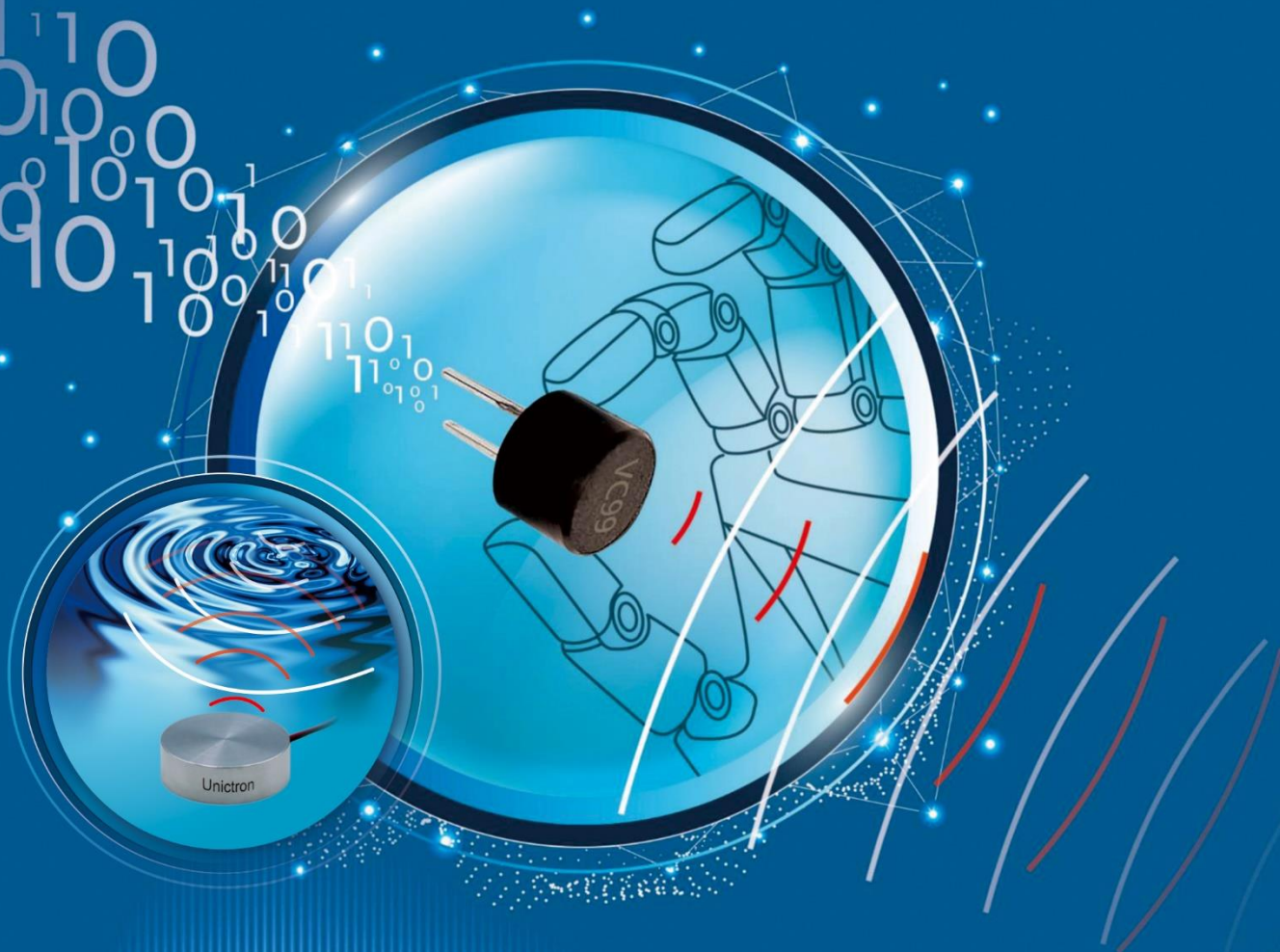




Ultrasonic Transducers



Unique Ultrasonic Transducers You Need

COMPANY PROFILE

Unictron Technologies Corporation was established in 1988 and since then we have been keeping the pioneer title and position of the largest piezoceramics manufacturer in Taiwan. Unictron's piezo products have been implemented in variety of applications by customers worldwide.

Piezo products need to provide reliable performance in tough environments. Therefore, besides complying with RoHS and REACH regulations, we are certified by ISO 14001 for Hazardous Substances Management. The strong manufacturing capabilities are underlined by passing the IAF 16949 certification, required in automotive industry.

With over 20 years of experience in piezoceramics, Unictron's team is competent to provide tailor-made solutions for different types of ultrasonic applications to integrate customers' need. We have extended production from piezo elements to assembled industrial air transducers. Unictron's air transducers are delivered with an extraordinary performance and reliability in the field of double feed detection, edge position control, non-contact level detection, gas flow metering and others.

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ULTRASONIC TRANSDUCER

Ultrasonic transducer can be used in short-range object detection. Through calculation of the time difference between emitting waves and reflected waves from objects (time of flight, ToF), the distance between the ultrasonic transducer and detected object can be easily obtained.

In the field of ultrasonic detection, the types and properties of objects to be detected are not so restrictive. Solid, liquid or powder with various surface colors, transparencies and hardness can all be detected by using the ultrasonic transducer. Therefore, the ultrasonic transducer nowadays is widely used in the fields like parking sensors, level sensors, double feed detection, edge position control, flow meter, medical probe, etc.

MAIN FEATURES

Unictron controls the whole manufacturing process. Starting with mixing own ceramic powders, manufacturing the piezo elements, to the assembly of the completed air transducers. With the supervision over the each production step, we are able to fine tune mechanical and electrical properties of transducers. With such background, it has been natural to develop and integrate our know-how:

- In-house piezoceramic element and acoustic matching layer
- Patented technologies
- Higher sensitivity with tighter process output distribution
- Outstanding reliability

Over the years, Unictron perfected its manufacturing proficiency which resulted in attracting customers from the automotive industry and passing certifications proving the automotive standards.



ISO 9001:2015
(Taoyuan Factory)



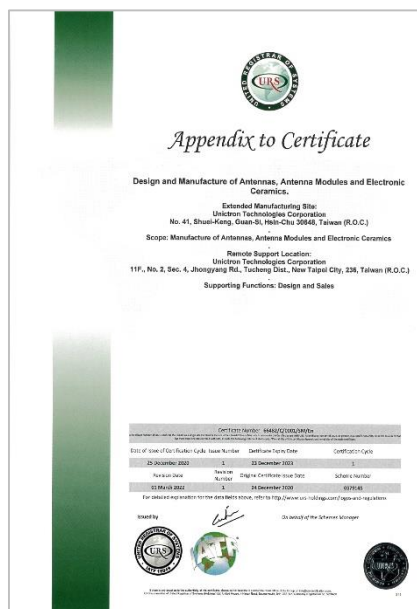
ISO 9001:2015
(Hsinchu Factory)



ISO 9001:2015
(Taipei Factory)



IATF 16949:2016

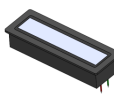
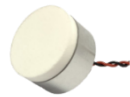


IATF 16949:2016



ISO 14001:2015

Double feed detection / Edge position control

Model Name	A280A	A300A	A330A	A150A	A170W	A200H
						
Frequency (kHz)	280	300	330	150	170	200
Dimensions (mm)	OD(Face) 9.9 H 7.3	OD(Face) 9.9 H 7.3	OD(Face) 9.9 H 7.3	OD(Face) 17.15 H 12.70	L53.0W18.0 H10.0	OD(Face) 18.8 H 10.5
Directivity (Full Angle)	$10 \pm 2^\circ$ (@-6 dB)	$10 \pm 2^\circ$ (@-6 dB)	$10 \pm 2^\circ$ (@-6 dB)	$8 \pm 2^\circ$ (@-3 dB)	$X 5 \pm 2^\circ$ $Y 25 \pm 2^\circ$ (@-6 dB)	$8 \pm 2^\circ$ (@-3 dB)
Max. Sensing Range (cm)	70	60	50	250	> 32 mm (working rang)	200
Blind Zone (cm)	< 3	< 3	< 3	< 15	< 15	< 10
Housing Material	Plastic	Plastic	Plastic	Aluminum	Plastic	Aluminum
Major Applications	Web guiding Proximity Double feed	Web guiding Proximity Double feed	Web guiding Proximity Double feed	Web guiding Proximity	Web guiding Proximity	Web guiding Proximity

Non-contact ultrasonic level detection

Model Name	A050A	A050B	A054L	A100A	A100C	A125A
						
Frequency (kHz)	50	50	54	100	100	125
Dimensions (mm)	OD(Face) 47.0 H 48.0	OD(Face) 56.0 H 51.0	OD(Face) 47.0 H 48.0	OD(Face) 29.0 H 30.0	OD(Face) 29.0 H 56.1	OD(Face) 25.0 H 25.0
Directivity (Full Angle @-3 dB)	$10 \pm 2^\circ$	$10 \pm 2^\circ$	$10 \pm 2^\circ$	$10 \pm 2^\circ$	$10 \pm 2^\circ$	$10 \pm 2^\circ$
Max. Sensing Range (meter)	10	12	10	4	4	3
Blind Zone (cm)	< 30	< 30	< 20	< 20	< 20	< 15
Housing Material	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF
Major Applications	Level detection	Level detection	Level detection	Level detection	Level detection	Level detection

Non-contact ultrasonic level detection

Model Name	A125E	A200A	A240A	A100F	A125F	A200F	A240F
							
Frequency (kHz)	125	200	240	100	125	200	240
Dimensions (mm)	OD(Face) 29.0 H 126.6	OD(Face) 16.0 H 19.0	OD(Face) 13.5 H 18.5	OD(Face) 29.0 H 28.5	OD(Face) 25.0 H 23.5	OD(Face) 16.0 H 18.0	OD(Face) 13.5 H 17.5
Directivity (Full Angle @-3 dB)	$10 \pm 2^\circ$	$8 \pm 2^\circ$	$8 \pm 2^\circ$	$10 \pm 2^\circ$	$10 \pm 2^\circ$	$8 \pm 2^\circ$	$8 \pm 2^\circ$
Max. Sensing Range (meter)	3	2	1.2	4	3	2	1.2
Blind Zone (cm)	< 15	< 5	< 4	< 20	< 15	< 5	< 4
Housing Material	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF	PVDF

Major Applications Level detection Level detection Level detection Level detection Level detection Level detection Level detection

Ultrasonic gas flow meter

Model Name	A200D	A240B	A500B
			
Frequency (kHz)	200	240	500
Dimensions (mm)	OD(Face) 16.0 H 19.0	OD(Face) 13.5 H 18.5	OD(Face) 15.35 H 6.5
Directivity (Full Angle @-3 dB)	$8 \pm 2^\circ$	$8 \pm 2^\circ$	$7 \pm 2^\circ$
Operating Temperature (°C)	-30 ~ +60	-30 ~ +60	-30 ~ +60
Housing Material	PVDF	PVDF	Elastomer
ZFD (Zero Flow Drift)	< 1.0 ns	< 1.0 ns	< 1.0 ns
Major Applications	Gas flow meter	Gas flow meter Anemometer	Gas flow meter
Certification	Chemical resistance FDA compliance	Chemical resistance FDA compliance	Chemical resistance

Dual-frequency non-contact ultrasonic level detection

Model Name	Y050A	Y050T	Y100T
			
Frequency (kHz)	50/200	50/200	100/250
Dimensions (mm)	OD(Face) 56.0 H 51.0	OD(Face) 56.0 H 51.0	OD(Face) 29.0 H 30.0
Directivity (Full Angle) (@-3 dB)	10° (@50 kHz) 6° (@200 kHz)	10° (@50 kHz) 6° (@200 kHz)	10° (@100 kHz) 5° (@250 kHz)
Max. Sensing Range (meter)	12	12	4
Blind Zone (cm)	10	10	7
Housing Material	PVDF	PVDF	PVDF
Major Applications	Level detection	Level detection	Level detection

Level detection

Model Name	LPY1
	
Frequency	1 MHz
Capacitance (@ 1 kHz) (pF)	1250
Echo Voltage (mV)	> 50
Maximum Driving Voltage (Vpp)	50
Dimensions (mm)	OD 25.0 H 8.0
Operating Temperature (°C)	-20 ~ 70
Storage Temperature (°C)	-30 ~ 80
Housing Material	Aluminum

Liquid flow meter

Model Name	MPY1
	
Frequency	1 MHz
Capacitance (@ 1 kHz) (pF)	1200
Sensitivity dB	-28 min
Beam Angle (-3 dB full angle)	5°
Operation Voltage (Vpp)	50 max
Operating Temperature (°C)	4 ~ 80
Storage Temperature (°C)	-10 ~ 80
Housing Material	PPS



Web guiding

Double feed detection

Proximity measurement

Industries & Applications

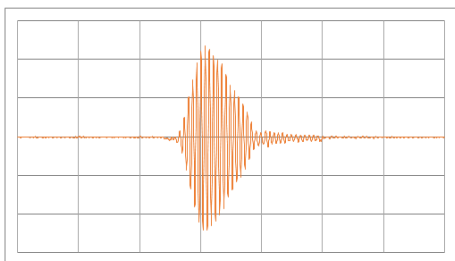
- Printer
- Multi-function printer (MFP)
- Scanner
- Splicing detection
- Banknote fitness
- Label detection

Features

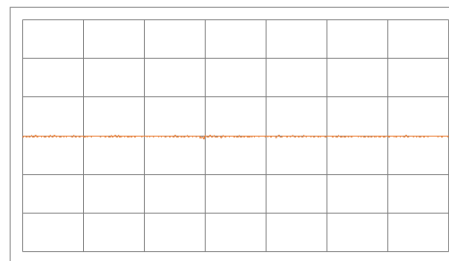
- High performance
- High reliability
- Patented technologies
- Suitable for most of materials

Ultrasound can penetrate much more through a single sheet compared with multiple sheets, where an air gap between the sheets exists. It has been widely used in automatic document feeders (ADF).

Signal with a single sheet



Signal with multiple sheets



A280A 280 kHz Air transducer

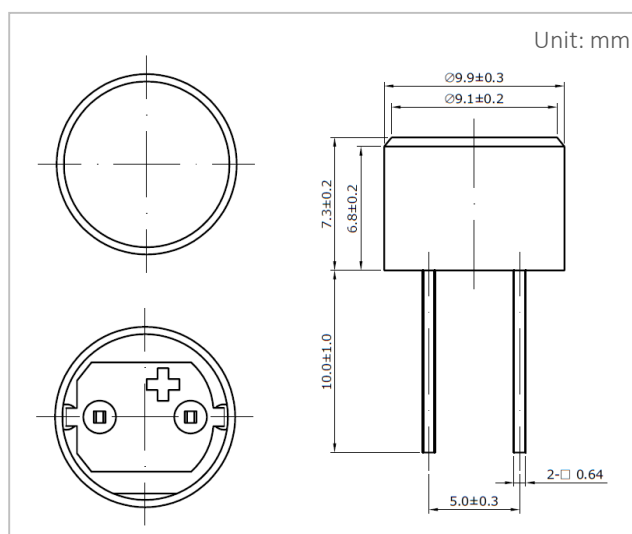
Major Applications

Web guiding
Proximity measurement
Double feed detection

Specifications

Operation Frequency	280	kHz
Capacitance (@ 1 kHz, 1Vrms)	1300 ± 20%	pF
Directivity (Full Angle @ -6 dB)	10 ± 2	Degree
Maximum Sensing Range	70	cm
Blind Zone	< 3	cm
Dimension-OD	9.9	mm
Dimension-Height	7.3	mm
Housing Material	PBT	
Wire	Lead	

Dimensions





A300A 300 kHz Air transducer

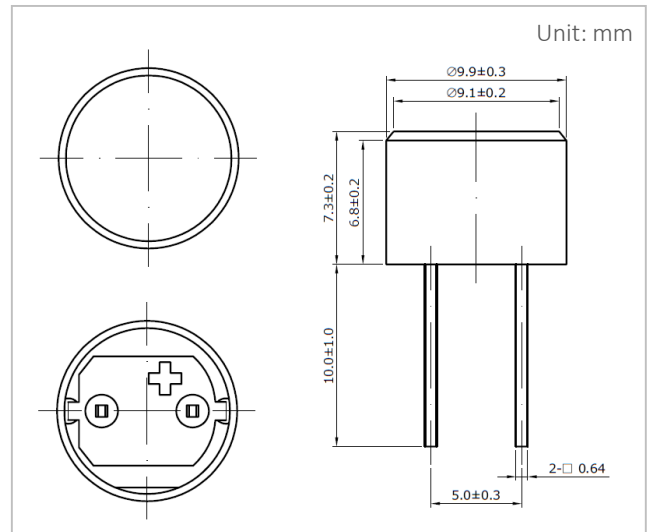
Major Applications

Web guiding
Proximity measurement
Double feed detection

Specifications

Operation Frequency	300	kHz
Capacitance (@ 1 kHz, 1Vrms)	1300 ± 20%	pF
Directivity (Full Angle @-6 dB)	10 ± 2	Degree
Maximum Sensing Range	60	cm
Blind Zone	< 3	cm
Dimension-OD	9.9	mm
Dimension-Height	7.3	mm
Housing Material	PBT	
Wire	Lead	

Dimensions



A330A 330 kHz Air transducer

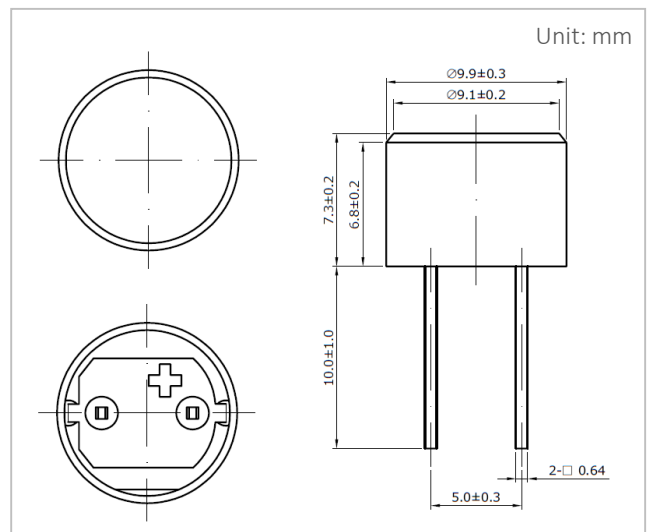
Major Applications

Web guiding
Proximity measurement
Double feed detection

Specifications

Operation Frequency	330	kHz
Capacitance (@ 1 kHz, 1Vrms)	1300 ± 20%	pF
Directivity (Full Angle @-6 dB)	10 ± 2	Degree
Maximum Sensing Range	50	cm
Blind Zone	< 3	cm
Dimension-OD	9.9	mm
Dimension-Height	7.3	mm
Housing Material	PBT	
Wire	Lead	

Dimensions





WEB guiding

Edge position control

Proximity sensing

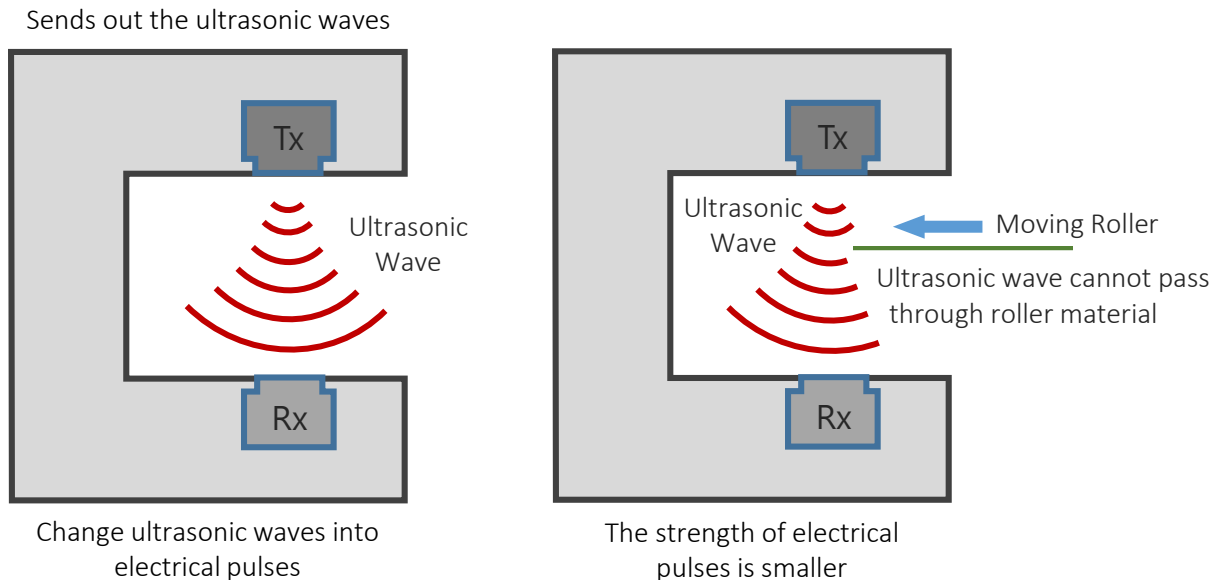
Industries & Applications

- Paper plant
- Printing industry
- Package manufacturing
- Textile industry
- Steel plant
- Plastic and rubber industry
- Panel manufacturing
- Film manufacturing
- Edge position control
- Proximity measurement

Features

- High sensitivity
- High response
- High performance
- High reliability
- Suitable for most of materials

The EPC system equipped with ultrasonic transducers is suitable for most materials, including metal or non-metal, transparent or opaque sheet, mesh or film, and any color of object, etc.



A150A 150 kHz Air transducer

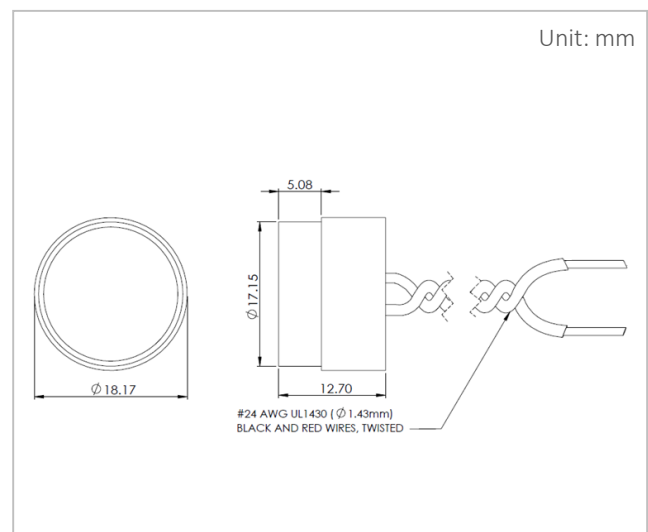
Major Applications

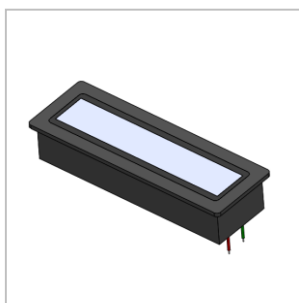
Web guiding
Proximity measurement

Specifications

Operation Frequency	150	kHz
Capacitance (@ 1 kHz, 1Vrms)	1000 ± 20%	pF
Directivity (Full Angle @ -3 dB)	8 ± 2	Degree
Maximum Sensing Range	250	cm
Blind Zone	< 15	cm
Dimension-OD	17.15	mm
Dimension-Height	12.70	mm
Housing Material	Aluminum	
Wire	UL1430 #24AWG Ø1.43mm	

Dimensions





A170W 170 kHz Air transducer

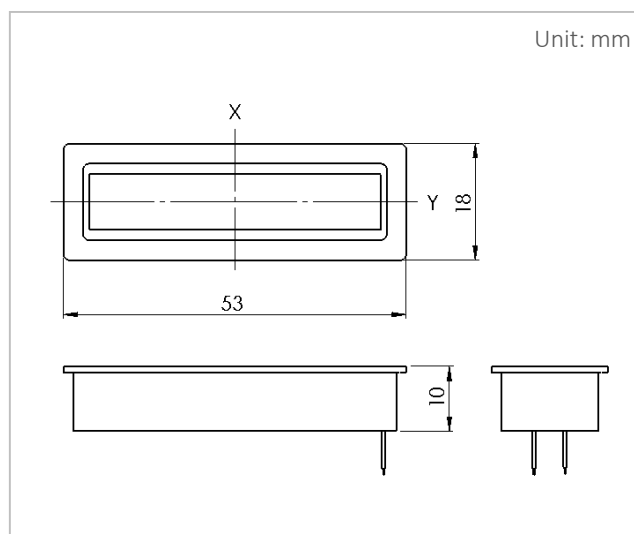
Major Applications

Web guiding
Proximity measurement

Specifications

Operation Frequency	170	kHz
Capacitance (@ 1 kHz, 1Vrms)	$3000 \pm 20\%$	pF
Directivity (Full Angle @-6 dB)	X 5 ± 2 Y 25 ± 2	Degree
Working Rang	> 32	mm
Dimension-Length	53.0	mm
Dimension-Width	18.0	mm
Dimension-Height	10.0	mm
Housing Material	Plastic	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions



A200H 200 kHz Air transducer

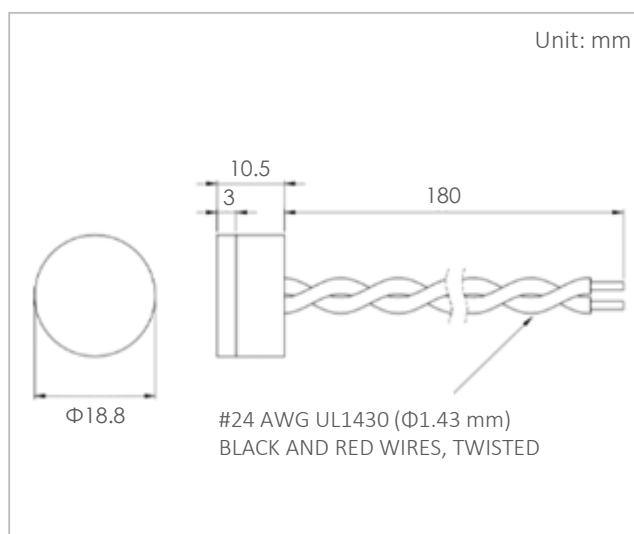
Major Applications

Web guiding
Proximity measurement

Specifications

Operation Frequency	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	$500 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Maximum Sensing Range	200	cm
Blind Zone	< 10	cm
Dimension-OD	18.8	mm
Dimension-Height	10.5	mm
Housing Material	Aluminum	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions





Non-contact level detection

Proximity measurement

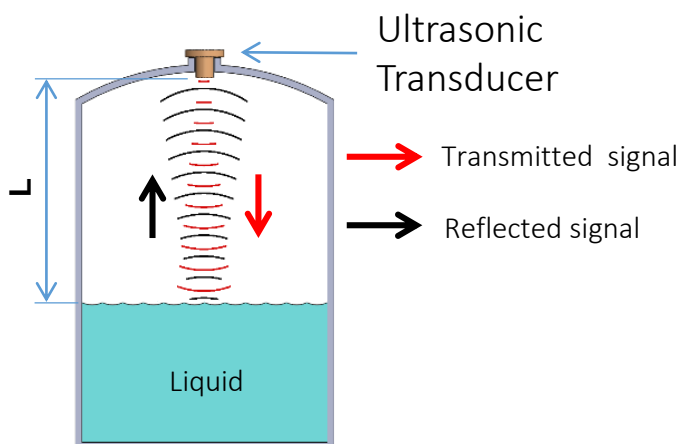
Industries & Applications

- Petrochemical industry
- Water supply and drainage industry
- River level monitoring
- Food and beverage industry
- Vehicle fuel level detection
- Grain, powder, granular material level detection

Features

- High performance
- High reliability
- PVDF housing
- Chemical resistance
- Waterproof IP68
- Patented technologies
- Suitable for most of materials

Level depth can be detected with an ultrasonic transducer, acting as a transmitting and a receiving unit within one body, based on ToF calculations.



$$\text{ToF} = t ; \text{Sound Velocity} = V$$

$$\text{Level depth} = L$$

$$L = (V \cdot t) / 2$$



A050A 50 kHz Air transducer

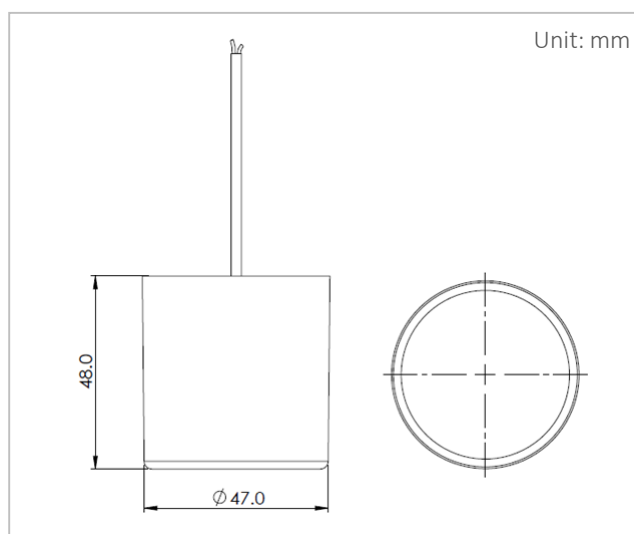
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	50	kHz
Capacitance (@ 1 kHz, 1Vrms)	3500 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	10	meter
Blind Zone	< 30	cm
Dimension-OD	47.0	mm
Dimension-Height	48.0	mm
Housing Material	PVDF	
Wire	RG174/U 50 ohm	Ø2.7mm

Dimensions





A050B 50 kHz Air transducer

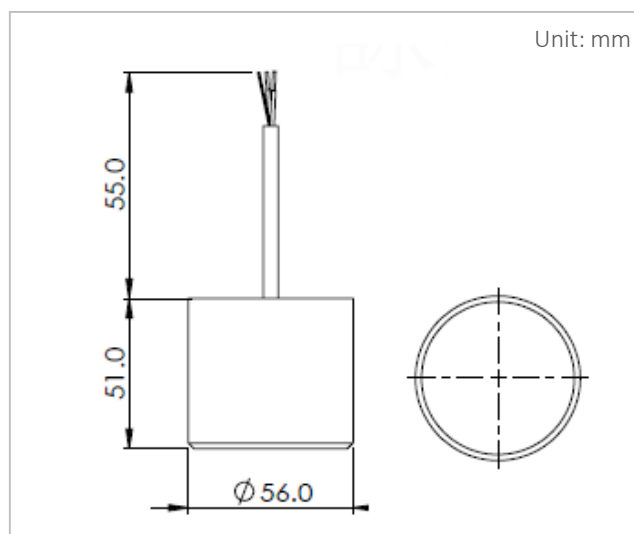
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	50	kHz
Capacitance (@ 1 kHz, 1Vrms)	$5000 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	12	meter
Blind Zone	< 30	cm
Dimension-OD	56.0	mm
Dimension-Height	51.0	mm
Housing Material	PVDF	
Wire	UL2464 #22AWG $\varnothing 4.0\text{mm}$	

Dimensions



A054L 54 kHz Air transducer

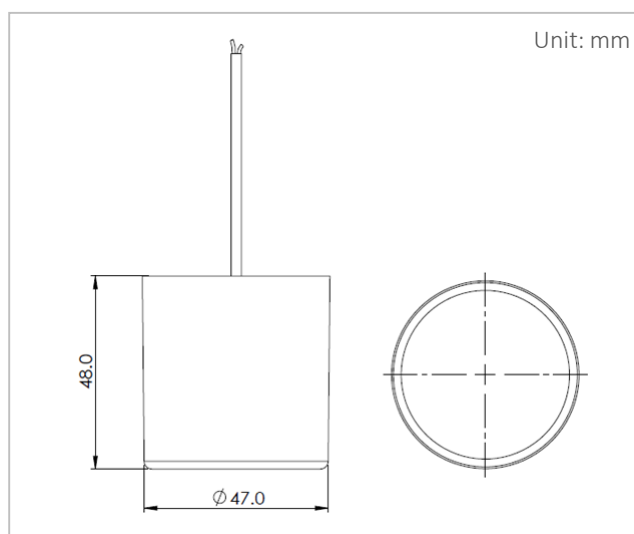
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	54	kHz
Capacitance (@ 1 kHz, 1Vrms)	$2600 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	10	meter
Blind Zone	< 20	cm
Dimension-OD	47.0	mm
Dimension-Height	48.0	mm
Housing Material	PVDF	
Wire	UL2464 #22AWG $\varnothing 4.0\text{mm}$	

Dimensions





A100A 100 kHz Air transducer

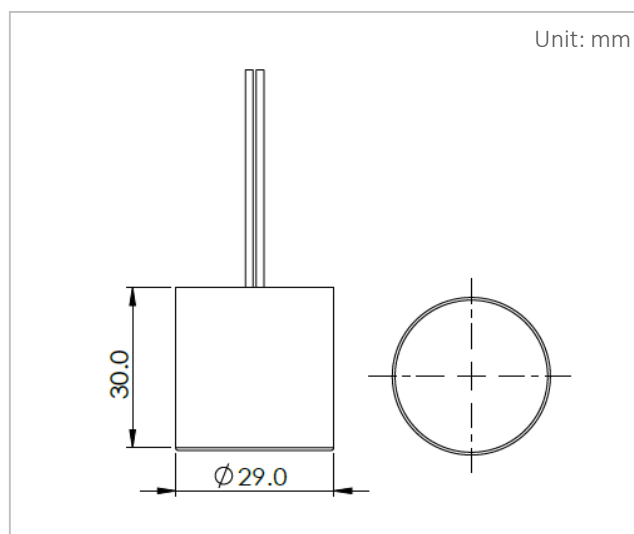
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	100	kHz
Capacitance (@ 1 kHz, 1Vrms)	1600 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	4	meter
Blind Zone	< 20	cm
Dimension-OD	29.0	mm
Dimension-Height	30.0	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG Ø1.43mm	

Dimensions



A100C 100 kHz Air transducer

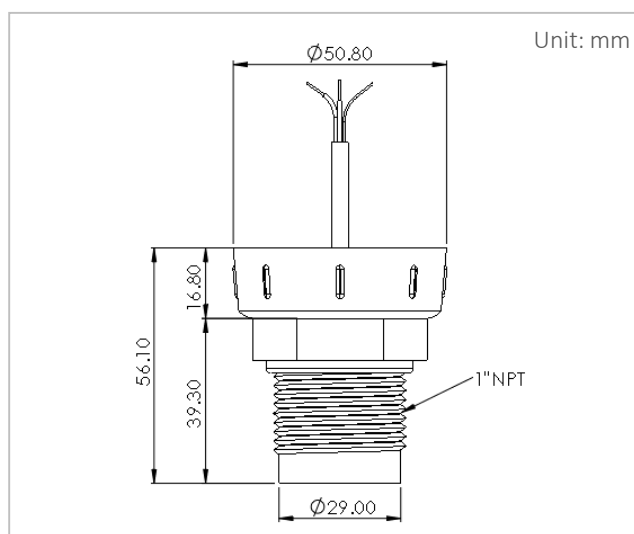
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	100	kHz
Capacitance (@ 1 kHz, 1Vrms)	3400 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	4	meter
Blind Zone	< 20	cm
Dimension-OD	29.0	mm
Dimension-Height	56.1	mm
Housing Material	PVDF	
Wire	UL2464 #22AWG Ø4.0mm	

Dimensions





A125A 125 kHz Air transducer

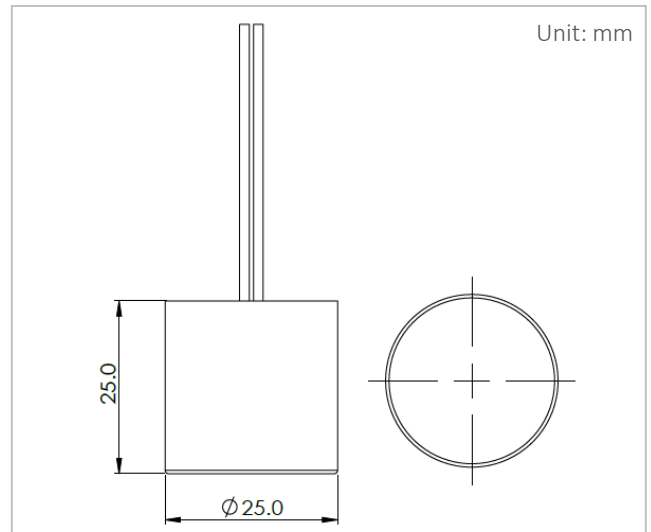
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	125	kHz
Capacitance (@ 1 kHz, 1Vrms)	1000 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	3	meter
Blind Zone	< 15	cm
Dimension-OD	25.0	mm
Dimension-Height	25.0	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG Ø1.43mm	

Dimensions



A125E 125 kHz Air transducer

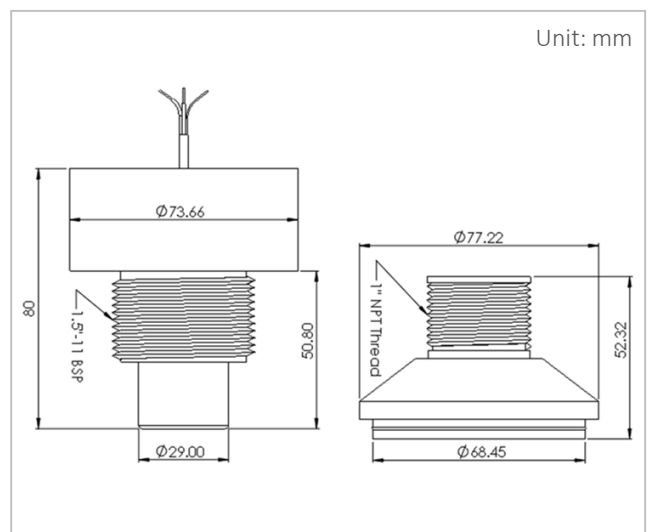
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	125	kHz
Capacitance (@ 1 kHz, 1Vrms)	1000 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	3	meter
Blind Zone	< 15	cm
Dimension-OD	29.0	mm
Dimension-Height (transducer + cover)	126.6	mm
Housing Material	PVDF	
Wire	UL2464 #22AWG Ø4.0mm	

Dimensions





A200A 200 kHz Air transducer

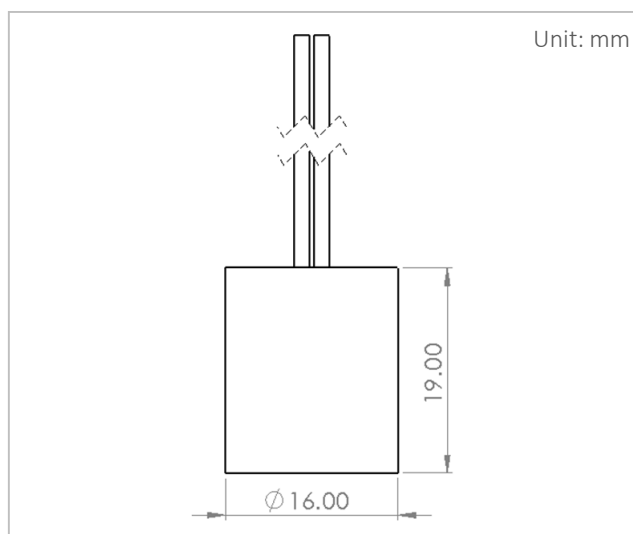
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	$500 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Maximum Sensing Range	2	meter
Blind Zone	< 5	cm
Dimension-OD	16.0	mm
Dimension-Height	19.0	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions



A240A 240 kHz Air transducer

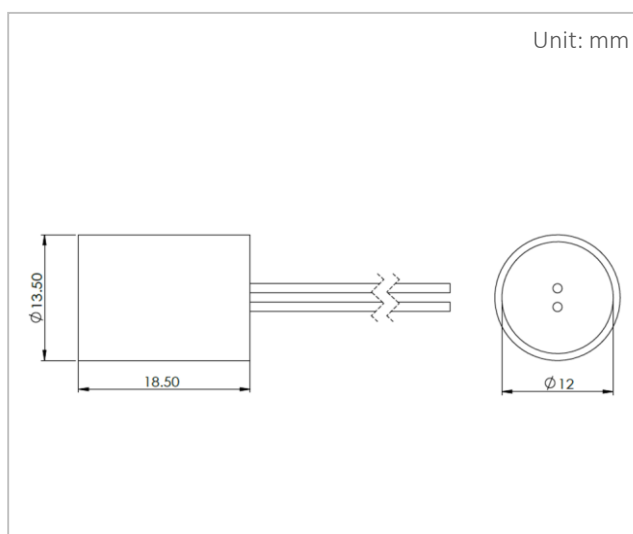
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	240	kHz
Capacitance (@ 1 kHz, 1Vrms)	$400 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Maximum Sensing Range	1.2	meter
Blind Zone	< 4	cm
Dimension-OD	13.5	mm
Dimension-Height	18.5	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions



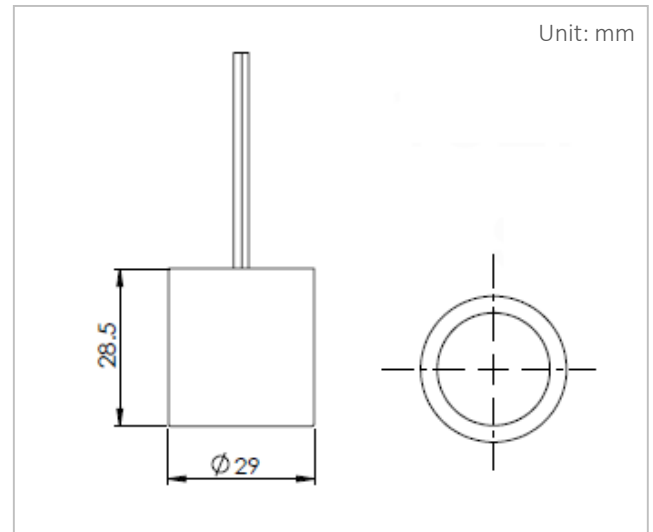


A100F 100 kHz Air transducer

Major Applications

Level detection
Proximity measurement

Dimensions



Specifications

Operation Frequency	100	kHz
Capacitance (@ 1 kHz, 1Vrms)	1600 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	4	meter
Blind Zone	< 20	cm
Dimension-OD	29.0	mm
Dimension-Height	28.5	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG Ø1.43mm	

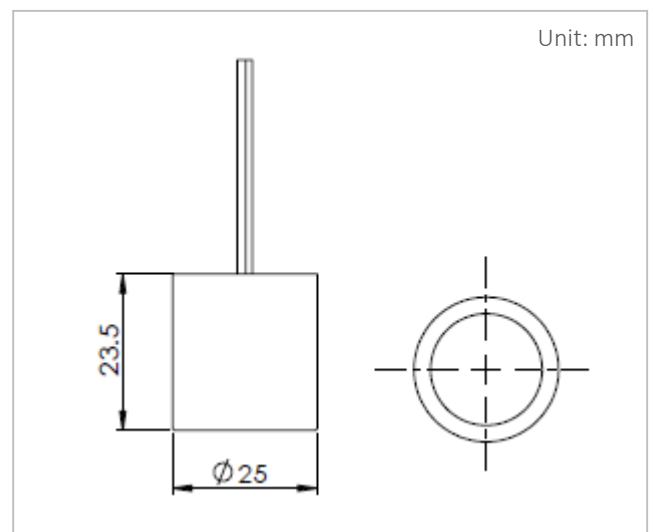


A125F 125 kHz Air transducer

Major Applications

Level detection
Proximity measurement

Dimensions



Specifications

Operation Frequency	125	kHz
Capacitance (@ 1 kHz, 1Vrms)	1000 ± 20%	pF
Directivity (Full Angle @-3 dB)	10 ± 2	Degree
Maximum Sensing Range	3	meter
Blind Zone	< 15	cm
Dimension-OD	25.0	mm
Dimension-Height	23.5	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG Ø1.43mm	



A200F 200 kHz Air transducer

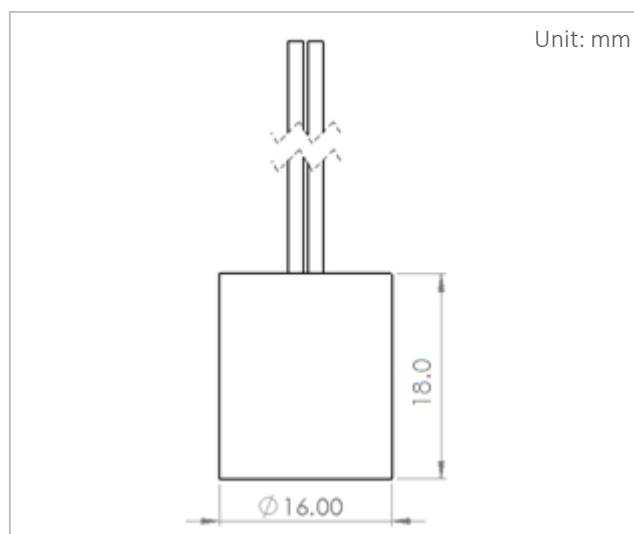
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	$500 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Maximum Sensing Range	2	meter
Blind Zone	< 5	cm
Dimension-OD	16.0	mm
Dimension-Height	18.0	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions



A240F 240 kHz Air transducer

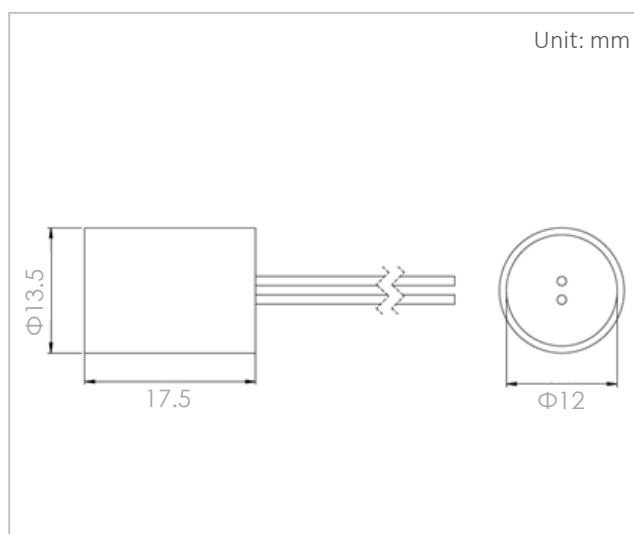
Major Applications

Level detection
Proximity measurement

Specifications

Operation Frequency	240	kHz
Capacitance (@ 1 kHz, 1Vrms)	$400 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Maximum Sensing Range	1.2	meter
Blind Zone	< 4	cm
Dimension-OD	13.5	mm
Dimension-Height	17.5	mm
Housing Material	PVDF	
Wire	UL1430 #24AWG $\varnothing 1.43\text{mm}$	

Dimensions





Anemometer

Gas flow meter

Gas concentration meter

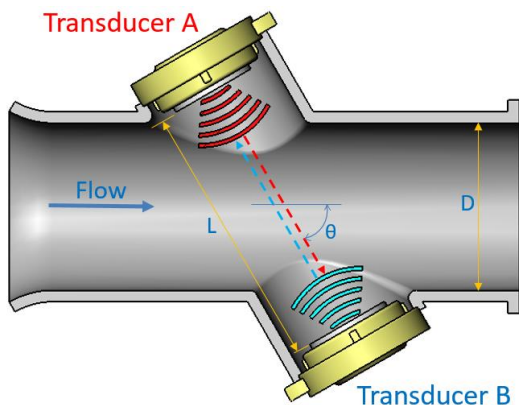
Industries & Applications

- Anemometer
- Gas flow meter
- Gas concentration meter
- Non-contact level detection

Features

- Patented technologies
- In house advanced Piezoceramics
- Unique matching layer formulation
- Good chemical resistance
- High precision: meet AGA-9, JIS B8571 standard
- FDA compliance
- High sensitivity
- Good reliability
- Waterproof IP68
- Low noise

Gas or water flow rate can be detected using a pair of ultrasonic transducers, based on ToF difference between upstream and downstream directions.



$$V = L / 2 \cos \theta [1/T_{AB} - 1/T_{BA}]$$

V = Gas flow rate

T_{AB}: downstream ToF

T_{BA}: upstream ToF



A200D 200 kHz Air transducer

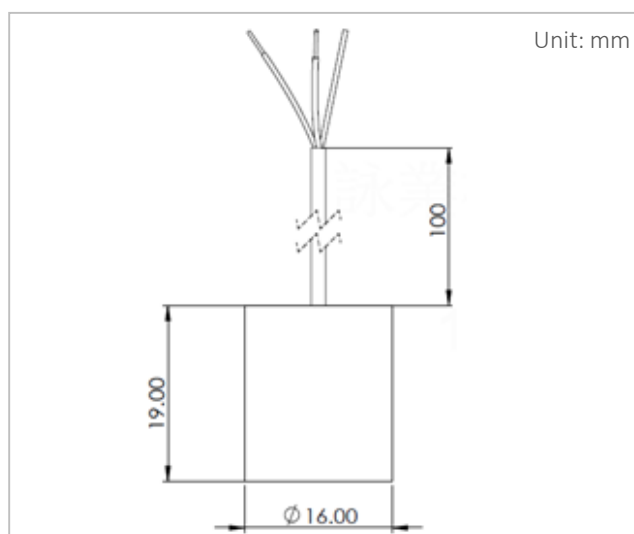
Major Applications

Gas flow meter

Specifications

Operation Frequency	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	500 ± 20%	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Dimension-OD	16.0	mm
Dimension-Height	19.0	mm
ZFD (Zero Flow Drift)	< 1.0	ns
Housing Material	PVDF	
Operating Temperature	-30°C to +60°C	
Storage Temperature	-40°C to +85°C	

Dimensions





A240B 240 kHz Air transducer

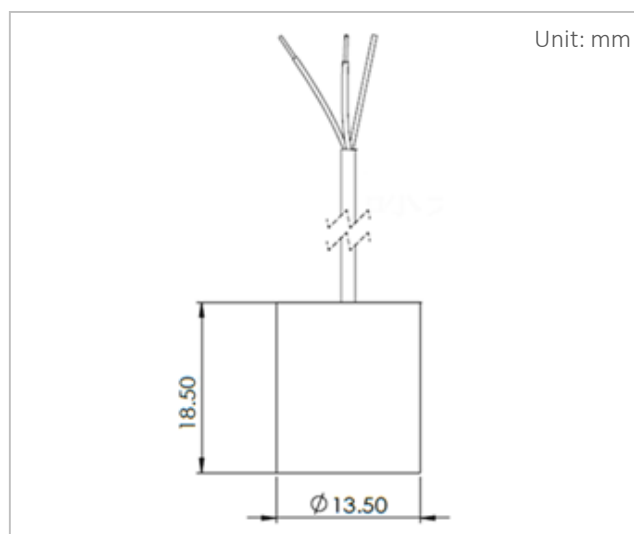
Major Applications

Anemometer
Gas flow meter
Gas concentration meter

Specifications

Operation Frequency	240	kHz
Capacitance (@ 1 kHz, 1Vrms)	$400 \pm 20\%$	pF
Directivity (Full Angle @-3 dB)	8 ± 2	Degree
Dimension-OD	13.5	mm
Dimension-Height	18.5	mm
ZFD (Zero Flow Drift)	< 1.0	ns
Housing Material	PVDF	
Operating Temperature	-30°C to +60°C	
Storage Temperature	-40°C to +85°C	

Dimensions



A500B 500 kHz Air transducer

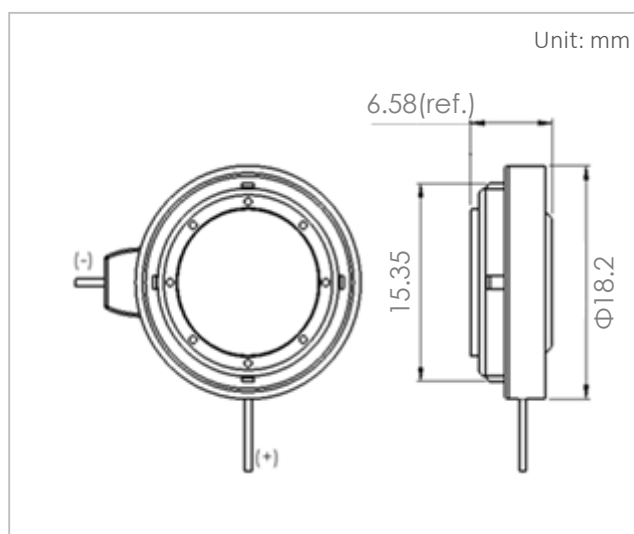
Major Applications

Gas flow meter
Proximity measurement

Specifications

Operation Frequency	500	kHz
Capacitance (@ 1 kHz, 1Vrms)	$320 \pm 10\%$	pF
Directivity (Full Angle @-3 dB)	7 ± 2	Degree
Dimension-OD	18.2	mm
Dimension-Height	6.58	mm
ZFD (Zero Flow Drift)	< 1.0	ns
Housing Material	Elastomer	
Operating Temperature	-30°C to +60°C	
Storage Temperature	-40°C to +85°C	

Dimensions





Dual-frequency non-contact level detection

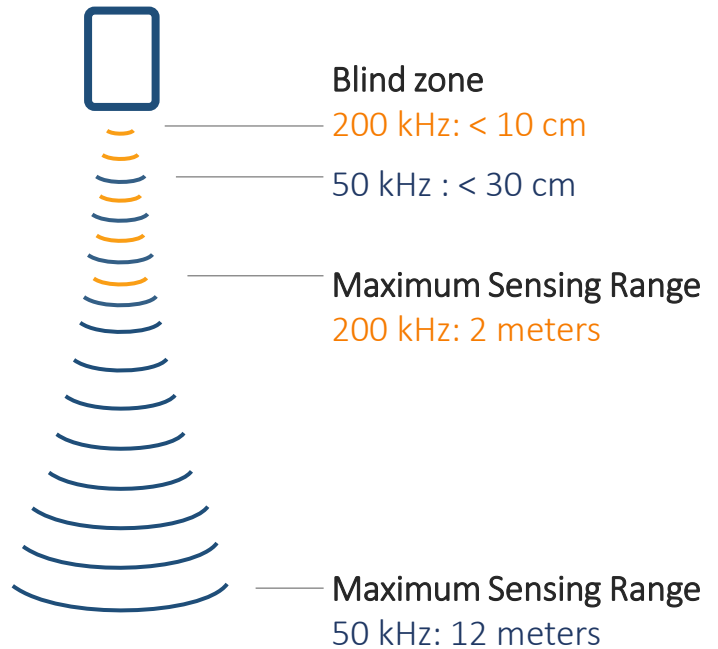
Industries & Applications

- Proximity measurement
- Non-contact level detection
- River level monitoring
- Petrochemical industry
- Food and beverage industry
- Water supply and drainage industry
- Grain, powder, granular material level detection

Features

- Long sensing range
- Short blind zone
- High resolution
- High reliability
- PVDF housing
- Patented technologies

Unictron has successfully developed a novel type of dual-frequency non-contact ultrasonic air transducer with innovative technologies. This provides the advantage of maximizing detection distance and minimizing the blind zone in one transducer, making the application of the transducer more flexible.

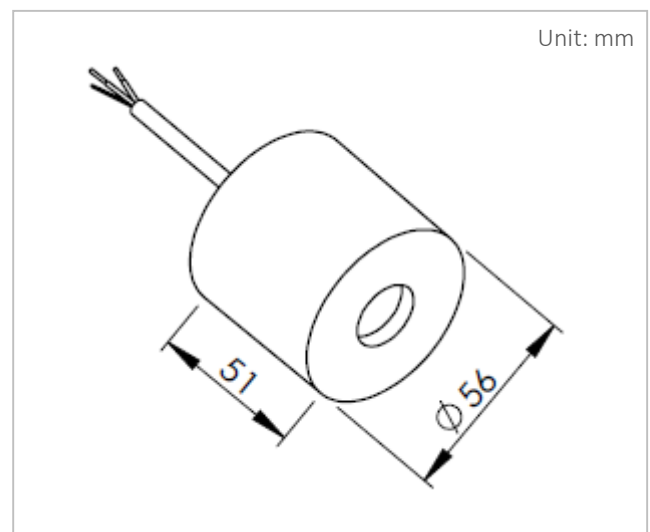


Y050A 50/200 kHz Air transducer

Major Applications

Level detection
Proximity measurement

Dimensions



Specifications

	50 kHz	200 kHz	
Operation Frequency	50	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	1500 $\pm$ 20%		pF
Directivity (Full Angle @-3 dB)	10 $\pm$ 2	6 $\pm$ 2	Degree
Maximum Sensing Range	12	2	meter
Blind Zone	< 30	< 10	cm
Housing Material	PVDF		

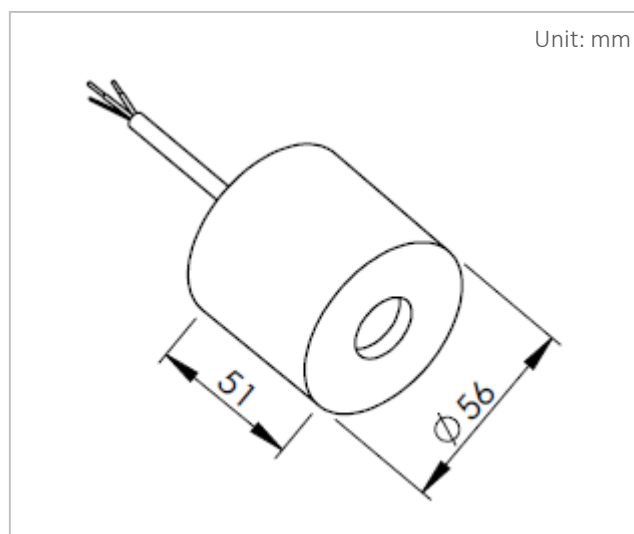


Y050T 50/200 kHz Air transducer

Major Applications

Level detection
Proximity measurement

Dimensions



Specifications

	50 kHz	200 kHz	
Operation Frequency	50	200	kHz
Capacitance (@ 1 kHz, 1Vrms)	1500 ± 20%		pF
Directivity (Full Angle @-3 dB)	10 ± 2	6 ± 2	Degree
Maximum Sensing Range	12	2	meter
Blind Zone	< 30	< 10	cm
Housing Material	PVDF		

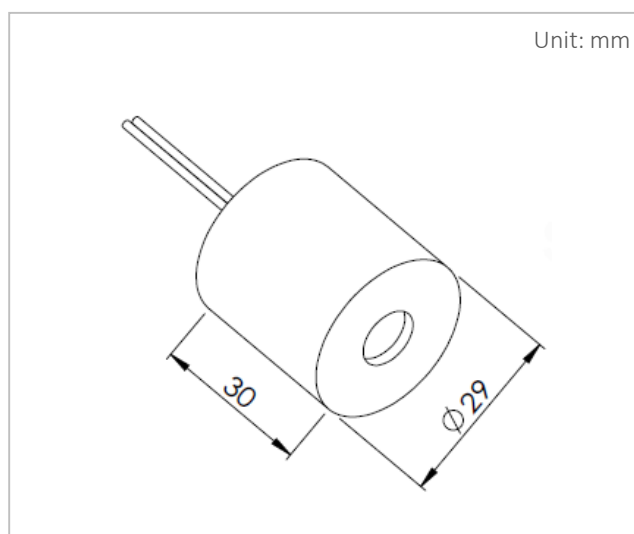


Y100T 100/250 kHz Air transducer

Major Applications

Level detection
Proximity measurement

Dimensions



Specifications

	100 kHz	250 kHz	
Operation Frequency	100	250	kHz
Capacitance (@ 1 kHz, 1Vrms)	720 ± 20%		pF
Directivity (Full Angle @-3 dB)	10 ± 2	5 ± 2	Degree
Maximum Sensing Range	4	0.8	meter
Blind Zone	< 20	< 7	cm
Housing Material	PVDF		



LPY1 1 MHz Level sensor transducer

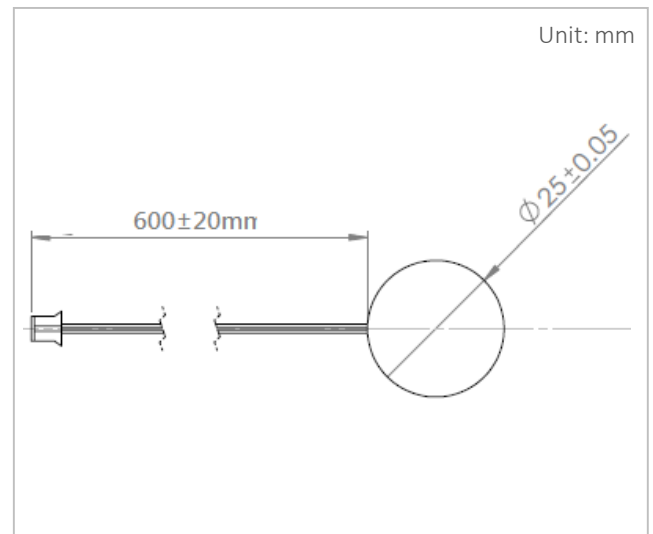
Major Applications

Level detection

Specifications

Operation Frequency	1	MHz
Echo Voltage	> 50	mV
Capacitance (@ 1 kHz)	$1250 \pm 20\%$	pF
Maximum Driving Voltage	50	Vpp
Operating Temperature	-20 ~ 70	°C
Storage Temperature	-30 ~ 80	°C
Dimension-Height	8	mm
Housing Material	Aluminum	
Wire	UL10368 #30AWG $\varnothing 0.8\text{mm}$	

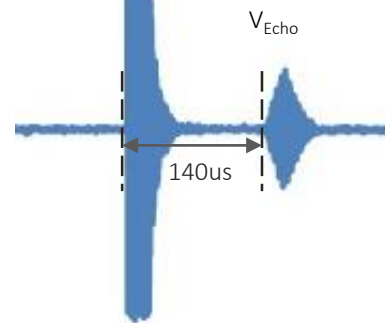
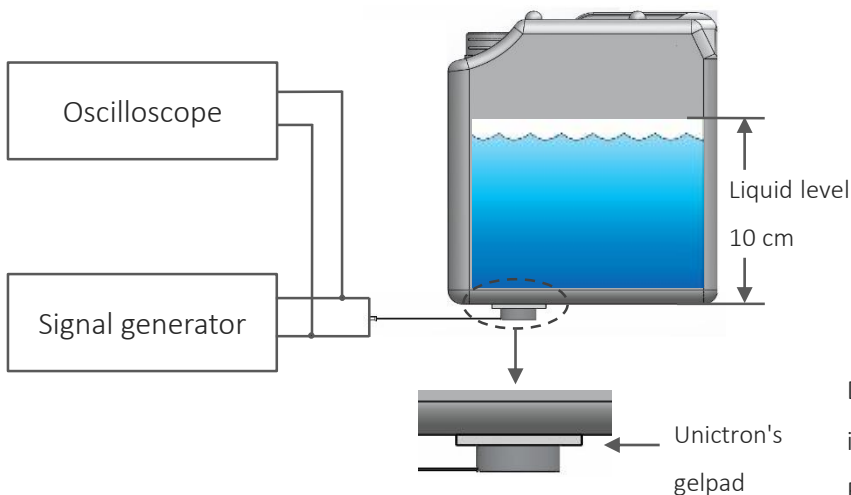
Dimensions



Sensitivity Measurement Diagram

Sensitivity measurement

Liquid level: 10 cm (olive oil) / container: HDPE



Drive Signal ($V_{Driving}$): 1 MHz 3.3v 20 pules, Drive interval: 10 ms

Echo Signal (V_{Echo}) : For 10 cm olive oil level, echo signal appear around at 140 us



MPYA 1 MHz Flow meter transducer

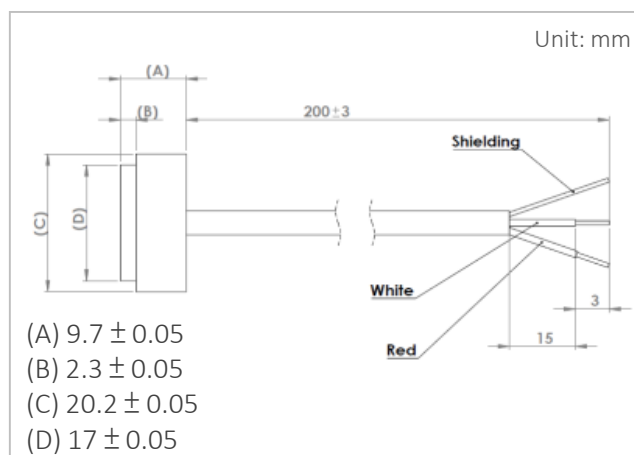
Major Applications

Liquid flow meter

Specifications

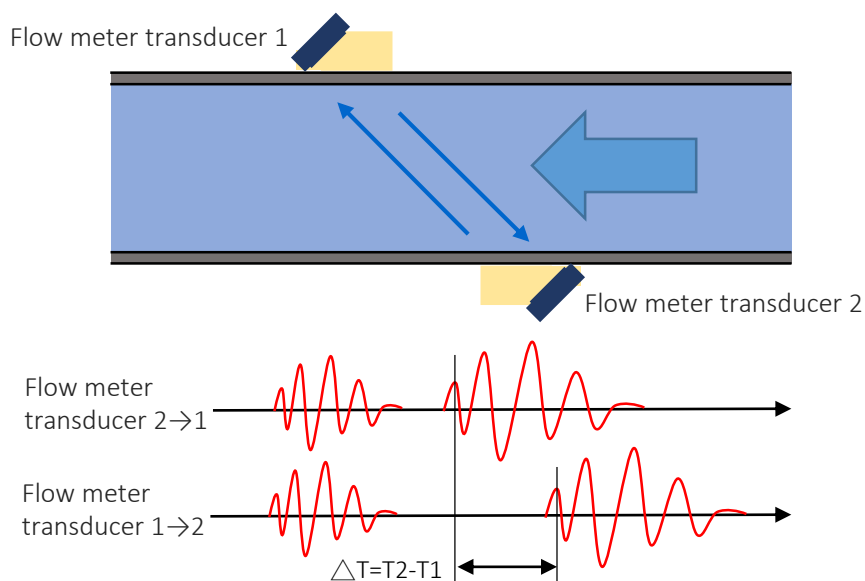
Operation Frequency	1	MHz
Capacitance (@ 1 kHz)	$1200 \pm 20\%$	pF
Sensitivity dB*	-28 min	dB
Beam Angle (-3dB full angle)	5	Degree
Operation Voltage	50 max	Vpp
Operation Temperature	4 ~ 80	°C
Storage Temperature	-10 ~ 80	°C
Housing Material	PPS	
Wire	UL2547 #28AWG Ø2.8mm	

Dimensions



* Applied voltage Vpp = 3.3V, sine wave, 20 cycles burst, Water level 10 cm; Water temperature 25°C

Sensitivity Measurement Diagram





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