



IM-0467 REV. D  
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INSTALLATION & MAINTENANCE INSTRUCTIONS  
FOR LF-1210 POSITION SENSOR

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## I. General Description

The Jordan LF-1210 Position Sensor is designed to receive a mechanical linear input and send out an electrical signal proportional to the input rack position. Limit switches may be specified to actuate within the linear range of the sensor.

## II. Specifications

Standard:

Potentiometer - 1 turn

1K ohms for use with Jordan amplifier

15K ohms for use with Jordan remote indicator

Input rack linear ranges available

3, 6, 9, 12, 15, and 21 inches

Optional

Limit Switches--Two adjustable cam actuated, SPDT, isolated contact, 10 A (non-inductive),

Precision Potentiometer, 1 turn, 1000 or 10K ohms

By use of Precision Potentiometer, 10 turn, 1000 or 10K ohms

## III. Storage

If the actuator will not be installed, it should be stored in a clean, dry area where the ambient temperature is not less than -20°F. The actuator should not be stored in a corrosive environment.

## IV. Operation

The LF-1210 Position Sensor converts rack position to an electrical signal by means of a potentiometer which is geared to the input rack. Various gear ratios are available to give full range rotation of the potentiometer. The electrical signal from the potentiometer may be used to indicate position on a remote meter. It also may be used as a feedback signal into a servo amplifier in a closed loop control system.

The optional limit switched are cam actuated and are generally set to operate at the limits of potentiometer travel. The actuating cams can be adjusted to operate the switch at any point within the range of travel.

## V. Installation

### A. Mounting

The outline dimensions of the sensor are shown on the enclosed outline drawing. Allow clearance above the sensor to remove the cover. The standard internal wiring is shown on the enclosed wiring drawing. If a special stroke or special wiring is specified, the appropriate drawings will be supplied with the unit.

### B. Start Up & Calibration

The potentiometer and limit switches in the sensor must be aligned with the driving rack so that the range of the potentiometer coincides with that of the driving rack.

**CAUTION:** *The potentiometer may have internal stops which will be damaged if the unit is not properly aligned.*

## VI. Maintenance

### A. Lubrication

The sensor has been lubricated at the factory and should not require additional lubrication.

## VII. Adjustments

### A. Potentiometer Alignment - sensor supplied only

- a. Remove sensor cover.
- b. Remove the three screws holding the disc under the potentiometer and lift out the disc.
- c. Replace the potentiometer if necessary and reassemble on disc.

**Note:** *The gear must be replaced in the same position to mesh properly with the mating gear. DO NOT replace disc in sensor yet.*

- d. Couple the sensor to the driving rack and activate it in such a manner that the sensor rack retracts. Continue retracting to the limit of travel.
- e. Rotate the loose potentiometer until the resistance between terminals 1 & 2 (for standard wiring) is 10 to 20 ohms.

## VII. Adjustments cont.

### A. Potentiometer Alignment - sensor supplied only

- f. Replace the potentiometer and disc in the sensor. Rotate disc if necessary to re-adjust resistance. Replace the three mounting screws.
- g. Reverse driving rack towards the other limit of travel and, in doing so, check the resistance between terminals 2 & 3 (standard wiring).

**Note:** Do not allow the resistance to go below 10 ohms or the potentiometer will be damaged. The driving rack must not be turned beyond this point.

### B. Limit Switch Adjustment

- a. Couple the sensor to the driving rack and activate it in such a manner that the sensor rack retracts. Continue retraction to the limit of travel.

- b. Loosen the set screw of limit switch No. 2 cam left limit (movement of rack right to left viewed from mounting block with rack teeth down) and rotate the cam until the switch just falls off onto the flat of the cam. Tighten cam.
- c. Move the sensor rack to the right and notice if the switch immediately climbs back up onto the round portion. If not, repeat steps a. and b. above, except that the cam must be rotated to the other side of the flat.
- d. Move the driving rack to the other limit (right in the sensor) and repeat step b. for limit switch No. 1.

**Note:** Limit switch No. 2 must not actuate during this movement.

### C. Potentiometer & Limit Switches - sensor supplied

Proceed as in Sections A and B above with exception that, in paragraph A step f., instead of rotating the disc, the potentiometer can be rotated on the small bracket by loosening the nut.