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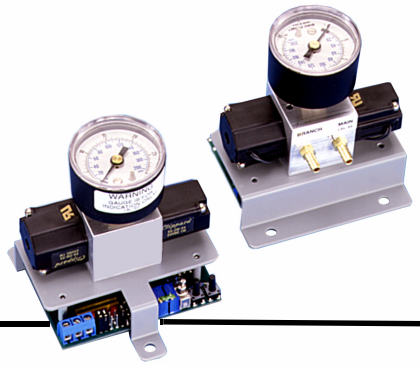
Electropneumatic Transducer

IP-411 and IP-413

INSTRUCTION SHEET

M2073/0303



SPECIFICATIONS

Accuracy*: ± 1% FS

Maximum Supply Pressure: 40 PSIG

Pressure Differential: 0.1 PSIG (supply to branch)

Supply Voltage: 18 to 28 VAC or VDC

Supply Current: 150 mA

Enclosure: 18 Ga. C.R. steel chassis

Finish: Baked on enamel PMS2GR88B

Conformance: EMC standards EN50082-1(1992), EN55014(1993)/EN60730-1(1992)

Compensated Temperature Range: 25°F to 150°F (4°C to 65°C)

T. C. Error: ± 0.025%/°F (.03%/°C)

Media Compatibility: Clean dry air or any inert gas

Port Connection: ¼-inch O.D. poly tubing

Environmental: 10 to 90% RH non-condensing

Termination: Screw terminal block

Wire Size: 12 Ga. maximum

Input Impedance: 301 ohms (4 - 20 mA); 10K ohms (0 - 5 or 0 - 10 VDC)

Weight: 1.0 lb. (.45 kg)

* *Includes nonlinearity, hysteresis, and non-repeatability.*

INSTALLATION PRECAUTIONS

Do not use on an oxygen service, in an explosive or hazardous environment, or with flammable or combustible material.

Disconnect the power supply before installing the transducer. Failure to do so can result in electrical shock and equipment damage.

Make all connections in accordance with the job wiring diagram and national and local electrical codes. Use only copper conductors.

Use electrostatic discharge precautions such as wrist straps when installing and wiring the transducer.

Do not exceed ratings for the transducer.

This transducer contains a half-wave rectifier power supply and must not be powered from transformers powering other devices with non-isolated full-wave rectifier power supplies.

Verify that the main supply pressure does not exceed 40 PSIG.

Ensure a minimum of 6 to 10 feet (1.8 to 3.0 m) of tubing between the transducer and the actuator.

For a 24 VAC supply voltage, make sure that the hot and neutral are not reversed. If more than one transducer is being powered from the same transformer, the hot and neutral should be the same for each transducer.

MOUNTING

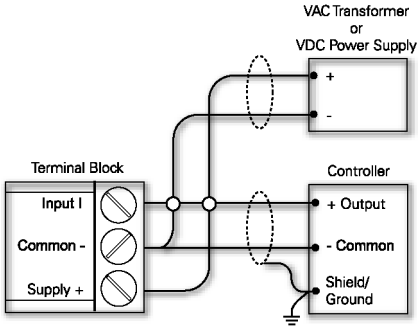
The electropneumatic transducer must be mounted in an upright position so that the main and branch ports face upwards and the gauge can be read easily.

1. Select the mounting location.
2. Mount the transducer on a vertical surface with three #8 self-tapping screws (not provided).
3. Pull wires through the bottom of the transducer and make the necessary connections.
4. Make the pneumatic connections.

WIRING

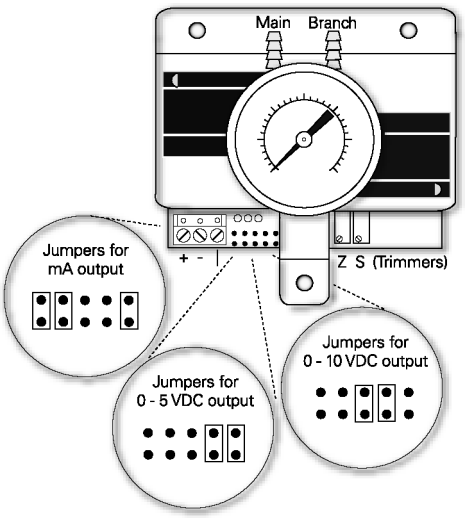
Use maximum 12 AWG wire for wiring terminals and flexible ¼-inch O.D. poly tubing for main and branch pneumatic connections. The electropneumatic transducer can be powered with a 18 to 28 VAC or VDC supply.

1. Connect the power supply voltage wire to the supply [+] terminal and the power supply common to the common [-] terminal.
2. Connect the controller output wire to the input [I] terminal and the controller common wire to the common [-] terminal.



JUMPER CONFIGURATIONS

Jumper configuration varies by output type: mA or VDC.



CHECKOUT

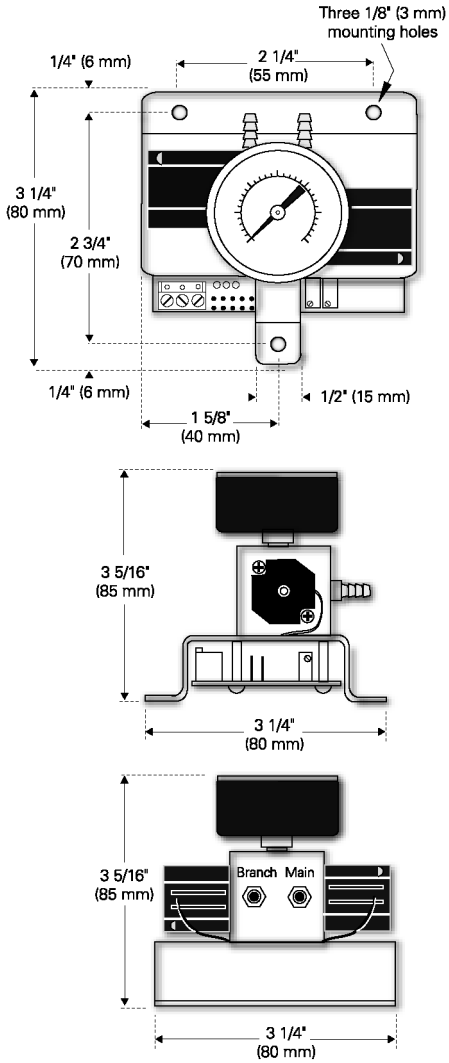
To verify proper operation of the transducer, adjust the input signal to obtain a maximum output pressure for the appropriate range. The output should be 15 or 20 PSIG. Next, adjust the input signal to obtain a minimum output pressure. The output should be 0 or 3 PSIG.

CALIBRATION

All electropneumatic transducers are factory calibrated to meet or exceed published specifications. If field adjustment is necessary, follow these instructions:

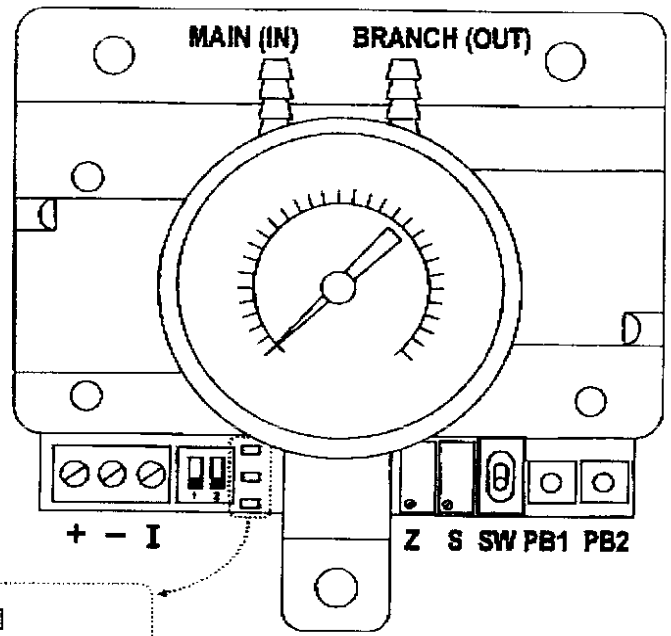
1. Connect air to the Main port.
2. Connect an accurate gauge to the Branch port using a minimum of 6 to 10 feet (1.8 to 3.0 m) of tubing.
3. Connect an 18 to 28 VAC or VDC power source to the [+] and [-] terminals. The maximum supply voltage should not exceed 30 VAC/VDC.
4. Apply a low input signal to the [-] and [I] terminals (0 VDC or 4 mA).
5. Adjust [Z] to obtain the desired low output pressure.
6. Apply a high input signal to the [-] and [I] terminals (5/10 VDC or 20 mA).
7. Adjust [S] to obtain the desired high output pressure.
8. Repeat steps 4 through 7 until the transducer is fully calibrated.

DIMENSIONS



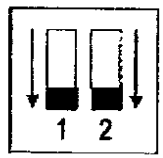
Manual REVISION

Effective Date: March 09, 2006



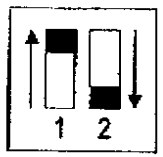
Terminal Strip Legend	
+	Supply Voltage
—	Common
I	Input
Z	Zero Trimmer
S	Span Trimmer
SW	Up (Manual) Down (Auto)
PB1	Increase
PB2	Decrease

DIP Switch Setting
Current Input
(Factory Default)

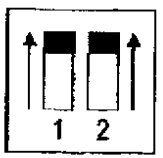


4-20 mA Setting

DIP Switch Setting
Voltage Input



0-10 VDC Setting



0-5 VDC Setting

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MADE IN USA

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:
1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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