

ULTRASONIC LIQUID LEVEL SWITCHES

Ultrasonic liquid level switches are used in a wide variety of applications to detect the location of level in a process or storage vessel. These switches can be used in virtually any liquid. A complete offering of materials and mounting configurations are available to meet your application needs.

FEATURES	BENEFITS OF OWNERSHIP
Not reliant on chemical properties of the liquid	Reliability
No moving parts	Long Life / Low Maintenance
No calibration necessary	Simplified installation
A wide variety of materials and process connections	Application Flexibility
Remote Self-test to verify operation of the electronics and sensor (Model KUSG)	Peace of Mind

APPLICATIONS

Oils & other Hydrocarbons
Solvents
Water

Acids
Caustics

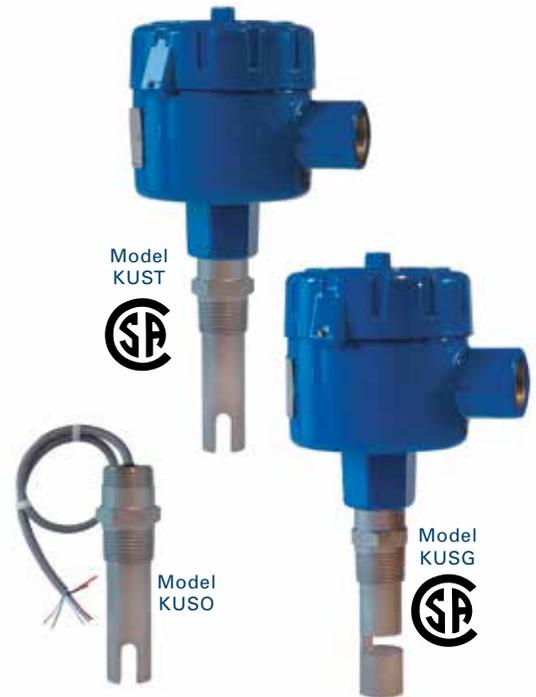
Condensate
Clean Liquids

INDUSTRIES

Chemical
Petroleum
Water / Wastewater

Pharmaceutical
Pulp & Paper

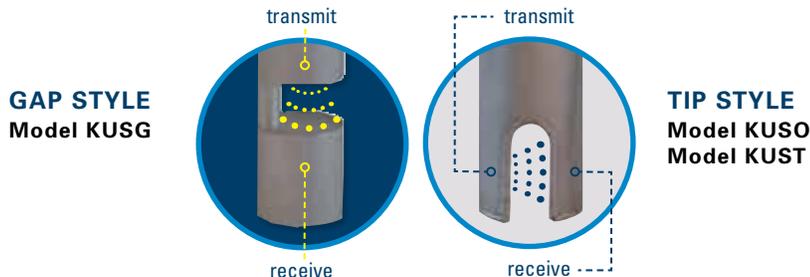
Power
Aerospace



PRINCIPLE OF OPERATION

Ultrasonic switches use piezoelectric crystals to transform electrical energy into mechanical motion (sound). The Transmit Crystal sends a pulse of sound through the space between the crystals, to the Receive Crystal. If the space is filled with air, gas, or vacuum, the Receive Crystal does not detect the sound pulse. However, if the space is filled with liquid, **any liquid**, the pulse is detected by the Receive Crystal, and the switch output changes.

The Model KUST and KUSG are designed for industrial applications requiring hazardous-area approval. The Model KUSG contains a remote-test feature that allows you to test the operation of the switch and sensor on-demand. The Model KUSO is a low-cost alternative for OEM's (Original Equipment Manufacturers) not requiring hazardous-area certification.



PRODUCT SPECIFICATIONS

Model KUST

Description		Specification
Input Power	AC	115Vac or 230Vac; 50/60Hz
	DC	12 or 24Vdc
	DC (Two-Wire)	9-30Vdc
Output	Relay	10A DPDT
	Two-wire (Isolated)	4mA = Dry; 20mA = Wet / 4mA=Wet; 20mA=Dry
Temperature Range	Electronics	-20°F to 170°F
	Sensor	-40°F to 300°F
Pressure Range	316 SS	Vacuum to 1000psig
	Tefzel®	Vacuum to 100psig
Sensitivity (Signal-to-noise Ratio)		500:1
Repeatability		±2mm
Response Time		0.5 sec. fixed

Model KUSG

Description		Specification
Input Power	AC	115Vac or 230Vac; 50/60Hz
	DC	12 or 24Vdc
Output		10A DPDT
Temperature Range	Electronics	-20°F to 170°F
	Sensor (Metal)	-40°F to 300°F
Pressure Range	Metal Sensors	Vacuum to 1000psig
	Non-metal Sensors	Vacuum to 100psig
Sensitivity (Signal-to-noise Ratio)		1000:1
Repeatability		±2mm
Response Time		0.5 sec. fixed

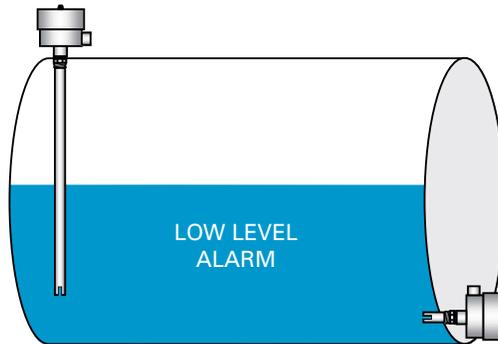
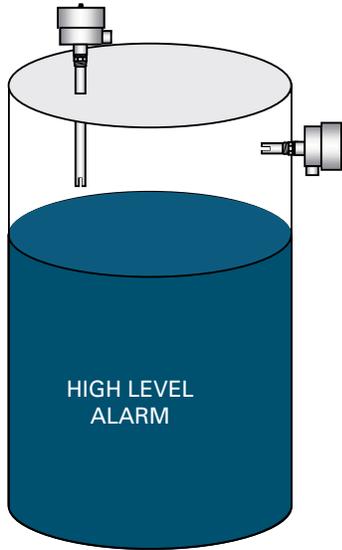
Model KUSO

Description		Specification
Input Power		5 – 30Vdc
Output		1A SPST (Normally Open)
Temperature Range		-20°F to 160°F; up to 212°F (Special)
Pressure Range		Vacuum to 1000psig
Cable Length		12"; For longer lengths consult factory
Mounting		3/4" NPT; For flanges consult factory
Sensitivity (Signal-to-noise Ratio)		500:1
Repeatability		±2mm
Response Time		0.5 sec. fixed

AGENCY APPROVAL

Agency	Models	Protection Method	Approval
CSA	KUST-X-1-X-S-X-X-X-X	Explosion-proof	Explosion-proof for: Division 1 Class I – Groups C , D; Class II – Groups E, F, G; Class III
	KUSG-X-1-X-S-X-X-X-X KUSG-X-1-X-M-X-X-X-X KUSG-X-1-X-HC-X-X-X-X KUSG-X-1-X-HB-X-X-X-X		
	KUST-X-2-X-S-X-X-X-X	Intrinsically Safe	Intrinsically Safe for: Division 1 Class I – Groups A, B, C, D; Class II – Groups E, F, G; Class III

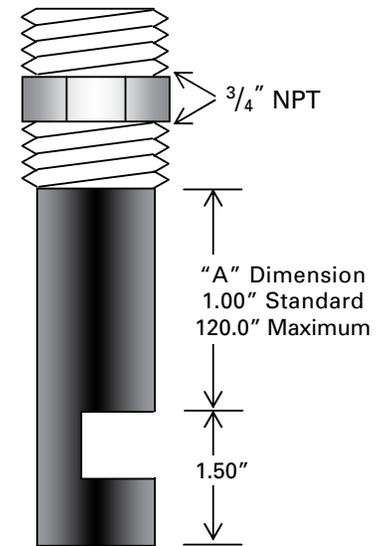
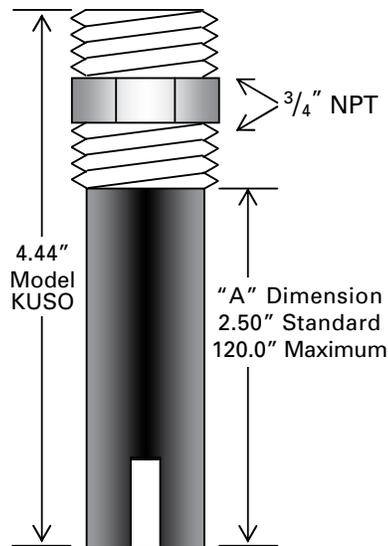
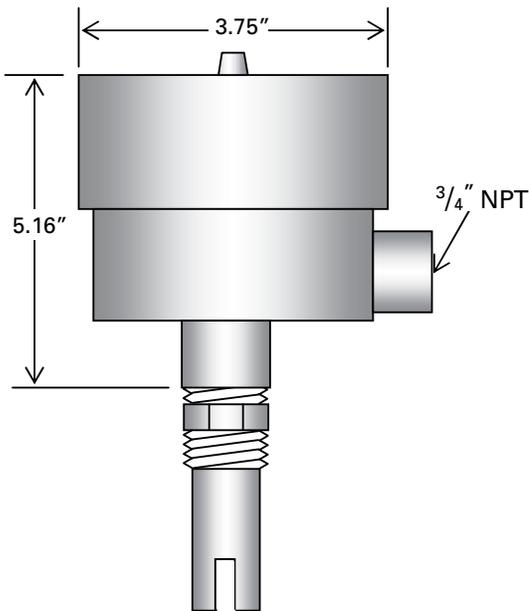
APPLICATION EXAMPLES



APPLICATIONS:

- Pump Protection
- Storage Tanks
- Compressors
- Hydraulic Supply Lines
- Boiler Water Cutoff
- Sewage Systems
- Pipelines
- Food Processing
- Acids
- Alkalies
- Paints
- Alcohols
- Crude Oil
- Fuels
- Solvents
- Hydrocarbons

DIMENSIONAL DRAWINGS



HOW TO PROCEED

Selecting a Kenco Ultrasonic Switch for your application is a snap!

1. Contact your local Kenco Engineering Representative.
2. Discuss your application.
3. Request a quote

An experienced Applications Engineer will evaluate your application, and select the best switch to meet your needs.

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