WINMAN®

PROPORTIONAL ELECTRONIC CONTROLLER

WCPR.1.0 / AMP-V02 SERIES

Description

These switch mode units provide stepless control for proportional solenoids. Start current (offset) and full load current (FLC) can be individually preset. The current in the solenoid is substantially independent of changes in solenoid resistance and supply voltage variation. The inherent dither, due to switch-mode operation helps to overcome friction effects in the solenoid.
Ramp controls are fitted to give up to 10 seconds for the current in the solenoid to build up to its full load value, or to return to the offset point.

Tecnical Data

Supply voltage (V DC)		10～30	Ramp adjustment up/down (s)	0～10
Control signal (V DC)		0～7.5	Frequency adjustment (PWM) (Hz)	100～500
Maximum output current 12and 24 V DC (mA)		1800	Ambient operating temperature (°C)	-5～60 (-41～140°F)
Minimum output current (mA)	12V	0～900	Protection rating	IP 65
	24V	0～600	IP 65 Only with protection seals properly mounted.	
Weight (Kg)		0.15(0.26 lbs)		

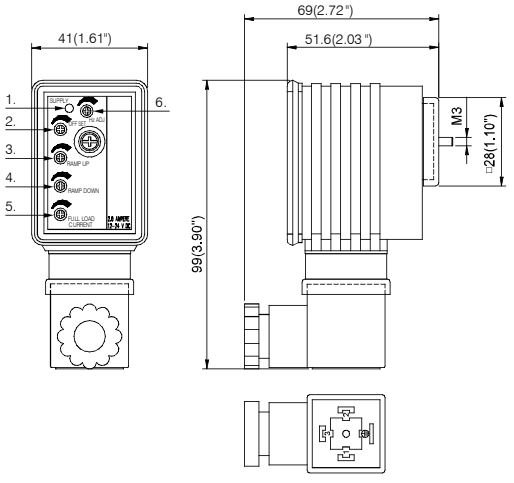
How to order

1	2
AMP-V02	

1 Valve Series
AMP=Proportional Electronic Controller

2 Design no

Dimensions



VERY IMPORTANT
Do not remove the amplifier from the coil while the power is on. This will cause a failure in the internal circuits of the amplifier, resulting in loss of output to the coil.

INSTRUCTIONS FOR SETTING

1. **SUPPLY**
   LED
2. **OFF SET**
   Minimum current adjustment. Adjust solenoid current so that the desired minimum value is obtained. Clockwise rotation increases current.

3. **RAMP UP**
   Ramping up time adjustment.
4. **RAMP DW**
   Ramping down time adjustment.
   For long ramping times, turn potentiometers clockwise, for short ramping times, turn potentiometers counter clockwise.

5. **FULL LOAD C**
   Maximum current adjustment. Adjust solenoid current so that the desired maximum value is obtained (up to 2A). Clockwise rotation increases current.

6. **FREQUENCY ADJ.**
   Adjusting this internal potentiometer (after removing the external plastic cover), it is possible to set the PWM frequency obtaining the desired control sensitivity. Clockwise rotation increases frequency from 100 to 500 Hz max. (Set frequency at 150 Hz when goods finished)

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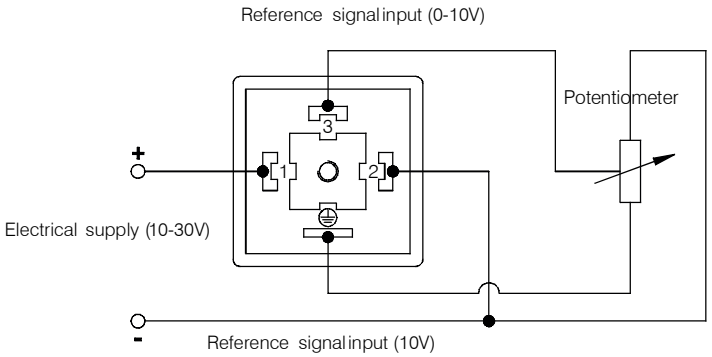
CONNECTION EXAMPLE

With external potentiometer



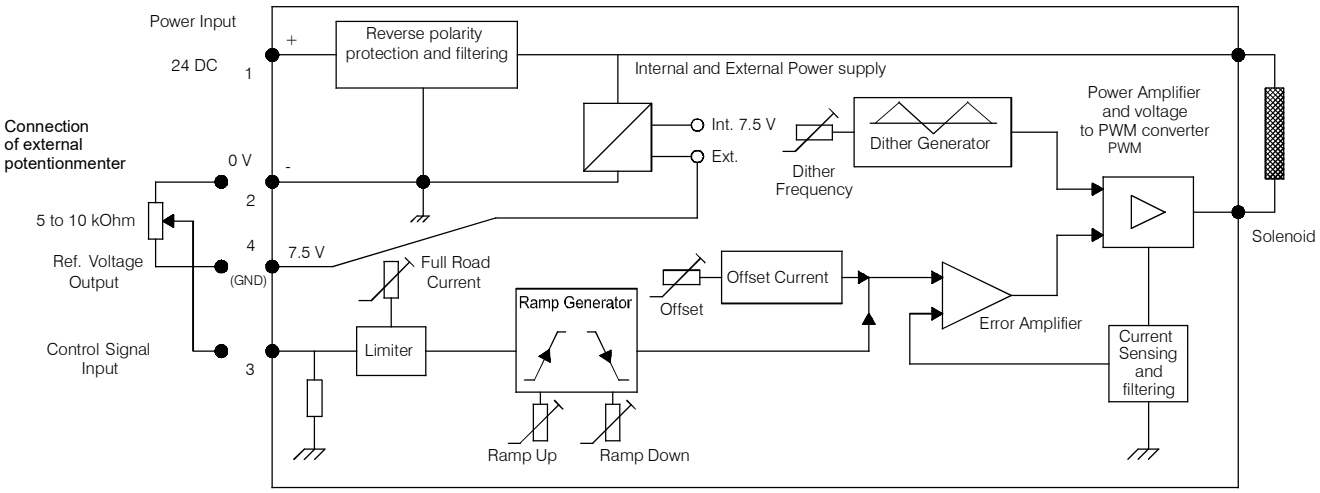
Pin 1 : V Batt
Pin 2 : GND Batt
Pin 3 : Input control signal
Pin GND : Control signal ground

NOTES

Electrical supply voltage ranges between 10 and 30 V DC. A power supply with rectified and filtered current is required. Use of a 4700 μF - 35V electrolytic capacitor is recommended.

The regulator is suitable for driving 12 or 24 V DC solenoid valves. In order to ensure the coil's maximum rated operating current, the controller supply voltage must be at least 1.5v higher than the coil's nominal voltage rating.

Control Port (S)



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Tecnical Data

Voltage type	DC Input	Dither frequency (DITHER) (Hz)	50~300
DC Power Input (V DC)	24	Input control volt. (V DC)	
Maximum power (W)	30	FUSE (A)	2
Valve coil restance (R)	10	Operation temperature (°C)	0~65 (32~149 °F)
Maximum output current (A)	1	Temperature drift (max.)	0.3 mA / °C)
		Storage temperature (°C)	-10~75(14~167 °F)

How to order

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AMP-V02	

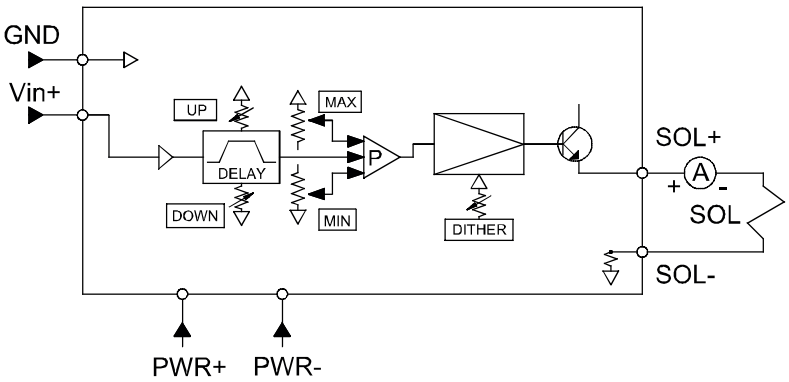
1 Valve Series
AMP=Proportional Electronic Controller

2 Design no

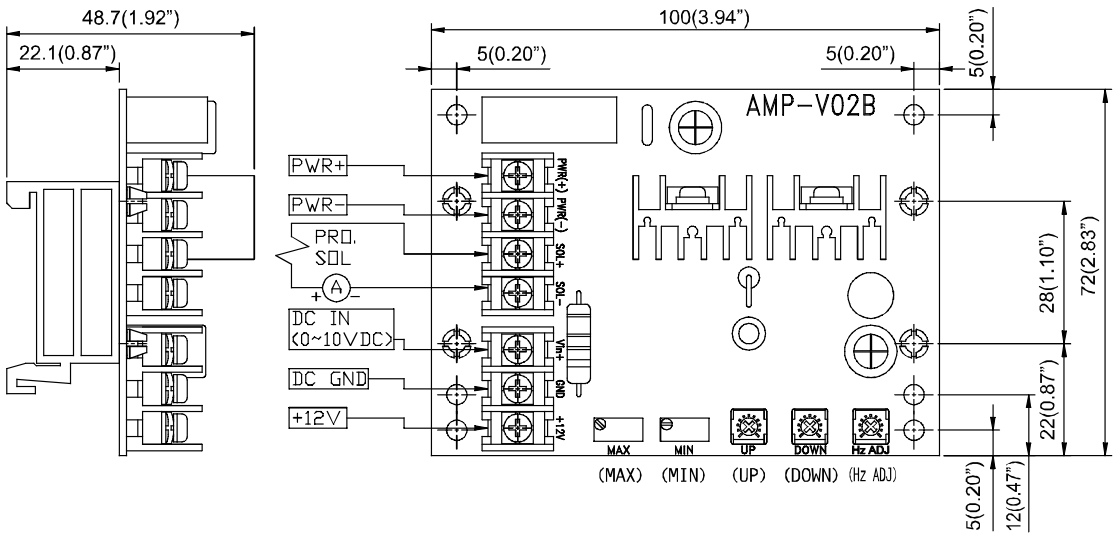
● **DESCRIPTION**

Power amplifiers for proportional valves

Control Ports



Dimensions



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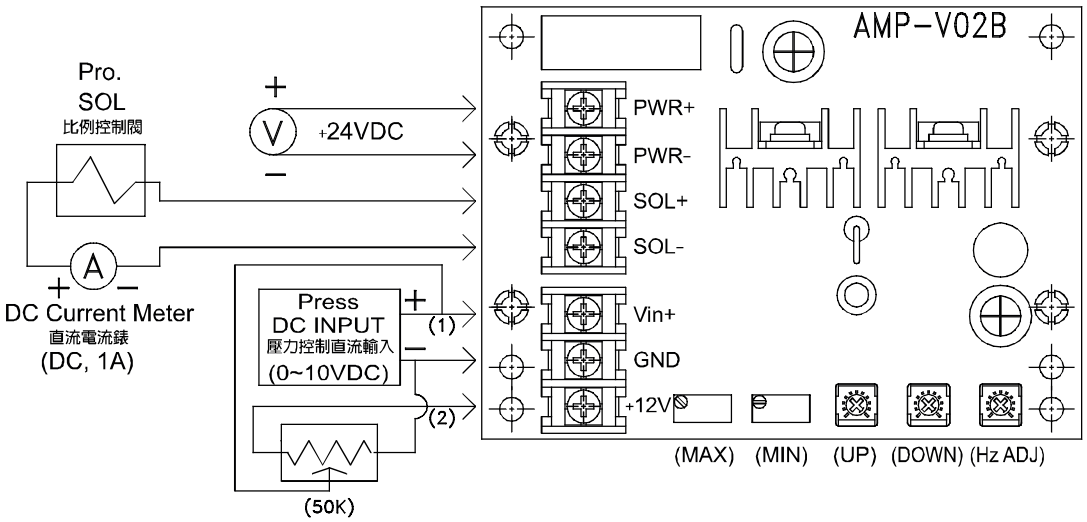
Adjustment



Control Methods

(1) Controller D/A Output.
(2) Potential Meter (50K) fo

Wiring

1) Wiring following diagram as above. Please use DC 1A Current Meter. If without designing in current meter, please adjust according to hydraulic pressure indicator for pressure adjustment.

2) List two control methods for just one using at a time:

(1) Controller D/A output DC 0~10V

(2) Potential Meter (50K) for Manual adjustment which using +12VDC on board.

Adjustment Steps

1) MIN ADJ.
When control signal output is 0V , adjust MIN VR to the setting value of DC current (with current meter) or pressure (with pressure indicator) . (clockwise for increasing value)

2) MAX ADJ.
When control signal output is 10V (for D/A output) or maximum voltage (for potential meter) , adjust MAX VR to the setting value of DC current (with current meter) or pressure (with pressure indicator) . (clockwise for increasing value. For potential meter, input voltage can up to 12V with no damage)

3) Ramp (UP)
Clockwise adjustment rising time shorter reaction speed faster.
Counter clockwise adjustment rising time longer reaction speed slower.

4) Ramp (DOWN)
Clockwise adjustment decline time shorter reaction speed faster.
Counter clockwise adjustment decline time longer reaction speed slower.

5) FREQUENCY ADJ. (Hz ADJ)
Adjusting potentiometer, it is possible to set the PWM frequency obtaining the desired control sensitivity. Clockwise rotation increases frequency from 50 to 300 Hz max. (Set frequency at 150 Hz when goods finished)