Audiowell International

Product Specification

US0072-001 Ultrasonic Liquid Flow Transducer (Plastic - 1 MHz)

Description

The Ultrasonic Flow Transducer is used as the core element of ultrasonic flow meters. Ultrasonic flow measurement uses the transit time principle, whereby opposite sending and receiving ultrasonic flow sensors are used to transmit signals through the flow. The signal travels faster when moving with the flow stream than it does against the flow stream. The difference between the two transit times is used to calculate the flow rate.

Features

- High sensitivity, stability, and reliability
- High and low temperature resistance, moisture resistance, impact, and shock resistance
- Good consistency

Ordering Information

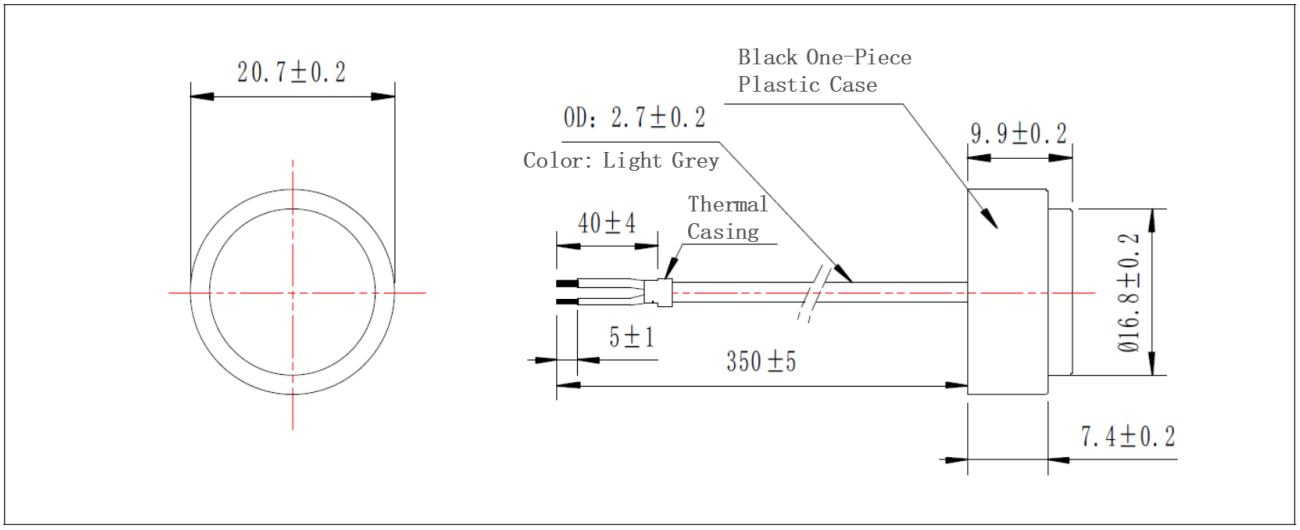
Part Number: US0072-001

Model Number: T/R1090-US0072L353-01

Electrical Specifications

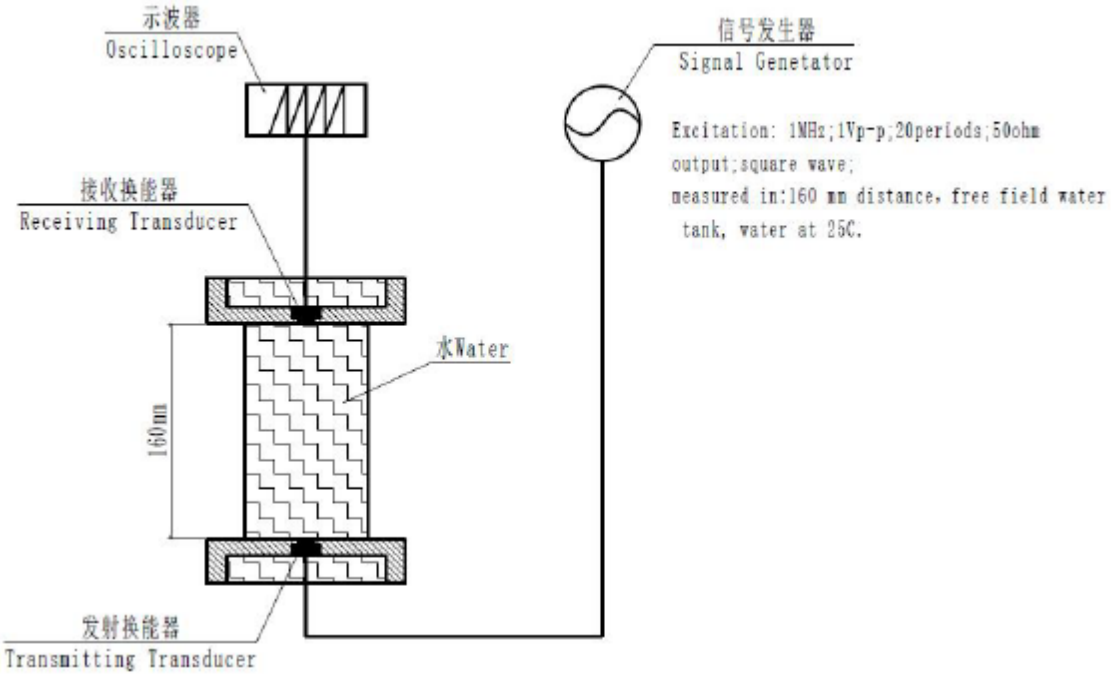
No.	Item	Specification	Unit	Test Condition: T = 25°C
1	Thick Resonant Frequency	1090 ± 25	KHz	Impedance Analyzer 6630
2	Resonant Impedance	35～100	Ω	Impedance Analyzer 6630
3	1 MHz Impedance	200～450	Ω	Impedance Analyzer 6630
4	Receiving Signal	450～650	mV	At 200ms intervals the transducer is driven with 20 1MHz Pulses at $1V_{P-P}$. Amplitude test method details are shown in Figure 1.
5	Free Capacitance	1130 ± 20%	pF	Digital electric bridge at 1000Hz/1V
6	Maximum Input Voltage	5	V_{P-P}	At 1MHz
7	Maximum Operating Pressure	2.5	MPa	
8	Mean Time to Failure	5	years	At 1MHz/$1V_{PP}$
9	Operating Temperature	+0.1～+90	°C	
10	Storage Temperature	-25～+55	°C	

Appearance and Dimensions (Units = mm)



Note: All materials comply with RoHS Standards with piezoelectric ceramic exempt from lead restriction.

Receive Signal Measuring Method



Precautions

1. This product is only intended for use in liquid medium, not for air medium.
2. An Anti-interference function in the drive circuit is recommended.
3. It is recommended that the design of secondary products should include anti-failure functions to prevent accidents caused by work failures.
4. If it required to add an external case around this product, use a soft rubber ring to separate the case and the sensor. In order not to affect the vibration of the sensor, the front surface of the sensor should be kept free, otherwise the performance of the sensor will change.
5. Please do not use the product under the below conditions to avoid any fault or performance degradation:
    a. Strong shock or vibration
    b. in the presence of dissolved organic matter
    c. With applied input voltage exceeding the maximum specification

Revision History

Revision Number	Revision Date	Description	Pages Changed
A1	13-Sep-2021	New Standard Specification	-

Contacts

For pricing, delivery, and detailed ordering information please contact:

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Tentative Release

This specification is based on design objectives and is strictly Preliminary and subject to change. Test data may exist, but this specification is subject to change based on the results of additional testing and evaluation. Application specific specifications will be produced for approval prior to production product being released.

⚠ WARNING

This product can expose you to chemicals including Lead, Chromium (hexavalent compounds) and Phthalates (DEHP) which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov