

UltraStable 300



High Stability Stainless Steel Pressure Sensors

The low cost UltraStable 300 series incorporates stainless steel isolation, and a wide range of standard pressure ranges and electrical outputs and very small size. This product uses IC Sensors Ultra Stable technology that provides stability over a wide temperature range. This is a low cost amplified transducer using the "Ultra Stable" sensor technology typically only available in much higher priced sensors. The modular design is adaptable to a variety of port variations. Standard outputs include 0 to 100mV constant voltage and constant current excitation, .5V to 4.5V ratiometric, 1V to 5V regulated and 4 to 20mA current loop.



Features

- ◆ .1% Accuracy
- ◆ -40C to 105C Operating Temperature
- ◆ 100% stainless steel isolation. Small size
- ◆ Wide variety of pressure ranges and electrical outputs
- ◆ Low cost
- ◆ UltraStable technology

Applications

- ◆ Refrigeration and HVAC controls
- ◆ Compressed gasses
- ◆ Process control
- ◆ Water pressure monitoring

Static Performance Specifications

	Units	Compensated low level 0 to 100 mV			Amplified Ratiometric 0.5 – 4.5 V out			Amplified 1 – 5 V out			Amplified 4 to 20 mA			Notes
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Offset	mV/ % Span	-1mV	±0.5	+1mV	-1%	±0.5	+1%	-1%	±0.5	+1%	-1%	±0.5	+1%	2,3,4,7,9
Span	mV/ % Span	-1%	±0.5	+1%	-1%	±0.5	+1%	-1%	±0.5	+1%	-1%	±0.5	+1%	2,3,4,7
Accuracy	% Span	-.15	±0.1	+15	-.15	±0.1	+15	-.15	±0.1	+15	-.15	±0.1	+15	3,5
Long Term Stability	% Span	-	±0.1	-	-	±0.1	-	-	±0.1	-	-	±0.1	-	
Response Time	mS	1	-	-	1	-	-	1	-	-	1	-	-	7
Supply Voltage	V	5	10	13	4.75	5	5.25	8	-	30	10	24	30	1,8
Supply Current	mA		1	2	2.5	3	3.5	2.5	3	3.5	-	-	-	
Output	K Ohms		12		-	-	-	-	-	-	-	-	-	3
Impedance	K Ohms	4		30	-	-	-	-	-	-	-	-	-	2,3
Isolation	M Ohm	50	-	-	50	-	-	50	-	-	50	-	-	6

Notes:

- 1) Supply voltage on amplified regulated versions must be at least 1.5 volts greater than output voltage.
- 2) Output loading may affect performance
- 3) Room temperature calibration (25C)
- 4) Custom offset & span calibration available
- 5) Combined BFSL linearity, hysteresis & repeatability
- 6) @50VDC
- 7) Zero setting for amplified 0V will actually be set at 50mV
- 8) For low level (100mV) sensors span is ratiometric to supply (10mV/volt output).
- 9) Nominal zero setting on 0-5 and 0-10V versions is actually 50mV

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MEASUREMENT SPECIALTIES

UltraStable 300



Environmental Performance

Specification	Units	Amplified			Notes
		Min.	Typ.	Max.	
Thermal effect on Offset -20C° to 85C°	% Span	-1.5	±0.75	1.5	1,2,3
Thermal effect on span -20C° to 85C°	% Span	-1.5	±0.75	1.5	1,2,3
Thermal Hysteresis -20C° to 85C°	% Span	-	±.05	-	
Operating temperature	Deg. C	-40	25	105	

Notes:

1) With reference to 25C

2) Other temperature ranges available

3) Tighter temperature calibration available

Mechanical Specifications

Specification	Value	Notes
Proof pressure	3x rated pressure	
Burst pressure	4x rated pressure or 20K psi	2
Vibration	20 G's rms @2khz	
Shock	100G 11ms	
Pressure cycles	1 million cycles 0 to full scale	
Media compatibility	All materials compatible with 316 stainless steel	1
Environmental protection	IP 67 (Cable version)	

Notes:

1) Other materials available (consult factory)

2) Which ever is less, 10X burst available on some pressure ranges (consult factory)

Ordering Information

Model	Output	Connection	Specials	port type	Pressure range	Pressure unit
US3	X	X -	XXXXX	X -	XXXX	X
Output	Connection	Specials	Port Type	Pressure Range		Pressure Units
1=0 to 75-150mV/@ 1.5mA w/gain set resistor (6 wire)	1= cable 2 feet	Specials are designated by a 5 digit number.	2=1/4-19 BSP	015P=0 to 15psi	001B=0 to 1Bar	A = absolute
2= 0 to 100mV (constant voltage 10mV/V)	4 = Integral Packard		4= 7/16-20 UNF	030P=0 to 30psi	01.6B=0 to 1.6Bar	G = gauge
3=.5 to 4.5V ratio (1)	X=Special connection		5= 1/4-18 NPT	050P=0 to 50psi	002B=0 to 2Bar	
4= 1 to 5V			6= 1/8-27 NPT	100P=0 to 100psi	005B=0 to 5 Bar	
8=4-20 mA			X= special port	300P=0 to 300psi	007B=0 to 7 Bar	
X=Special output				500P=0 to 500psi	010B=0 to 10 Bar	
				01KP=0 to 1Kpsi	015B=0 to 15 Bar	
				03KP=0 to 3Kpsi	020B=0 to 20 Bar	
				05KP=0 to 5Kpsi	025B=0 to 25 Bar	
		035B=0 to 35 Bar				
		070B=0 to 70 Bar				
		200B=0 to 200 Bar				
		350B=0 to 350 Bar				

Schaevitz® Sensors

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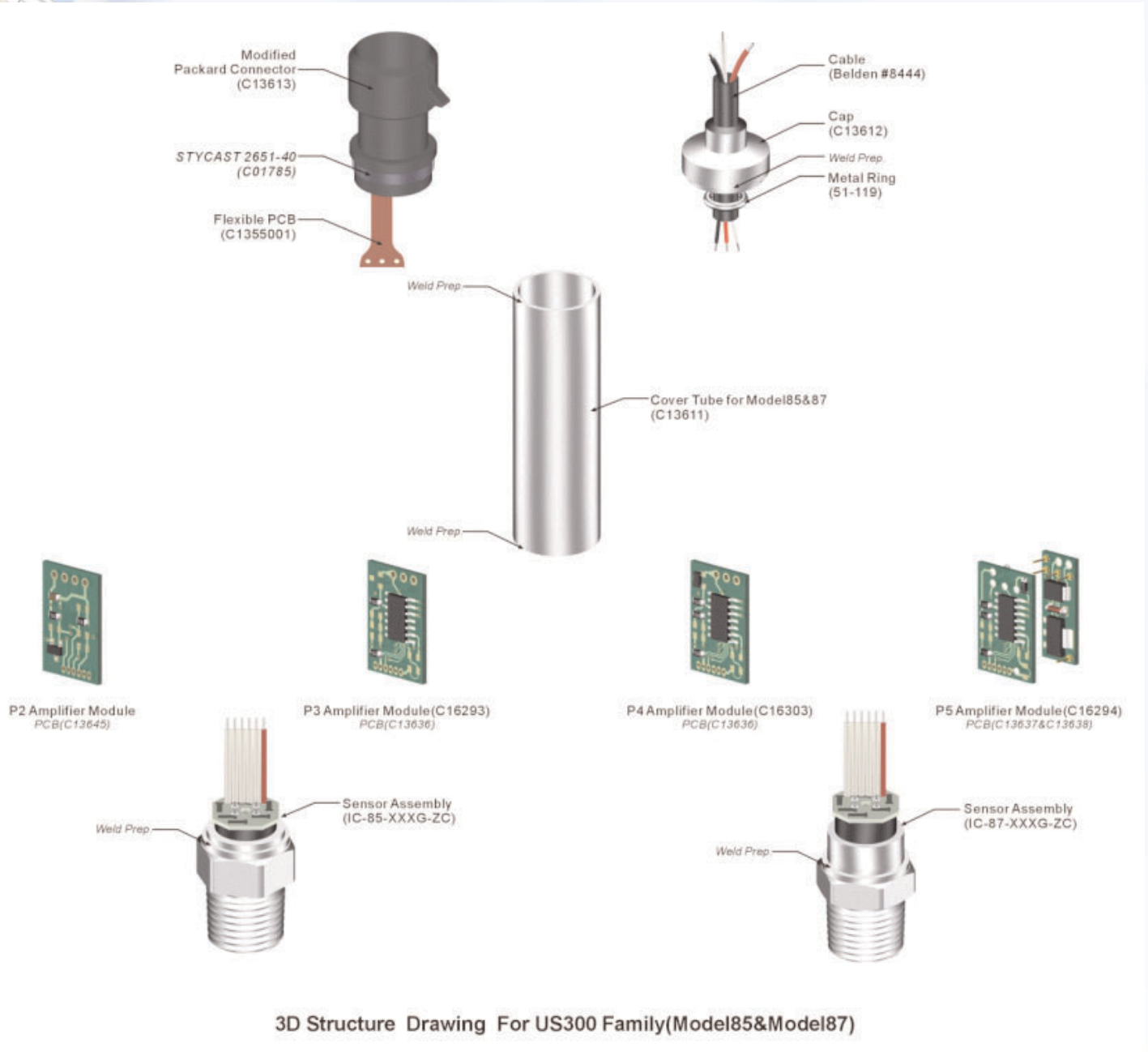


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1) For ratiometric output, span changes with input voltage (see supply voltage specifications)



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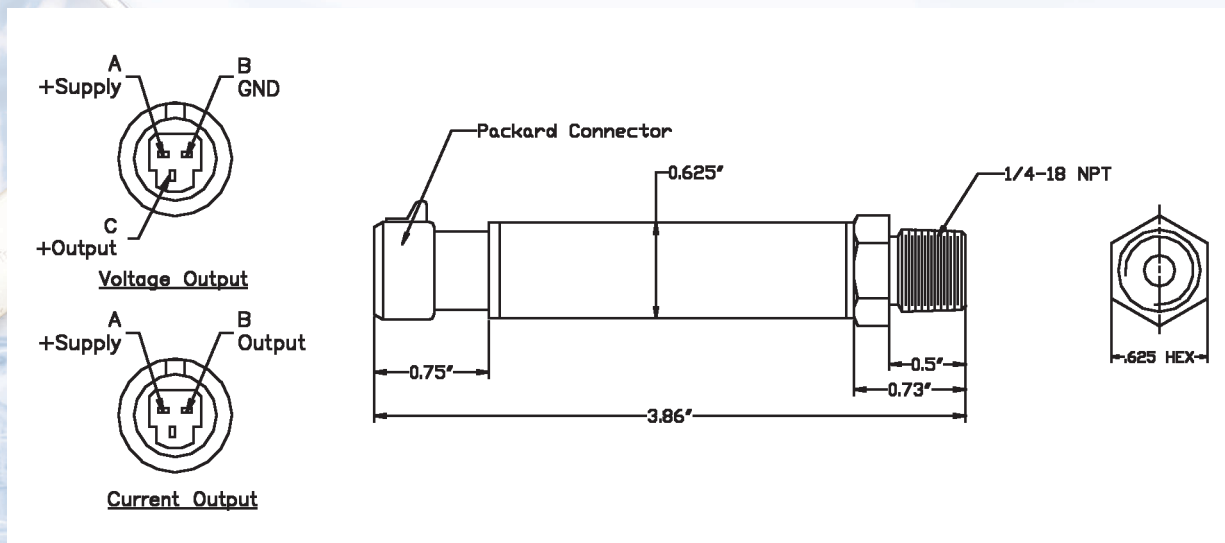
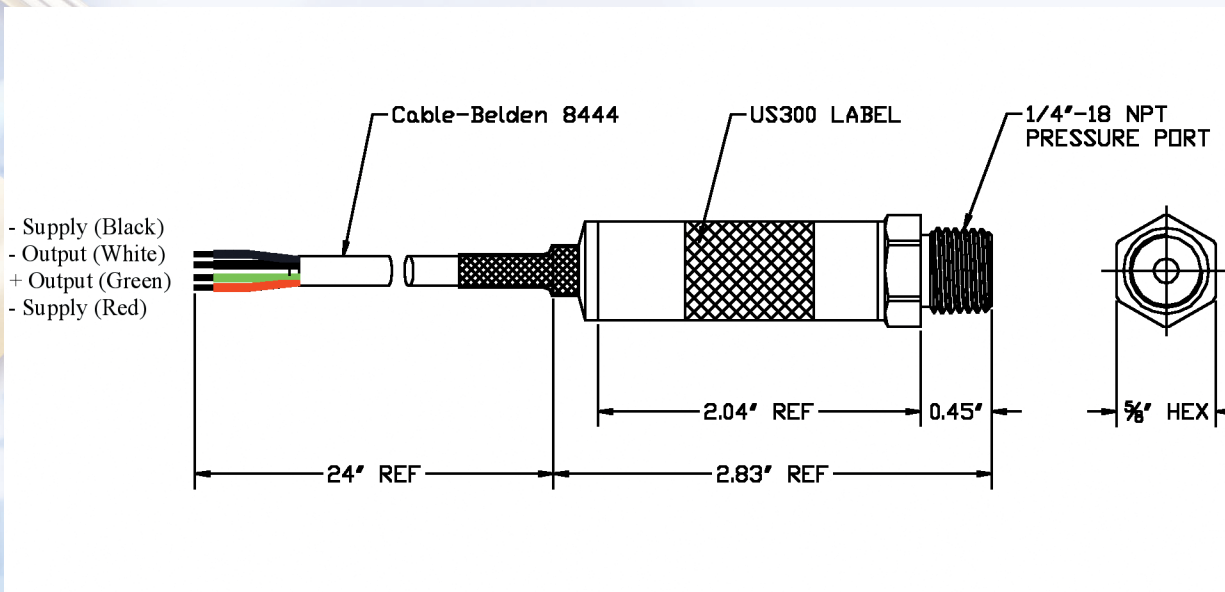


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UltraStable 300



Mechanical Dimensions



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