General purpose, self-amplified hydrophone
H505L

The H505L hydrophone is designed as a small, versatile, self-amplified hydrophone for general purpose applications to a wide variety of underwater acoustic measurements. Ruggedness, low cost and an ultra low-noise internal amplifier are prime features of this unit. The internal amplifier eliminates triboelectric cable noise, connector contamination problems and the requirement for an expensive in-line amplifier.

The hydrophone and cable entry are completely encapsulated in polyurethane. This alleviates water intrusion caused by cathodic action. The assembly uses pre-aged piezoelectric (PZT) sensing elements.

Applications for the H505L include underwater biological studies, ship noise studies, pump and machinery studies and monitoring of underwater ordnance.

Key features

- Rugged design
- Low cost
- Ultra low-noise internal amplifier
- Manufactured in an approved ISO 9001 facility

Export Classification:
ECCN 6A001

Cable color | Function | Connector pin out |
---|---|---|
shield | case | 1 |
black | common | 2 |
red | B+, signal out | 3 |
green | N.C. | 4 |
white | N.C. | 5 |
yellow | N.C. | 6 |

Note: Due to continuous process improvement, specifications are subject to change without notice.
This document is cleared for public release.
# General purpose, self-amplified hydrophone

## H505L

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output sensitivity</td>
<td>$-160 \text{ dB re 1V/µPa}$</td>
</tr>
<tr>
<td>Amplifier gain</td>
<td>$10 \text{ dB}$</td>
</tr>
<tr>
<td>Typical spectrum noise</td>
<td></td>
</tr>
<tr>
<td>at 10 Hz</td>
<td>$54 \text{ dB re 1µPa/√Hz}$</td>
</tr>
<tr>
<td>at 100 Hz</td>
<td>$34 \text{ dB re 1µPa/√Hz}$</td>
</tr>
<tr>
<td>at 1 kHz</td>
<td>$15 \text{ dB re 1µPa/√Hz}$</td>
</tr>
<tr>
<td>at 10 kHz</td>
<td>$6 \text{ dB re 1µPa/√Hz}$</td>
</tr>
<tr>
<td>Frequency response</td>
<td>$\pm 3 \text{ dB}$</td>
</tr>
<tr>
<td>± 3 dB</td>
<td>$2.0 - 10,000 \text{ Hz}$</td>
</tr>
<tr>
<td>Omnidirectional</td>
<td>$2.0 - 5,000 \text{ Hz}$</td>
</tr>
<tr>
<td>Maximum operating depth</td>
<td>$250 \text{ meters}$</td>
</tr>
<tr>
<td>Maximum temperature</td>
<td>$80^\circ \text{ C}$</td>
</tr>
<tr>
<td>Output impedance</td>
<td>$200 \text{ Ω}$</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>$24 \text{ VDC}$</td>
</tr>
<tr>
<td>Current, max</td>
<td>$10 \text{ mA}$</td>
</tr>
<tr>
<td>Bias output voltage, nominal</td>
<td>$10 \text{ V}$</td>
</tr>
<tr>
<td>Cable</td>
<td>J95, 5-conductor, shielded, 0.25&quot; diameter, length specified by customer at time of order</td>
</tr>
<tr>
<td>Jacket material</td>
<td>polyurethane</td>
</tr>
</tbody>
</table>

### How to order the H505L

```
H505L - XXX - RXX - LX
```

- **Base model**
- **Cable length in ft.**
- **Optional connector** (leave blank if N/A)
- **Optional locking sleeves** (leave blank if N/A)

---

Note: Due to continuous process improvement, specifications are subject to change without notice.

This document is cleared for public release.

---

Contact

Wilcoxon Sensing Technologies
20511 Seneca Meadows Parkway
Germantown, MD 20876 USA
Tel: +1 301 330 8811
Fax: +1 301 330 8873
info@wilcoxon.com
www.wilcoxon.com

Available connectors:
- R12 underwater connector (Brantner RMK-6-MP)
- R13 underwater connector (Brantner AWM-6-MP)

Available locking rings:
- LP = plastic locking sleeve for R12 or R13
- LS = stainless steel locking sleeve for R12 or R13

---

Wilcoxon Sensing Technologies
An Amphenol Company