

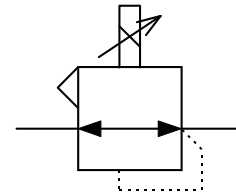
ELECTRONIC CONVERTER CURRENT TO PRESSURE (I/P) TYPE 140 FAILSAFE

FEATURES

- Advanced electronic control
- ATEX certified
- Explosion proof and Intrinsically safe
- Complete Electronics Modularity For Ease of Maintenance
- Jack Socket for On-site Monitoring
- Fail-Safe (unit pressure falls to zero on signal failure)
- Field replaceable filter

GENERAL DESCRIPTION

The 140 proportional I/P converter uses advanced closed loop solid-state electronic control to achieve accurate, high resolution pressure control. It is available in intrinsically safe and Type n versions and its vibration immunity and IP66 weatherproof rating make it ideal for field application.



Functional Symbol

TECHNICAL DATA

PNEUMATIC

•Supply Pressure	1.2-10bar (18-150psig); minimum 3psi above max output pressure
•Output Signal	0.2-1bar (3-15psig)
•Air Supply	Oil free, dry air, min filtered to 50 microns; Internal in-built air filter
•Flow Capacity	> 300NI/min (12scfm)
•Air Consumption	< 2.5 NI/min (0.025scfm) at 50% signal
•Instrument Accuracy	mean <0.1%
•Independent Linearity	mean <0.05% of span
•Hysteresis, Resolution & Deadband	mean <0.05% of span
•Temperature Effect	Typically less than 0.035% span/ °C between -40°C to +85°C
•Supply Sensitivity	Less than 0.1% of span over full supply pressure range.
•Connections	1/4" NPT female standard (plus integral 1/8" NPT gauge ports, 1/8"NPT (exhaust baffle)
•Calibration	Independent control of 0% and 100% set points. Adjustable by potentiometers up to 20% of output range. Unit is factory calibrated to within 1% of span.
•Fail-Safe	Signal falls to below 15mbar (0.2psig) in < 2sec, when input signal fails.
•Tight Shut-off Control	Potentiometer sets input signal failure at 3.5mA.

PHYSICAL

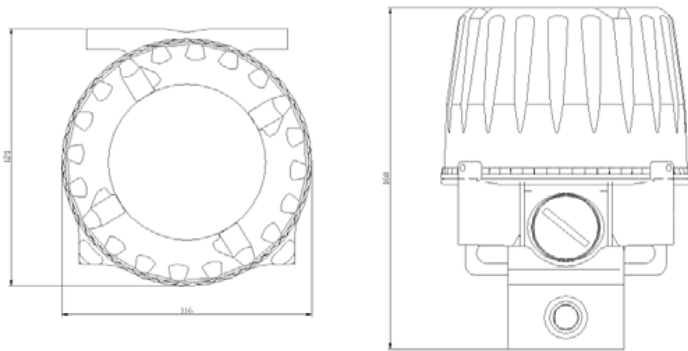
•Operating Temperature	-40°C to +85°C
•Weatherproofing	IP66, Type 4X
•Vibration	Output pressure changes less than 3% for vibration amplitude 4mm 5-15Hz, 2g 15-150Hz
•Electromagnetic Compatibility	Compliant with EC requirements EN 50081-2:1994(Emissions) and EN50082-2:1995(Immunity)
•Material of Construction	Aluminium and zinc diecasting with nitrile diaphragms, black epoxy powder coating standard
•Mass	2.07Kg
•Maintenance	Modular Electronics and in-built filter offered as field replaceable parts
•Mounting Position	Integral bracket allows for surface or 50mm pipe mounting in any orientation. Designed for mounting with 57-73mm pitch U bolts.

ELECTRICAL

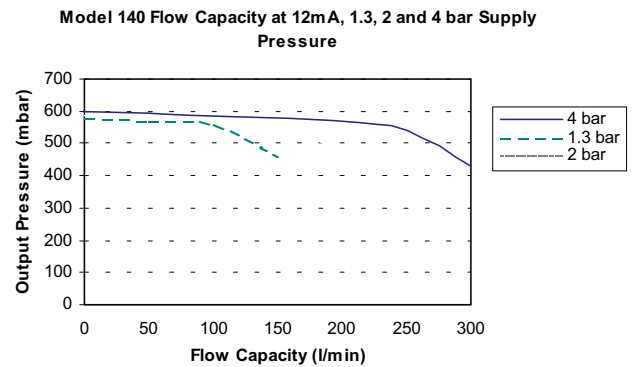
•Electrical Signal	4-20mA (two wire) Terminal voltage <6.5V
•Min Operating Current	>3.5mA
•Overload Protection	100mA max overload current
•Insulation Resistance	>100MOhm at 850Vdc, electrical terminals to case
•Connections	1/2" NPT or M20 via adapter; internal terminal block with capacity up to 2.5mm ² cable

All instruments are tested on the Watson Smith Automatic Testing System and an individual test certificate is provided at no extra charge. Each unit is tested for linearity, hysteresis, total error, settling error, over pressure, air consumption, response time, calibration, insulation, start-up current, supply sensitivity and voltage load.

INSTALLATION DIAGRAM



CHARACTERISTIC GRAPHS



ORDERING INFORMATION

CERTIFICATION	OUTPUT PRESSURE	ORDER CODE
		Standard Multi Certified Units Only – IS/Type N/Exd
CENELEC (M20 VIA ADAPTER)	0.2-1bar	EX140 01BJ4LE2
	3-15psig	EX140 01PK4LE2
Triple Certification/Triple Agency	0.2-1bar	EX140 01BJ4EE1
	3-15psig	EX140 01PK4EE1

Standard Models:
Conduit entry 1/2" NPT
(CENELEC M20 VIA ADAPTER)

CERTIFICATION

CERTIFICATION AGENCY	EXPLOSION PROOF/ FLAME PROOF	INTRINSICALLY SAFE	TYPE N/ NON-INCENDIVE	OTHERS
SIRA (CENELEC ATEX approved) 	EEx d IIC T4 Ta=-20°C to +40°C EExd IIB+H ₂ T5/T6 Ta=-20°C to +80°C (T5) Ta=-20°C to +65°C (T6) Umax=30V Sira 01ATEX1006 2G(T4/T5/T6)/2D(95°C)	EEx ia IIC T4 Ta=-40°C to +85°C Ui=30V, li=110mA Pi=0.84W Ci=6nF, Li=100µH Sira 01ATEX2007X 1G(T4)/1D(95°C)	EEx nL IIC T5 Ta=-40°C to +85°C li=24mA Ci=6nF, Li=100µH Sira 01ATEX4008X 3G(T5)/3D(95°C)	
FACTORY MUTUAL 	Class I, Division 1, Group B, C, D; T6, Ta=75°C; T5, Ta=85°C	Class I, II, III, Division 1, Group A, B, C, D, E, F, G; T4, Ta=85°C	Class I, Division 2, Group A, B, C, D; T6, Ta=75°C; T5, Ta=85°C	<u>Dust Ingress Protection:</u> Class II, III, Division 1, Group E, F, G; T6, Ta = 75°C; T5, Ta = 85°C <u>Suitable for:</u> Class II, III, Division 2, Group F, G; T6, Ta=75°C; T5, Ta=85°C
CSA 	Class I, Group B, C, D; Class II, Group E, F, G; Class III; Ex d IIC; T4 Ex d IIB+H ₂ ; T5/T6	Class I, Group A, B, C, D; Class II, Group E, F, G; Class III; Ex ia IIC; T4	Class I, Division 2, Group A, B, C, D; Ex nL IIC; T5; Class II, Division 2, Group E, F, G; Class III	

WatsonSmith

Watson Smith, LS6 2RT, Leeds, England.
Distributed by: Coulton Instrumentation Ltd.,
17 Somerford Business Park,
Christchurch, BH233RU,
England.
Telephone: (01202) 480 303
Fax: (01202) 480 808
Email:sales@coulton.com



THE QUEEN'S AWARD FOR EXPORT ACHIEVEMENT



Registered in England 1691122

Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document. Customers are responsible for ensuring that the product is used only for the purpose for which it is intended. In case of doubt Watson Smith will be pleased to advise. WatsonSmith is a registered trade mark of IMI Watson Smith Ltd.