



Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

In-House Underwater Sensor System Specifications

20-061

In-House Underwater Strain Transducer

Compatible with PDI Connection Cable (dry connectors)
Waterproof to 50 m (164 ft) for 2 weeks
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)
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 2 weeks
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
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 2 weeks
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