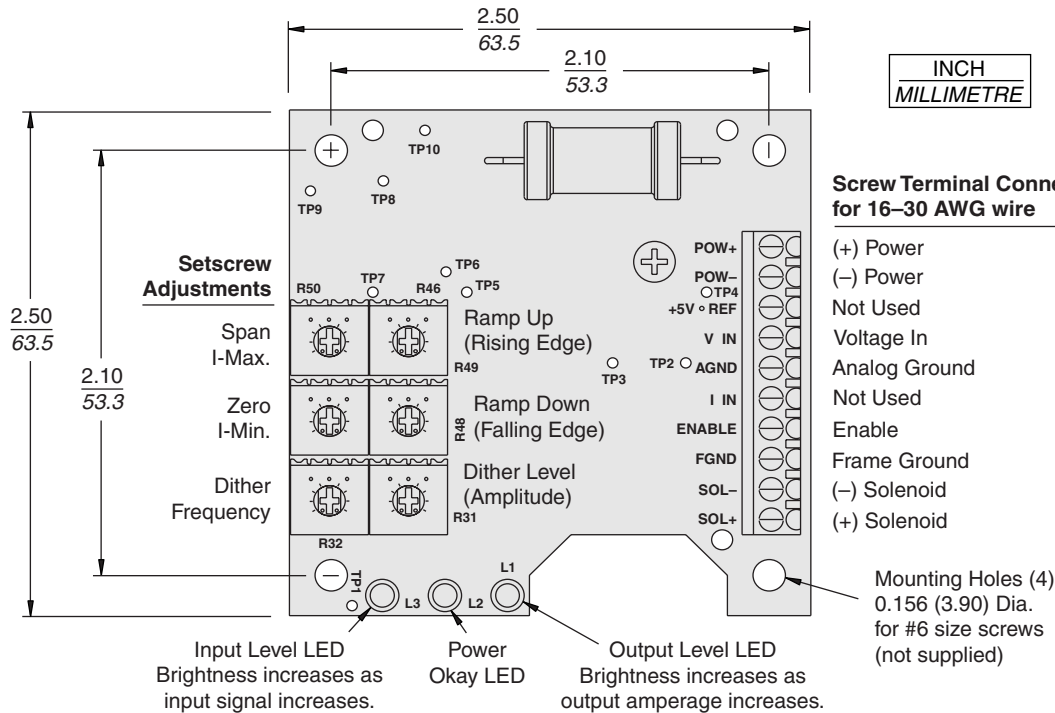
**CSA Listing:**  
CSA C22.2 No. 14-M91

**SCHEMATIC**



# 0-10 VDC Input

## DIMENSIONS



**Screw Terminal Connections for 16-30 AWG wire**

- (+) Power
- (-) Power
- Not Used
- Voltage In
- Analog Ground
- Not Used
- Enable
- Frame Ground
- (-) Solenoid
- (+) Solenoid

**Note:** When Enable is connected to (+) Power or left open, the unit is enabled. When Enable is connected to (-) Power, the unit will be disabled.

## CONNECTIONS

For Complete Set-Up Instructions, see page 3.439.1

**Basic Setup:** Controller is shipped with ramp trim pots 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.

### 0 to 10 VDC Control

Supplied by User	Screw Terminal
(+) Power	(+) Power
(-) Power	(-) Power
Not Used	(+) 5V Reference
(+) 0-10V	Voltage In
(-) 0-10V	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
4000141	2000 mA Max.	0 to 500 mA	600 to 2000 mA