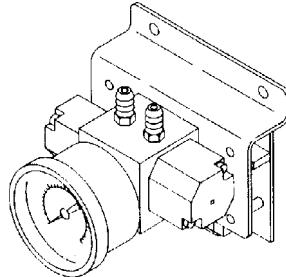


7400 Flying Cloud Drive • Minneapolis, MN 55344-3720 • USA
800-843-5116 • 612-835-1626 • Fax 612-829-5331
sales@mamacsys.com • www.mamacsys.com

Electropneumatic Transducer

**FOR ADDITIONAL INFORMATION
SEE EP-311/313 DATA SHEET**



SPECIFICATIONS

- Accuracy*:** ± 1% FS
- Maximum Supply Pressure:** 40 psig
- Pressure Differential:** (Supply to Branch) 0.1 psig
- Supply Voltage:** 18-28 VAC/VDC
- Supply Current:** 150 mA
- Enclosure:** 18 Ga C. R. Steel Chassis
- Finish:** Baked on enamel-PMS2GR88B
- Compensated Temp Range:** 25°F-150°F (4°C-65°C)
- Conformance:** EMC Standards EN50082-1(1992)
EN55014(1993)/EN60730-1(1992)
- T. C. Error:** ±0.025%/°F (.03%/°C)
- Media Compatibility:** Clean dry air or any inert gas
- Port Connection:** 1/4"OD poly tubing
- Environmental:** 10-90%RH Non-Condensing
- Termination:** Screw terminal block
- Wire Size:** 12 Ga max.
- Input Impedance:** 301 ohms (4-20 mA)
10K ohms (0-5/0-10 VDC)
- Weight:** 1.0 lbs. (.45 kg)

**Includes non-linearity, hysteresis and non-repeatability*

MANUAL OVERRIDE	RANGE
311 (without)	315 (3-15 psig)
313 (with)	020 (0-20 psig)

INSTALLATION

Inspection Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for obvious damage. Return damaged products.

Requirements

- Tools (not provided)
 - Digital Volt-ohm Meter (DVM)
 - Appropriate screwdriver for mounting screws
 - Appropriate drill and drill bit for mounting screws
- Appropriate accessories
- Two #8 self-tapping mounting screws (not provided)
- Training: Installer must be a qualified, experienced technician



Warning:

- Do not use on oxygen service, in an explosive/hazardous environment, or with flammable/combustible media.
- Disconnect power supply before installation to prevent electrical shock and equipment damage.
- Make all connections in accordance with the job wiring diagram, and in accordance with national and local electrical codes. Use copper conductors only.

Caution:

- Use electrostatic discharge precautions (e.g., use of wrist straps) during installation and wiring to prevent equipment damage.
- Do not exceed ratings of the device.

Mounting

The EP-311/313 must be mounted in an upright position so that the ports are facing upward and the gauge can be easily read.

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 device and make necessary connections.
4. Make the necessary pneumatic connections.

Wiring

Use maximum 12 AWG wire for wiring terminals. Use flexible 1/4" O.D. poly tubing for main and branch pneumatic connections. Refer to Figure-1 and Figure-2 for wiring configurations and Figure-4 through Figure-6 for jumper designations.

Caution:

- Main supply pressure must not exceed 40 psig.
- A minimum of 6 to 10 feet (1.8 to 3.0m) of tubing should be between the unit and the actuator.
- For 24 VAC supply voltage, ensure that the hot and neutral are not reversed. If more than one unit is being powered from the same transformer, the hot and neutral should be the same for each unit.

Note: The gauge on the unit is for indication only. The unit's calibration is more accurate than the accuracy of the gauge.

Electropneumatic Transducer

TYPICAL APPLICATIONS (wiring diagrams)

Figure-1 and Figure-2
 Illustrate typical wiring diagrams for the EP-311/313 Series Electropneumatic Transducers.

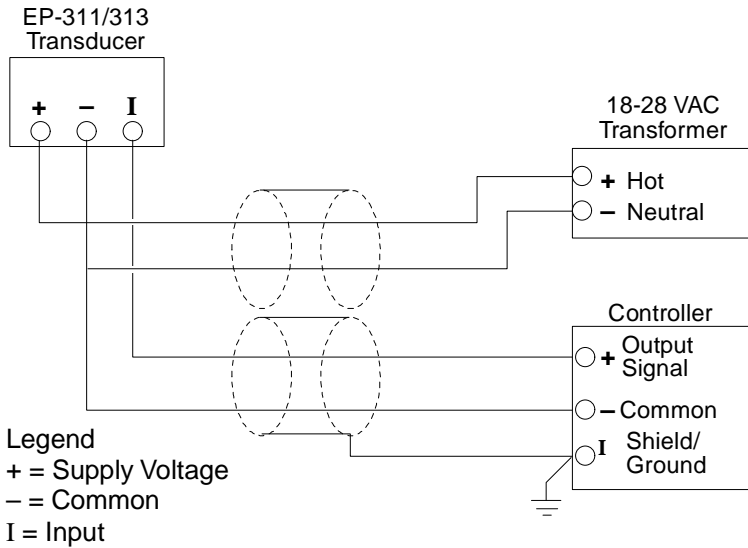


Figure-1 Wiring Diagram for 24 VAC Supply Configuration.

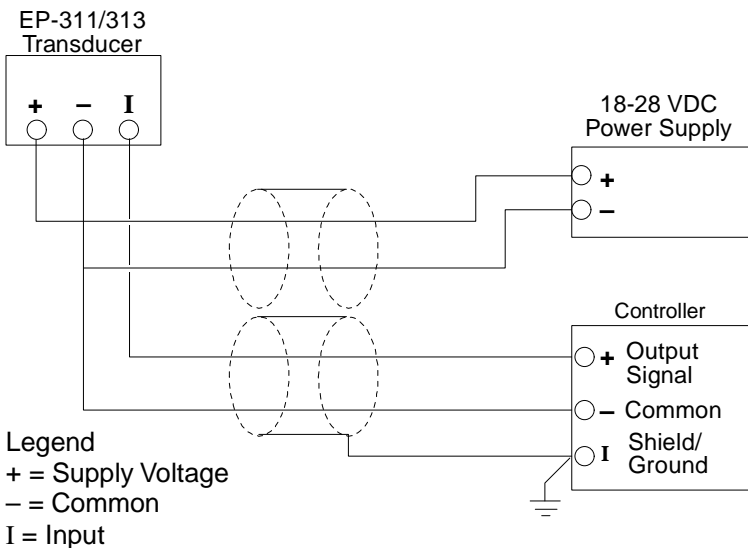
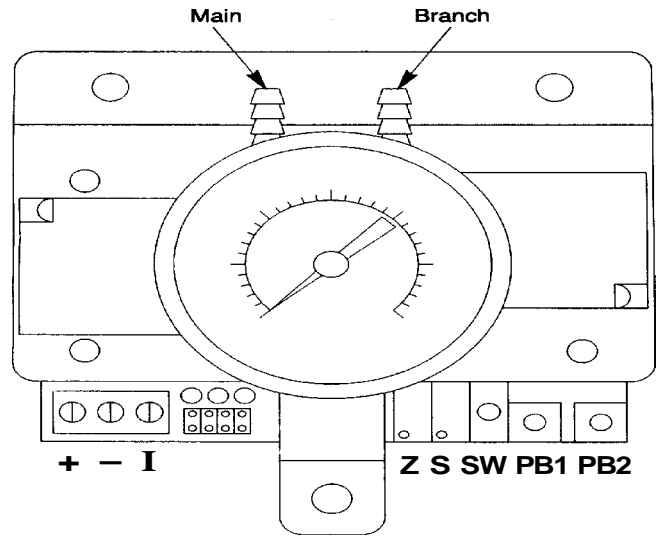


Figure-2 Wiring Diagram for 24 VDC Supply Configuration.

Caution: This product contains a half-wave rectifier power supply and must not be powered off transformers used to power other devices utilizing non-isolated full-wave rectifier power supplies.



- + = Supply Voltage
- = Common
- I = Input
- Z = Zero
- S = Span
- SW = Up (Manual) Down (Auto)
- PB1 = Increase
- PB2 = Decrease

Figure-3 Terminal Locations on EP-311/313.

ADJUSTMENTS

EP-311/313 is supplied from the factory set for 4-20 mA. To change the input configuration, adjust the jumper settings as illustrated in Figure-4 through Figure-6.

Jumper Selection

Jumper selections vary according to the electropneumatic transducer device. The following describes the possible selections for each model.

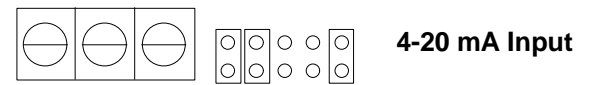


Figure-4 Electropneumatic Transducer with 4-20 mA Input

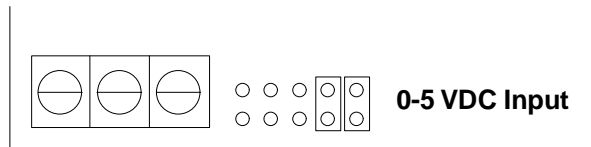


Figure-5 Electropneumatic Transducer with 0-5 VDC Input

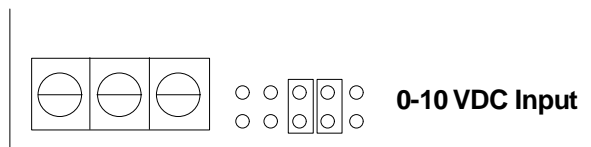


Figure-6 Electropneumatic Transducer with 0-10 VDC Input

Electropneumatic Transducer

- CHECKOUT**
1. Verify that the unit is mounted in the correct position.
 2. Verify appropriate supply voltage.

Caution: Never connect 120 VAC to these transducers.

3. Verify appropriate input configuration.

- Transducer Operation**
- This is a rough functional check only.
1. Adjust the input signal to obtain maximum output pressure for appropriate range.
 2. Output should be 15 or 20 psig.
 3. Adjust the input signal to obtain minimum output pressure.
 4. Output should be 0 or 3 psig

- CALIBRATION**
- All units are factory calibrated to meet or exceed published specifications. If field adjustment is necessary, follow the instructions below.
1. Connect air to main port.
 2. Connect branch port to an accurate gauge with a minimum 6 to 10 ft. (1.8 to 3.0 m) of tubing.
 3. Connect terminals + and - to the appropriate power source for this unit. The EP-311/313 can accept either 24 VAC or 24 VDC supply voltage. The maximum supply voltage should not exceed 30 VAC/VDC.
 4. Apply low input signal to terminals - and I (0 VDC or 4 mA).
 5. Adjust Z to obtain desired output low pressure.
 6. Apply high input signal to terminals - and I (5/10 VDC or 20 mA).
 7. Adjust S to obtain desired output high pressure.
 8. Repeat Steps 4-7 until the unit is completely calibrated.

MAINTENANCE Regular maintenance of the total system is recommended to assure sustained optimum performance.

FIELD REPAIR None. Replace with a functional unit.

WARRANTY See Data Sheet for additional information.

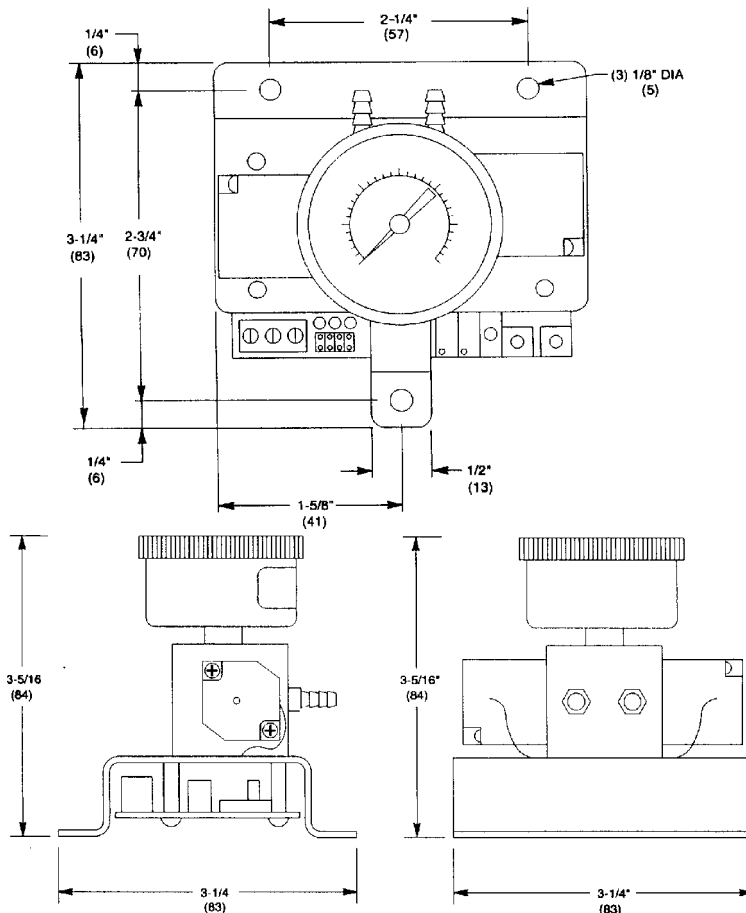


Figure-7 EP-311/313 Electropneumatic Transducer Dimensions shown in inches and millimeters (mm).

For Technical / Application Assistance contact your nearest office.



7400 Flying Cloud Drive • Minneapolis, MN 55344-3720 • USA
 800-843-5116 • 612-835-1626 • Fax 612-829-5331
 sales@mamacsys.com • www.mamacsys.com

EUROPE

Baird House, Units 6 & 7
 Dudley Innovation Centre
 Pensnett Estate • Kingswinford
 West Midlands • DY6 8XZ
 United Kingdom
 01384-271113 • Fax 01384-271114
 uk@mamacsys.com

AUSTRALIA

4 Armiger Court, Unit 2
 Holden Hill • S. A. 5088
 Australia
 08-8359-4333 • Fax 08-8395-4433
 au@mamacsys.com

ASIA

5611 North Bridge Road
 03-06 • Eng Cheong Tower
 Singapore • 198782
 65-3927273 • Fax 65-3927276
 as@mamacsys.com

CANADA

155 McIntosh Drive, Unit 5
 Markham • Ontario • L3R 0N6
 Canada
 905-474-9215 • Fax 905-474-0876
 ca@mamacsys.com

MAMAC Systems Inc. reserves the right to change any specifications without notice to improve performance, reliability, or function of our products.