
Operation Manual

ELECTRO-PNEUMATIC POSITIONER

(IP8000 series, lever type)

IP8000-0*1-*-X84-R-*

IP8000-0*1-*-X84-D-*

WITH OUTPUT CURRENT(4~20mADC)

 Caution

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

SMC CORPORATION

Zero point / Span adjustment of the output current of IP8000 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 lever when input signal is increased, the clockwise operation is defined as regular operation, and the counterclockwise one is as opposite operation. Supply power can be set freely between DC12~35V.

Action

IP8000-0※1-※-X84-※-※

D	Direct Action : The valve stem moves down when the input current increase.
R	Reverse Action : The valve stem moves up when the input current increase.

1. Mounting of Positioner

To mount the positioner to the actuator, place the valve stem and lever so that they make a right angle with each other when the input signal is 50% .

Note : If the right angularity is off more than ± 5 degrees, there are some cases where zero adjustment cannot be done. Do not change the fixed position of the potentiometer instead of zero adjustment.

2. 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

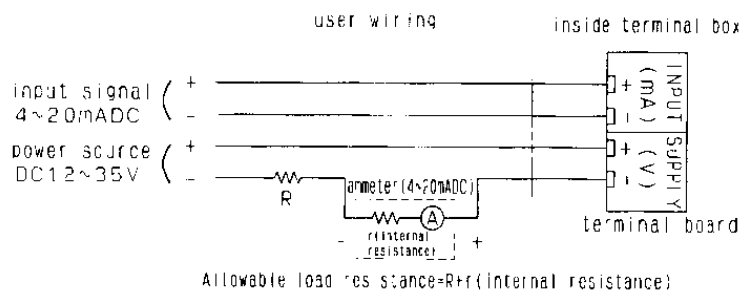


Fig 1 Wiring diagram

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 be obtained if the load resistance value exceed the result of the formula. Please confirm internal resistance when selecting ammeter.

3. Zero and Span adjustment

This product needs to be done zero and span adjustment for output current according to the stroke of the actuator (oscillating angle of feed back lever). Follow the procedure below.

- ① Set actuator's output stroke 0% after adjusting the zero and span.
- ② Adjust zero and 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.

4. Alteration of operating direction

This product needs accurate mounting and adjustment to satisfy its performance. The followings are two points to notice.

- ① The potentiometer is difficult to adjust, so the operating direction cannot be changed by customers.
- ② Do not loosen the pointed screws with arrows on Figure 3 because it will be a cause of operating failure or result in a decline in accuracy.

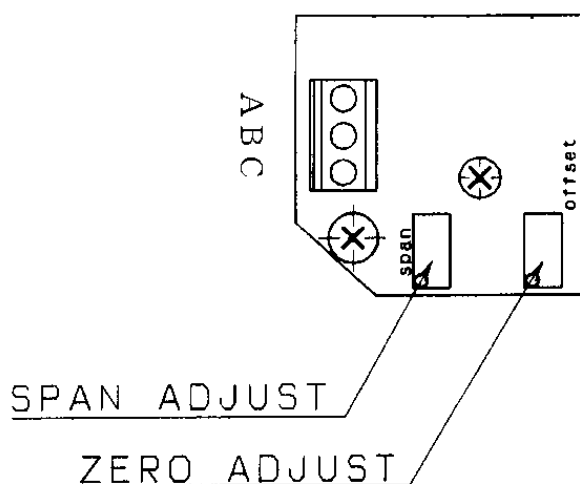


Fig2. P.C.board

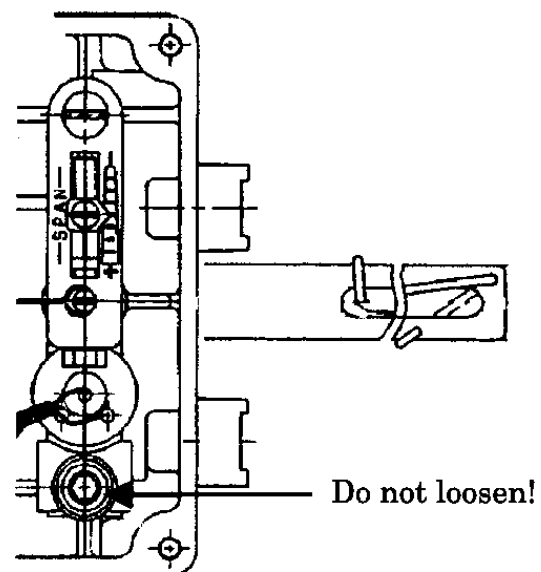


Fig.3 Mounting of potentiometer diagram