

# PROPORTIONAL ELECTRONIC CONTROLLER

AMP-W02 SERIES

電子比例控制器

## ◆ HOW TO ORDER 編號說明

1	2
AMP	W02

### 1 VALVE SERIES 系列名稱

AMP= Proportional Electronic Controller  
比例電子控制器

### 2 DESIGN NO 設計編號

## ◆ DESCRIPTION 說明

This compact, multi-function power amplifier uses advanced hybrid integrated circuits.  
採用混合IC尖端技術，具有小型，多功能的動力放大器

## ◆ GENERAL PRECAUTIONS 一般注意事項

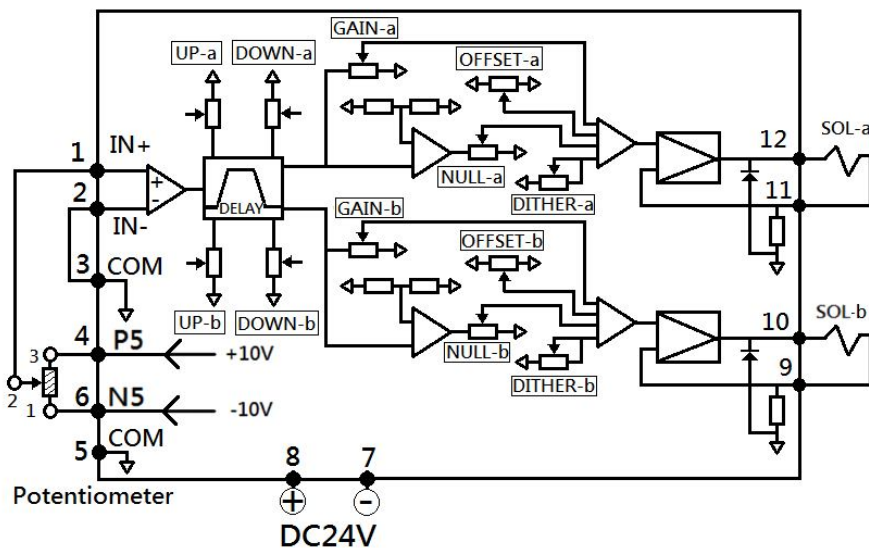
For connection between the amp/controller and solenoid coil, use a 2-conductor shielded wire with a conductor nominal cross-section area of 2.0mm<sup>2</sup>. Type VCTF (Rated Voltage: 300V vinyl cab tire cord. Wiring between the command voltage generator and amplifier should be VCTF 0.75mm<sup>2</sup> 3-conductor wire. Class 3 grounding. If the ground line is unstable, do not connect the shield to anything.

放大器、控制器和電磁線圈之間的連接，請使用導體通用橫斷面積為2.0mm<sup>2</sup>、線心數為2的屏蔽線，其型號為VCTF(額定電壓300V乙烯膠膠絕緣軟線)。指令電壓發生器和放大器之間的結線，請使用0.75mm<sup>2</sup>、線心數為3的VCTF型號。屏蔽線使用第3種接地方式。但是在地線不穩定的情況下，不要連接到任何線上。

## ◆ TECHNICAL DATA 技術資料

Input type 輸入形態	DC inputs	Supply to external power 供給外部電源 (V DC)	+10 -10
Maximum output current 最大輸出電流 (mA)	900 (20Ω)	Dither frequency (DITHER) 高頻脈動頻率 (Hz)	80 ~ 250
Input voltage 輸入電壓 (V DC)	-10 ~ +10	Supply voltage 電源電壓 (V DC)	24(24 ~ 30)
Input impedance 輸入阻抗 (Ω)	50k	Power consumption 消耗電力 (VA)	30
Externally set variable resistance 外部設定可變電阻 (Ω)	10k	Ambient operating temperature 工作環境溫度 (°C)	0 ~ 50 (32 ~ 120°F)
Drive solenoid 驅動線圈	SOL a, SOL b	Temperature drift (max.) 溫度轉移(最大)	0.2mA/°C
Zero adjust (NULL) 零點調整 (mA)	0 ~ 900	Weight 重量 (Kg)	0.3 (0.66 lbs)
Gain adjust (GAIN) 增益調整 (mA)	0 ~ 900mA/2.5V		

## ◆ CONTROL PORT(S) 動作形式



- Current is supplied to SOL a when input signal voltage polarity is positive, and to SOL b when negative. Either SOL a or SOL b can be driven at any one time.  
輸入信號電壓是正極時，向SOL a提供電流；是負極時，則向SOL b提供電流。  
同時，SOL a與SOL b中僅有一個線圈可以驅動。
- Push-pull drive is also supported.  
推挽驅動也有可能。
- To measure current, measure the voltage at SOL a terminal 11 and SOL b terminal 9, using terminal 5 as reference. The voltage across the 0.5Ω current detection resistor at 1A is 0.5V. Use a measurement device with an input impedance of at least 1MΩ.  
電流的測定，以5號端子為基準，用SOL a測定11端子的電壓，用SOL b測定9端子的電壓。因為兩端電壓有0.5Ω的電阻，所以1A電流上只有0.5V的電壓。測定器請使用輸入電流阻抗在1MΩ以上的產品。
- To use SOL a only, connect terminal 1 of the knob to amp terminal 2, use an input voltage range of 0 to 5V. (ER)  
僅使用SOL a時，請把電位器的1號端子連接到放大器的2號端子，並把輸入電壓範圍設定在0~5V的範圍內。(ER)

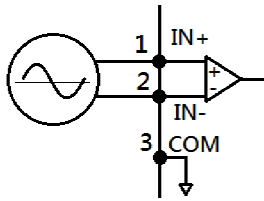
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電子比例控制器

AMP-W02 SERIES

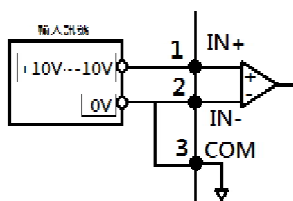
- Input signal can use (1) Differential Input (2) Singal End (3) Potentiometer  
輸入信號可使用(1)差動輸入 (2)單點輸入 (3)可變電阻

(1) Differential Input  
差動輸入



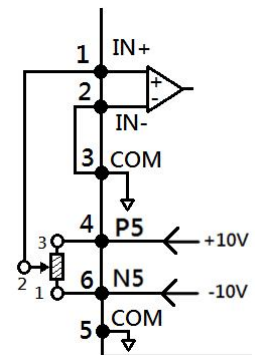
- 1) "Terminal Block-1"(IN+) and "Terminal Block-2"(IN-) then enter differential signal.  
"端子台-1"(IN+)和"端子台-2"(IN-) 接輸入差動訊號。
- 2) "Terminal Block-3"(COM) in connect.  
"端子台-3"(COM)不接。

(2) Singal End  
單點輸入



- 1)"Terminal Block-1"(IN+) then enter voltage signal.  
"端子台-1"(IN+)接輸入電壓訊號。
- 2) "Terminal Block-2"(IN-) connect to "Terminal Block-3"(COM) and with input signal 0V.  
"端子台-2"(IN-)和"端子台-3"(COM) 相接,並和輸入訊號的0V接一起。

(3) Potentiometer  
可變電阻



- 1) As drawing  
如圖示。
- 2)"Terminal Block-2"(IN-) connect with "Terminal Block-3"(COM)  
"端子台-2"(IN-)和"端子台-3"(COM)相接。

## ◆ INSTRUCTIONS FOR SETTING 設置說明

### ● POWER 電源

LED

### ● OFF SET 開始電流

Minimum current adjustment. Adjust solenoid current so that the desired minimum value is obtained. Clockwise rotation increases current.

最小電流調整. 調整電磁閥電流, 以便得到想要的最小值. 順時針增加電流.

### ● UP 向上

Ramping up time adjustment. 斜坡向上時間調整.

### ● DOWN 向下

Ramping down time adjustment. 斜坡向下時間調整.

For long ramping times, turn potentiometers clockwise, for short ramping times, turn potentiometers counter clockwise. 要更長的斜坡時間, 請順時針旋轉電位器, 要更短的斜坡時間, 請逆時針旋轉電位器.

### ● NULL (Zero Adjust) (零點調整)

This knob sets the lower limit of the operating pressure and flow rate. Rotating it clockwise increases the output current. This knob is also used for manual control while checking valve operation.

使用電位器設定所使用的電壓和流量的下限額. 按順時針轉動, 則輸出電流變大. 另外, 還可以當作手動電位器來確定閥的工作情況.

### ● GAIN (Gain Adjust) (增益調整)

This knob adjust output current in proportion to input signal voltage or the channel level knob rotation angle. Rotating it clockwise increases gain.

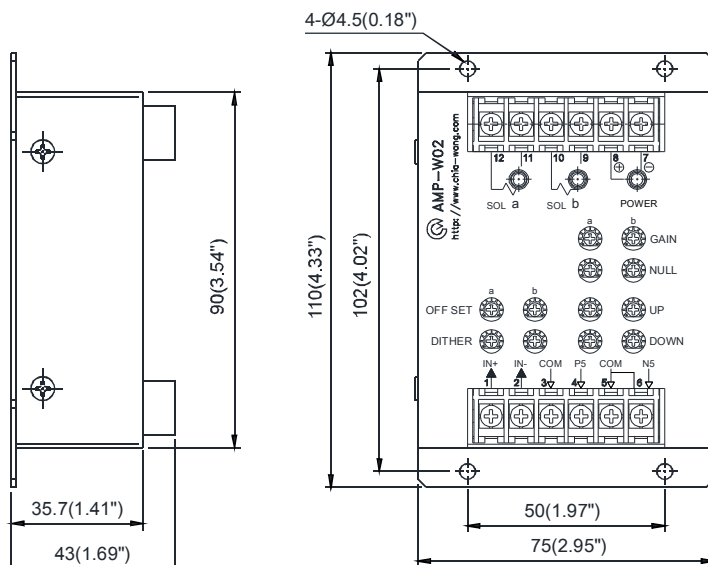
對於輸入信號電壓或者電路水平電位器回轉角度來說, 其相應的輸出電流比例調整, 是通過電位器來完成的, 按順時針方向轉動, 則增益變大.

### ● DITHER (Dither) (高頻脈動)

Adjusting potentiometer, it is possible to set the PWM frequency obtaining the desired control sensitivity. Clockwise rotation increases frequency from 80 to 250 Hz max. (Set frequency at 150 Hz when goods finished )

調整電位器, 能夠進行PWM頻率設置, 得到想要的控制靈敏度. 順時針轉動, 把頻率從80 Hz增加到最大值250 Hz. (出廠頻率設定為150 Hz)

## ◆ DIMENSIONS 外型尺寸圖



No.	Name 名稱
1	Input signal terminal IN+ 輸入信號端子
2	Input signal terminal IN- 輸入信號端子
3	Input signal terminal COM 輸入信號端子
4	Supply to external power P5 供給外部電源
5	Input signal terminal COM 輸入信號端子
6	Supply to external power N5 供給外部電源
7	-
8	DC24V
9	Output terminal valve 電流輸出端子
10	SOL b
11	Output terminal valve 電流輸出端子
12	SOL a