

## **Tank Level Sensor**

A novel fiber optic tank level sensor has been developed. It is inexpensive, accurate and reliable for high temperature applications. The sensor system is designed of two main components, a fiber optic probe and an electronic circuit. The fiber optic probe is used for remote sensing in high temperature environments. The probe is used to carry the optical signals between the opto-electronics circuit and the liquid in the tank.

There were several specification needed for this sensor application. The developed sensor was developed and tested to satisfy all required specifications. These are listed below.

### **Specifications**

Mechanical Fluid Penetration:	The probe outer diameter is 18 mm (or smaller, up to 14 mm); sensor penetration into fluid is less than 25 mm to guarantee operation without posing undue restriction to flow area.
Housing Materials:	Aluminum, Steel, Brass, and Copper
Fluid Sensed:	2389 Turbo oil, Antifreeze and water
Tested Temperature:	300 °F
Operating Temp Range:	-40° F- +350° F
Operating Pressure:	500 psig
Output:	Analog signal to light indicator, and digital to computer interface
Accuracy:	± 0.050 (inch) of fluid level
Life Expectancy:	10-15 Years
Cost:	\$50/unit