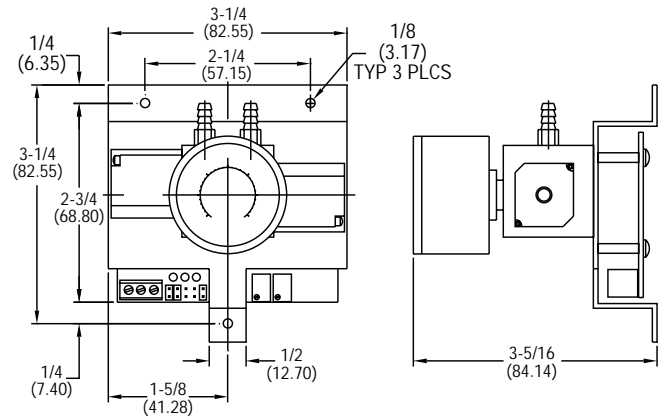




Series EPT-1 Electro-pneumatic Transducer

Specifications - Installation and Operating Instructions



The Series EPT-1 incorporates a quiet low-wattage poppet valve and pressure sensor to measure and adjust the branch line pressure proportional to the input. This unit has no air consumption and is immune to mounting orientation and supply line pressure fluctuations. The EPT-1M1 and EPT-1M2 incorporate a manual override switch, and in the manual mode, the pressure can be increased or decreased with two pushbutton switches. This feature is most desirable for check out/commissioning and manual operation in case of controller failure. Universal 24 VAC/24 VDC supply voltage and field selectable 4 to 20 mA, 0 to 5 VDC, or 0 to 10 VDC inputs ensure single unit compatibility with most systems. The unique steel chassis design substantially reduces the overall size of the unit and, at the same time, provides for ease of installation in a control panel directly or with a snap track. A precision gage is provided for the branch line pressure. A rugged aluminum manifold, brass barb fittings, floating poppet solenoid valve, silicon pressure sensor, and high performance electronics are some of the features which make the Series EPT-1 the most reliable electro-pneumatic transducer in the industry.

SPECIFICATIONS

- Service:** Clean dry air or any inert gas.
- Input Signal:** DC Current (4-20 mA) or DC Voltage (0-5/0-10).
- Input Impedance:** Current - 301 ohms.
Voltage - 10K ohms.
- Air Supply:** 40 psig (276 kPa) maximum.
- Accuracy:** ±1% F.S. (includes linearity, hysteresis and repeatability).
- Pressure Drop:** (Supply to branch) 0.1 psig (0.7 kPa).
- Power Requirement:** 18-28 VAC/VDC.
- Current Consumption:** 150 mA.
- Temperature Limits:** 25 to 150°F (4 to 65°C).
- Thermal Effect:** ±0.025%/°F (0.03%/°C).
- Pressure Connections:** 1/4" O.D. plastic tubing.
- Electrical Connections:** Screw terminals.
- Wire Size:** 12 Ga max.
- Enclosure:** 18 Ga C.R. steel chassis with baked on enamel-PMS2GR88B finish.
- Weight:** 1.0 lb (0.45 kg).

WARNING

- Do not use on 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 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 the specified ratings for the transducer.

MOUNTING

The electro-pneumatic transducer is not mounting sensitive. However, it is usually mounted in a vertical position with the ports facing upwards, so that the gage can be read easily. You can mount the transducer using three #8 self-tapping mounting screws (not provided).

SERIES EPT-1

Model Number	Output Range psig (kPa)	Manual Override
EPT-11	3-15 (20-100)	No
EPT-1M1	3-15 (20-100)	Yes
EPT-12	0-20 (0-138)	No
EPT-1M2	0-20 (0-138)	Yes

WIRING

Use 12 AWG wire maximum for electrical connections and 3/16" inner diameter rubber or plastic tubing for pneumatic connections. For your convenience we sell 3/16" I.D. rubber tubing, part number A-202, and 3/16" I.D. flexible vinyl tubing, part number A-220.

See Figures 1 and 2 for wiring configurations and Figures 3 through 5 for jumper designations.

CAUTION

- Ensure that the main supply pressure does not exceed 40 psi (276 kPa).
- 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, ensure that the hot and neutral lines are not reversed. If more than one transducer is being powered from the same power supply, the hot and neutral lines should be the same for each transducer.
- * Do not connect 120 VAC to the electro-pneumatic transducer.

Note: The transducer's gage is for indication only. The transducer measures more precisely than what is displayed on the gage.

WIRING DIAGRAMS

Figures 1 and 2 illustrate typical wiring diagrams for the electro-pneumatic transducer.

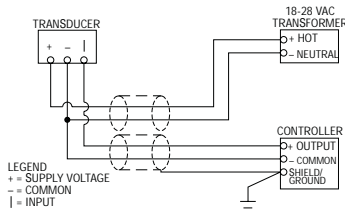


Figure 1: Wiring the electro-pneumatic transducer with a 24 VAC supply.

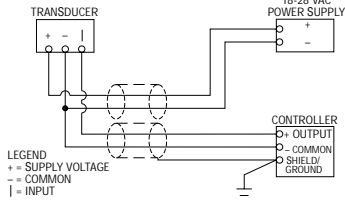


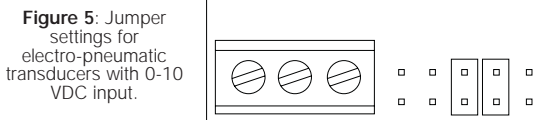
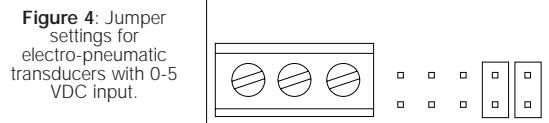
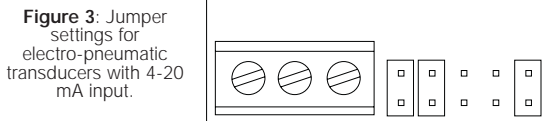
Figure 2: Wiring the electro-pneumatic transducer with a 24 VDC supply.

CAUTION

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.

ADJUSTMENTS - Jumper Configuration

The electro-pneumatic transducer is factory configured for a 4-20 mA input. To change the input, adjust the jumper settings as follows (see figures 3, 4 and 5.)



TRANSDUCER OPERATION

- Adjust the input signal to obtain a maximum output pressure for the appropriate range.
- Ensure that the output is 15 or 20 psi (100 or 138 kPa).
- Adjust the input signal to obtain a minimum output pressure.
- Ensure that the output is 3 or 0 psi (20 or 0 kPa).

CALIBRATION

All electro-pneumatic 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 (see figure 6).
2. Connect an accurate gage to the Branch port using a minimum of 6 to 10 feet (1.8 to 3.0 m) of tubing.
3. Connect the (+) and (-) terminals to an appropriate power source. The transducer can accept either a 24 VAC or VDC supply voltage. 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. The zero and span controls are slightly interactive, so steps 4 through 7 should be repeated until the transducer is fully calibrated.

MANUAL OPERATION (select models)

To manually control the transducer output, you will need to switch SW up for manual mode (see figure 6). Once in manual mode, you can increase or decrease the output by adjusting PB1 and PB2 (see figure 6).

MAINTENANCE

After final installation of the Series EPT-1 Electro-pneumatic Transducer, no routine maintenance is necessary. A periodic check of calibration is recommended following the procedure listed in the CALIBRATION section. Except for this, these transducers are not field serviceable and should be returned, freight prepaid, if repair is needed. Be sure to include a clear description of the problem plus any application information available. Contact customer service to receive a return goods authorization number before shipping.

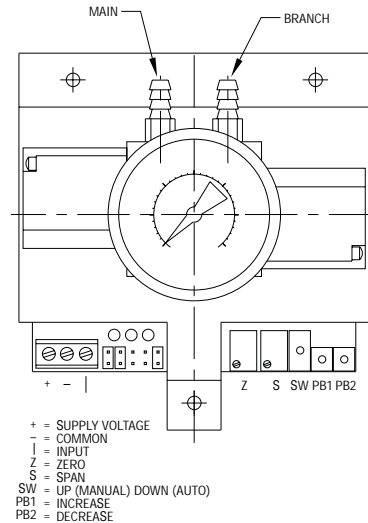


Figure 6: Terminal locations on the electro-pneumatic transducer.