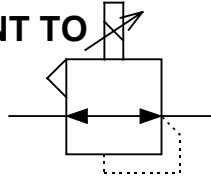


TYPE 140 FAILSAFE ELECTRONIC CONVERTER CURRENT TO PRESSURE (I/P)



Functional Symbol



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.

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 mean <0.05% of span & Deadband
- 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.

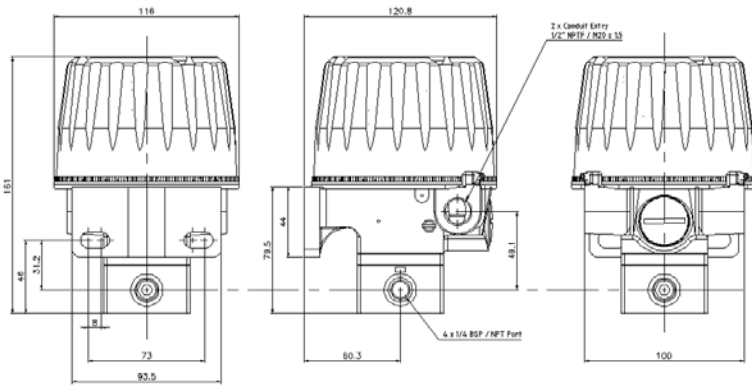
Physical

- 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 Compliant with EC requirements EN Compatibility 50081-2:1994(Emissions) and EN50082-: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.

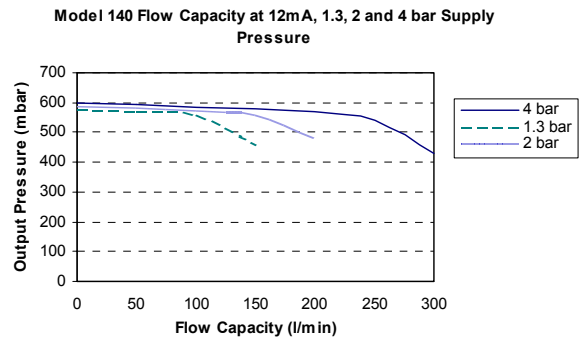
ELECTRICAL

- 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 M20x1.5 via adapter; internal terminal block with capacity up to 2.5mm² cable

Installation Diagram



Characteristic Graphs



Ordering Information

CERTIFICATION	OUTPUT PRESSURE	ORDER CODE
		Standard Multi Certified Units Only – IS/Type N/Exd
CENELEC (M20x1.5)	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

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, Ii=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 Ii=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	

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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.

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 Norgren will be pleased to advise.