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Datasheet of Piezoelectric Ultrasonic Liquid Media Sensor and Gas Meter Sensor.

1. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC2.0M014075H2AD0-B0)

Nominal Frequency: $2000 \pm 200\text{kHz}$

MAX Instantaneous Drive Voltage: 220V

Paired Sensitivity: receiving signal 500mV minimum when measured peak to peak when driven with 10 cycle burst 3.0V(Vp-p) at 2MHz across a 110mm range.

Bandwidth(-3dB):500kHz

Capacitance: $700 \pm 20\%$ pF

Impedance (2MHz) Zr: 350Ω max.

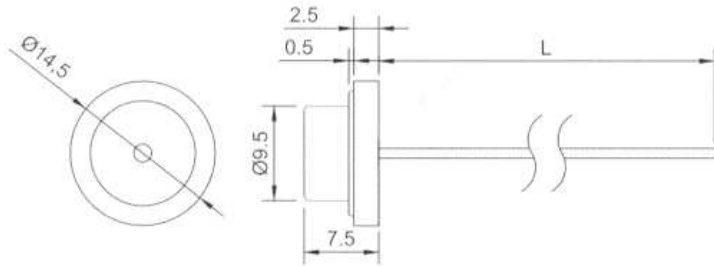
Insulation Resistance(250V): 1 GΩ min.

Operational Environment:

Operating Temperature: +4~+80°C

Storage Temperature: -20~+85°C

Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement and obstacle detection etc.



2. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M020101H2AD1-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$

MAX Instantaneous Drive Voltage: 220V

Paired Sensitivity: receiving signal 900mV minimum when measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) at 1MHz across a 110mm range.

Bandwidth(-3dB):200kHz

Capacitance: $1200 \pm 20\%$ pF

Impedance (1MHz) Zr: 100~500Ω

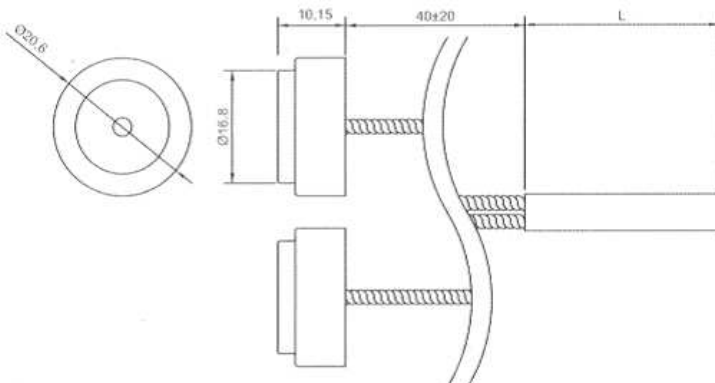
Insulation Resistance(250V): 1 GΩ min.

Operational Environment:

Operating Temperature: +4~+100°C

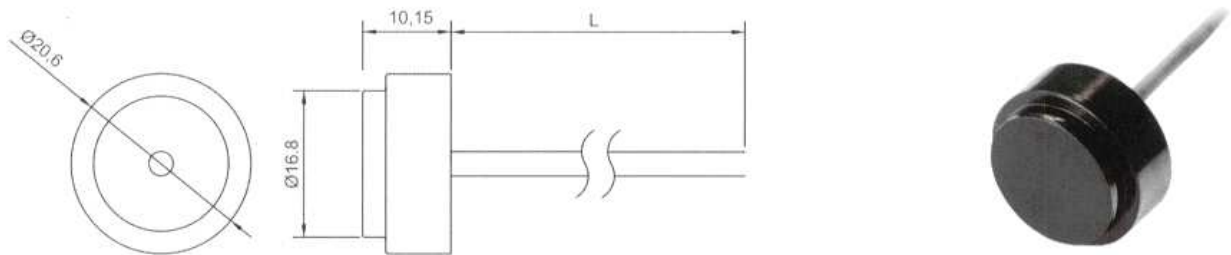
Storage Temperature: -20~+85°C

Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement and obstacle detection etc.



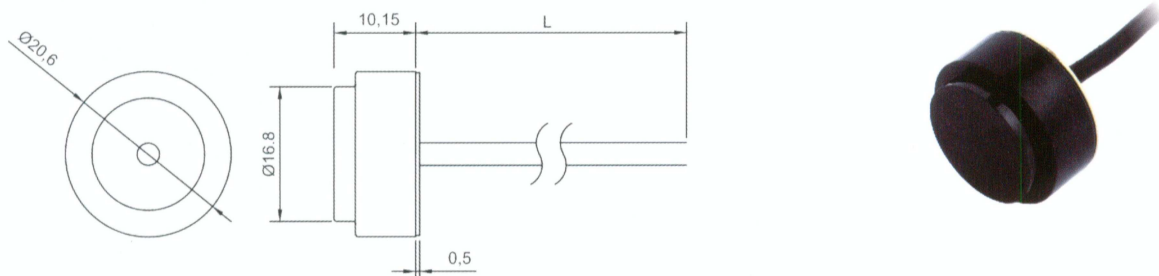
3. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M020101H2AD0-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$
MAX Instantaneous Drive Voltage: 220V
Paired Sensitivity: receiving signal 900mV minimum when measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) at 1MHz across a 110mm range.
Bandwidth(-3dB):200kHz
Capacitance: $1200 \pm 20\% \text{pF}$
Impedance (1MHz) Zr: 100~500 Ω
Insulation Resistance(250V): 1 G Ω min.
Operational Environment:
Operating Temperature: +4~+100 $^{\circ}\text{C}$
Storage Temperature: -20~+85 $^{\circ}\text{C}$
Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement, obstacle detection and number counting etc.



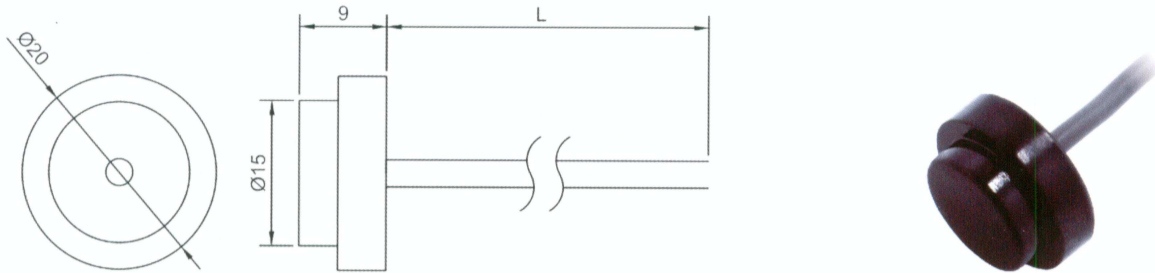
4. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M020101H2AD2-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$
MAX Instantaneous Drive Voltage: 220V
Paired Sensitivity: receiving signal 900mV minimum when measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) at 1MHz across a 110mm range.
Bandwidth(-3dB):200kHz
Capacitance: $1200 \pm 20\% \text{pF}$
Impedance (1MHz) Zr: 100~500 Ω
Insulation Resistance(250V): 1 G Ω min.
Operational Environment:
Operating Temperature: +4~+100 $^{\circ}\text{C}$
Storage Temperature: -20~+85 $^{\circ}\text{C}$
Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement, obstacle detection and number counting etc.



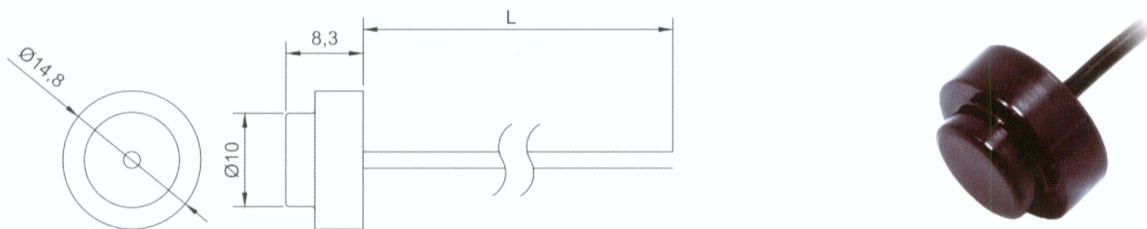
5. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M014083H2AD0-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$
MAX Instantaneous Drive Voltage: 220V
Paired Sensitivity: receiving signal 800mV minimum when measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) 1MHz across a 110mm range.
Bandwidth(-3dB): 200kHz
Capacitance: $1100 \pm 20\% \text{pF}$
Impedance(1MHz) Zr: $300 \pm 30\% \Omega$
Insulation Resistance(250V): 1 G Ω min.
Operational Environment:
Operating Temperature: +4~+100°C
Storage Temperature: -20~+85°C
Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement and obstacle detection etc.



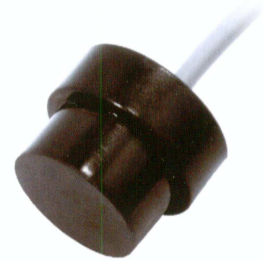
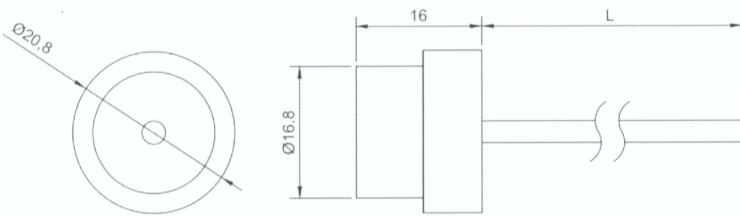
6. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M020090H2AD0-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$
MAX Instantaneous Drive Voltage: 220V
Paired Sensitivity: receiving signal 600mV minimum when measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) at 1MHz across a 110mm range.
Bandwidth(-3dB): 150kHz
Capacitance: $800 \pm 20\% \text{pF}$
Impedance (1MHz) Zr: $1000 \pm 30\% \Omega$
Insulation Resistance(250V): 1 G Ω min.
Operational Environment:
Operating Temperature: +4~+100°C
Storage Temperature: -20~+85°C
Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement and obstacle detection etc.



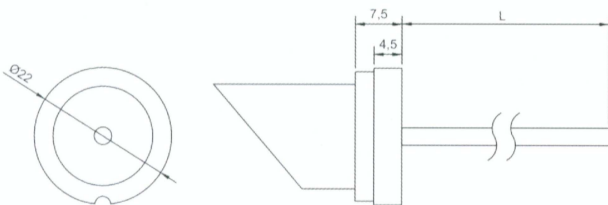
7. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M020160H2AD0-B0)

Nominal Frequency: $1000 \pm 100\text{kHz}$
 MAX Instantaneous Drive Voltage: 220V
 Paired Sensitivity: receiving signal 900mV *minimum when* measured peak to peak when driven with 10 cycle burst 2.0V(Vp-p) at 1MHz across a 110mm range.
 Bandwidth(-3dB): 200kHz
 Capacitance: $1200 \pm 20\% \text{pF}$
 Impedance (1MHz) Zr: $350 \pm 30\% \Omega$
 Insulation Resistance (250V): 1 G Ω min.
 Operational Environment:
 Operating Temperature: +4~+100°C
 Storage Temperature: -20~+85°C
 Applicable to homogeneous liquid media measurement, including water speed detection, objects distance measurement and obstacle detection etc.



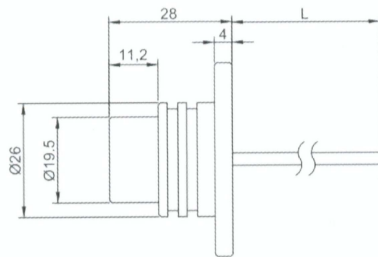
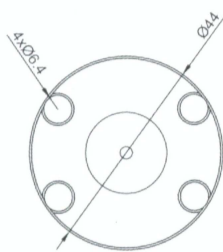
8. Piezoelectric Ultrasonic Liquid Media Sensor (Part no: APSC1.0M022075H2AD0-B0)

Nominal Frequency: $1000 \pm 30\text{kHz}$
 MAX Instantaneous Drive Voltage: 220V
 Paired Sensitivity: receiving signal 600mV *minimum when* measured peak to peak when driven with 10 cycle burst, 15° axial angle deviation, 2.0V(Vp-p) at 1MHz across a 110mm range.
 Bandwidth(-3dB): 60kHz
 Capacitance: $1300 \pm 20\% \text{pF}$
 Impedance (1MHz) Zr: $220 \pm 30\% \Omega$
 Insulation Resistance(250V): 1 G Ω min.
 Operational Environment:
 Operating Temperature: +4~+100°C
 Storage Temperature: -20~+85°C
 Applicable to clamp-on type transducer to test homogeneous liquid media.



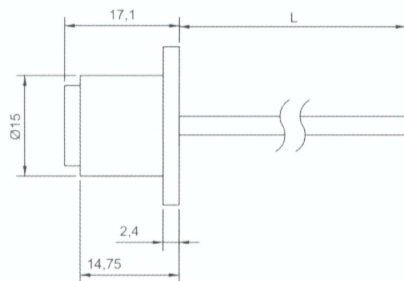
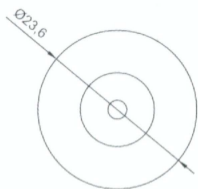
9. Piezoelectric Ultrasonic Gas Meter Sensor (Part no: APSC200K044280H2AD0-B0)

Nominal Frequency: $200 \pm 10\text{kHz}$
 MAX Instantaneous Drive Voltage: 110V(Vp-p)
 Paired Sensitivity: receiving signal 50mV minimum when measured peak to peak when driven with 7 cycle burst 20.0V(Vp-p) at 200kHz across a 70mm air channel.
 Bandwidth(-3dB): 25kHz min.
 Beamwidth (200kHz): $10^\circ \pm 2^\circ$
 Capacitance: $1100 \pm 20\% \text{pF}$
 Impedance (200kHz) Z_r : $3 \pm 30\% \text{ k}\Omega$
 Insulation Resistance(250V): $1 \text{ G}\Omega \text{ min.}$
 Operational Environment:
 Operating Temperature: $-20 \sim +60^\circ\text{C}$
 Storage Temperature: $-40 \sim +85^\circ\text{C}$
 Applicable to homogeneous high pressure gas media measurement.
 2.4MPa maximum pressure resistance.



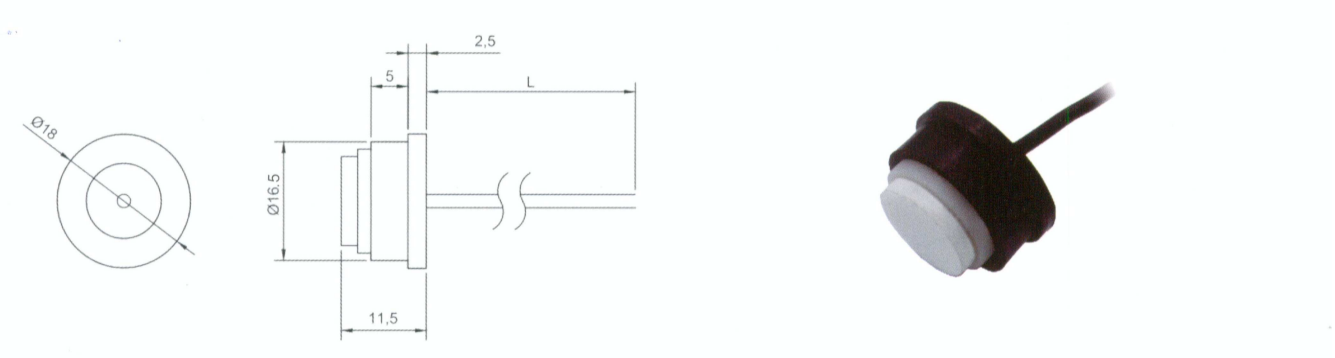
10. Piezoelectric Ultrasonic Gas Meter Sensor (Part no: APSC200K023171H2AD0-B0)

Nominal Frequency: $200 \pm 10\text{kHz}$
 MAX Instantaneous Drive Voltage: 110V(Vp-p)
 Paired Sensitivity: receiving signal 80mV minimum when measured peak to peak when driven with 7 cycle burst 20.0V(Vp-p) at 200kHz across a 70mm air channel.
 Bandwidth(-3dB): 25kHz min.
 Beamwidth (200kHz): $10^\circ \pm 2^\circ$
 Capacitance: $1100 \pm 20\% \text{pF}$
 Impedance(200kHz) Z_r : $3 \pm 30\% \text{ k}\Omega$
 Insulation Resistance(250V): $1 \text{ G}\Omega \text{ min.}$
 Operational Environment:
 Operating Temperature: $-20 \sim +50^\circ\text{C}$
 Storage Temperature: $-40 \sim +85^\circ\text{C}$
 Applicable to homogeneous gas media measurement, including gas speed detection, stable gas media range measurement. Customized products are available.



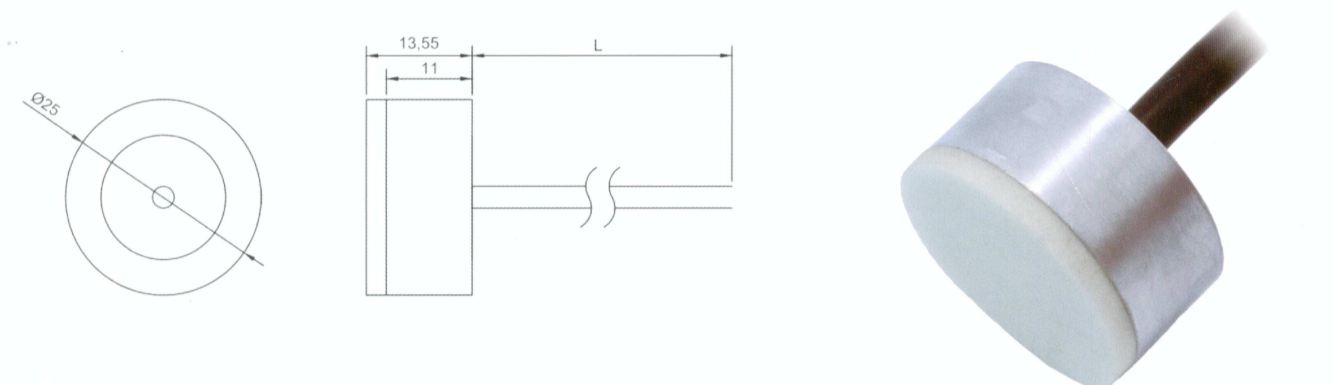
11. Piezoelectric Ultrasonic Gas Meter Sensor (Part no: APSC200K018115H2AD0-B0)

Nominal Frequency: $200 \pm 10\text{kHz}$
MAX Instantaneous Drive Voltage: $110\text{V}(\text{Vp-p})$
Paired Sensitivity: receiving signal 50mV minimum when measured peak to peak when driven with 7 cycle burst $20.0\text{V}(\text{Vp-p})$ at 200kHz across a 70mm air channel.
Bandwidth(-3dB): 25kHz min.
Beamwidth (200kHz): $10^\circ \pm 2^\circ$
Capacitance: $1100 \pm 20\% \text{pF}$
Impedance(200kHz) Z_r : $3 \pm 30\% \text{k}\Omega$
Insulation Resistance (250V): $1 \text{G}\Omega$ min.
Operational Environment:
Operating Temperature: $-20 \sim +70^\circ\text{C}$
Storage Temperature: $-40 \sim +85^\circ\text{C}$
Applicable to homogeneous gas media measurement, including gas speed detection, stable gas media range measurement.



12. Piezoelectric Ultrasonic Gas Meter Sensor (Part no: APSC200K025135H2AD0-B0)

Nominal Frequency: $200 \pm 10\text{kHz}$
MAX Instantaneous Drive Voltage: $110 \text{V}(\text{Vp-p})$
Paired Sensitivity: receiving signal 100mV minimum when measured peak to peak when driven with 7 cycle burst $20.0\text{V}(\text{Vp-p})$ at 200kHz across a 70mm air channel.
Bandwidth(-3dB): 25kHz min.
Beamwidth (200kHz): $12^\circ \pm 2^\circ$
Capacitance $1100 \pm 20\% \text{pF}$
Impedance (200kHz) Z_r : $3 \pm 30\% \text{k}\Omega$
Insulation: Resistance at 250V: $1 \text{G}\Omega$ min.
Operational Environment:
Operating Temperature: $-20 \sim +60^\circ\text{C}$
Storage Temperature: $-40 \sim +85^\circ\text{C}$
Applicable to homogeneous gas media measurement, including gas speed detection, stable gas media range measurement, obstacle detection and number counting.



13. Piezoelectric Ultrasonic Gas Meter Sensor (Part no: APSC200K018135H2AD0-B0)

Nominal Frequency: $200 \pm 10\text{kHz}$

MAX Instantaneous Drive Voltage: 110 V(Vp-p)

Paired Sensitivity: receiving signal 100mV minimum when measured peak to peak when driven with 7 cycle burst 20.0V(Vp-p) at 200kHz across a 70mm air channel.

Bandwidth(-3dB): 25kHz min.

Beamwidth (200kHz): $12^\circ \pm 2^\circ$

Capacitance: $1100 \pm 20\% \text{pF}$

Impedance (200kHz) Zr: $3 \pm 30\% \text{ k}\Omega$

Insulation Resistance (250V): $1\text{ G}\Omega \text{ min.}$

Operational Environment:

Operating Temperature: $-20 \sim +60^\circ\text{C}$

Storage Temperature: $-40 \sim +85^\circ\text{C}$

Applicable to homogeneous gas media measurement, including gas speed detection, stable gas media range measurement, obstacle detection and number counting.

