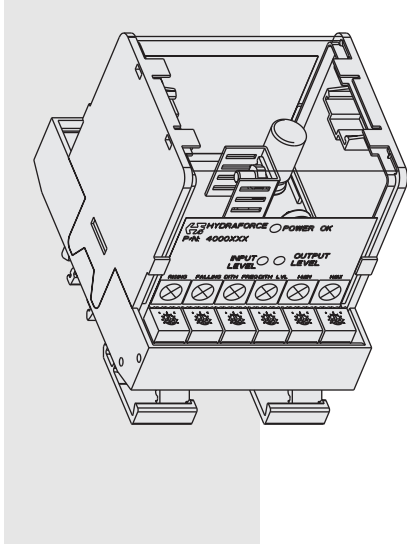


## Proportional Valve Controller—DIN Rail Mount—



### DESCRIPTION *4–20 mA Input*

A DIN rail-mount style control amplifier for HydraForce proportional valves. Remote mounting in a protected enclosure is required. This model is designed for circuits with long wire runs or where electrical interference is a problem.

### 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 4–20 mA 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.
- Current sensing circuit maintains output current regardless of changes in input voltage or coil resistance.
- Filter eliminates electrical noise; Independent ramp adjustments.
- 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:** 4–20 mA current signal (see connection diagram)

**Input Resistance:** 50 Ohms

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

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

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

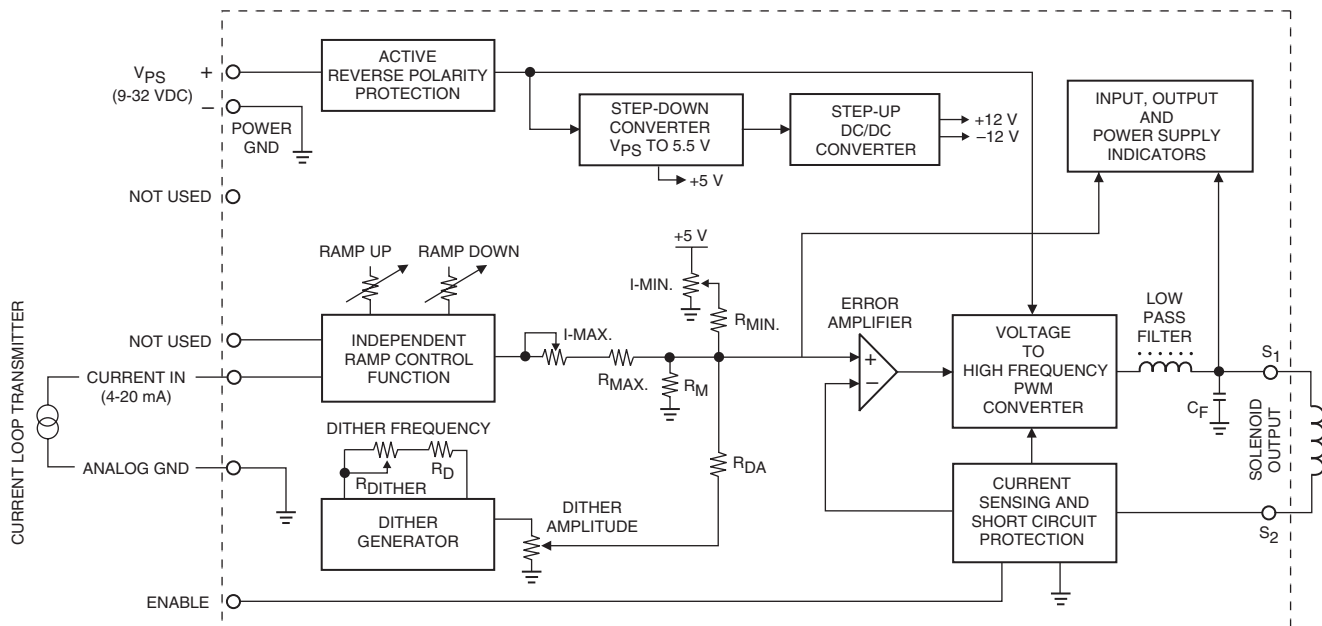
**Ramp Up and/or Down:** 0.01–5.0 seconds (independently adjustable)

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

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

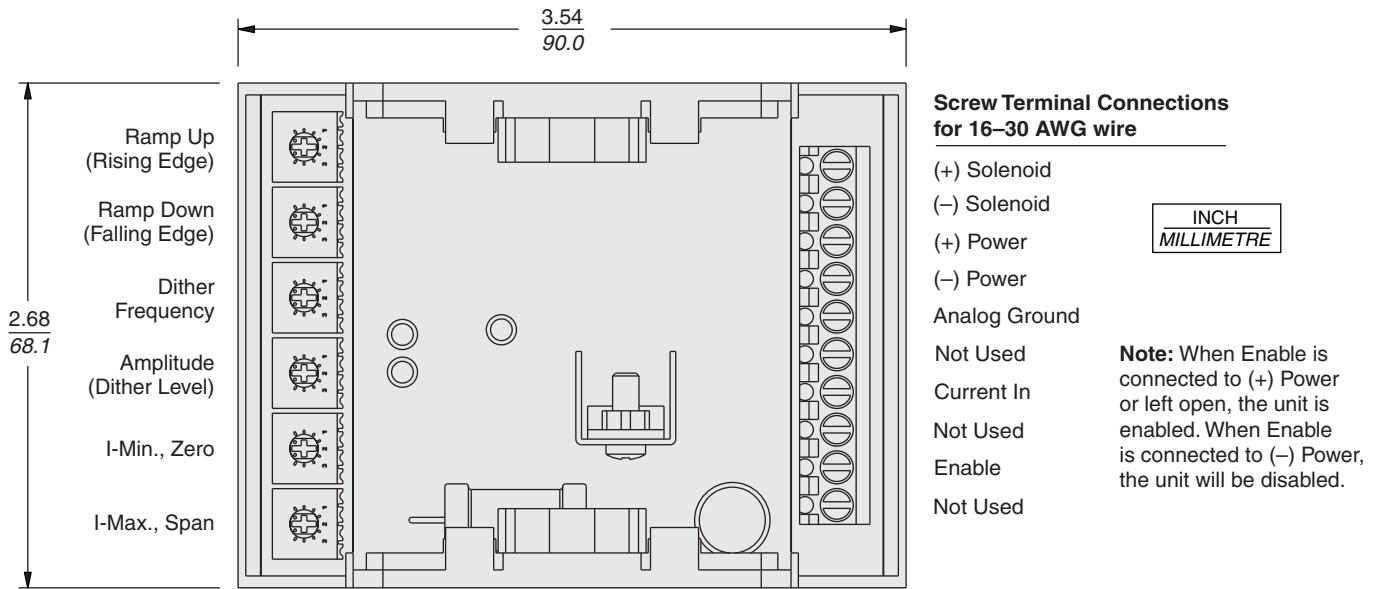
**Operating Conditions:** –20° to 85°C; 0 to 85% relative humidity

### SCHEMATIC



# 4-20 mA 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.

### 4 to 20 mA Control

Supplied by User	Screw Terminal
(+) Coil	(+) Solenoid
(-) Coil	(-) Solenoid
(+) Power	(+) Power
(-) Power	(-) Power
(-) 4-20mA	Analog Gnd.
Not Used	Voltage In
(+) 4-20mA	Current In
	Not Used
Enable	Enable
Not Used	+5V Ref.

## TO ORDER

Part Number	Output	I-Min. Setting	I-Max. Setting
4000139	2000 mA Max.	0 to 500 mA	600 to 2000 mA