



Teledyne RESON

Hydrophone TC4035

Broad Band Miniature Probe Hydrophone

The TC4035 is a miniature probe hydrophone specifically designed as a standard reference hydrophone for sound measurements in the frequency range 100 to 500kHz. The hydrophone incorporates a 10dB low-noise pre-amplifier, which includes an insert calibration circuit for convenient electrical testing of the

hydrophone condition. The pre-amp has a drive capability for cable length up to 25 meters.

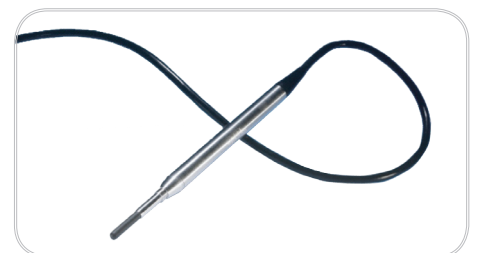
The hydrophone offers a useable frequency range from 10 to 800kHz with good omnidirectional characteristics in the horizontal and the vertical plane.

TECHNICAL SPECIFICATIONS

Receiving Sensitivity Typical:	-214dB \pm 2dB re 1V/ μ Pa (at 100kHz)
Linear Frequency Range:	100kHz to 500kHz \pm 3dB
Usable Frequency Range:	10kHz to 800kHz
Horizontal Directivity:	Omnidirectional \pm 2dB (at 250kHz)
Vertical Directivity:	60° to 120° \pm 3dB (at 250kHz)
Operating Pressure:	300m
Survival Pressure:	400m
Max. Sound Pressure:	-4dB distortion level 210dB re 1 μ Pa at 12V supply
Equivalent noise:	80dB re 1 μ Pa (\sqrt{H} at 1 kHz)
Weight (in air):	410 grams (LEMO receptacle incl.)
Max. Output Voltage :	1 Vrms at 12VDC 2Vrms at 24VDC
Operating Temperature Range:	-2°C to +40°C
Storage Temperature Range:	-30°C to +50°C
Supply Voltage:	10VDC to 24VDC
Preamplifier Gain:	10dB
Output Drive Capability:	25m cable at 1M Ohm input
Insert cal. attenuation:	-30dB
Quiescent Current:	15mA at 12VDC 20.5 mA at 18VDC
Housing Material:	Stainless Steel AISI 316
Cable:	Standard 10m 4 cond.+ shielded Optional cable lengths available on request
Connector:	LEMO Series E four-pole watertight

PRODUCT BENEFITS

- Reference hydrophone for high frequencies
- Linear receiving response from 100kHz to 500kHz
- Long term stable sensitivity
- Individually calibrated
- Calibration as standard reference hydrophone traceable to national standards established at NPL



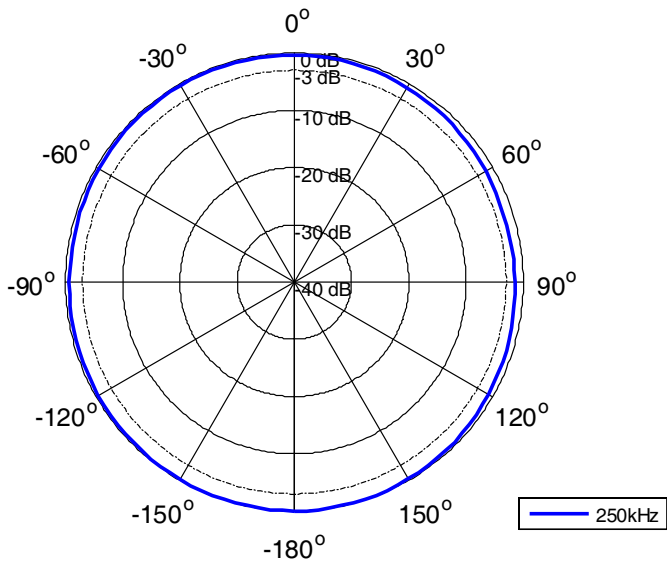
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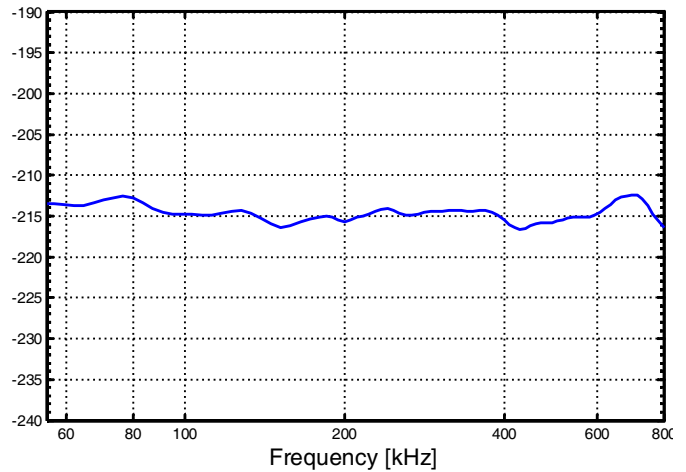
The sensor element is permanently encapsulated in high density polyurethane to ensure long term reliability. The strain relief and outer jacket of the cable is also made of high density polyurethane. 4035 can be used in sea or fresh water.

Documentation: Horizontal directivity: At 250 kHz Receiving sensitivity: 50 kHz to 800 kHz Vertical directivity: At 250 kHz

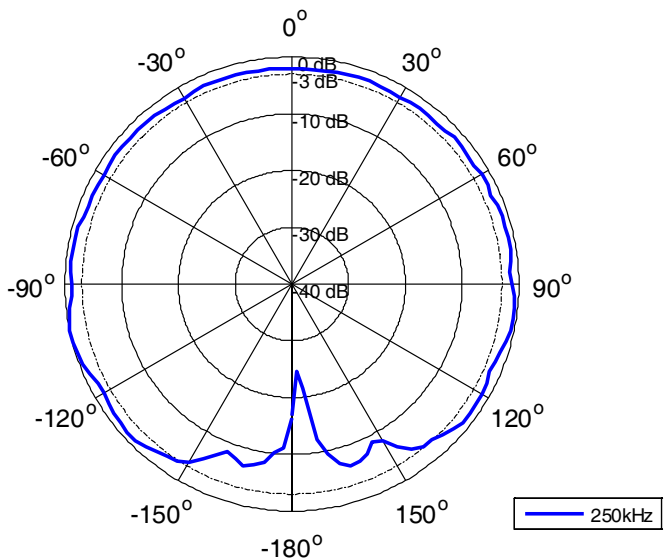
Horizontal directivity pattern



Receiving Sensitivity [dB re 1V/μPa @ 1m]



Vertical directivity pattern



Accessories included: LEMO fixed socket no. ERA.1E.304.CNL

The TC4035 is a high quality hydrophone designed for use as a transfer standard hydrophone. The sensor element has excellent stability over time, - which ensure reliable sensitivity over long periods.

Connecting the TC4035: The TC4035 is supplied with a 4-pole LEMO plug and a receptacle for individual panel mounting.

The EC6073 input module is a universal junction unit for connections of hydrophones. The TC6073 is equipped with the connectors required for: input output, voltage supply and insert calibration signal.

Insert voltage calibration: The insert calibration is an electrical simulation of a signal received from the acoustic sensor element.

Injecting a signal to the calibration line input performs insert calibration. The responding signal received on the hydrophone output terminal is attenuated -30 dB typical.

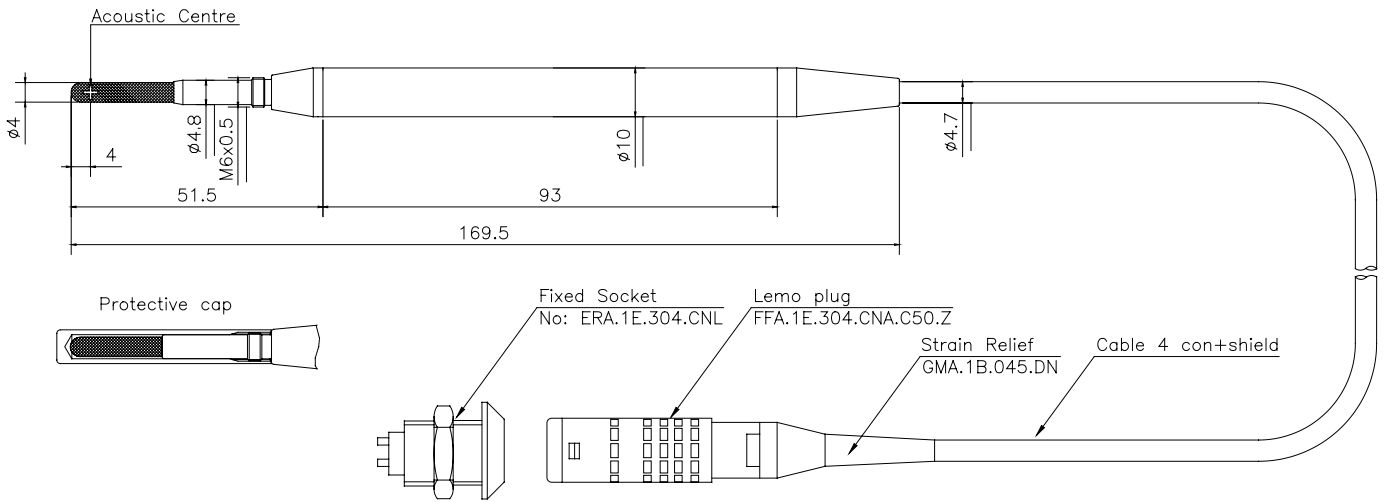
The recommended max. insert voltage signal for TC4035 is 2 Vpp.

WARNING! Exceeding the recommended calibration voltage may cause damage to the calibration resistor.

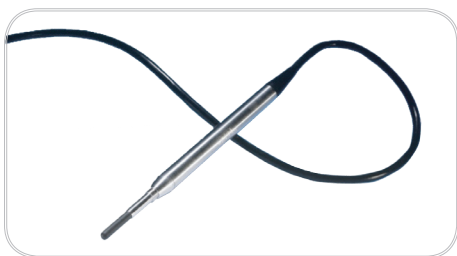
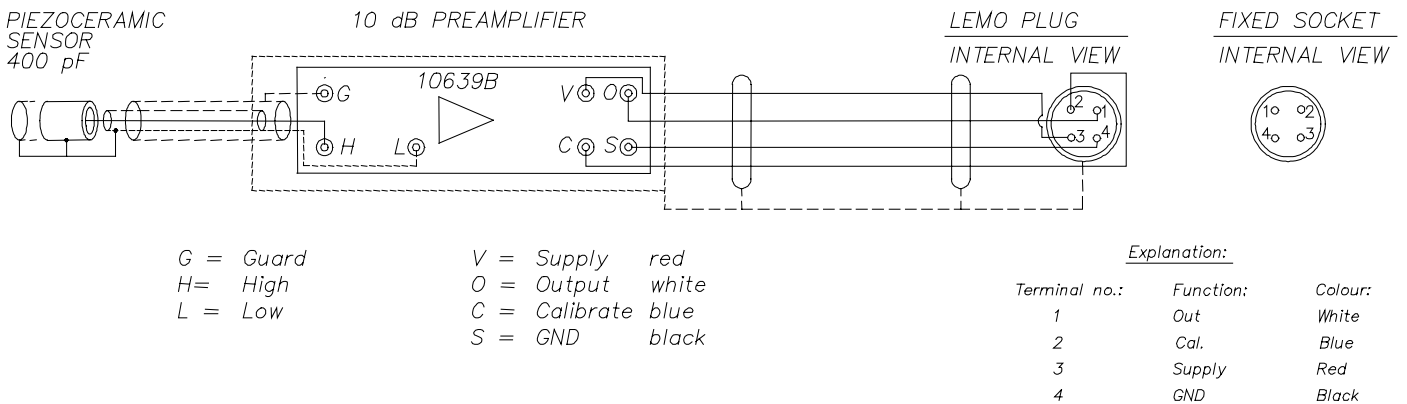
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Outline Dimensions



Wiring Diagram



For more details visit www.teledyne-reson.com or contact your local Teledyne RESON Office. Teledyne RESON reserves the right to change specifications without notice. 2016©Teledyne RESON

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