



U002

### Description

The U002 solid state level switch is suitable for most any liquid regardless of its density or conductivity and is a reliable and low cost alternative for installations where a mechanical float-type switch would be impractical. It requires no calibration, operates in pressures up to 800 psig and its 1" diameter probe fits easily into confined spaces in any orientation. Constructed in easy to clean, all 316 stainless steel, the U002 is available in probe lengths up to 100 inches.

### Principle of Operation

An ultrasonic transmitter and receiver detect the presence of fluid between two piezoelectric crystals sealed within the sensor gap. When the gap fills with liquid, an ultrasonic wave signal passes between the crystals to provide switching.

### Key Features

- No moving parts: continuous 2 MHz ultrasonic signal
- Horizontal or vertical installation
- Compact one-inch diameter probe
- Easy to install two-wire output
- No calibration required
- Intrinsically safe when connected with barrier

### Environmental

- Process Temperature:  
-40° to +250° F (-40° to +120° C)
- Process Pressure:  
Operating 800 psig (55 bar)  
Non-operating 1500 psig (103 bar)

### Electrical

- Input Voltage:  
10 to 30 VDC
- Output:  
Dry Sensor: 8 mA  $\pm$  2 mA  
Wet Sensor: 16 mA  $\pm$  2 mA
- Power Consumption:  
1 watt (max.)
- Response Time:  
100 millisecond (typical)
- Repeatability:  
 $\pm$ 0.078" (2 mm)
- Crystal Frequency: 2 MHz

### Applications

- Water & Wastewater
- Ink Trays
- Food & Dairy
- Chemical Processing & Storage
- Pharmaceuticals

