

June 2006

Description

Moore Industries' 3-wire, low voltage E/P transmitter accepts a voltage (1-5V) input signal from a DCS, PLC or PC-based control system. It converts the voltage signal to a pneumatic signal (3-15psig, 0.2-1Bar, 20-100kPa, etc.) to provide precise, proportional control of valves, actuators and other pneumatically-controlled devices.

Designed for Use with Natural Gas

Special design, construction and materials allow the model **EPX² with the -NG1 or -NG2 option** to be used with natural gas as its pneumatic supply (commonly referred to as sweet gas consisting of up to 20ppm of H₂S).

This advantage allows the EPX² to be installed in remote compressor sites where it is too expensive or impossible to run a clean air supply.

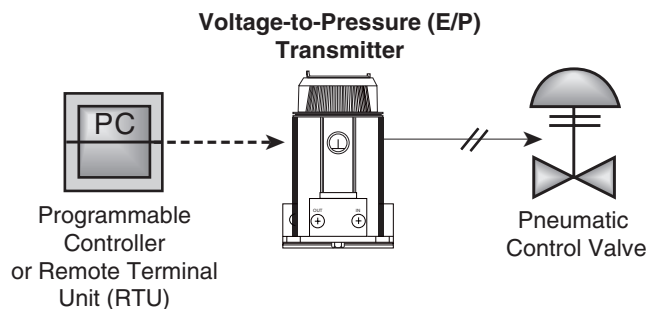


Compact, rugged, and highly accurate, the EPX² is ideal for installation in harsh field environments, such as at remote natural gas well heads

Features

- **Wide variety of pneumatic output choices.** The EPX is available with 22 direct and reverse output ranges. Custom ranges are also available.
- **Accepts low battery or solar power.** The EPX² low power requirement (3mA @ 12Vdc) allows it to be powered by a battery or solar panel in remote sites.
- **Low air consumption and high output volume.** The EPX² outputs as much as 5SCFM, and consumes as little as 0.08SCFM.
- **Accurate and stable.** Featuring exceptional $\pm 0.25\%$ of span accuracy and six-month stability, the EPX² is ideal for precise applications in difficult to access locations.
- **Immune to supply pressure variation.** Maintains incredible accuracy even when the supply pressure fluctuates between 20 and 40psig.
- **Clog Resistant Filtered Nozzle and Orifice.** A larger orifice, combined with an easily replaceable internal filter, protects against clogging caused by debris.
- **RFI/EMI protection.** Special circuit and enclosure designs protect against the harmful effects of radio frequency and electromagnetic interference.

Figure 1. The EPX² E/P transmitter accepts a 1-5V input and converts it to a proportional pneumatic control signal.



Certifications*

CE CE Conformant—EMC Directive 89/336/EEC
EN 61326

EPX²

Explosion-Proof and NEMX 4X
Voltage-to-Pressure (E/P) Transmitter

Specifications

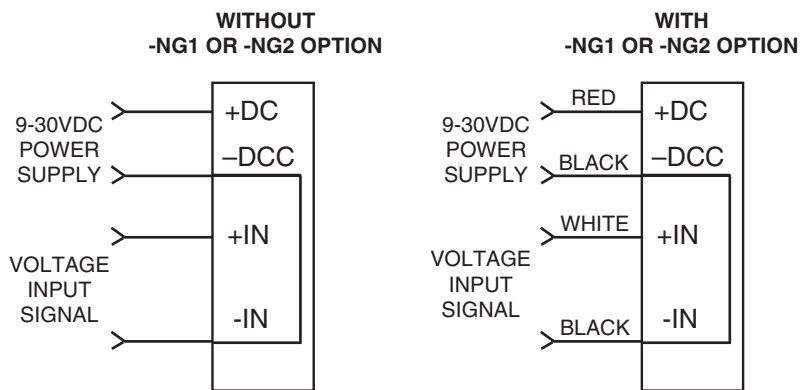
<p>Performance Accuracy: $\leq \pm 0.25\%$ of span including the combined effect of linearity, hysteresis and repeatability (between 0 and 3psig output, error will not exceed $\pm 1.0\%$ of span)</p> <p>Stability: Not to degrade from stated accuracy for six months</p> <p>Step Response: < 0.2 seconds into 100ml load (6 in³) from 10% to 90% of span; Not guaranteed below 3psig output.</p> <p>Supply Pressure Effect: Negligible from 20-40psig, steady pressure</p> <p>Air Capacity: 5.0SCFM minimum (20psig supply, 0psig output)</p> <p>Relief Capacity: 2.5SCFM minimum (15psig output)</p> <p>Air Supply: Instrument air only, 20-40psig. (Must be 5psig greater than maximum output)</p> <p>Gas Supply with -NG1 or -NG2 Option: Same cleanliness as instrument air. H₂S not to exceed 20ppm</p>	<p>Performance (Continued) Air Consumption (Dead-ended):</p> <p>At 3psig output, 20psig supply, consumes 0.08SCFM (0.14m³/hr), maximum;</p> <p>At 15psig output, 20psig supply, consumes 0.10SCFM (0.17m³/hr), maximum;</p> <p>At 15psig output, 40psig supply, consumes 0.15SCFM (0.26m³/hr), maximum;</p> <p>At 30psig output, 40psig supply, consumes 0.17SCFM (0.29m³/hr), maximum</p> <p>Maximum Input: 80psig without damage for units with output pressure rating of > 15psig; 45psig without damage for units with output press > 15psig</p> <p>Power Supply: 9-30Vdc (see 12DC required power option)</p> <p>Mounting Position Effect: Negligible, unit can be mounted in any position; Should be mounted upright or horizontal to keep water out if it is not in a dry environment</p>	<p>Ambient Conditions</p> <p>Operating and Storage Range: -40°C to +85°C (-40°F to +185°F)</p> <p>Ambient Temperature Effect: $\leq \pm 0.025\%$ of span/°C, maximum from -20°C to 80°C; $\leq \pm 0.1\%$ of span/°C, maximum</p> <p>RF/EMI Effect: $\leq \pm 0.1\%$ of span change at in field strengths of 10V/m@ frequencies of 20-500MHz</p> <p>Shock and Vibration Effect: Meets SAMA PMC 31.1 as detailed in the field mounted category</p> <p>Relative Humidity: 0-100%, non-condensing</p> <p>Adjustment</p> <p>Zero and Span: Screw adjusts zero or span by $\pm 10\%$ minimum, non-interactive</p> <p>Weight 2.0kg (4.4 lbs)</p>
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Ordering Information

Unit	Input	Output*	Supply Pressure**	Options	Housing
EPX2 Explosion-Proof and NEMA 4X Voltage-to-Pressure Transmitter	1-5V (3-wire) into 1 Mohm IMPORTANT NOTE: A power supply voltage selection (i.e., -12DC) under "Options" is required.	0-20PSIG	25PSI	-12DC (Required Option) instrument power 9-30Vdc, 3mA@12Vdc -NG1 Unit equipped with electrical wire seal fitting assembly and vent port <u>on the same side of the unit</u> for using Natural Gas (sweet gas consisting of up to 20ppm H ₂ S) as the pneumatic supply -NG2 Unit equipped with electrical wire seal fitting assembly and vent port <u>on opposite sides of the unit</u> for using Natural Gas (sweet gas consisting of up to 20ppm H ₂ S) as the pneumatic supply	EXI Explosion-proof housing with ½-inch NPT, female threaded entry port for connecting the input wiring conduit EXIM Explosion-proof housing with M20 x 1.5 metric, female threaded entry port for connecting the input wiring conduit <small>P suffix indicates enclosure comes equipped with base plate and U-bolts for mounting on a 2-inch pipe (i.e. EXIP)</small>
		1-17PSIG	22PSI		
		3-15PSIG	20PSI		
		3-16.6PSIG	22PSI		
		3-18PSIG	23PSI		
		3-27PSIG	32PSI		
		6-30PSIG	35PSI		
		.2-1BAR	1.4BAR		
		20-100KPA	140KPA		
		.2-1KGCM2	1.4KGCM2		
		.02-.10MPA	.14MPA		
		Reverse Output:			
		20-0PSIG	25PSI		
		17-1PSIG	22PSI		
		15-3PSIG	20PSI		
		16.6-3PSIG	22PSI		
		18-3PSIG	23PSI		
		27-3PSIG	32PSI		
		30-6PSIG	35PSI		
		1-.2BAR	1.4BAR		
100-20KPA	140KPA				
1-.2KGCM2	1.4KGCM2				
.10-.02MPA	.14MPA				
<small>*The unit's output must match the supply pressure to its right. **Supply Pressure must be at least 5psi (0.3Bar) higher than output pressure.</small>					

When ordering, specify: Unit / Input / Output / Supply Pressure / Options [Housing]
Model number example: EPX2 / 1-5V / 3-15PSIG / 20PSI / -12DC -NG1 [EXIM]

Figure 2. EPX² Electrical Connections

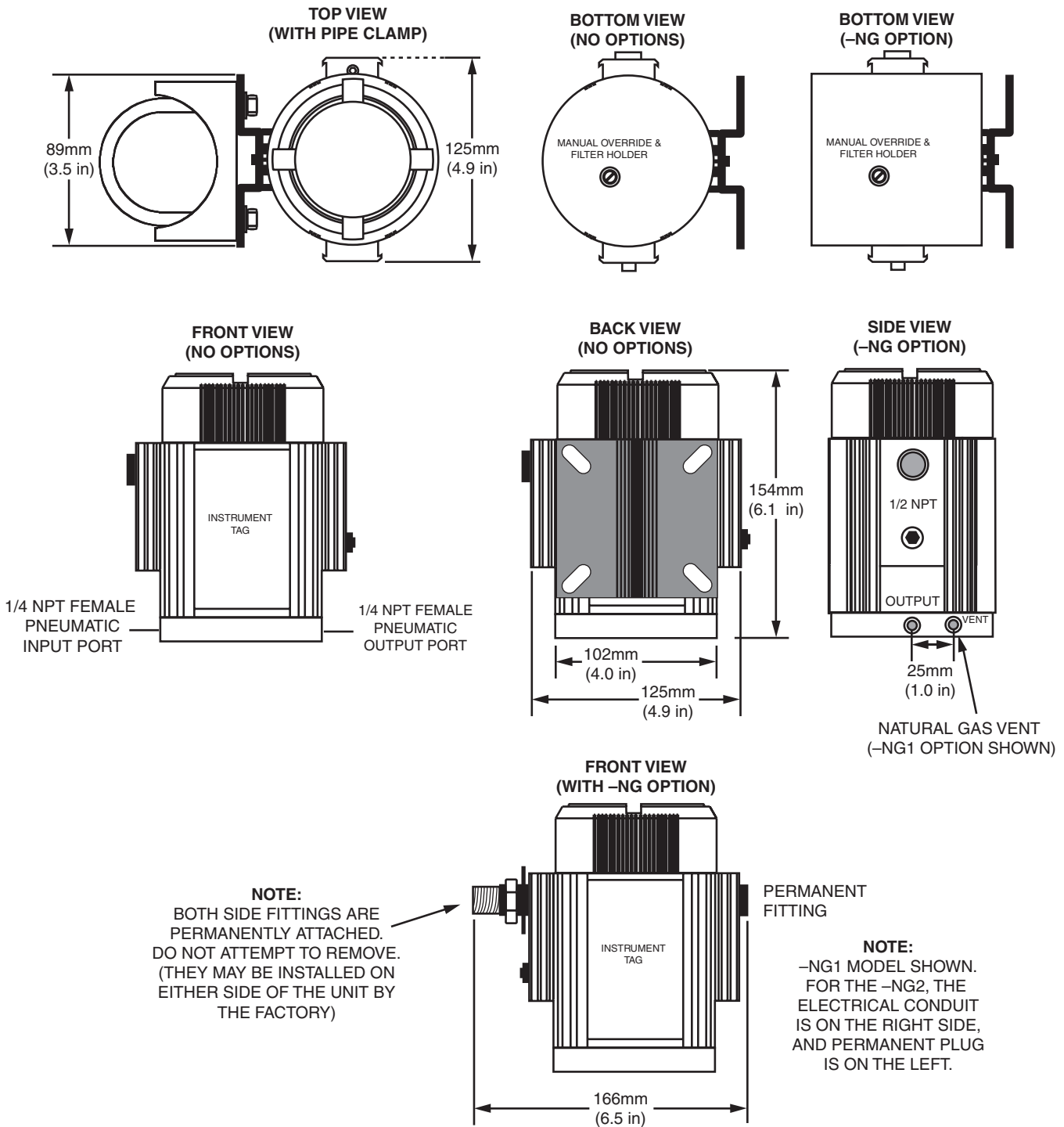


NOTE: DCC and -IN ARE COMMON (CONNECTED INTERNALLY).

EPX²

Explosion-Proof and NEMX 4X
Voltage-to-Pressure (E/P) Transmitter

Figure 3. EPX² Dimensional Diagram



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