

Pulse Width Modulated (PWM) Input to Pneumatic Output Single Valve, Dual Valve, and Fail Safe

FEATURES

Same as the PWP*.3 but with the following 4 added features:

- Manual/Auto toggle switch reports override status to controller and potentiometer allows adjustment of pressure output in Manual Mode.
- Terminals and air connections oriented for convenient panel installation.
- New circuitry for **QUIET** operation of EPW2 and EPW2FS. Ask for it when you order.
- Plug-in Terminal Block.
- Field Selectable Input Pulse Ranges, plus Phase Cut and 0-10 second Duty Cycle.
- Three Field Selectable Pressure Output Ranges with adjustable Offset and Span.
- EPW bleeds at the rate of 41scim, EPW2 is valve controlled branch exhaust at 750 scim.
- Analog Feedback on branch pressure
- Closed loop control, 2% accuracy at room temperature
- Not Position Sensitive
- 50/60 Hz Compatible
- Anodized aluminum manifold supplied with Filter-in-Barb



Optional DRC Kit for
DIN Rail Mounting-Clips
mount either direction on
snap track

APPLICATIONS

- 3 Way Mixing Valve Control
- Chiller Loading
- Pilot Positioner Control
- Pneumatic Valve and Damper Actuator Control
- Fan Vane Control
- Compressor Staging

PRODUCT DESCRIPTION

The EPW* converts a pulse, phase cut, or digital PWM signal into a proportional pneumatic signal ranging from 0 to 20 psig. The pneumatic output is proportional to the signal input, either direct or reverse acting. The EPW* has a manual override potentiometer to vary the pneumatic output and two LEDs, one to indicate power and one for signal status.

The EPW* offers four jumper selectable input timing ranges.

Output pressure ranges are jumper shunt selectable for 0 to 10, 0 to 15 and 0 to 20 psig, and adjustable in all ranges.

A 0-5 VDC feedback signal indicating the resultant branch line pressure, is also provided. This signal varies linearly with the branch pressure range selected.

EPW* is designed with electrical terminals on one end and pneumatic connections on the other, allowing for maximum convenience in wiring and tubing installation when panel mounted. Three

basic configurations are available:

The **EPW** is a constant bleed interface with branch exhaust response time determined by the bleed orifice size and pressure differentials. If power fails to the EPW, it will continue to bleed through the bleed orifice until branch pressure is zero psig.

The **EPW2** incorporates two valves (one controls exhaust) and does not bleed air at set point. Its branch exhaust flow and response time are not limited by an internal restrictor and are similar to its load rate. If power fails to the EPW2, branch line pressure remains constant if the branch line does not leak air.

FAIL SAFE: The **EPW2FS** is a two valve fail safe model. Its 3-way branch exhaust valve allows exhaust of branch line air on a power failure.

All factory calibrated products are NIST traceable. Certificates of Compliance must be ordered with product. EU Commission Directive 2002/95/EC (RoHS) Compliant.

ORDERING INFORMATION

Specify: **EPW** _____ Version ____ #1, 2, 3, or 4 (see "Input" specifications below).

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|--|--|
| G
2
2G
2FS
2GFS | - 1 valve - 0.007" bleed orifice - 750 scim supply valve, 41 scim constant bleed
- 1 valve - 0.007" bleed orifice - 750 scim supply valve, 41 scim constant bleed with 0-30 psi gauge
- 2 valve - maintains branch pressure - 750 scim supply valve, 750 scim exhaust
- 2 valve - maintains branch pressure - 750 scim supply valve, 750 scim exhaust with 0-30 psi gauge
- 2 valve - exhausts on power failure - 750 scim supply valve, 750 scim exhaust
- 2 valve - exhausts on power failure - 750 scim supply valve, 750 scim exhaust with 0-30 psi gauge |
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SPECIFICATIONS

ELECTRICAL REQUIREMENTS

Power Supply:

Supply Voltage	24 VDC (+10%/- 5%) or 24 VAC (+/-10%), 50 or 60 Hz.
Supply Current	50 mA, 150 mA on pressure excursions (standard model), 200 mA on pressure excursions (fail-safe model).

Input:

Pulse Source	Relay contact closure, Triac, or transistor (solid state relay)
Pulse Trigger Level/Impedance	9 to 24 VAC or VDC@750 ohms nominal
Off Time Between Pulses	10 milliseconds minimum
Pulse Duration/Resolution (255 steps)	Selectable ranges, Direct Acting (D.A.):
Version #1	In seconds of relay contact closure, Triac or transistor (solid state relay), 0.1 to 10 seconds in 0.1 second increments 0.02 to 5 seconds in 0.02 second increments 0.1 to 25 seconds in 0.1 second increments 0.59 to 2.93 seconds in 0.01 second increments 0.023 to 6 seconds or 0 to 10 second Duty Cycle 0 to 20V Staefa™ Phase Cut
Version #2	Same as Version #1 except reverse acting (R.A)
Version #3	
Version #4	
Override Switch:	N.O. in AUTO operation (optional: N.O. in MAN operation)

Feedback Output:

Feedback Signal Range:	0-5 VDC = Output Span (psig or kPa)
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MECHANICAL REQUIREMENTS

Air Supply:

Supply Pressure	Maximum 25 psig (172.38 kPa), minimum 20 psig (137.9 kPa).
Air Consumption	See Ordering Information above.
Output Pressure Range (D.A. or R.A.)	0-10 (0-69 kPa), 0-15 (0-103 kPa) or 0-20 (138 kPa) psig .
Output Pressure Accuracy	2% full scale at room temperature (above 1 psig or 6.895 kPa). 3% full scale across operating temperature range (above 1 psig or 6.895 kPa) .
Air Flow	Supply valves @ 20 psig (138 kPa) main/15 psig (103 kPa) out, 750 scim. Minimum of 25 feet of 1/4" O.D. poly tubing for FS model.
Filtering	Furnished with integral-in-barb 80-100 micron filter (Part # PN004) Optional standard barb (PN002) with external 5 micron in-line filter (PN021).

Connections:

Wire Size	Up to one 14 AWG wire.
Terminal Type	90° plug-in terminal blocks with 5mm pin spacing (optional fixed 45°, captive screw with moving clamp design).
Pneumatic Fitting	Removable brass barbed fittings for Main and Branch in machined aluminum manifold with black anodized finish (blue for FS model). Plugged 1/8-27-FNPT gauge port. Gauge installed at additional cost. 1/4" O.D. nominal polyethylene.
Pneumatic Tubing Size/Type	4.0"L (10.16 cm) x 3.450"W (8.763cm) x 1.875"H(4.7625cm) (3.125" H with gauge).

Dimensions

Shipping Weight

Mounting

EPW-7.1oz.(187g), EPW2-9.0oz.(237.15g), EPW2FS-8.9oz.(234.5g).
Snap track pre-punched for optional DRC DIN rail mounting kit.

ENVIRONMENTAL REQUIREMENTS

Operating Temperature Range

Storage Temperature Range

Operating Humidity Range

32 to 120 deg F (0 to 48.8°C)

-20 to 150 deg F (-6.66 to 65.55°C)

5 to 95% non-condensing

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