AUDIOWELL

AUDIOWELL
SENSOR TECHNOLOGY

PRODUCT
CATALOGUE

AUDIOWELL INTRODUCTION

Established in 1999, Audiowell Electronics (Guangdong) Co., Ltd. (NEEQ: 832491) is a leading provider of position, distance and speed sensor components and sensing solutions with focus on the research, design, production and sales of sensitive components, sensors and corresponding modular solutions.

As a sensor manufacturer and solution provider, Audiowell has the most comprehensive sensor component product line in China. Our ultrasonic sensors, flow sensors, electro-acoustic devices and ultrasonic transducer devices are market leaders and widely used in a variety of industries and fields including automotive electronics, instruments and meters, intelligent security systems and health appliances. While serving Chinese customers, we have also provided professional products and services for the global customers in many countries and regions.

Adhering to the business philosophy of "Be good, do better, create the best future", we are committed to becoming a global major supplier of sensors (position, distance, speed) and will continuously concentrate on cutting edge technologies as well as advanced manufacturing techniques, to provide innovative and superior products for our society and create a safe, convenient and comfortable life for everyone.

Sensor technology shapes an intelligent life.

SENSOR TECHNOLOGY

AUTOMOTIVE ELECTRONICS

Ultrasonic Parking Transducer

Ultrasonic Assembled Sensor

Ultrasonic Parking Assist Sensor

Ultrasonic Blind Spot Detection Sensor

ROA Ultrasonic Transducer

Life Detection Module

Ultrasonic DEF/AdBlue Quality Sensor

DEF/AdBlue Level Sensor

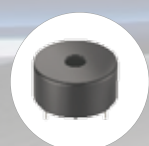Ultrasonic Forward Collision Warning Sensor

Gasoline Level Sensor

Dust Sensor

CO2 Sensor

Obstacle Avoidance Sensor

Buzzer

AUTOMOTIVE ELECTRONICS

Ultrasonic Parking Transducer

Features
- Quality control standard of Automotive
  OEM manufacturers
- Outstanding consistency and stability
- High sensitivity and low power consumption

Applications
- Reverse parking system
- Parking assist system

Ultrasonic Assembled Sensor

Features
- Integrated design, easy to install
- High sensitivity

Applications
- Parking Distance Control(PDC)
- Reversing aid system

Model	TC0120-001	TC0121-002	TC0062-003	TC0223-000
Appearance				
Resonant frequency (Khz)	48	55.5	58	55.5
Direction angle (°)	X: 60 Y: 60	X: 90 Y: 45	X: 90 Y: 45	X: 90 Y: 45
Decay time (mS)	≤1.8	≤2.2	≤1.8	≤2.0
Size (mm)	Φ15.5 x H9.0	Φ15.5 x H9.0	Φ14.0 x H9.0	Φ15.5 x H9.0

Model	TK0139
Appearance	
Resonant frequency (Khz)	55.5±1
Direction angle (°)	X：85 Y：45
Decay time (mS)	0.9~1.5
Detection range* (m)	≥2.5

* Φ75mm tube measurement

Ultrasonic Parking Assist Sensor

Features
- Long detection range, up to 5m
- Built-in circuit which matches the
  self-developed transducer
- IP69 protection class, superior climate
  resistance, stability and anti-interference

Applications
- Parking assist system

Ultrasonic Blind Spot Detection Sensor

Features
- Digital signal output
- Built-in circuit which matches the
  self-developed transducer
- IP69 protection class

Applications
- Blind Spot Detection

Model	VU0001-001	VU0002-001	VU0004-001	VU0005-000
Appearance				
Frequency (Khz)	48	55.5	55.5	48
Direction angle (°)	X: 60 Y: 60	X: 90 Y: 45	X: 90 Y: 45	X: 60 Y: 60
Max. range* (mm)	5000	2500	2500	5000
Accuracy (cm)	≤ ±5	≤ ±5	≤ ±5	≤ ±5
Communication protocol	LIN 2.2	LIN 2.2	I/O	I/O
Protection class	IP69	IP69	IP69	IP69

* Φ75mm tube measurement

Model	VU0008-000
Appearance	
Frequency (Khz)	48
Direction angle (°)	X: 120 Y: 60
Max. range* (mm)	3500
Accuracy (cm)	≤ ±5
Communication protocol	I/O
Protection class	IP69

* Φ75mm tube measurement

ROA Ultrasonic Transducer

Features

- Quality control standard of Automotive
  OEM manufacturers
- Outstanding consistency and stability
- High sensitivity and low power consumption

Applications

- Rear occupant alert system

Life Detection Module

Features

- High sensitivity, quickly detect breathing or
  small movements
- Not affected by light, temperature and humidity
- Low power consumption

Applications

- Rear occupant alert system

Model	TO0101-004&TO0104-004	TO0019-000&TO0020-000
Appearance		
Frequency (Khz)	40±1.0	40±1.0
S.P.L (dB)	117~122	≥115
Sensitivity (dB)	-60~-55	≥65
Operating TEMP. (℃)	-40~+90	-40~+90
Housing material	ABS	ABS
Size (mm)	Φ10.0 X 7.1	Φ16.0 X 12.0

Model	UM0040
Detection range (m)	1.8m (Wave speed angle0°) 1m (Wave speed angle30°)
Detection speed (s)	8
Voltage (V)	12
Current (mA)	40

Ultrasonic DEF/AdBlue Quality Sensor

Features
- High accuracy
- High reliability

Applications
-SCR system for Diesel Engines

DEF/AdBlue Level Sensor

Features
- Continuous measurement
- High accuracy（Four times as high as the traditional liquid level sensors）
- No moving part

Applications
-SCR system for Diesel Engines

Model	UQ0008-000
Appearance	
Frequency (Khz)	760±30
Resonant impedance (Ω)	≤340
Accuracy	±1%
Input voltage (Vp-p)	≤5

Model	UM0059-000
Appearance	
Measurement range （mm）	40～500
Accuracy (mm)	±5
Response time (s)	≤2
Power (V)	12

Ultrasonic Forward Collision Warning Sensor

Features
- Long detection range, up to 5m
- Built-in circuit which matches the self-developed transducer
- IP69 Protection class

Applications
- Forward Collision Warning

Gasoline Level Sensor

Features
- External measurement
- Continuous measurement

Applications
- Automotive fuel tank monitoring
- Oil tank monitoring

Model	VU0001-001	VU0005-000
Appearance		
Frequency (Khz)	48	48
Direction angle (°)	X: 60 Y: 60	X: 60 Y: 60
Max. range* (mm)	5000	5000
Accuracy (cm)	≤ ±5	≤ ±5
Communication Protocol	LIN 2.2	I/O
Protection class	IP69	IP69

* Φ75mm tube measurement

Model	AW9Y200K01-01
Appearance	
Resonant frequency (Mhz)	2
Capacitance (pF)	1600±15%
Impedance (Ohm)	5±2
Operating Temp (℃)	-40 ~ +80
Size (mm)	Φ30×20

Dust Sensor

Features
- Independent detection of two channels, simultaneous detection of PM2.5 concentration inside and outside the car
- Real-time continuous measurement, refresh rate 1s/time
- High sensitivity

Applications
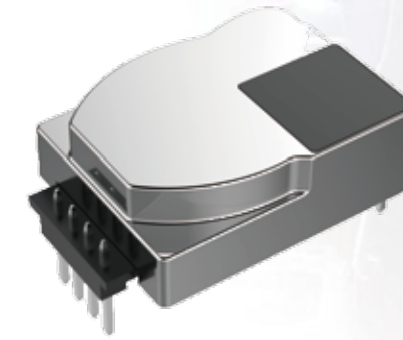- Automotive Environmental System

CO2 Sensor

Features
- Excellent precision
- Good consistency

Applications
- Automotive Environmental System

Model	DL0002-000
Appearance	
Type	Laser
Input voltage (V)	8～18
Detection range (μm)	TYP 2.5 MIN 1.0 MAX 10
Output mode	Digital signal
Operating Temp (℃)	-20～+70
Size (mm)	98×74×24

| Model	GC0001
Appearance	
Effective range (ppm)	0～3000
Max. Range (ppm)	0～5000
Accuracy (ppm)	± 50+5%
Input voltage (V)	(DC)+4.7 to +5.3
Current consumption (mA)	≤150
Size (mm)	33x20x9.2

Obstacle Avoidance Sensor

Features
- Built-in digital signal output
- self-check signal function and comes with a
  suitable circuit to optimize the performance
  of the sensor
- Simple structure, easy to install

Applications
- Autonomous driving system for unmanned vehicles
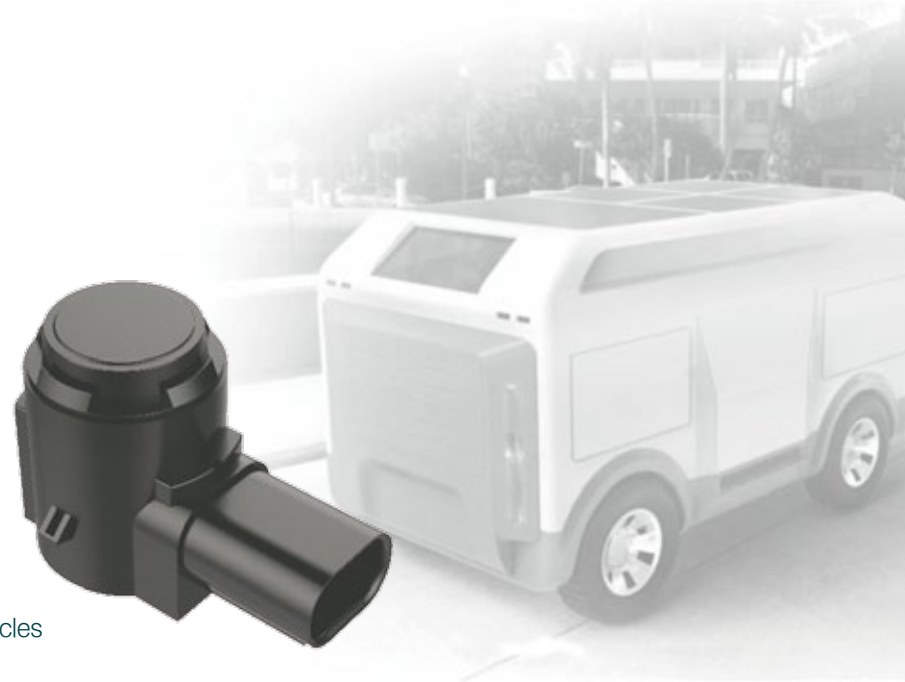
Buzzer

Features
- High reliability
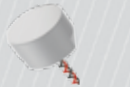- Small size, easy to install

Applications
- Car security system

Model	VU0001-001	VU0002-001	VU0004-001	VU0005-000
Appearance				
Frequency (Khz)	48	55.5	55.5	48
Direction angle (°)	X: 60 Y: 60	X: 90 Y: 45	X: 90 Y: 45	X: 60 Y: 60
Max. range* (mm)	5000	2500	2500	5000
Accuracy (cm)	≤ ±5	≤ ±5	≤ ±5	≤ ±5
Communication Protocol	LIN 2.2	LIN 2.2	I/O	I/O
Protection class	IP69	IP69	IP69	IP69

*Φ75mm tube measurement

Model	QJ0853	QJ0861	QJ0890	QJ0855
Appearance				
Frequency (Hz)	2000	3200	2000	800
S.P.L (dB)	≥100(10cm)	≥98(30cm)	≥80(100cm)	88(50cm)
Driving voltage	30Vp-p	12VDC	12Vp-p	12VDC
Size (mm)	Φ30×13.5	Φ42×16.5	38.5×30×27.6	Φ43.2×16.8

Lineup

Products	Appearance	Parking system	Parking assist system	BSD system	SCR system			FCW system	ROA system	Fuel tank monitoring	Environmental system	Obstacle Avoidance System for AGV	Anti-theft alarm system
Ultrasonic Transducer		■	■	■									
Ultrasonic Sensor		■	■	■								■	
Open Type Ultrasonic Transducer									■				■
DEF/AdBlue Quality Sensor					■								
DEF/AdBlue Level Sensor					■								
Gasoline Level Sensor										■			
Dust Sensor											■		
CO2 Sensor											■		
Buzzer		■	■	■	■			■	■				■

INTELLIGENT
METERING

Transducer for
Flow Meter

Transducer for
Heat Meter

Transducer for
Industrial Heat Meter

Brass Pipe for
Heat Meter

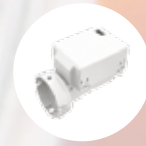Temperature
Sensor

Transducer for
Water Meter

Plastic Pipe for
Water Meter

Ball Valve for
Water Meter

Transducer for
Gas Meter

Pipe for
Gas Meter

Doppler Sensor

INTELLIGENT
METERING

Transducer for Ultrasonic Flow Meter

Features
- High reliability
- High and low temperature resistance

Applications
- Ultrasonic flow sensor

Transducer for Ultrasonic Heat Meter

Features
- Good consistency
- Stable performance
- High reliability

Applications
- Ultrasonic heat meter

Model	HN0536-004	HN0635-000	HN0636-004
Frequency (MHz)	1.00±0.02	1.015±0.03	1.015±0.03
Resonant impedance (Ω)	≤50	≤50	≤50
Static capacitance (pF)	710±20%	1350±20%	1150±20%
Size (mm)	Φ10.0×1.0	Φ15.5×1.02	Φ14.0×1.01

Model	US0002	US0004	US0014
Appearance			
Frequency (Khz)	975±30	975±30	975±30
Operating Temp (℃)	+4～+90	+4～+90	+4～+90
Pressure Resistance (MPa)	1.6	2.5	2.5
Installation diameter (mm)	Φ18.2	Φ16.8	Φ16.8

Transducer for Industrial Ultrasonic Heat Meter

Features

- High and low temperature resistance
- High reliability

Applications

- Ultrasonic heat meter

Brass Pipe for Ultrasonic Heat Meter

Features

- Stable performance
- Good consistency

Applications

- Ultrasonic heat meter

Model	US0012	US0017
Appearance		
Frequency (Khz)	975±30	975±30
Operating Temp (℃)	+4~+120	+4~+130
Pressure Resistance (MPa)	4.0	3.5
Installation diameter (mm)	Φ18.0	Φ17.0

Model	HS0002	HS0003
Appearance		
Pressure Resistance (Mpa)	1.6	1.6
Operating Temp. (℃)	0~+90	0~+90
Detection range (m³/h)	0.07~7.00	0.07~7.00
Nominal diameter	DN 20	DN 25

Temperature Sensor

Features

- Stable performance
- High reliability

Applications

- Ultrasonic heat meter

Transducer for Ultrasonic Water Meter

Features

- Resistant to harsh environmental conditions
  such as high and low temperature, humidity,
  shock, and vibration
- Meet the requirements of a wide
  range ratio water meter
- Good consistency

Applications

- Ultrasonic water meter

Model	HQ0057
Appearance	
Accuracy (℃)	≤0.1
Insulation resistance (MΩ)	100
Type	PT 1000
Operating Temp. (℃)	+4～+90

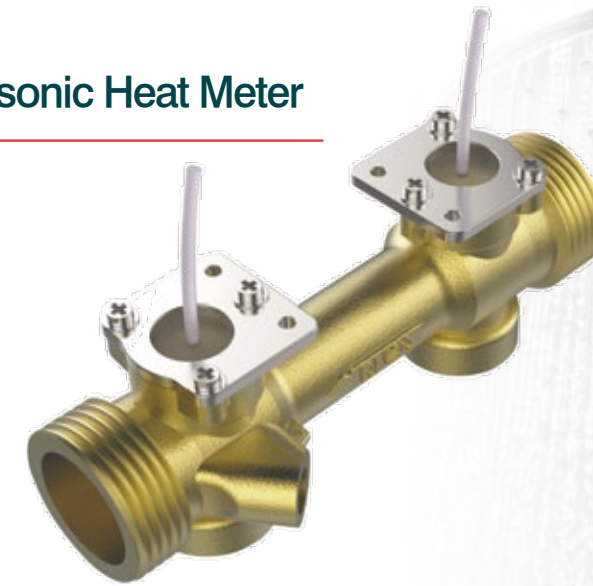| Model	US0039	US0072	US0078
Appearance			
Frequency (KHz)	975±30	1090±20	2110±30
Pressure Resistance (Mpa)	2.5	2.5	2.5
Operating Temp (℃)	0.1～+90	0.1～+90	0.1～+90
Installation diameter (mm)	Φ16.8	Φ16.8	Φ10.0

Plastic Pipe for Ultrasonic Water Meter

Features

- Stable performance
- Good consistency

Applications

- Ultrasonic water meter

Ball Valve for Water Meter

Features

- Continuous regulation
- No moving parts

Applications

- Ultrasonic water meter

Model	HS0014	HS0016	HS0017
Appearance			
Pressure Resistance (Mpa)	1.6	1.6	1.6
Operating temperature (℃)	0.1～+50	0.1～+50	0.1～+50
Pressure loss (Kpa)	≤40	≤40	≤40
Nominal diameter	DN 15	DN 20	DN 25

Model	HZ0021
Appearance	
Pressure Resistance (MPa)	1.6
Installation Length (mm)	64.5
Operating Temp (℃)	0.1～+50
Nominal diameter	DN15

Transducer for Ultrasonic Gas Meter

Features
- High sensitivity
- Strong directivity
- Corrosion resistant material, suitable
  for various gas

Applications
- Ultrasonic gas meter

Pipe for Ultrasonic Gas Meter

Features
- Stable performance
- Good consistency

Applications
- Ultrasonic gas meter

Model	HT0008	HT0013	HT0017
Appearance			
Frequency (KHz)	230±20	195±15	540±30
Pressure Resistance (MP a)	0.2	0.2	0.2
Operating Temp (℃)	-25～+70	-25～+55	-25～+55
Transmiting surface (mm)	Φ9.6	Φ14.1	Φ10.8

Model	HZ0015
Appearance	
Frequency (KHz)	500
Input voltage (V)	10～30
Pressure Resistance (KPa)	≤10
Operating Temp (℃)	-10～+40

Doppler Sensor

Features
- Good consistency
- Stable performance
- Easy to install

Applications
- Deep sea flow monitoring system

Model	US0055-000
Appearance	
Frequency (KHz)	600±20
Resonant impedance (Ω)	≤55
Max. input voltage (VP-P)	5
Operating Temp (℃)	+4～+85

Lineup

Model	Appearance	Ultrasonic Heat Meter	Ultrasonic Water Meter	Ultrasonic Gas Meter	Deep sea flow detection system
Transducer for Ultrasonic Flow Meter		■	■		
Transducer for Ultrasonic Heat Meter		■			
Transducer for Industrial Ultrasonic Heat Meter		■			
Brass Pipe for Ultrasonic Heat Meter		■			
Temperature Sensor		■			
Transducer for Ultrasonic Water Meter			■		
Plastic Pipe for Ultrasonic Water Meter			■		
Ball Valve for Water Meter			■		
Transducer for Ultrasonic Gas Meter				■	
Pipe for Ultrasonic Gas Meter				■	
Doppler Sensor					■

INTELLIGENT HOME

Liquid Auto-Fill
Control Module

Ultrasonic
Rangefinder

Infrared
Dust Sensor

Laser
Dust Sensor

Carbon Dioxide
Sensor

300KHz
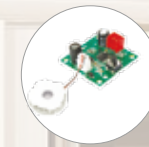Ultrasonic Sensor

Liquid Level
Managing Module

Ultrasonic Atomizing
Transducer

Ultrasonic
Atomizer

Microporous Atomizing
Transducer

Microporous
Atomizing Module

Piezoelectronic
Pump

Dual Paper
Detection Sensor

Directional Speaker
Ultrasonic Sensor

Ultrasonic Flow
Sensor Module

Buzzer

INTELLIGENT HOME

Liquid Auto-Fill Control Module

Features
- Non-contact measurement
- Short response time

Applications
- Water dispenser、Coffee machine

Ultrasonic Rangefinder

Features
- Outstanding directivity
- Non-contact measurement

Applications
- Robot
- UAV

Model	UM0034-000	UM0034-002
Appearance		
Measuring range (mm)	20~250	20~1000
Enter response time (s)	≤3	≤3
Leave response time (s)	＜2	＜2
Working Current (mA)	≤12	≤9
Operating Temp (℃)	0~85	0~85

Model	UM0090	UP0152-000
Appearance		
Measuring range (mm)	150~1500	20~2500
Accuracy (mm)	10	10
Working Current (mA)	≤10	≤10
Power Supply (V)	5	5
Response time (ms)	＜1	2

Infrared Dust Sensor

Features
- High sensitivity
- Excellent consistency

Applications
- Air purifier
- Air conditioners
- Ventilation system

Laser Dust Sensor

Features
- Excellent consistency
- High accuracy

Applications
- Air purifier
- Fresh air system

Model	DW0001	DW0002	DC0001
Appearance			
Operating voltage (V)	DC 5±5%	DC 5±0.1	DC 5V ±5%
Detectable Partical Diameter (μm)	TYP 2.5 MIN 1.0	1.0～10	TYP 2.5 MIN 0.5
Signal output method (ms)	Analog output	Digital output(UART/PWM)	Analog output
Size (mm)	46.2x34.0x17.6	46.2x34.0x17.6	59.0x44.6x17.3

Model	DL0001	DL0003
Appearance		
Measuring range of particles (μm)	0.3～10	0.3～10
Effective range of particle mass concentration (μg/m3)	0～500	0～500
Max. range of particle mass concentration (μg/m3)	1000	1000
Supply voltage (V)	5	5
Working Current (mA)	≤ 100	≤ 100
Size (mm)	48.4x38.4x24.0	48.4x38.4x11.8

CO2 Monitoring Sensor

Features
- Large detection range
- High precision

Applications
- Air purifier
- Fresh air system
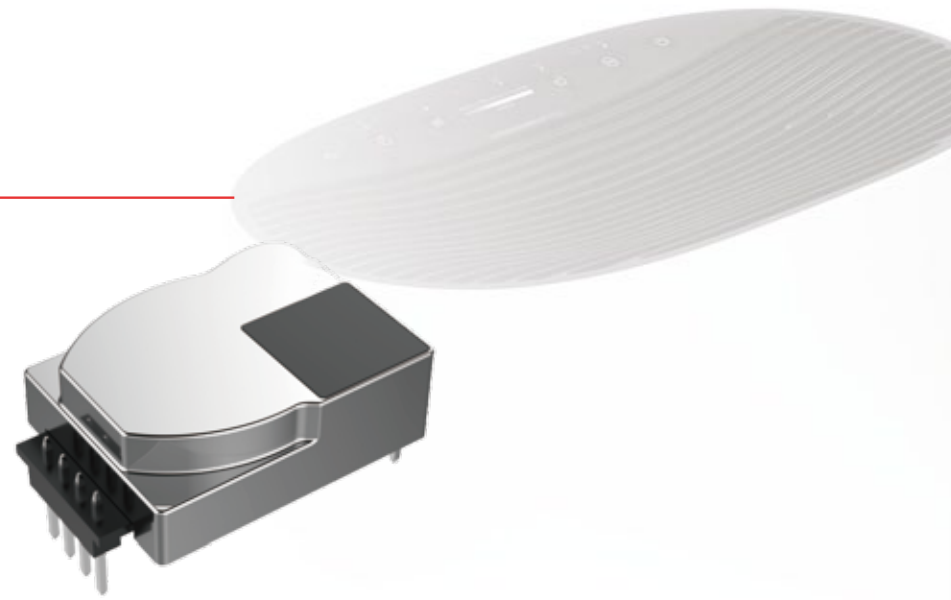
300KHz Ultrasonic Sensor

Features
- Special matching materials
- Small blind zone
- Good directive
- Excellent consistency

Applications
- Sweeping robot

Model	GC0001
Appearance	
fective range of detectio (ppm)	0 ~ 3000
Max. range of detection (ppm)	0 ~ 5000
Accuracy (ms)	± (50+5%)
Supply voltage (V)	(DC)+4.7 to +5.3
Working current (mA)	≤150
Size (mm)	33x20x9.2

Model	HT0020-000
Appearance	
Frequency (KHz)	300
Decay time (us)	≤190
Driving voltage (Vp-p)	12
Capacitance (nF)	1.3±20%
Size (mm)	Φ16.0 x H12.0

Liquid Level Managing Module

Features
- High precision
- Small blind zone
- Short response time

Applications
- Sweeping robot
- Smart cleaning machine

Ultrasonic Atomizing Transducer

Features

- The stable temperature of transducer ensures stable work.
- Advanced electode protective film is suitable
  for all kinds of different water.

Applications
- Humidifier
- Aroma Diffuser

Model	UM0105
5V power requirements (V)	4.5-5.5V, 30mA
Power (W)	≤0.1
Level signal output voltage (V)	3.3-5.5
Level signal output current (mA)	≤2
Operating Temp (℃)	+5~-60

Model	HL0020-004	HL0001-001	HL0013-085	HL0015-000	HL0017-010
Frequency (MHz)	2.4	3	1.7	1.7	2.4
Lead length (mm)	50±5	50±5	100±5	88±5	100±5
Terminal	XH-2P	XH-2P	/	/	/
Diameter (mm)	16	16	20	25	25

Ultrasonic Atomizer

Features

- Compact size
- High conversion efficiency
- Anti-dry protection
- Digital signal control

Applications

- Humidifier
- Aroma Diffuser

Microporous Atomizing Transducer

Features

- Fine atomized particles
- High through hole rate, up to 97%
- Acid resistance, alkali resistance and
  cavitation corrosion resistance

Applications

- Humidifier
- Aroma Diffuser

Model	UM0108-000	UM0108-003
Appearance		
Power supply (V)	24±0.3	24±1.2, 5V-5.5V
Transducer frequency (Mhz)	1.7±0.05	1.7±0.05
Max operating current (A)	0.58±0.07	0.65±0.07
Atomization volume (mL/H)	250-350	360±20%

Model	HQ0047-016	HQ0064-015
Appearance (MHz)	109±5	110±5
Capacitance (pF)	3800±20%	3200±20%
Impedance (Ω)	≤180	≤180
size (μm)	7±1	6.5±1
Diameter (mm)	20	20

Microporous Atomizing Module

Features
- Frequency-follow and low-power circuit,ensure the stable performance.
- Special driving circuit and save power.
- Optimizing the configration and function, which reduces the heat and failure rate.

Applications
- Aroma Diffuser
- Facial sprayer

Piezoelectronic Pump

Features
- Small and lightweight
- Adjustable driving voltage for the regulation of air pressure and air flow in accordance with actual work requirement
- Concentrated air flow

Applications
- Small-size aromatherapy machine
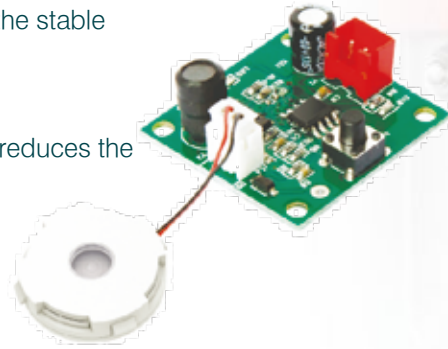- Heat dissipation of core chips
- Micro-flow test instrument
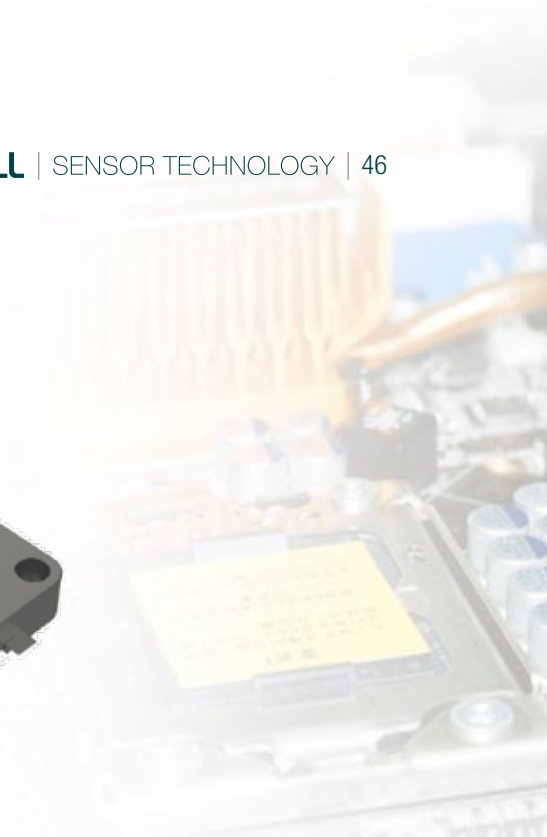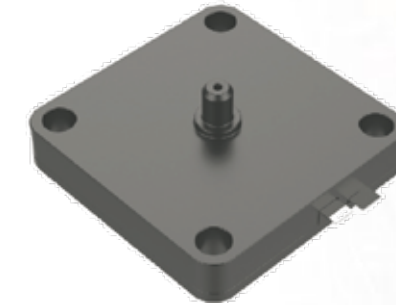
Model	UP0096-000
Appearance	
Power (DC)	DC :5±0.3V/1A
Working current (mA)	300±80
Transducer frequency (KHz)	100～120
Functions	Auto off when no water
Power (DC)	DC :5±0.3V/1A

Model	HQ0067
Appearance	
Resonant frequency (KHz)	24±2
Resonant impedance (Ω)	≤200
Operating voltage (Vp-p)	10~20
Static pressure (kPa)	≥1.0
Flow rate (L/min)	≥0.3
Size (mm)	21x21x4

Dual Paper Detection Sensor

Features

- Special matching materials
- Small blind zone
- Excellent directivity
- Excellent consistency

Applications

- Printer

Ultrasonic Sensor for Directional Speaker

Features

- Excellent directive, directional transmission
- Not affected by electromagnetic fields

Applications

- Directional speaker

Model	HT0020
Appearance	
Frequency (KHz)	300
Decay time (μs)	≤190
Driving voltage (Vp-p)	12
Capacitance (nF)	1.3
Operating Temp (℃)	-20～+70

Model	TO0123-001	TO0019-009	TO0139-000
Resonant frequency (KHz)	40±1	40±1	40±1
S.P.L (dB)	≥115	≥115	≥117
Max. input voltage (Vrms)	20	20	20
Static capacitance (pF)	2500±20%	2100±20%	2200±20%
Operating Temp (℃)	-20～+70	-20～+70	-40～+85
Size (mm)	Φ16.0 x H 12.0	Φ16.0 x H 12.0	Φ8.0 x H 6.0

Ultrasonic Flow Sensor Module

Features

- Measuring pipe made of molded engineering plastic to ensure high ruggedness and reliability
- Up to 2% accuracy and immunity to environment impact
- Turndown ratio up to 160
- Approved for drinking water
- Digital output with M-BUS serial communication

Applications

- Smart water management system
- Leakage detection

Buzzer

Features

- Small size, easy to install
- Stable performance

Applications

- Home appliance alarm

Model	FS0001	FS0002	FS0009	FS0010
Appearance				
Diamete	DN15	DN10	DN20	DN25
Power Supply (V)	3.2~5.3	3.2~5.3	3.2~5.3	3.2~5.3
Flow Range (L/h)	2.5~2500	2.0~1600	2.5~4500	2.5~6000
Accuracy (mm)	≤±5%（15~25L/h） ≤±3.5%（25~50L/h） ≤±2%（50~2500L/h）	≤±5%（15~25L/h） ≤±3.5%（25~50L/h） ≤±2%（50~1600L/h）	≤±5%（20~40L/h） ≤±3.5%（40~100L/h） ≤±2%（100~4500L/h）	≤±5%（30~50L/h） ≤±3.5%（50~100L/h） ≤±2%（100~6000L/h）
Max. Operating Pressure (Mpa)	1.6	1.6	1.6	1.6
Communication method	TTL	TTL	TTL	TTL

Model	QJ0410-007	QJ0411-010
S.P.L (dB)	70	85
Detection range (cm)	10	10
Static capacitance (pF)	14000±30%	15000±30%
Max. input voltage (Vp-p)	25	20
Operating Temp (℃)	-20~+105	-40~+85
Size (mm)	56.0×44.5 x 33.5	Φ13.8×6.4

Lineup

Model	Appearance	Water dispenser, Coffee machine	Refrigerator	Air purifier, HVAC	Sweeper robot	Robot, UAV			Humidifier, Aroma Diffuser	Aroma Diffuser Facial sprayer	Chip heat dissipation	Printer	Directional speaker	Smart water management
Liquid Auto-Fill Control Module		■	■											
Ultrasonic Rangefinder						■								
Dust Sensor				■										
CO2 Sensor				■										
300KHz Ultrasonic Sensor					■							■		
Liquid Level Managing Module					■									
Atomizing Transducer				■					■	■				
Ultrasonic Atomizer				■					■	■				
Microporous Atomizing Transducer										■				
Microporous Atomizing Module										■				
Piezoelectronic Pump											■			
Ultrasonic Sensor						■							■	
Ultrasonic Flow Sensor Module		■	■											■
Buzzer		■	■	■	■				■	■				

INTELLIGENT
SECURITY

Piezoelectric
Ceramic Element

Piezoelectric
Buzzer

Ultrasonic
Ranging Sensor

High SPL Buzzer

INTELLIGENT
SECURITY

Piezoelectric Ceramic Element

Features

- Small size, easy to install
- Stable performance

Applications

-Smoke alarm detector

Piezoelectric Buzzer

Features

- High reliability
- The material is resistant to high
  temperatures and has good
  flame retardancy
- Pass UL standard

Applications

-Smoke alarm detector

Model	PL0544-014	PL0653-000	PL0663-000
Resonant frequency (Hz)	3.2	3.2	3
Resonant impedance (Ω)	600	350	400
Static capacitance (pF)	25000±30%	36000±30%	40000±30%
Diameter (mm)	34.55	34.7	34.7
Thickness (mm)	0.54	0.52	0.53

Model	QJ0868
Resonant frequency (Hz)	3250
S.P.L (dB)	≥105(12V/25cm)
Max. input voltage (V)	16
Max. Rated Current (mA)	40
Size (mm)	Φ30.6 x 16.0
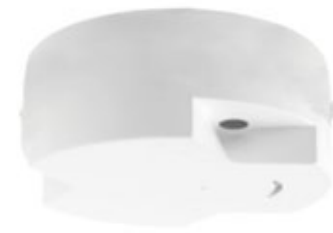
Ultrasonic Ranging Sensor

Features
- High sound pressure
- Cost-effective
- Good immunity to interference

Applications
- Smoke alarm detector

High SPL Buzzer
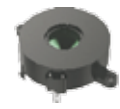
Features
- High sound pressure
- High and low temperature
  resistance

Applications
- Airport bird repellent
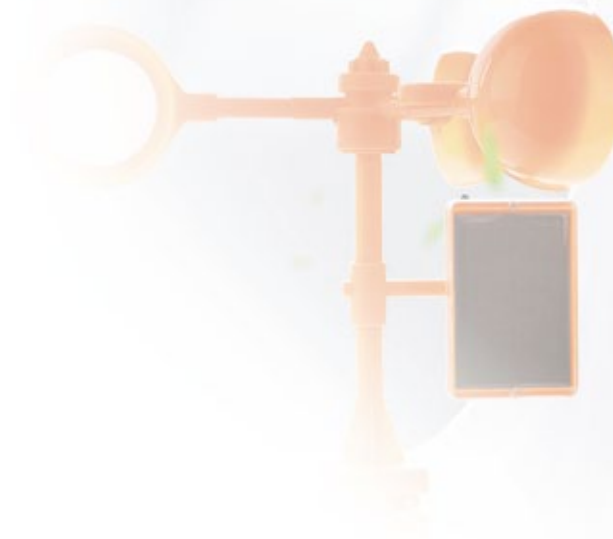
Model	TO0116-009
Appearance	
S.P.L (dB)	≥105
Sensitivity (dB)	≥-75
Resonant frequency (KHz)	40.0±1.0
Capacitance (pF)	1700±20%
Operating Temp (℃)	-40 ～ +85
Size	Φ10.0 x H 7.1

Model	QJ0892-000
Appearance	
S.P.L (dB)	≥110
Sensitivity (KHz)	2.40±0.5
Resonant frequency (pF)	186000±30%
Operating Temp (℃)	-40 ～ +105
Size	Φ45.3 x 22

Lineup

Model	Appearance	Smoke alarm detector	Strong sound expeller	Security system
Piezoelectric Ceramic Element		■		
Buzzer		■		
High SPL Buzzer			■	■
Ultrasonic Ranging Sensor		■		

INDUSTRIAL CONTROL

Ultrasonic Proximity Sensor

Flow Control Sensor Module

Seisimic Hydroacoustic Geophone

Ultrasonic Welding Transducer
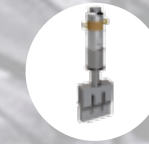
Welding Transducer Module

77GHz Millimeter wave radar

Buzzer

INDUSTRIAL CONTROL

Ultrasonic Proximity Sensor

Features
- Continuous measurement
- Transparent objects can be detected
- High measurement accuracy

Applications
- Production line testing

Model	AU0009-001	AU0011-002
Appearance		
Operating Frequency (KHz)	60	255
Detection Range (mm)	20~350	50~250
Detection Accuracy (mm)	≤10	≤10
Operating Voltage (V)	12~30	12~30
Communication Protocol	MPN	485

Flow Control Sensor Module

Features

- Real-time monitor, Cloud data transmission
- Remote control, Visual adjustment
- Not affected by the viscosity，
  conductivity of the medium

Applications

- Plant water management

Seisimic Hydroacoustic Geophone

Features

- High reliability
- High sensitivity, small vibration and
  shock can be detected
- High strength structure ensures service life

Applications

- Ocean landform exploration
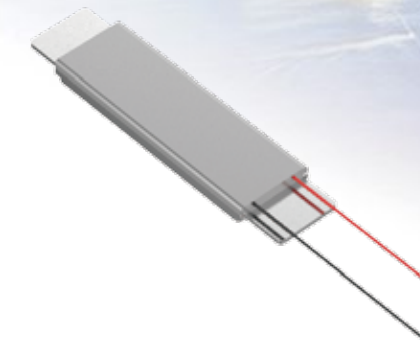
Model	FS0021
Appearance	
AUTO mode The steady flow error (L/h)	±5
Update frequency of flow data (HZ)	8
Operating Voltage (V)	5
Opening (closing) time of ball valve (s)	≤ 15
Max.power consumption (W)	2.5
Communication Protocol	485

Model	US0076
Appearance	
Operating Frequency (KHz)	14±1.5
Sensitivity (dB)	-192.5±1.5(0-1KHz)
Insulation resistanc (MΩ)	≥10000
Free capacitance （pF）	9.3±5%
Max. allowable water depth (m)	250

Ultrasonic Welding Transducer

Features

- Stable product performance
- Good consistency

Applications

- Mask machine

Ultrasonic Welding Transducer Module

Features

- Stable product performance
- Work efficiently

Applications

- Mask machine
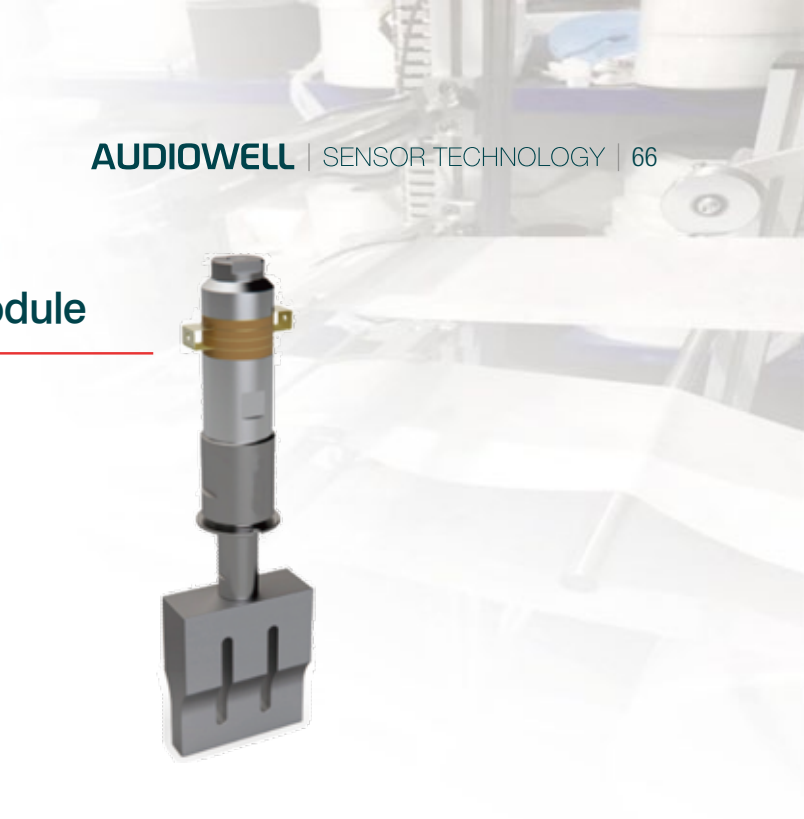
Model	HN0774-000	HN0775-000
Appearance		
Operating Frequency (KHz)	25.5±5%	36.1±5%
electrostatic capacity (dF)	1800±20%	2400±20%
Quality factor	>800	>800
Dimensions (mm)	60×30×10	50×17×6.5

Model	HM0001-000	HM0001-001
Appearance		
Resonant impedance (Ω)	≤65	≤130
Resonance frequency (KHZ)	19.6-20.2	14.9-15.1

77GHz Millimeter wave radar

Features

- It can accurately distinguish multiple targets ahead
- Work around the clock, less affected by weather conditions

Applications

- Level measurement
- Distance measurement

Buzzer

Features

- Small size, easy to install
- Stable performance

Applications

- Device alarm

Model	Short range radar	Long range radar
Measurement Range (m)	0.3～70	0.3～250
Accuracy (m)	±0.1025	±0.1025
Speed range (km/h)	-200～+200	-400～+200
Refresh rate (Hz)	20	20
Voltage (V)	4-36	4-36
Power (W)	≤5	≤8
Size (mm)	78 x 67 x 22	138 x 90 x 22

Model	QJ0609-012
Appearance	
Resonant Frequency (Hz)	3000
S.P.L (dB)	≥85(12V/100cm)
Operating Voltage (V)	5.0～18.0
Protection Class	IP66
Dimensions (mm)	D36.5×26mm

Lineup

Model	Appearance	Production line testing	Plant water management	Face mask machine	Ultrasonic welding machine	Seismometer
Ultrasonic Proximity Sensor		■				
Flow Control Sensor Module			■			
Seisimic Hydroacoustic Geophone						■
Ultrasonic Welding Transducer				■	■	
Ultrasonic Welding Transducer Module				■	■	
77GHz Millimeter wave radar			■			
Buzzer				■	■	

HEALTH CARE
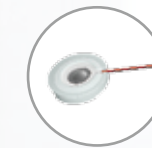
Microporous Atomizing Transducer

Ultrasonic Atomizing Module

Open Type Ultrasonic Sensor

Ultrasonic Harmonic Scalpel Transducer

HEALTH CARE

Microporous Atomizing Transducer

Features
- Fine atomized particles
- High through hole rate, up to 97%
- Acid and alkali resistance and
  cavitation corrosion

Applications
- Medical sprays

Model	HQ0074
Appearance	
Resonant frequency (Khz)	110±5
Static capacitance (pF)	3200±20%
Resonant impedance (Ω)	≤180
Aperture (μm)	3±1

Ultrasonic Atomizing Module

Features

- No electricity in water
- Equipped with water level detection,water
  automatically shut down
- High conversion efficiency, low power
  consumption and low heating

Applications

- Hydrogen oxygen ventilator

Open Type Ultrasonic Sensor

Features

- High cost performance
- Strong anti-interference capability

Applications

- Oxygen machine

Model	UM0122
Appearance	
Input voltage (V)	24
Resonant Frequency (Mhz)	1.7±0.05
Current consumption (A)	0.77±0.07
Atomization (mL/h)	250-350

Model	TO0039& TO0040	TO0116-004
Resonant frequency （Khz)	25.0±1.0	40.0±1.0
S.P.L (dB)	≥110	≥105
Sensitivity (dB)	≥-65	≥-70
Max. input voltage (Vrms)	20	20
Static capacitance (PF)	2300±20%	1700±20%
Size (mm)	Φ16.0 x H 12.0	Φ10.0 x H 7.1

Ultrasonic Harmonic Scalpel Transducer

Features
- Large amplitude
- High reliability

Applications
- Ultracision harmonic scalpel

Model	HN0780
Appearance	
Resonant frequency (Khz)	106
Resonant impedance (Ω)	≤30
Static capacitance (PF)	660±20%
Dimensions (mm)	16x6x2.5

Lineup

Model	Appearance	Medical atomizer	Oxyhydrogen ventilator	Oxygen Generator	Cutting hemostatic knife
Microporous Atomizing Transducer		■			
Ultrasonic Atomizing Module		■	■		
Open Type Sensor				■	
Ultrasonic Harmonic Scalpel Transducer					■

INTELLIGENT TERMINAL

Piezo Haptic Actuator

Haptic Feedback Actuator
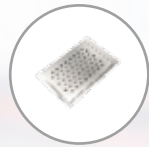
Multilayer Ceramic Speaker

Multilayer Ceramic Actuator

Blood Pressure Transducer

PZT Bone Conduction Vibrator

INTELLIGENT TERMINAL

Piezo Haptic Actuator

Features
- Advanced seamless design
- Longer life, better experience

Applications
- Phone/tablet side touch control

Haptic Feedback Actuator

Features
- High reliability
- High sensitivity
- Piezoelectric touch technology,
  comfortable experience

Applications
- Virtual key feedback
- Switch tactile feedback
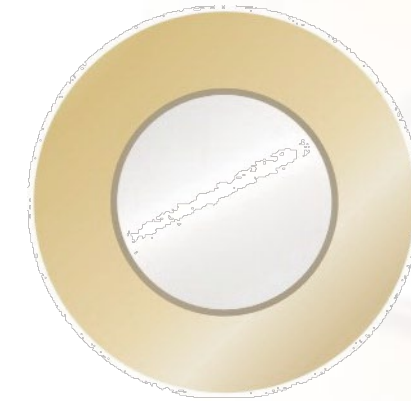
Model	HY0053-001	HY0066	HY0087	HY0099	HY0103
Resonant frequency (Khz)	100K~1M composite oscillator	/	/	/	/
Static capacitance (pF)	Electrode A: 460 Electrode B: 160	385	1250	60	120
Electrode technology	Silver plated	Gold plated	Silver plated	Gold plated	Nickel plating
Dimensions (mm)	5.9×2.5×0.3	5.9×1.5×0.3	10×3×0.3	2.5×0.5×0.3	2.5×1×0.3

Model	PP0873	HY0097
Appearance		
Resonant frequency (KHz)	6.5±1	25±1
Static capacitance (pF)	6000	49000
Electrode technology	A single layer	A single layer
Dimensions (mm)	Φ16×0.26	50×8×0.18

Piezo Haptic Actuator

Features

- The acoustic design is simple and can be
  installed in a narrower and flat space
- Milliwatt power consumption and high conversion
  efficiency make the product more widely used

Applications

- Phone/tablet screen sound

Multilayer Ceramic Actuator

Features
- High reliability
- Good consistency

Applications
- Laptop/tablet touch feedback

Model	MT0006
Appearance	
S.P.L (dB)	80
Static capacitance (nF)	1200±30%
Resonant Frequency range (Hz)	300~20000
Max. input voltage (Vp-p)	16
Dimensions (mm)	30×20×2.2

Model	ML0020	ML0021
Resonant frequency (KHz)	43±1	43±1
Static capacitance (pF)	650	450
Electrode structure	Multilayer Ceramic	Multilayer Ceramic
Dimensions (mm)	35×2.4×1	35×3×0.5

Blood Pressure Transducer

Features
- High reliability
- Good consistency

Applications
- Blood pressure monitoring
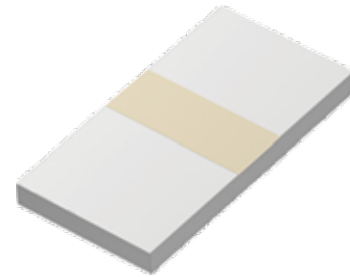
PZT Bone Conduction Vibrator

Features
- Small size
- High vibration sensitivity
- Wide frequency range

Applications
- Bone conduction headset

Model	HY0088
Appearance	
Resonant Frequency (MHz)	7.5
Static capacitance (nf)	450±10%
Loss (%)	<3
Dimensions (mm)	1×1.5×0.25

Model	HX0001
Appearance	
Loss (%)	<4
Static capacitance (pF)	95±20%
Operating temperature (℃)	-40～+85
Dimensions (mm)	4.85×0.5×0.5

Lineup

Model	Appearance	Side touch for phone/tablet	Laptop/tablet press touch feedback	Phone/tablet screen sound			Phone/tablet lens	Blood pressure monitoring	Bone conduction earphone
Pressure Touch Actuator		■							
Haptic Feedback Actuator		■							
Multilayer Ceramic Speaker				■					
Multilayer Ceramic Actuator			■				■		
Blood Pressure Transducer								■	
Bone Conduction Vibrator									■

5G
COMMUNICATION

5G Dielectric
Waveguide Filter

5G
COMMUNICATION

5G Dielectric Waveguide Filter

Features
- Small size, light weight, thin thickness
- SMT welding, convenient installation
- Customizable size, input and output

Applications
- Base station and repeater
- Microwave communication
- Data transmission

Model	WDT0001-000	WDT0002-000
Frequency (G)	2.6G	3.5G
Bandwidth (MHZ)	2515～2675	3400～3600
Insertion loss	2.2	1.2
Fluctuation	1.2	1
Reflection	16	18
Attenuation (dB)	36dB@2484@2700	51@3200&3800
Size (MM)	53×22×6	31×17×6

APPLICATIONS

Sonic Expeller

Solar Bird Repeller

Directional Speaker

Anemometer

Loud Expeller

Facial Sprayer

iPura³

PRODUCTS CATALOGUE

APPLICATIONS

Sonic Expeller

Features

- High decibel drive away
- Active security
- Safe and efficient

Applications
- Expel the crow
- Security system

Model	EV-R1
Appearance	
S.P.L (dB)	125
Resonant frequency (KHz)	2~4
Input voltage (V)	12
Current consumption (mA)	<1500
Weight (g)	900
Dimensions (mm)	Φ237×60

Solar Bird Repeller

Features

- Distributed solar bird repellent device cooperates
  with the distributed arrangement in the airport and
  centralized control strategy
- Can output built-in sound source and random noise
- The product structure is easy to install and easy to operate

Applications

- Airport bird repellent

Directional Speaker

Features

- Excellent directivity
- Intelligent control, remote control
  by partition and group
- Easy to operate

Applications

- Billboards, bus stops

Model	CQBR-02
Appearance	
S.P.L (dB)	125
Resonant frequency (KHz)	2~4
Input voltage (V)	12
Power consumption (mA)	<60
Operating temperature (℃)	-25~+55
Dimensions (m)	1.5×0.4×0.3

Model	FSC1-B1-GS
Appearance	
S.P.L (dB)	85
Power (W)	25
Directionality (°)	<10
Standard throw distance (m)	10
Dimensions (mm)	292 x 163 x 23

Anemometer

Features
- Ultrasonic technology, high measurement accuracy
- Stainless steel design, long service life
- Anti-extreme environment, all-weather work
- One-time calibration, no on-site maintenance

Applications
- Ship, weather station

Sonic Shield

Features
- Enhanced the shield with high decibel shocking
- Non-contact measurements
- Highly intensive sound

Model	HM0001
Appearance	
Wind speed range (m/s)	0~70
Wind speed accuracy (Ω)	±0.1m/s@≤10m/s; ±1%@ > 10m/s
Wind direction range (°)	0~360
Wind direction measurement accuracy (A)	±2°
Input voltage (V)	24
Operating temperature (℃)	-40 ～+85

Model	FSC1-B1-GS
Appearance	
S.P.L (dB)	128±3
Resonant frequency range (KHz)	2~4
Keep ringing (min)	＞70
Dimensions (mm)	900×500×2

Facial Sprayer

- Atomized cold spray with micron water ion, penetrates the pores and deeply moisturizes the skin
- Unique switch, precise control of spray distance and time.
- Sealed water tank design
- Small design, simple and generous appearance

Model	I03
Appearance	
Input voltage (V)	5
Battery type	3.7V/120mAh
Power (W)	1
Water tank capacity (mL)	7
Weight (g)	30
Dimensions (mm)	27.5×20.7×85

MILESTONES

Year	Event
1999	AUDIOWELL established
2002	Ultrasonic sensor production line established
2006	Passed the IATF 16949 Quality Management System Certification
2008	Awarded the "Guangdong high-tech enterprise"
2012	Listed on the" Chinese most potential private company of Forbes 2012"
2014	Listed on the "Chinese Top 100 Electronic Companies"
2015	Successfully listed on NEEQ
2016	Awarded the "Guangdong Famous Trademark"
2018	Ultrasonic Sensor Manufacturing Base(Zhaoqing) main building completed.
2019	Awarded the "Guangdong Enterprise Technology Center"
2020	Awarded the "National advantage in intellectual property enterprise"