U86B Urea Dosing

- **Mountable with O-ring seal**
- **Stainless Steel wetted surfaces**
- **Amplified**
- **ASIC calibrated**
- **Absolute, sealed gage**
- **Cable option**
- **Analog output**

DESCRIPTION

The U86B is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing and is designed for o-ring mounting. The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element. The U86B is designed for high performance, low pressure applications. A custom ASIC is used for temperature compensation, offset correction, and provides an amplified output of 0.5 to 4.5V. CE approved and manufactured to TS16949 standards, this model may also come with a cable if desired. For a similar sensor without plastic housing, refer to the 86A. Or for a plastic threaded fitting, refer to the LM pressure transducer.

FEATURES

- Mountable with O-ring seal
- ±0.5% Non-linearity
- ±2.0 Total Error Band
- Cable option

APPLICATIONS

- Urea level
- Urea pressure
- Air Brakes
- Corrosive fluid measurement for E&V applications

STANDARD RANGES

Range	psiA, psiS	Range	BarA, BarS	Range	MPaA, MPaS
0 to 100	•	0 to 010	•	0 to 001	•
0 to 300	•	0 to 012	•		

Agency Approvals

Performance Criteria: Output Change < 2.0% Span

IEC61000-4-2 Electrostatic Discharge Immunity: 8kV Contact / 15kV Air; Discharge Rate: 5s ~ 10s

IEC61000-4-3 EM Field Immunity: 30V/m, 1kHz 80% Modulation, 80 ~ 1000MHz

IEC61000-4-6 Conducted Immunity: Level 2, 3V/130dB, 150KHz ~ 80MHz, 2s Dwell, Clamp Injection

IEC55022 Emission: 5Vdc, 150KHz – 3.2GHz, Antenna 1M

PERFORMANCE SPECIFICATIONS

Supply Voltage: 5V

Ambient Temperature: 25°C after 10 sec warm-up (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	4.75	5.00	5.25	V	
Supply Current			12.5	mA DC	
Ratiometric Output	0.5		4.5	V	1, 5
Accuracy (combined linearity, hysteresis & repeatability)	-0.5		0.5	%Span	2
Total Error Band	-2.0		2.0	%Span	3
Compensated Temperature	-7		+105	°C	
Operating Temperature	-7		+105	°C	
Storage Temperature	-40		+125	°C	
Insulation Resistance (500Vdc)	10			MΩ	4
Reverse Voltage			16	V	
Overvoltage Protection			16	V	
Short Circuit Protection		Continuous			
Output Noise @ 1kHZ		13		mV	
Response Time (10% to 90%)		1.0		ms	
Long Term Stability	-0.15		0.15	%Span/Year	
Output Load	47 ± 10% KΩ resistor parallel with 0.01uF capacitor to return				
Diagnostics Ability	EEPROM Integrity – Lower Rail Sensor Connection Check – Lower Rail Sensor Short Check – Upper Rail Power Loss Detection – Upper Rail				

Notes

1. Ratiometric to supply voltage.
2. Best fit straight line.
3. TEB includes all accuracy errors, thermal errors, span and zero tolerances over the compensated temperature range.
4. Between sensor body to any pins of connector.
5. This product can be configured for custom OEM requirements. Contact factory for different transfer functions and output clipping.

ENVIRONMENTAL SPECIFICATIONS

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Pressure Overload			2X	Rated	6
Pressure Burst			3X	Rated	7
Pressure Cycle	1M			Cycles	
Material	Port: 316/316L ST STL Sealing: Viton 70 (O-Ring) Housing: PA66 + 30%GF				

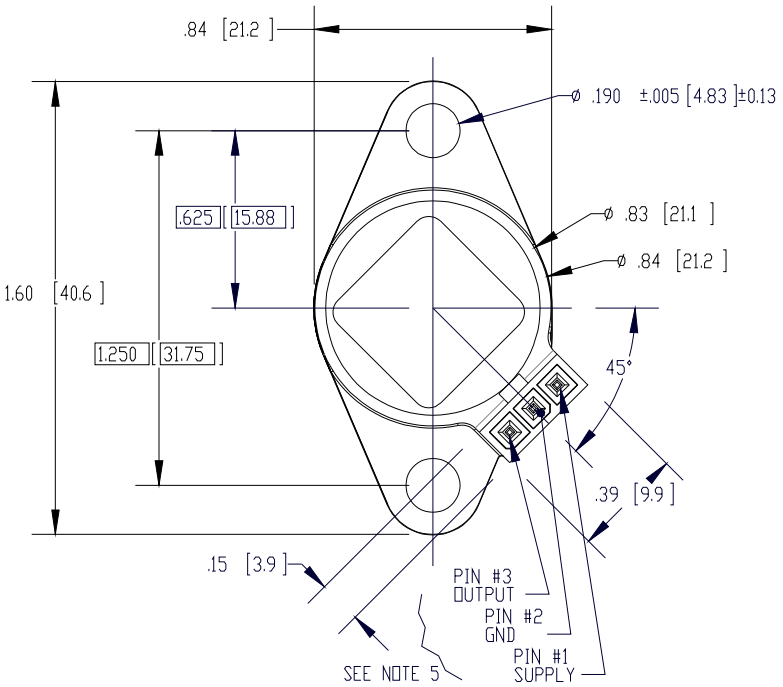
Notes

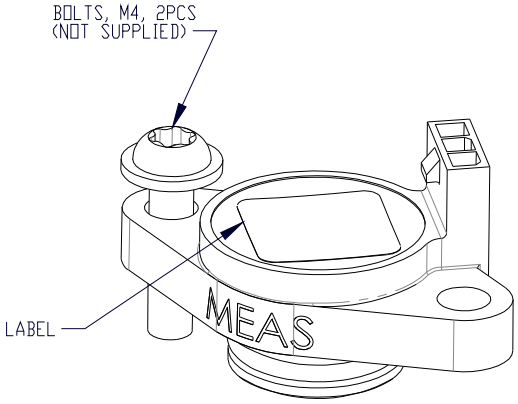
6. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
7. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.

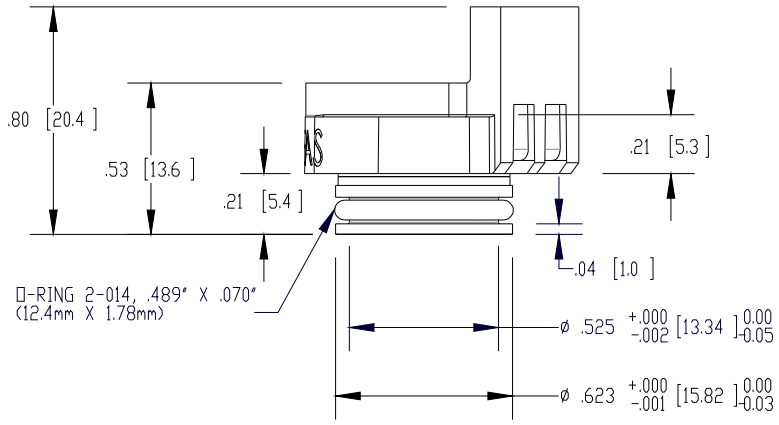
Recommended bolt installation torque is 2.7 ± 0.3Nm using M4.

ISO11452-4 BCI: Level 4: 50 KHz – 400MHz

DIMENSIONS





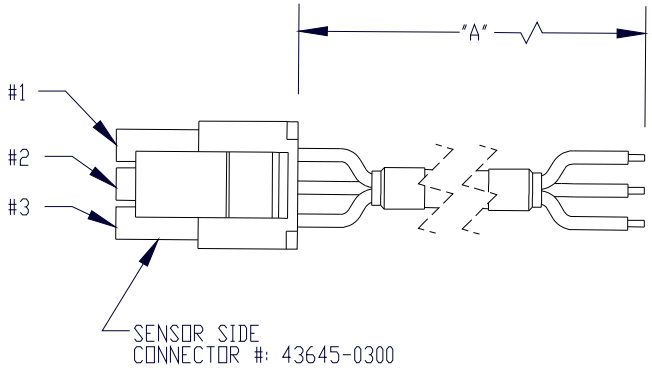


ORDERING INFORMATION

U86B - 100PA

- Pressure Type (A = Absolute, S = Sealed Gage)
- Pressure Range (See Pressure Ranges Table)
- Model

CABLE DIMENSIONS



SENSOR SIDE		
POS NO	COLOR	FUNCTION
1	RED	SUPPLY
2	BLUE	GND
3	BLACK	OUTPUT

U86B-CBL - XXX - 0

CABLE ORDERING INFORMATION

U86B - CBL - 010 - 0

- Connector (0 = No Connector)
- Cable Length DIM "A" (010 = 10" Cable)
- Model