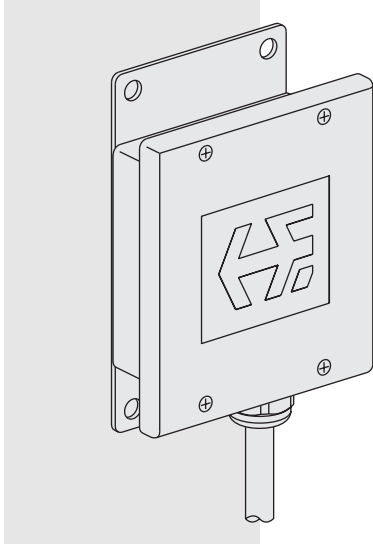


## Proportional Valve Controller—Metal Housing—



### DESCRIPTION *PWM (Pulse Train) Input*

A metal box-style control amplifier for controlling HydraForce proportional valves. The metal housing is IP67 rated. Remote mounting 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 PWM (pulse train) source.

### FEATURES

- Adjustments accessible under removable cover.
- 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.
- Current sensing circuit maintains output current regardless of changes in input voltage or coil resistance.
- Independent ramp adjustments.
- Filter eliminates electrical noise.
- Dither frequency and amplitude are adjustable for maximum valve performance.

### GENERAL SPECIFICATIONS

**Metal Housing:** Conformal coated; IP67 rated

**Weight:** Metal Box without cable: 400 g (14.1 oz.)

**Connections:** Mounted cable with unterminated wires provided; Length: Approx. 1.5 meters (59")

CE Documented

### RATINGS

**Supply Voltage:** 9–32 VDC

Coil rating must be matched with supply voltage:  $R_{COIL} \leq (V_{SUPPLY} - 1.5 \text{ V}) / I\text{-Max.}$

**Control Input Signal:** 250 to 5000 Hz PWM (pulse train); 5% to 95% duty cycle; Low < 1.5 volts; High > 3.5 volts; 50 volts maximum

**Input Resistance:** 9.7K Ohms

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

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

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

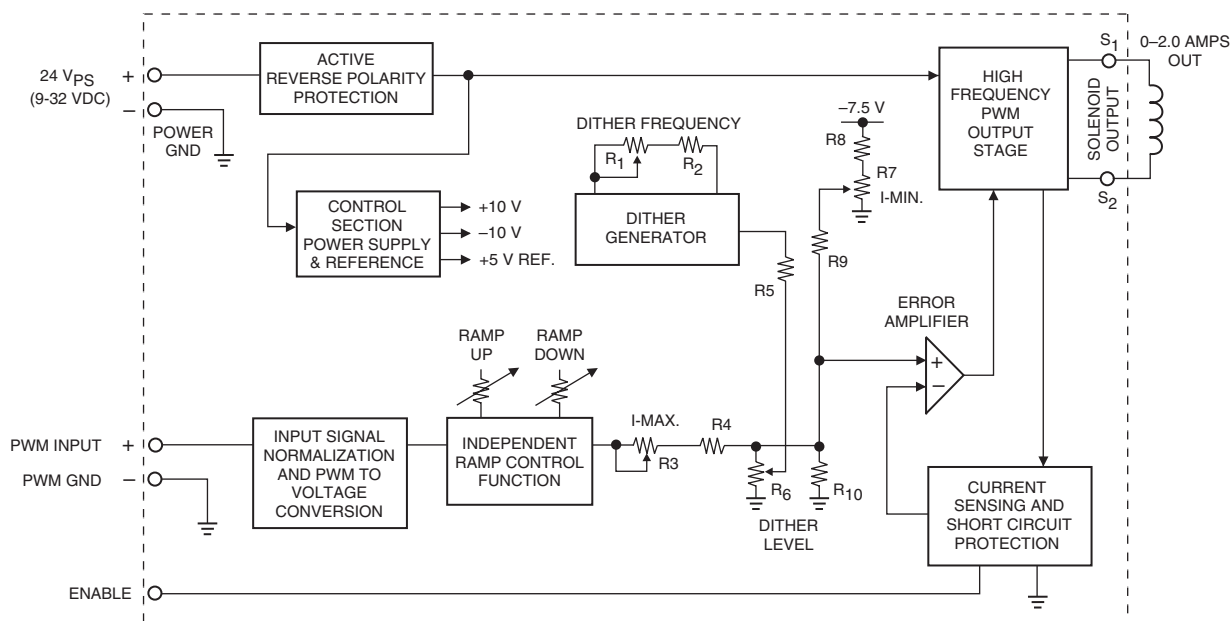
**Ramp Up and/or Down:** 0.01–5.0 seconds (independently adjustable)

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

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

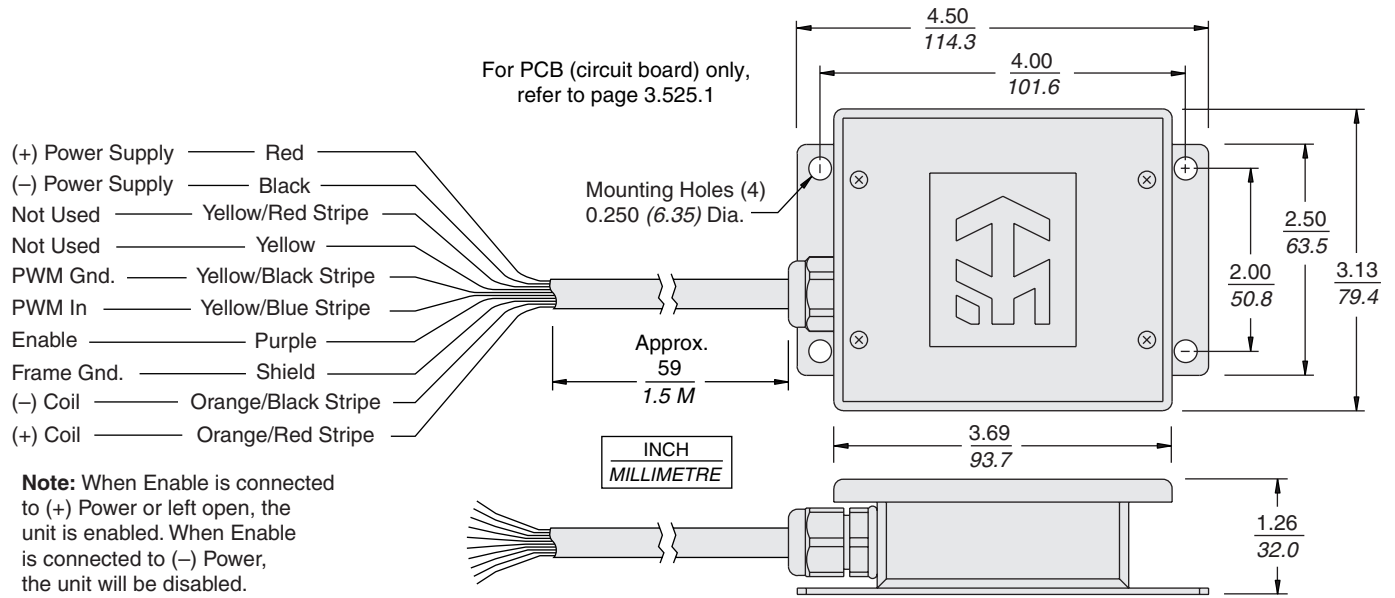
**Operating Conditions:**  $-40^{\circ}$  to  $85^{\circ}\text{C}$ ; 0 to 85% relative humidity

### SCHEMATIC



# PWM (Pulse Train) Input

## DIMENSIONS



## CONNECTIONS

For Complete Set-Up Instructions, see page 3.560.1

**Basic Setup:** 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.

### PWM (Pulse Train) Control

Supplied by User	Wire Color
(+) Power	Red
(-) Power	Black
Not Used	Yellow/Red Stripe
Not Used	Yellow
PWM Gnd.	Yellow/Black Stripe
PWM In	Yellow/Blue Stripe
Enable	Purple
Frame Gnd.	Shield
(-) Coil	Orange/Black Stripe
(+) Coil	Orange/Red Stripe

## TO ORDER

Part Number	Output	I-Min. Setting	I-Max. Setting
4000133	2000 mA Max.	0 to 500 mA	600 to 2000 mA