
Operation Manual

ELECTRO-PNEUMATIC POSITIONER

IP8100-0*1-*-J-*

A

IP8100-0*1-*-JR-*

A

WITH OUTPUT CURRENT(4~20mADC)

 Caution

This product is NON-EXPLOSION PROOF though it is with terminal box.

Zero point / Span adjustment of the output current of IP8100 type positioner output signal specification (potentiometer built-in) should be carried out after initial adjustments.

This product has a potentiometer and P.C.board built into it. It is for ensuring the actuator's opening by 4-20mADC of output signal produced by supplying power to it. According to the operating direction of feed back shaft when input signal is increased, the clockwise operation is defined as regular operation, and the counterclockwise one is as reverse operation. Supplying power can be set freely between DC12~35V.

A

Action IP8100-0※1-※J-※

A

J	Direct Action:The actuator shaft rotates in a clockwise direction when the input current increase.
JR	Reverse Action:The actuator shaft rotates in a counter-clockwise direction when the input current increase.

1 Wiring of input signal, power source and ammeter

- (1) Connect the input signal (for Positioner control) to input side of the terminal board in the terminal box.
- (2) Connect power source (for detecting output current) to supply side of the terminal board.
- (3) Connect ammeter in series between (+) side and (+) side of supply of terminal board or (-) side and (-) side of supply. Please refer Fig.1 for wiring

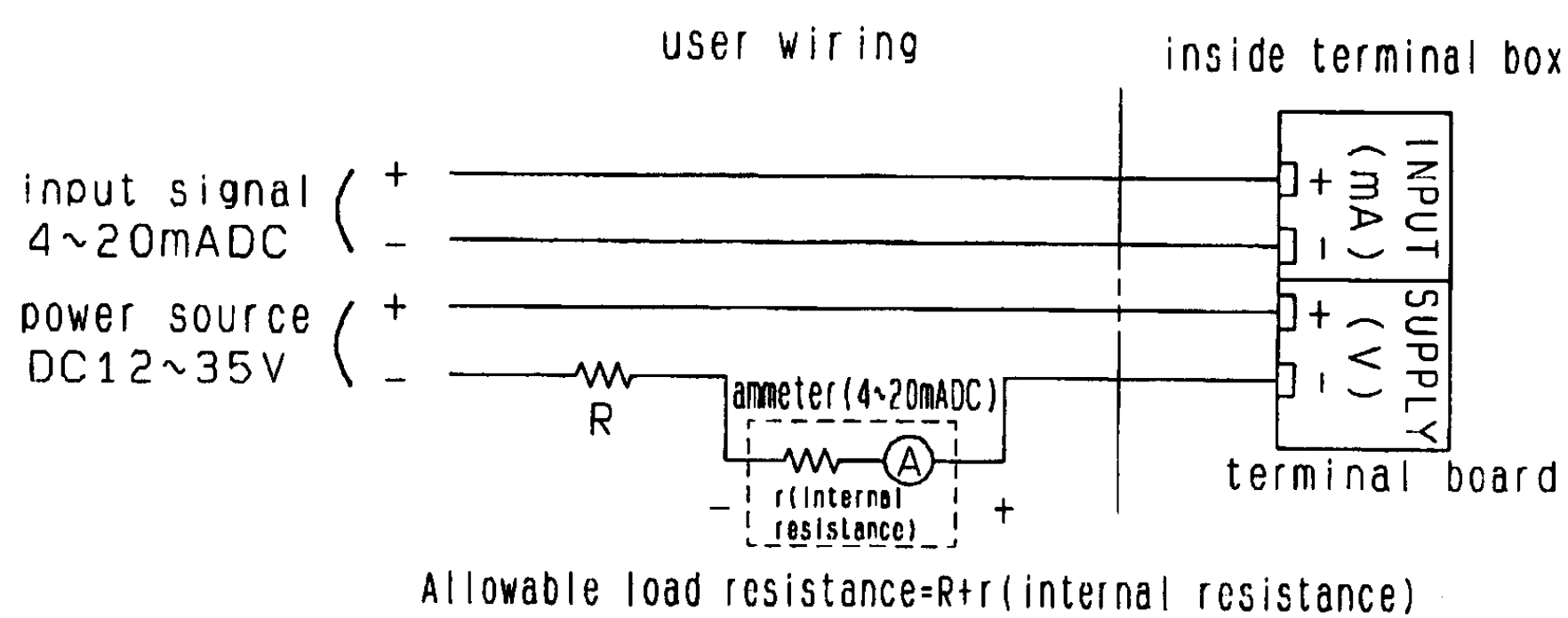


Fig 1 Wiring diagram

NOTE!
Allowable load resistance in drawing 1 depends on supply voltage

(4) The allowable load resistance is obtained by the formula below.

$$\text{Allowable load resistance} \leq (\text{Supply voltage} - 12\text{V}) / 20\text{mADC} - (1)$$

Normal output current is not obtained if the load resistance value exceeds the results of the formula. Please confirm internal resistance when selecting ammeter.

2 Zero · Span adjustment

This product requires zero span adjustment of output current according to actuator's opening (rotating angle). Please follow steps below.

- ① Set actuator's output opening to 0% after adjusting the zero span.
- ② Classification of accessory: For J, Output signal is connected to rise in normal operation (clockwise). To apply the positioner in reverse operation (counter-clockwise), specify the classification of accessory, JR, beforehand. Rearrange the cam to the opposite side and switch the terminal "A" and "C" of the substrate in Figure 2 to change the operating direction of the delivered product and output direction of the output signal.
- ③ Loosen potentiometer set screws applying power and ensuring output current, then rotate the potentiometer $10^{\circ} \sim 20^{\circ}$ away from dead band (see Fig.3) to decide the start point. Settle the potentiometer with the screws again(Refer " Cautions " !)
- ④ Adjust zero · span with variable resistor.

Adjust zero point and span alternately repeatedly as they interact with each other. Since this variable resistor can be wound endlessly, do not overwind otherwise internal equipment might be broken. Adjust them ensuring output signal.

CAUTION (settling potentiometer)

- (1) Output signal does not go at the dead band of the potentiometer
- (2) If set the start point (4mADC) at the borderline of resistance portion and the dead band, malfunction might occur.
- (3) If output current is 0mADC during opening, the potentiometer is possibly used across the border between the resistance and the dead band. Follow ③ of section 2 ensuring potentiometer rotating direction.
- (4) When upward direction of the output signal is changed, adjust the potentiometer fixing position to avoid interpretation between cam and lead wire of the potentiometer.

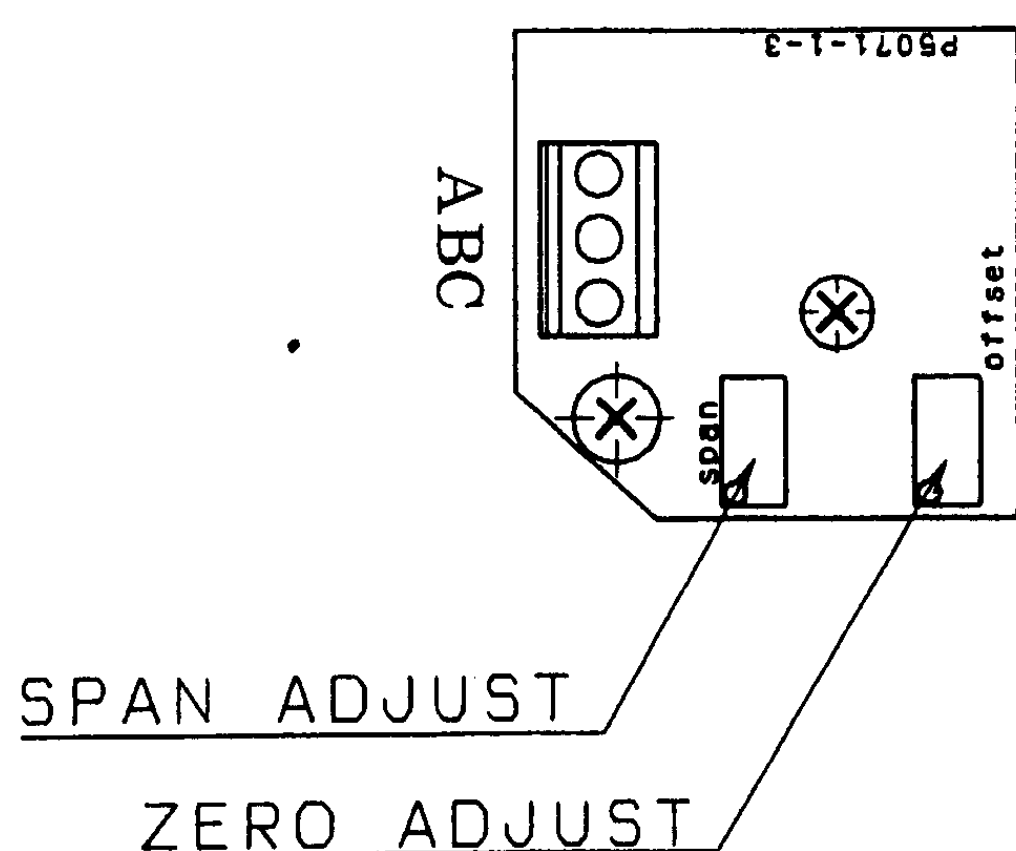


Fig2. P.C.board

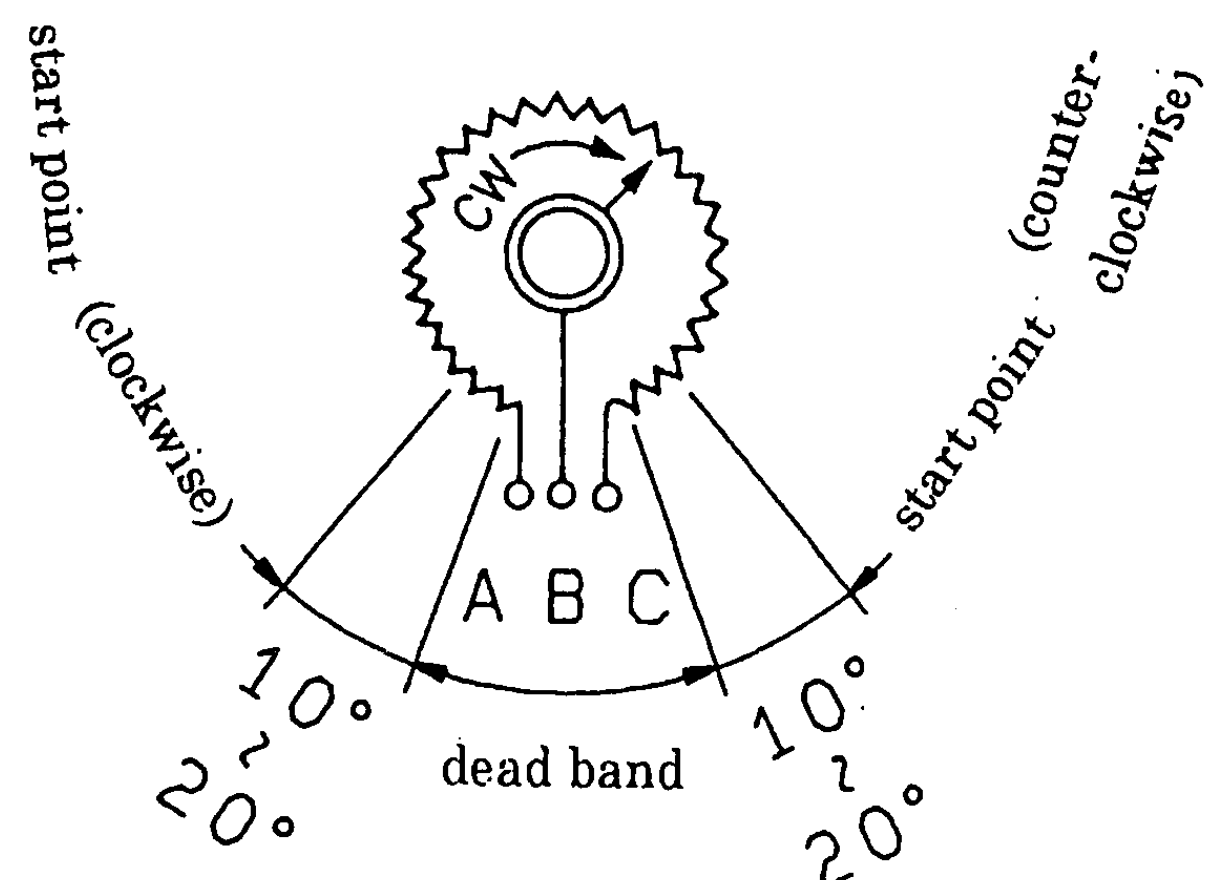


Fig.3 Potentiometer