



Teledyne RESON

Hydrophone TC4047

With Wet Mating Connector

The TC4047 miniature hydrophone offers a useable frequency range from 1kHz to 170kHz. The hydrophone incorporates a high quality 20dB low-noise pre-amplifier which provides optimal conditions for signal transmission.

The high sensitivity provides excellent signal to noise ratio and immunity against induced cable noise. The hydrophone is omnidirectional up-to 100kHz and has uniform receiving characteristic from 1kHz to 100kHz.

An insert calibration circuit enables remote testing of the hydrophone condition. The hydrophone comes with a SEACON connector. The sensor element is permanently encapsulated in Special formulated NBR to ensure long term reliability. The rubber has been specially compounded to ensure acoustic impedance close to that of water. The strainrelief and outer jacket of the cable is made of high density polyurethane. TC4047 can be used in sea or fresh water.

TECHNICAL SPECIFICATIONS

Usable Frequency range:	1kHz to 170kHz
Receiving sensitivity:	-191 ±3dB re 1V/μPa (@10kHz)
Horizontal directivity pattern:	Omni directional ±3dB at 100kHz
Vertical directivity pattern:	>270° ±3dB at 100kHz
Preamplifier gain:	+20dB ±0.5dB @ 10kHz
Filter characteristic:	6dB / octave (Filter: -3dB BW: 1kHz to 1 MHz)
Current consumption:	<15mA @ 12VDC
DC supply:	+12V to +24V
Output impedance:	40 Ohm
Output voltage:	Max. 2Vrms with 24VDC supply
Connector type:	6 pin Seacon connector
Operating depth:	700m
Survival depth:	800m
Operating temperature range:	-2°C to +55°C
Storage temperature range:	-30°C to +80°C

PRODUCT BENEFITS

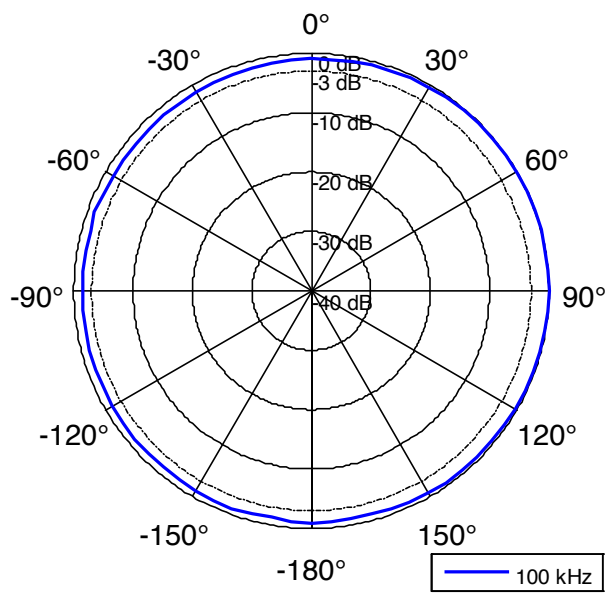
- High Sensitivity
- Omnidirectional
- Broad banded
- Wet mating connector
- Individually calibrated



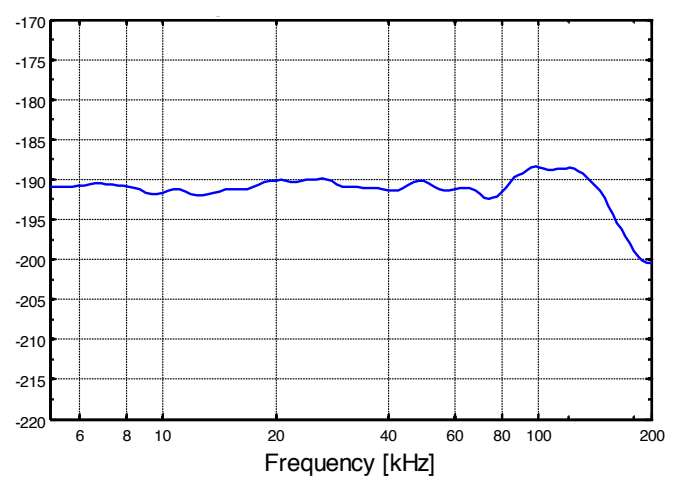
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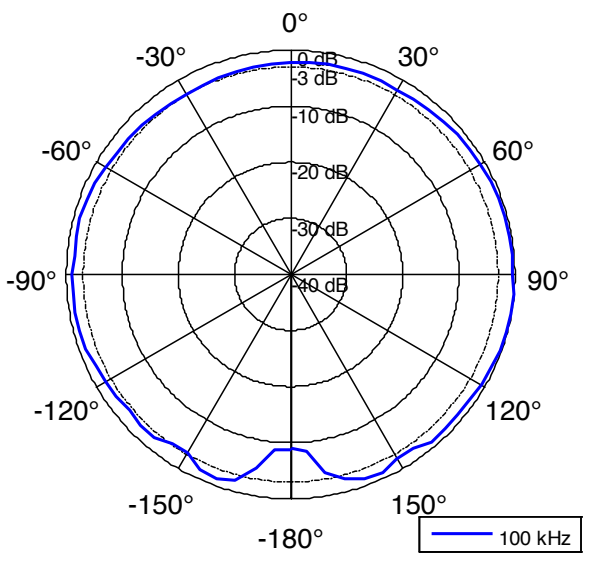
Horizontal Directivity Pattern



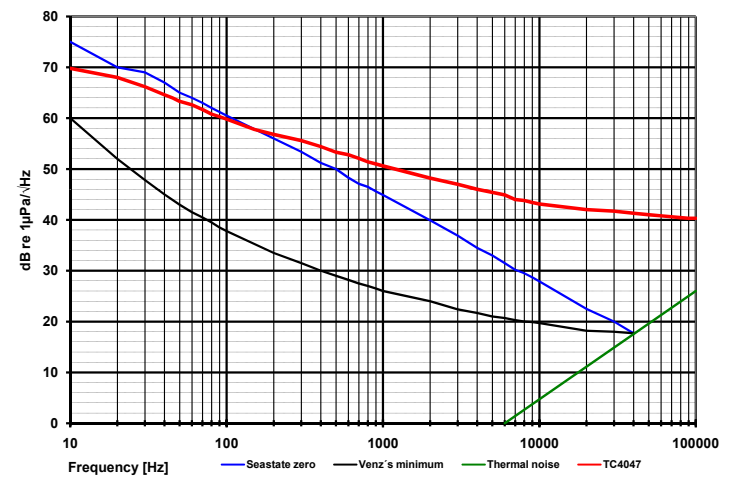
Receiving Sensitivity [dB re 1V/ μ Pa @ 1m]



Vertical Directivity Pattern



Equivalent spectral noise pressure curve



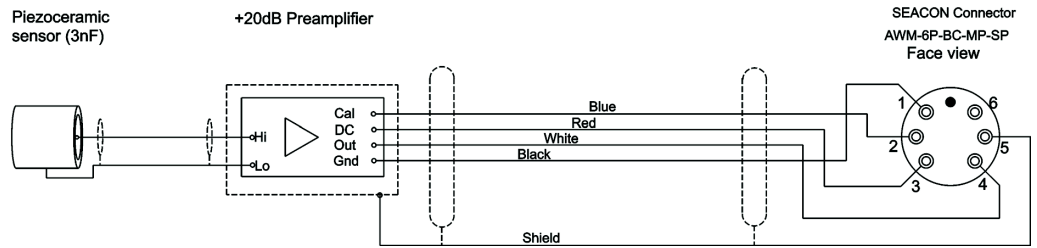
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Other information

Wiring:

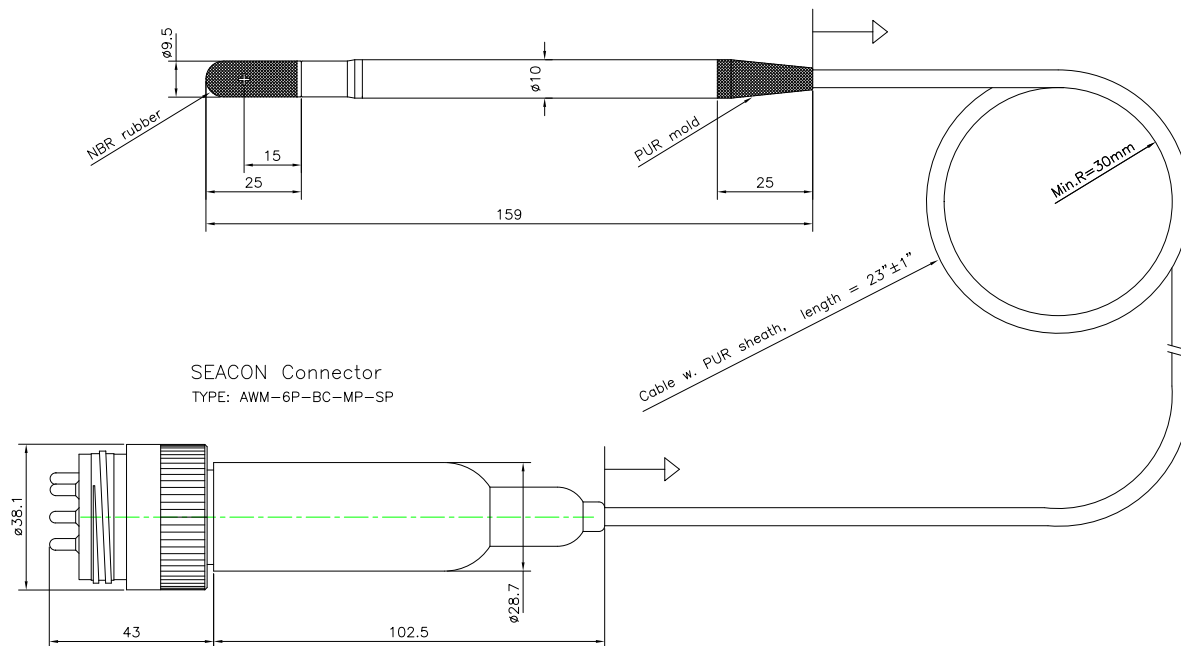
- Pin 1: Gnd. Return
- Pin 2: Insert calibration
- Pin 3: DC supply
- Pin 4: Signal output
- Pin 5: Shield
- Pin 6:



Insert calibration

The TC4047 preamplifier contains an insert calibration circuit. This allows for electrical calibration of the hydrophone. The calibration method is not an absolute calibration but, it provides a reliable method for testing of the hydrophone, especially for hydrophones in fixed remote installations. The insert sine signal simulates the output signal from the sensor element. To perform an insert calibration, use an appropriate function generator. The applied calibration signal must not exceed 2 Vrms. A higher voltage may damage the calibration resistor. The attenuation of the calibration signal is 20dB for short cables.

Outline Dimensions



PLD17308-3

Specifications subject to change without notice.
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