SL-700 Series Continuous Level Sensor

- **Ideal solution for the detection and measurement of ultra pure chemical fluids**

- **Provides a continuous transmitter with a very high degree of precision**

- **Well suited for high viscosity liquids**

DESCRIPTION

The Model SL-700 Series Ultrasonic Micromeasurement System is an ideal solution for the detection and measurement of ultra pure chemical fluids in the semiconductor industries using very small sensor (VSS) technology. Measuring a fluid level accurately and reliably in the chemical vapor deposition process is of the utmost importance to the semiconductor wafer fabrication process. The Measurement Specialties SL-700 Series provides a continuous transmitter with a very high degree of precision. The SL-700 Series ultrasonic system is well suited for high viscosity liquids such as DMAH, titanium precursors and copper precursors.

FEATURES

- 316 L stainless steel machined sensor body
- Sensor material has an electropolished finish (R_a = 15 µin – minimum)
- Miniature sensor size reduces liquid volume displacement
- Works with the following chemicals independent of dielectric, viscosity, color, density and opacity of chemical fluids: DMAH, TAETO, CVD, TDEAT, CUTMUS, TEOS, DCE, TCA
- High pressure vessel application up to 250 PSIG (1724 kPa) (consult factory for higher pressure applications)
- Accuracy of continuous level transmitter ±0.06 in (1.524 mm) or better
- Repeatability of ±0.01 in (0.254 mm) is typical
- Continuous transmitter output, 4-20 mA, 1-10 V, RS-232, remote unit with digital display, two user settable alarms

APPLICATIONS

- Semiconductor industries

SL-700 Series Continuous Level Sensor

PERFORMANCE SPECIFICATIONS

Parameter	Typical Value
Accuracy	±0.06 in (1.524 mm) or better
Repeatability	±0.01 in (0.254 mm) typical
Input Power	24 VDC, 115 VAC/230 VAC, 50/60 Hz (optional)
Output	Either a continuous 4-20 mA, 0-5 V, or 0-10 V is available. All versions include RS 232 PC, bi-directional communication, and two 200 mA DC SSR alarm channels
Housing	NEMA 1 box

Parameter	Typical Value
Range	1 to 10 inches (25.4 to 254 mm) (consult factory for longer range)
Mounting	¾" M VCR®, ¾" F VCR®
Sensor Material	316 L stainless steel (standard)
Operating Pressure	Up to 250 PSIG (1724 kPa)
Temperature	Sensor: -20 to 200 °F (-29 to 93 °C) Electronics: -20 to 170 °F (-29 to 77 °C)

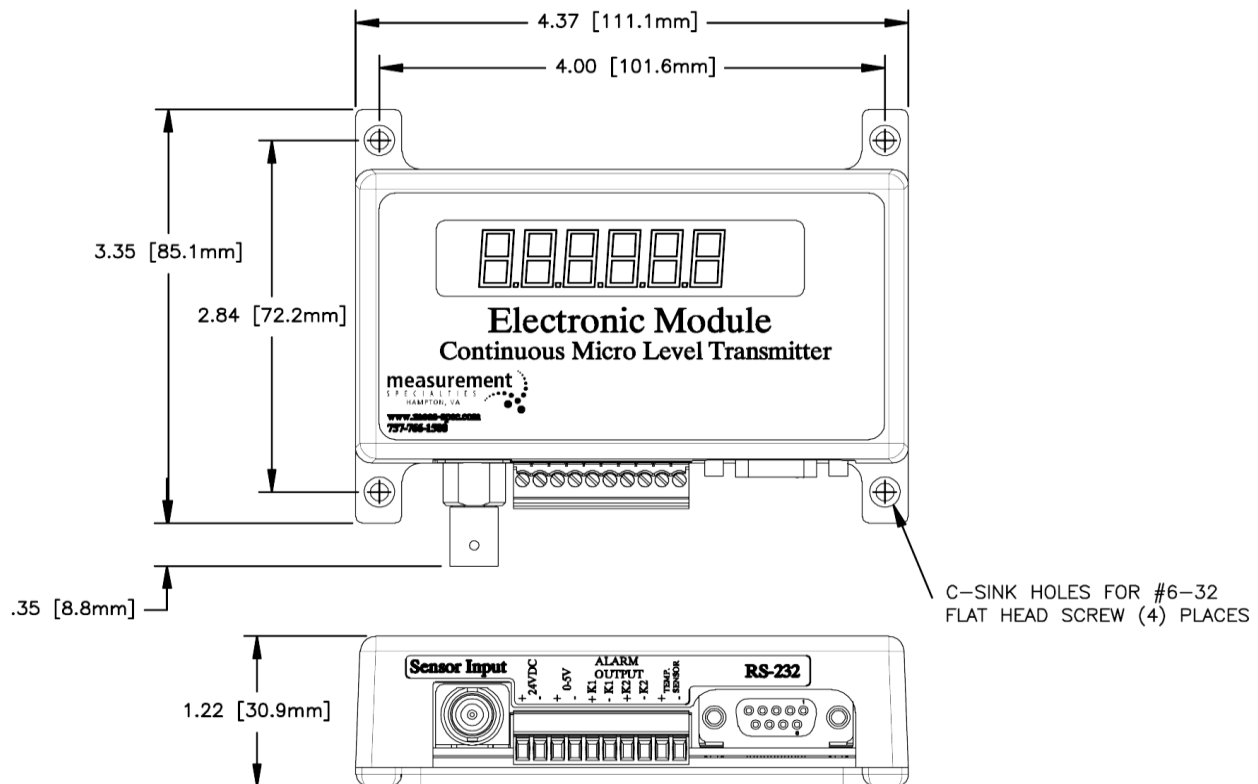## MECHANICAL DIMENSIONS in inches [mm]

Figure 1: SL-700 series elements electronic module
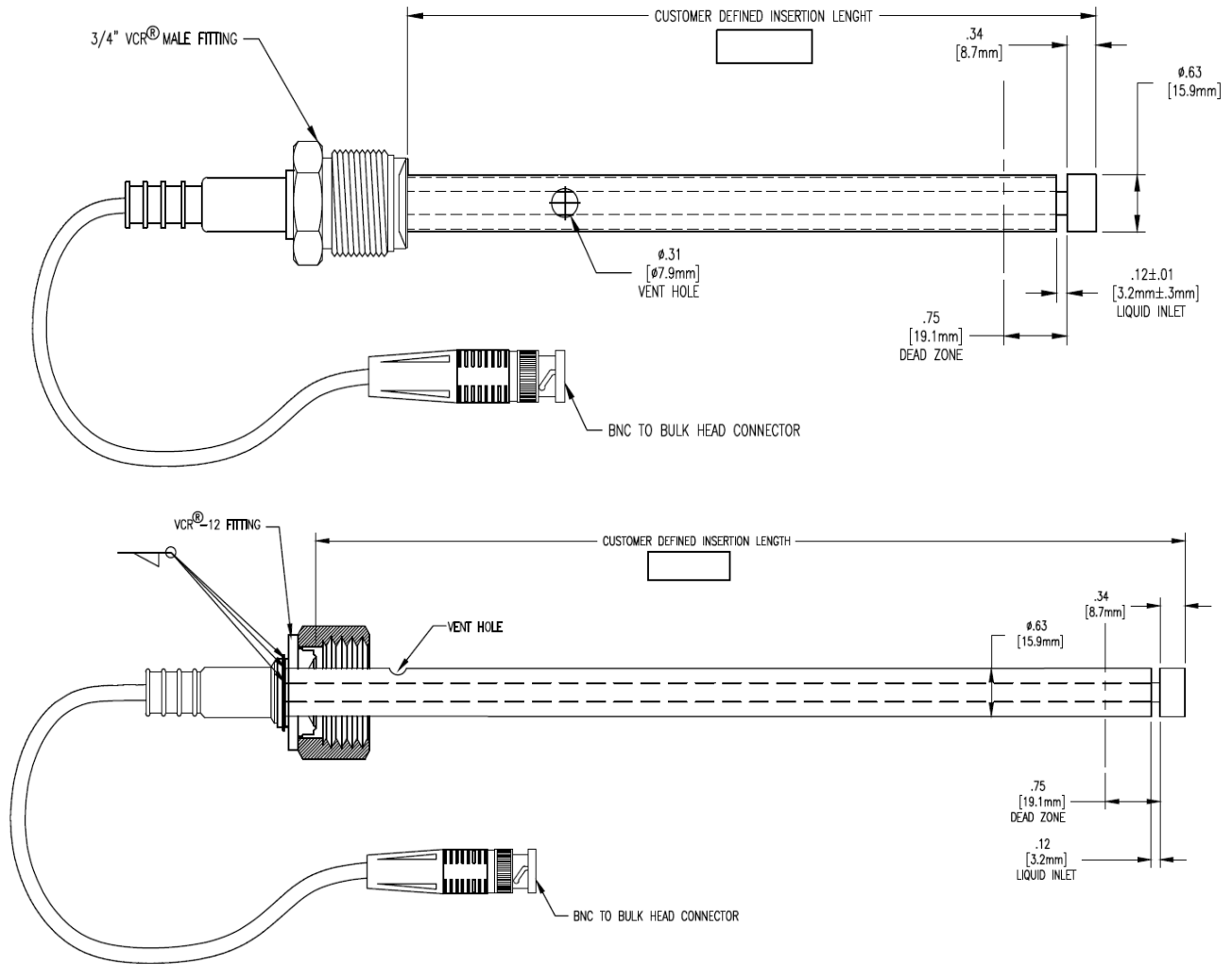
SL-700 Series Continuous Level Sensor

Figure 2: SL-700 series elements sensor. Top drawing shows a ¾" male VCR® fitting.
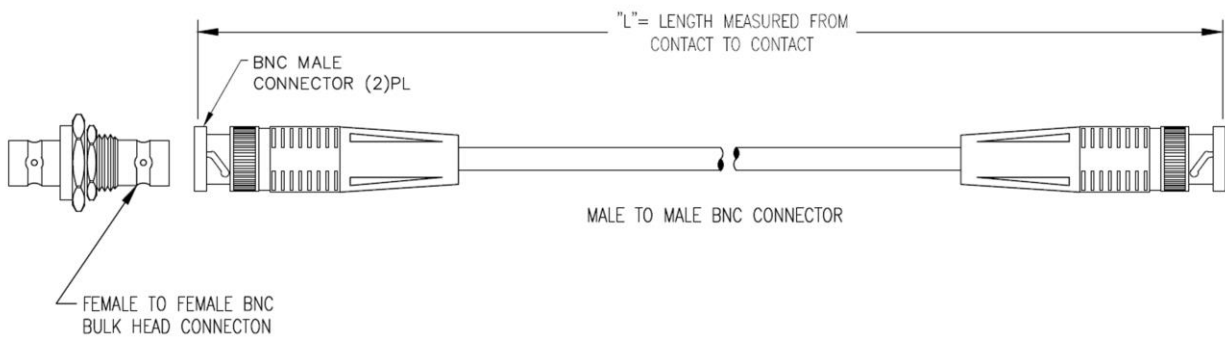Bottom drawing shows a ¾" female VCR® fitting.

Figure 3: SL-700 series elements extension cable

SL-700 Series Continuous Level Sensor

OPERATION

The sensor is mounted on the top of the vessel through a VCR® metal gasket face seal fitting for through air transmitter and through liquid transmitter. For the continuous transmitter, the electronics generate an electrical signal that is converted by the sensor to ultrasonic energy, is reflected back to the sensor which is then converted back to an electrical signal. The electronics then digitally process the return signal using digital signal averaging which automatically eliminates false reflected echoes and provides reliable output. Temperature variation of air/liquid inside the vessel is compensated by measuring the temperature of the media.

ORDERING INFORMATION

A. SL-700 series Electronics:

Input	Output	Part Number
24 VDC	4-20 mA	17631
24 VDC	0-10 VDC	17632
24 VDC	Strobe	17633
24 VDC	0-5 VDC	17634

B. SL-700 series Sensors:

Sensor Connection	Sensor Length	Part Number
¾" Male VCR® ¾" Female VCR®	Standard sensor lengths are between 6 and 12 inches. Sensor tubes greater than 12 inches are available at an additional charge. Please specify length of sensor in inches. **Drawing for sensor will be sent for approval before production begins.**	Consult product line manager

C. SL-700 series Extension Cable:

Extension Cable Length	Part Number (without bulkhead connection)	Part Number (with bulkhead connection)
3 feet	092-40002-03	092-40001-03
5 feet	092-40002-05	092-40001-05
6 feet	092-40002-06	092-40001-06
7.5 feet	092-40002-7.5	092-40001-7.5
10 feet	092-40002-10	092-40001-10
12 feet	092-40002-12	092-40001-12
15 feet	092-40002-15	092-40001-15
25 feet	092-40002-25	092-40001-25

深圳市亿为测控电子有限公司
Shenzhen Bill-Well Measurement & Control Electronics Co.,Ltd.

2407   518000

+ 86 755 2641 9890   + 86 755 2641 9680

sales@ bill-well.com