



UL400 Series Intrinsically Safe Transducer



- Eliminate Drift – Fused Bond sensor technology for long term stability
- Sensor wetted material machined from solid stainless steel bar stock – no welding
- No silicone oil fill, no internal o-rings, no welded diaphragms
- RFI/EMI protection on every transducer
- Outputs: 4-20mA, 1-5 Vdc and 1-6 Vdc
- Pressure ranges: 0-5 PSI to 10,000 PSI
- Standard accuracy of 0.25% BFSL
- Approved to UL 913 (CSA 157) for Class 1, Div 1, Groups C and D when used with suitable intrinsic safety barrier.
- Optional external Zero & Span controls (Model UL410)



Spectre's Series UL410 and UL440 Intrinsically Safe Pressure Transducers are specifically engineered with proprietary Fused Bond sensor technology to eliminate the two most common problems with pressure transducers, noise and drift. The UL410 and UL440 (with zero & span) are approved to UL 913 (CSA 157) for use in Class 1, Div 1, Group C & D hazardous areas when used with a suitable safety barrier

Performance @ 25°C (77°F)

Accuracy: $\leq \pm 0.25\%$ BFSL
Stability (1 year): $\leq \pm 0.25\%$ FS, typical
Over pressure protection: 2X Rated Pressure
Burst Pressure: 5X or 20,000 PSI (whichever is less)
Pressure Cycles: >100 Million
Temperature range: -55 to +125°C (-65 to +250°F)
Temperature Accuracy: $\pm 1^\circ\text{C}$ ($\pm 1^\circ\text{F}$)

Environmental Data

Operating temp: -40 to +85°C (-40 to +185°F)
Storage temp: -50 to +125°C (-60 to +250°F)
Compensated range: 0 to 55°C (-32 to +130°F)
Temp comp Zero: $\leq \pm 1.5\%$ FS
Temp comp Span: $\leq \pm 1.5\%$ FS

Electrical Data

Excitation: 10-26 Vdc
Output: 4-20mA, 1-5 Vdc, 1-6 Vdc
Current consumption: $< 5\text{mA}$
Zero offset: $\leq \pm 1\%$ of FS
Span tolerance: $\leq \pm 1\%$ of FS
Output load: 5K Ohm (voltage)
800 Ohm @ 24 Vdc (4-20mA)

Physical data

Sensor wetted material: 17-4 PH stainless (316SS optional)
Pressure Connection: 1/4" & 1/8" MNPT, SAE-4
Electrical connection: 24" leads, 1/2" MNPT conduit connection, DIN 43650
Shock: 100G, 11msec; 1/2 sine
Vibration: 10G peak, 20 to 2000 Hz
ANSI/ISA 12.27.01-2003 Compliant



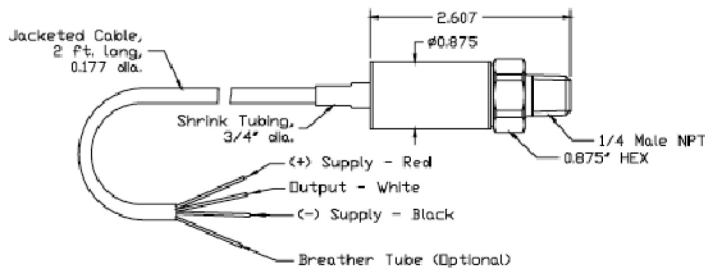


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Ordering guide – Example: UL440-A-(0-100PSI)-2-A-EC9-174

UL440	A	0-100PSI	2	A	EC9	174
Model	Pressure port	Range	Units	Output	Connector	Material
UL410 (with zero and span) UL440	A=1/4" MNPT B=SAE-4 C=1/8" MNPT	Specify pressure range in: PSI (5-10,000)	2=Gauge 4=Sealed 5=Compound 6=Other	A=4-20mA B=1-5Vdc C=1-6Vdc	EC1=24" wiring Leads EC2=Large DIN EC3=Mini DIN EC9=1/2" MNPT w/24" leads ECX=Other	174=17-4 ss 316=316 ss

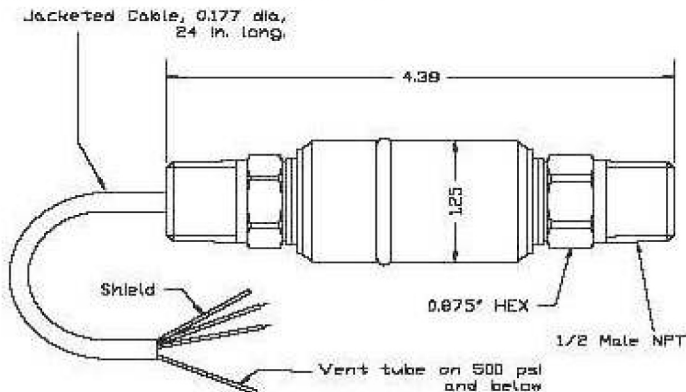
Dimensions: Model UL440



Wiring	4-20mA output, Cable
White	+ excitation
Black	- excitation/signal
Power	10-28 Vdc

Wiring	Voltage output, Cable
Red	+ excitation
White	- signal
Black	- excitation/signal
Power	10-28 Vdc

Dimensions: Model UL410



Above dimensions may vary with options. Specifications subject to change without prior notice

Entity Parameters

V_{max}=28 VDC
I_{max}=150mA
C1=0.44uf
L1=0
I_{max} is the total current consumption available from the Associated Apparatus under any condition

Notes

- Associated Apparatus shall provide intrinsically safe connections which meet the following parameters:
V_{oc} or V_t ≤ V_{max} C_a ≥ C1 + C_{leads}
I_{sc} or I_t ≤ I_{max} L_a ≥ L1 = L_{leads}
- Control room apparatus shall not generate in excess of 250V (U_{max})
- Installation should be in accordance with Article 504 in the National Electrical Code, ANSO/NFPA 70

