Electropneumatic Transducer
IP-411 and IP-413

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
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.
Discontinue 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).

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
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 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 contact. 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.

For immediate technical or application assistance:

USA and Canada:
Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
Customer Service: 1-800-622-2378 / 1-800-622-BEST®
Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico:
TEL: (001) 803-826-6342 FAX: (001) 203-359-7807
En Español: (001) 203-359-7803 e-mail: espanol@omega.com
info@omega.com

For MORE INFORMATION, or to ORDER OMEGA PRODUCTS, contact OMEGA:

USA:
One Omega Drive, P.O. Box 4047
Stamford, CT 06907-0407
TEL: (203) 359-1660 FAX: (203) 359-7700
e-mail: info@omega.com

Canada:
976 Berger
Laval (Quebec) H7A 5A1
TEL: (514) 856-6928 FAX: (514) 856-6886
e-mail: info@omega.com

Germany/Austria:
Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
TEL: +49 (0) 7056 3017 FAX: +49 (0) 7056 8540
e-mail: germany@omega.com

United Kingdom:
P.O. Box 7, Omega Drive
Irland, Manchester
M44 6EX, United Kingdom
TEL: +44 (0) 161 777-6611 FAX: +44 (0) 161 777-6622
e-mail: sales@omega.co.uk

Canada:
976 Berger
Laval (Quebec) H7A 5A1
TEL: (514) 856-6928 FAX: (514) 856-6886
e-mail: info@omega.com

France:
9, rue Denis Papin, 78190 Trappes
TEL: +33 (0) 130 621 405 FAX: +33 (0) 130 699 120
Toll Free in France: 0800-4-06342
e-mail: france@omega.com

Czech Republic:
Rude armady 1868, 73301 Karvina
TEL: +420 (0) 69 6311869 FAX: +420 (0) 69 6311114
Toll Free in Czech Republic: 0800-1-66342
e-mail: czech@omega.com

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