

# Hydrophone TC4035

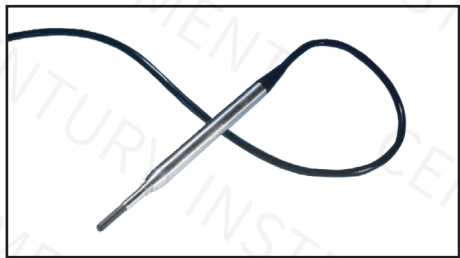
## Broadband Miniature Probe Hydrophone

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 lengths up to 25 meters.

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

### TECHNICAL SPECIFICATIONS

Receiving sensitivity typical:	-214dB ±2dB re 1V/μ Pa (at 100kHz)
Linear frequency range:	100kHz to 500kHz ±3dB
Usable frequency range:	10kHz to 800kHz
Horizontal directivity:	Omnidirectional ±2dB (at 250kHz)
Vertical directivity:	60° to 120° ±3dB (at 250kHz)
Operating pressure:	300m
Survival pressure:	400m
Max. sound pressure:	-4dB distortion level 210dB re 1μPa at 12V supply
Equivalent noise:	80dB re 1μPa (vH at 1kHz)
Weight (in air):	410g (LEMO receptacle included)
Max. output voltage :	1Vrms 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 20.5mA 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. TC4035 can be used in sea or fresh water.

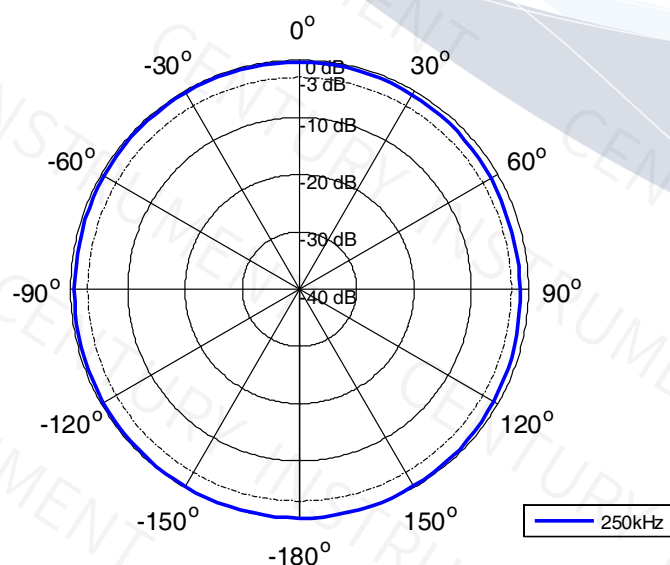
### Documentation:

Horizontal directivity:  
At 250kHz

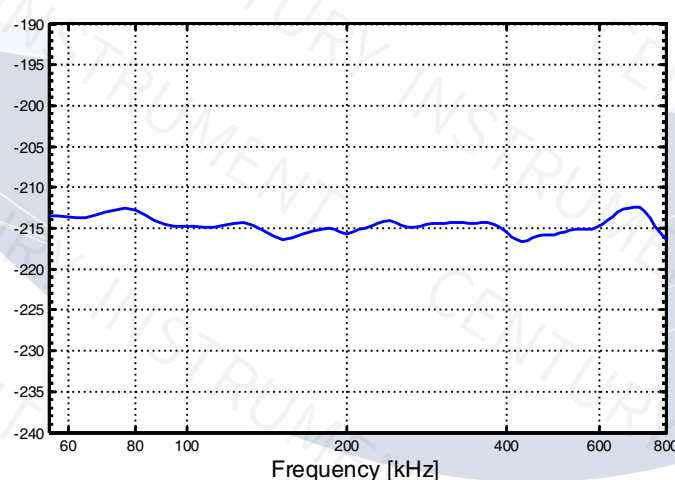
Receiving sensitivity:  
50kHz to 800kHz

Vertical directivity:  
At 250kHz

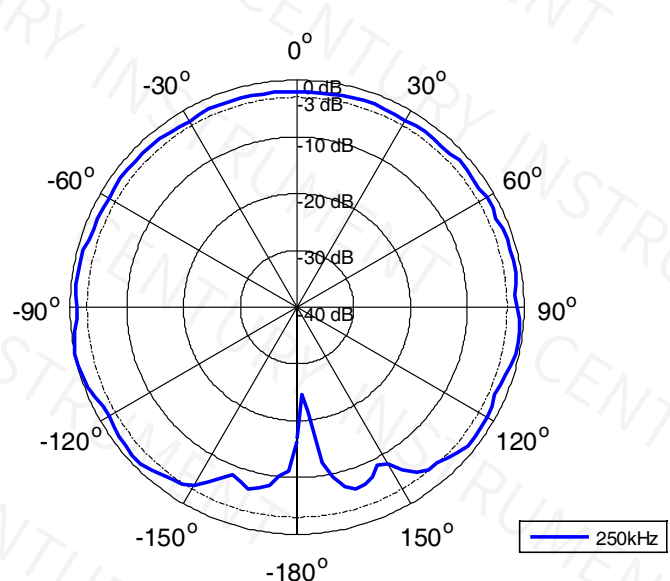
Horizontal directivity pattern



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 EC6073 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 -30dB typical.

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

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

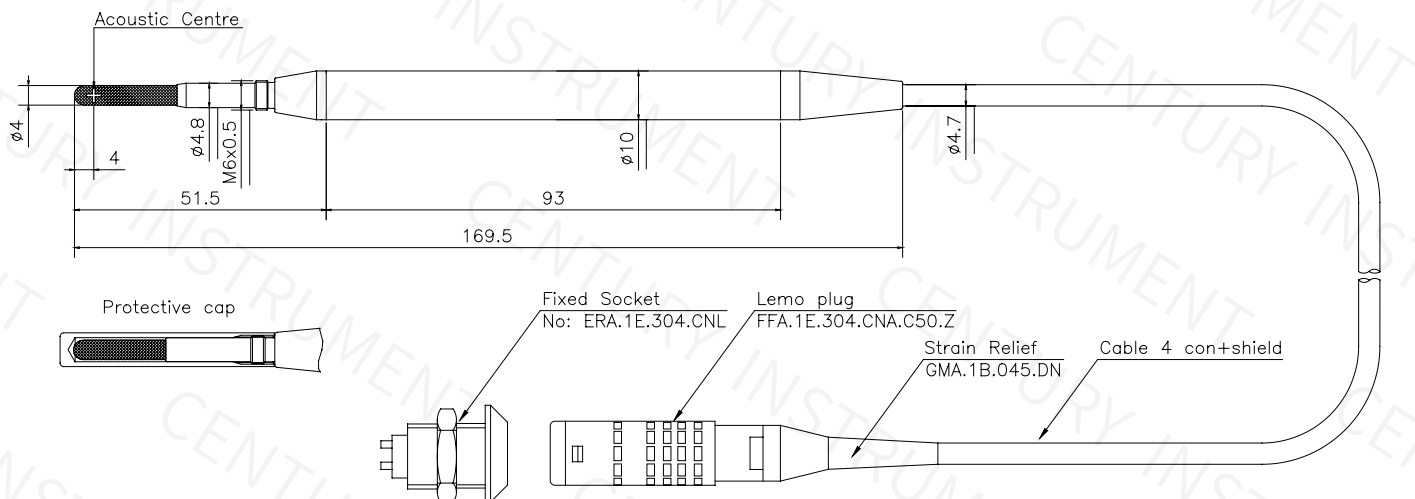


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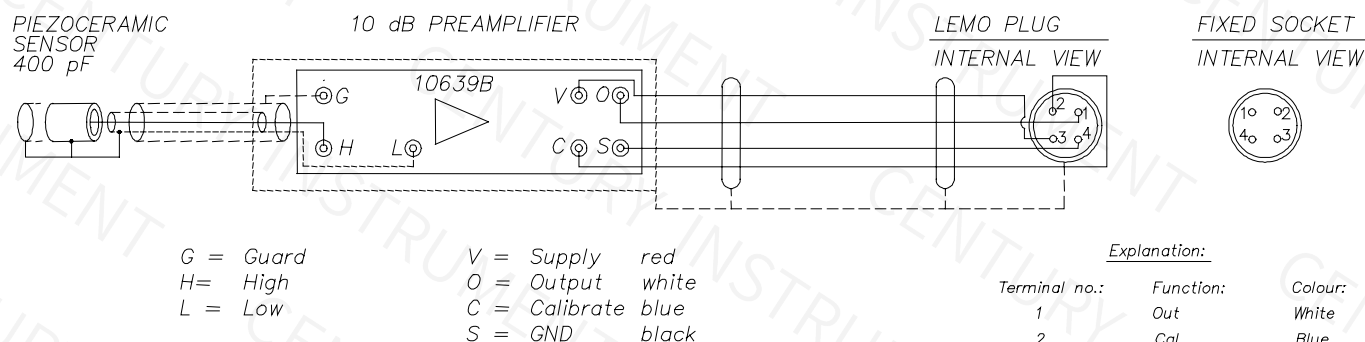
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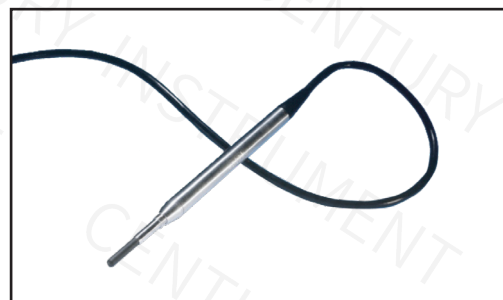
### Outline Dimensions



### Wiring Diagram



For information on export control regulations on this product, please refer to [www.teledynemarine.com/reson](http://www.teledynemarine.com/reson)



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[www.teledynemarine.com/reson](http://www.teledynemarine.com/reson)

Tel. +45 4738 0022 (Europe) • Tel: +1 805 964 6260 (USA)

Email: [reson@teledyne.com](mailto:reson@teledyne.com)