



Pile Dynamics, Inc.  
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## Technical Specifications

# In-House Underwater Sensor System Specifications

## In-House Underwater Strain Transducer

Compatible with PDI Connection Cable (dry connectors)  
Waterproof to 50 m (164 ft) for 1 week

### Effective Gage Length

76 mm (3 in) standard

### Size

140 x 38 x 15 mm (5.5 x 1.49 x .59 in)

### Material

Aluminum frame, waterproof coating

### Circuit

Full Wheatstone bridge

### Cable

Custom length twisted shield pair 24 gauge

### Nominal Sensitivity

500  $\mu\epsilon/mV/V$

### Strain Range

Nominally 3,000  $\mu\epsilon$  (functional to 8,000  $\mu\epsilon$ )

### Shock Range

Nominally 5,000 g

### Temperature Range

Operating -40° (dry) to 120°C (-40° to 248° F)





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### Attachment Method

Bolts to pile

Connector standard PDI twist-lock connector for use with PDA (dry connectors)

### In-House Underwater Piezo Electric Transducer

Compatible with PDI Connection Cable (dry connectors)

Encapsulated and waterproof to at least 50 m for at least 1 month

Waterproof to 50 m (164 ft) for 1 week

### Mounting

Custom aluminum block 25 x 25 x 25 mm (.98 x .98 x .98 in)

### Material

Aluminum block, filled with waterproof material

### Circuit

Piezo Electric Accelerometer

### Cable

Custom length twisted shield pair 24 gauge

### Sensitivity

Nominally 1.0 mV/g with 10 VDC bias voltage input

### Range

5,000 g (Limit 10,000 g)

### Frequency Range

0.25 to 7000 Hz (resonant freq: > 40 kHz)

### Temperature Range

Operating -40° (dry) to 120°C (-40° to 248° F)

### Time Constant

Nominally >1s





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### Attachment Method

Bolts to pile

Connector is standard PDI twist-lock connector for use with PDA (dry connectors)

### In-House Underwater Piezoresistive Accelerometer (Model K)

Compatible with wired connection for used with PDA model PAX or 8G Mounting  
Inside custom aluminum block 45 x 25 x 30 mm (1.77 x .98 x 1.18 in)  
Waterproof to 50 m (164 ft) for 1 week

### Connector

Standard PDI twist-lock for use with PDA (dry connector)

### Circuit

Piezoresistive bridge

### Cable

Shielded, custom length

### Sensitivity

Nominally 0.07 mV/g with 6.4 V.D.C. input Range: 10,000 g (Limit 20,000 g)

### Frequency Range

DC to 4.5kHz

### Temperature Range

Operating -12° (dry) to 55°C (-12° to 131° F)

### Attachment Method

Bolts to pile

