WatsonSmith

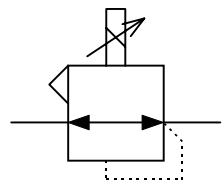
ELECTRONIC CONVERTER CURRENT TO PRESSURE (I/P) TYPE 425 FAILSAFE

FEATURES

- **Advanced electronic control**
- **Explosion proof**
- **Failsafe operation (output pressure falls to minimum on power failure)**
- **Vibration immune**
- **Weatherproof**

GENERAL DESCRIPTION

The 425 proportional I/P converter uses advanced closed loop electronic control to achieve accurate, high resolution pressure control. It is available in explosion proof and intrinsically safe versions and its vibration immunity and weatherproofing make it ideal for field application.



Functional Symbol

TECHNICAL DATA

PNEUMATIC

•Output Signal	0.2-1bar (3-15psig) ; minimum outlet pressure less than 15mbar (0.2psig)
•Air Supply	Oil free, dry air, filtered to 5 microns; 1.3-4bar (18-60psig)
•Flow Capacity	Up to 300Nl/min (10scfm)
•Air Consumption	0.6 l/min (0.02scfm) typical
•Response Time	5 seconds (from 0 to 90% or 100 to 10% of output pressure into a 0.5 litre load)
•Total Error	±0.25% of span (typical, independent error includes the combined effect of non-linearity, hysteresis, deadzone and repeatability)
•Temperature Effect	Typically less than ±1% span between -10°C to +60°C
•Supply Sensitivity	Less than 1% span for 10% supply pressure change
•Connections	1/4” NPT female standard (plus two integral 1/4” NPT gauge ports)

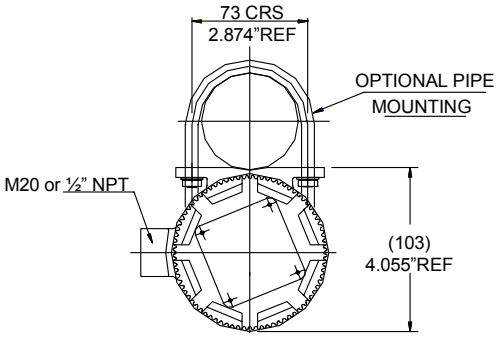
PHYSICAL

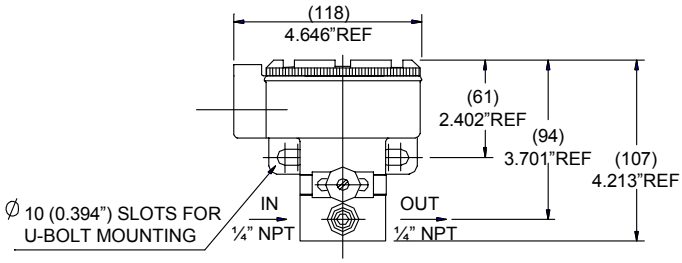
•Operating Temperature	-40°C to +85°C
•Weatherproofing	IP66, NEMA 4X (when mounted upright)
•Vibration	Output pressure changes less than 1% for vibration amplitude 5mm 10-30Hz, 10g 30-500Hz
•Electromagnetic Compatibility	Compliant and CE marked in accordance with the EC E.M.C. directive. Tested to standards: BS EN50082-2: 1995, BS EN50081-2: 1994
•Material of Construction	Aluminium and zinc diecasting with nitrile diaphragms, black epoxy powder coating standard
•Mass	930g
•Mounting Position	Integral bracket allows for surface or 50mm pipe mounting in any orientation. **Note**: the unit must be mounted upright to achieve the weatherproof ratings

ELECTRICAL

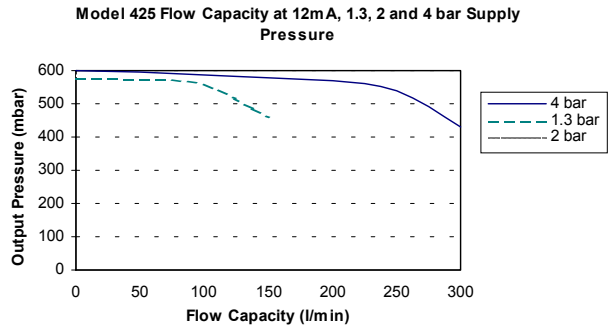
•Electrical Signal	4-20mA (two wire); load presents 6 volts (±0.5V) constant voltage drop to the current source
•Failure Mode	Signal falls to below 15mbar (0.2psig) when input signal fails
•Tight Shut-off	A potentiometer setting causes the output to fall to zero at between 3.2 and 4.5mA
•Connections	1/2” NPT or M20 female; internal terminal block with capacity up to 2.5mm^2 cable

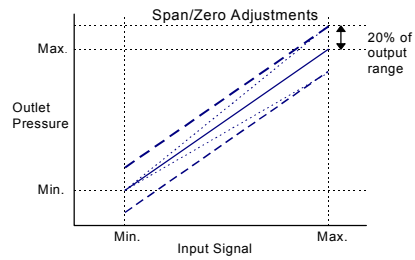
INSTALLATION DIAGRAM





CHARACTERISTIC GRAPHS





ORDERING INFORMATION

CERTIFICATION	OUTPUT PRESSURE	ORDER CODE		
		Standard	Intrinsically Safe	Explosion/ Flame Proof
NONE	0.2-1bar	53AF2101	-	-
	3-15psig	53AF0101	-	-
FACTORY MUTUAL (1/2" NPT)	0.2-1bar	-	53AF2121	53AF2111
	3-15psig	-	-	53AF0111

Standard Models:
Conduit entry 1/2" NPT

Options to special order:

Alternative pressure ranges
Alternative conduit entry
Dual and Triple certification

CERTIFICATION

CERTIFICATION AGENCY	EXPLOSION PROOF/ FLAME PROOF	INTRINSICALLY SAFE	NON-INCENDIVE
FACTORY MUTUAL	Class I, Division I, Groups B, C and D; T6 ambient 75°C, T5 ambient 85°C	Class I, Division I, Groups A, B, C and D; T4 ambient 40°C, T3B ambient 70°C, T3A ambient 85°C	Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III, Division 2; T4 ambient 40°C, T3B ambient 70°C, T3A ambient 85°C
CSA	Class I, Groups B, C and D; Class II, Groups E, F and G; Class III; T6 @ 75°C, T5 @ 85°C	Class I, Groups A, B, C and D; Class II, Groups E, F and G; Class III; T4 @ 40°C, T3B @ 70°C, T3A @ 85°C	Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups E, F and G; Class III; T6 @ 75°C, T5 @ 85°C N.B: Only Available as dual IS/NI Certified

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