OMICRON

IPW4
I to P CONVERTER

I/P TRANSDUCER

Special Features:

- Low Cost
- Compact Size
- Low Air Consumption
- Integral Volume Booster
- Field Reversible
- Flexible Adjustments Of Zero & Span
- Standard Process Inputs
- Split Ranging
- Nema 4X (IP65) Enclosure (Optional)

Description:

The OMICRON IPW4 transducers converts current or voltage input signal to a linearly proportional pneumatic output pressure. This versatile instrument is designed for control applications that require a high degree of reliability and repeatability at an economical cost. Optional NEMA 4x (IP 65) version allows for splashdown and outdoor installation. The IPW4 is available in 2 different Versions, the lower range model is designed for standard process control applications which typically utilize 3 to 15 psig output & the extended range unit provides up to 120 psig output for higher pressure industrial pneumatic & process control system requirements.

Application:

These units are used for applications that require operation of final control elements like Pneumatic valve, Valve-actuators, Positioners, Damper and Louver actuators, Air-cylinders, Relays, Clutches, Web tensioner and Brakes. Major industries for IPW 400X are Petrochemical, Energy Management, HVAC, Textile, Food and Drug, Pulp & paper industries & many more.

Performance Specifications:

		LOW OUTPUT RANGE	HIGH OUTPUT RANGE
		(Up to 30 psig)	(Up to 120 psig)
Min/Max. Supply Pressure		Minimum 3 psig (21 kPa) Above maximum output Maximum 100 psig (700 kPa)	Minimum 5 psig (35 kPa) above maximum output Maximum 150 psig (1050 Kpa)
Supply Pressure Sensitivity		0.1% of span per psig (<± 0.15% of span per 10 kPa)	<± .04% of span per 1.0 psig (7,0 kPa)
Terminal Based Linearity	:	0.75% of span	<±1.5% of span type,±2.0% max
Repeatability	:	< 0.5%of span	< 0.5% of span
Hysteresis	:	< 1.0% of span	< 0.5% of span
Response Time	:	Dependent on pressure range-typically Less than 0.25 sec. for 3-15psig units	
Flow Rates	:	4.5 scfm (7.6m31hr.ANR) at 25 psig (175 kPa) supply 12.0 scfm (20.0m31hr ANR) at 100 psig (700 kPa) supply	20.0 scfm (34.0m3/tr) at 150 psig (1050 kPa) supply
Relief Capacity	:	20 psig (140 kPa) set point t30°C to 60°C (-20°F to 140°F) NPT (Pneumatic)	7 scfm (1 1.9 nn31hr) at 10 psig (69 kPa) above 20 psig (140 kPa) set point
Maximum Air Consumption	:	.05 scfm (.07m3/hr) midrange typical	.07 scfm(0.14m3/hr) midrange typical
Media	:	Oil free, clean dry air filtered to 40 micron	
Temp. Range (Operating)	:	30°C to 60°C (-20°F to 140°F	
Port Sizes	:	1/4" NPT (Pneumatic) 1/2" NPT (Electric)	1/4" NPT (Pneumatic) 1/2" NPT (Electric)
Weight	:	2.1 lbs. (0.94 kg)	2.1 lbs. (0.94 kg)
Agency Approval	:	CE	

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Principal Of Operation:

The IPW4 transducer is a force balance device in which a coil is suspended in the field of a magnet by a flexure. Current flowing through the coil generates axial movement of the Coil and flexure. The flexure moves towards the nozzle and creates back pressure which acts as a pilot pressure to an integral booster relay. Input signal increases (or decreases for reverse acting) cause proportional output pressure increases. Zero and span are calibrated by turning adjust screws on the front face of the unit. Adjustment of the zero screw repositions the nozzle relative to the flexure. The span adjustment is a potentiometer that controls the amount of current through the coil.

Mounting :

The IPW4 may be mounted on pipe, panel or bracket. Field adjustment of zero may be required if mounted in a non-vertical position. High external vibration may cause output fluctuations. Mounting in a vibration-free area is recommended.
If split ranging is required the 4-20 mA input, 3-15 psig output version can be recalibrated to provide a 3-9 psig or 9-15 psig output.

Field Reversible:

In the reverse acting mode the output is the opposite of the direct acting mode (i.e. 4-20 mA input creates a 15-3 psig output). To change from direct acting to reverse acting simply reverse the polarity of the signal leads and recalibrate. Input signal failure causes output pressure to reach minimum value (i.e. 15 psig) when reverse acting.

NEMA-4X (IP65) Enclosure - Optional:

Factory Mutual NEMA 4x enclosure rating allows for installation in splashdown or outdoor environments. Unit also meets the requirements of I EC standards IP65

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