



**PT-1400 SERIES
TWO WIRE POSITION TRANSMITTER**

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Due to wide variations in the terminal numbering of actuator products, actual wiring of this device should follow the wiring drawing supplied with the unit.

IDENTIFICATION LABEL

An identification label is attached to each actuator. When ordering parts or requesting service information, please provide all of the label information.

RECEIVING AND INSPECTION

Upon receipt, carefully inspect the actuator for shipping damage. Report all damage immediately to the freight carrier and to Jordan Controls, Inc.

Carefully unpack the actuator. Take care to save the shipping carton in case return is necessary. Verify that the items on the packing list or bill of lading agree with the expected list.

STORAGE

If the actuator will not be installed immediately, 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.

EQUIPMENT RETURN

A returned goods authorization number (RG Number) is required to return any equipment for repair. This number must be obtained from the Jordan Controls Service Department. The equipment must be sent to the following address after the RG Number is issued:

Jordan Controls, Inc.
5607 West Douglas Avenue
Milwaukee, WI 53218
Attention: Service Department.

To facilitate quick handling and return, include the following information with the returned equipment:

RG Number
Company name and address
Repair Purchase Order Number
Brief description of the problem

INTRODUCTION

Jordan Controls designs, manufactures, and tests its products to meet many national and international standards. However, for these products to operate within their normal specifications, they must be properly installed, used, and maintained. The following instructions must be adhered to and integrated with company safety programs when installing, using and maintaining Jordan Controls products.

- *Read all instructions prior to installing, operating, and/or servicing this product.
- *If any portion of the instructions is unclear, contact a Jordan Controls representative for clarification.
- *Follow all warnings, cautions, and instructions marked on and supplied with the product
- *Install this equipment as specified on Jordan Controls installation instructions and in accordance with any other codes which may apply. Connect all products to the proper electrical sources.
- *Handle, move and install each product using the appropriate number of personnel and moving devices/equipment (dolly, forklift, crane, etc.). Failure to do so could result in serious personal injury.
- *To ensure proper performance, use qualified personnel to install, operate, update, tune, and maintain the product.
- *When replacement parts are required, ensure that the qualified service technician uses only replacement parts specified by Jordan Controls. The use of unauthorized substitutions may result in fire, electrical shock, other hazards, and/or improper equipment operation.
- *Ensure that all protective covers are in place (except when maintenance is being performed by qualified personnel) to prevent electrical shock, personal injury, and damage to the actuator.

CAUTION - SHOCK HAZARD

Installation and servicing must be performed only by qualified personnel. De-energize all sources of power *before* removing the actuator cover. *Keep the cover tight when circuits are alive.* Failure to follow these precautions may result in serious personal injury.

GENERAL DESCRIPTION OF OPERATION

The Jordan Controls, Inc. PT-1400 Series are two-wire transmitters that modulate the current through the supply line, proportional to the angular shaft position of the potentiometer. The PT-1400 Series will be referred to as "transmitter" for the rest of this manual.

The transmitter is powered by a customer supplied, external +12.0 to +36 Vdc, 25 mA regulated or unregulated power supply. "Zero" and "Span" adjustments, along with a clockwise-counter-clockwise connector are easily accessible on the top of the transmitter to aid in set-up and calibration.

ELECTRICAL INSTALLATION

All wiring shall meet the prevailing electrical codes, as well as any other standards which may apply. Shielded wiring is recommended for the feedback wiring. *Do Not* connect the chassis ground to the shield ground. Refer to the wiring diagram for further information on wiring. The diagram included in this manual is a typical wiring diagram. For specific wiring, refer to the electrical drawing which was shipped with the actuator.

fusing is not provided in the actuator, and must be installed in line. Fuse to current value slightly higher than the driven load (slow-blow fuse).

START UP AND CALIBRATION

NOTE: An ohm meter is required for calibration.

For the transmitter to function properly over its linear range, the 4 mA end of the feedback potentiometer must be set to 50 ohms. To determine which end of the pot should receive this 50 ohm setting, determine if the application requires a clockwise (cw) or counter clockwise (ccw) shaft rotation for an increasing 4 to 20 mA signal, unplug the connector housing, and rotate the shaft such that 50 ohms is measured between pins 1 and 2 (blue and white wires, respectively) of the housing. Plug the connector housing back into the cw position as shown on the cap label. If an increasing signal is

required for a ccw pot rotation, set 50 ohms between pins, pins 2 and 3 of the connector housing (white and yellow wires, respectively), and plug the housing back into the ccw position as shown on the cap.

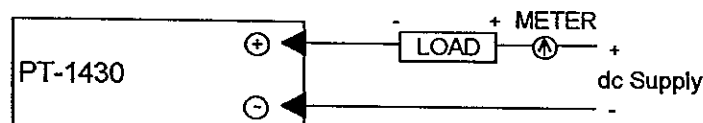
LUBRICATION AND PERIODIC MAINTENANCE

No periodic maintenance is required.

SET-UP PROCEDURE

1. Connect the customer-supplied dc power supply and load to the transmitter as shown in the installation and wiring diagram.
2. Position the pot shaft to the position where the 4 mA output of the transmitter is desired.
3. Turn on the power supply and monitor the current through load.
4. Adjust the "Zero" trimpot for 4.0 mA.
5. Rotate the potentiometer shaft to where the 20 mA output is desired and adjust the "Span" trimpot for 20.0 mA (a span of 16 mA).
6. Repeat steps 4 and 5 until proper accuracy is achieved. No further adjustments are necessary.

TYPICAL WIRING DIAGRAM



A regulated dc power supply is recommended.

A one-way watt resistor is recommended for a load.

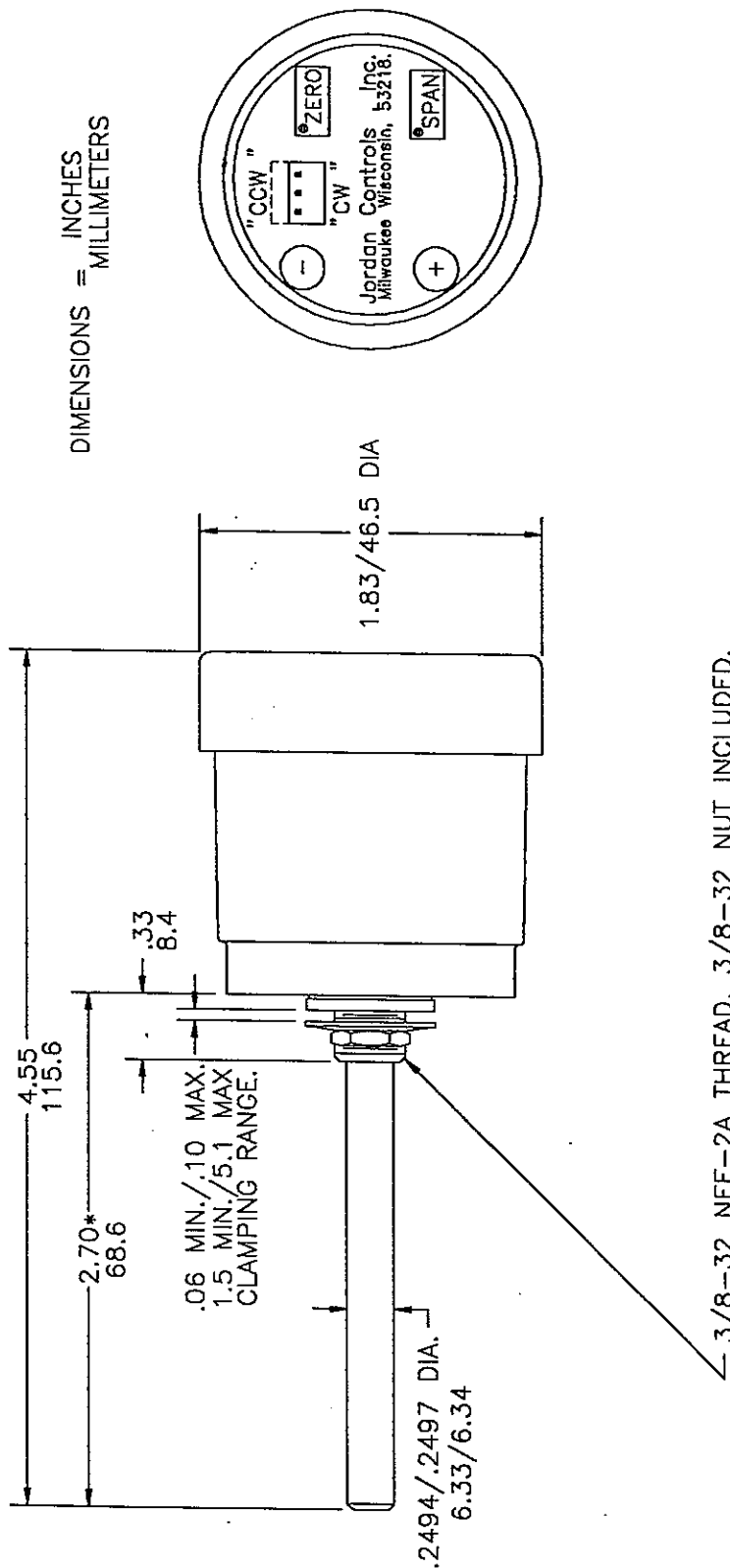
dc Input: 10.0 Vdc (min.) to 36 Vdc (max.)

$$\text{Load (ohms)} = \frac{\text{Supply Voltage} - 12 \text{ Vdc}}{.020 \text{ A}}$$

$$\text{Example: } \frac{24 \text{ Vdc} - 12 \text{ Vdc}}{.020 \text{ A}} = 600 \text{ ohms}$$

INSTALLATION DIMENSIONS PT-1400 SERIES

DIMENSIONS = INCHES
MILLIMETERS



* 3/8-32 NEF-2A THREAD, 3/8-32 NUT INCLUDED.
* STANDARD LENGTH. THE INPUT SHAFT MAY BE CUT TO LENGTH AS REQUIRED BY THE CUSTOMER