



Pile Driving Analyzer®

Pile Driving Analyzer® (PDA-8G)

High strain dynamic load testing and pile driving monitoring system

Reliable. Efficient. Economic.

The Pile Driving Analyzer® (PDA) system is the most widely employed system for Dynamic Load Testing and Pile Driving Monitoring in the world. The PDA eighth generation (PDA-8G) acquires data from accelerometers and strain transducers attached to a pile or shaft so that High Strain Dynamic Tests (ASTM D4945) may be performed. The tests require the impact of a pile driving hammer or a suitable drop weight.

PDA-8G evaluates:

- Static Soil Resistance
- Pile Structural Integrity
- Dynamic Pile Stresses
- Hammer Energy Transferred to Pile

The PDA-8G is designed with the field engineer in mind. The 8G allows for up to 16 channels of data acquisition (wireless mode) with “smart” sensors knowing their calibrations and allowing any sensor to plug into any acquisition channel. Its screen, with a higher resolution LCD than previous generations of PDAs, displays measured signals and calculated results in real time, and allows more options to be viewed simultaneously.

High Strain Dynamic Load Testing

The real-time PDA-8G results are complemented by analysis with the CAPWAP® signal matching software, for results that correlate very well with static load tests. High Strain Dynamic Load Tests may be performed on driven piles, drilled shafts, continuous flight auger piles, or cast-in-situ piles. The PDA-8G has features that make it easy to use for drilled shaft testing, such as the option of conducting the test with up to eight channels in wired mode and 16 channels in wireless mode. The PDA-8G can also perform the necessary measurements required by ASTM D7383.

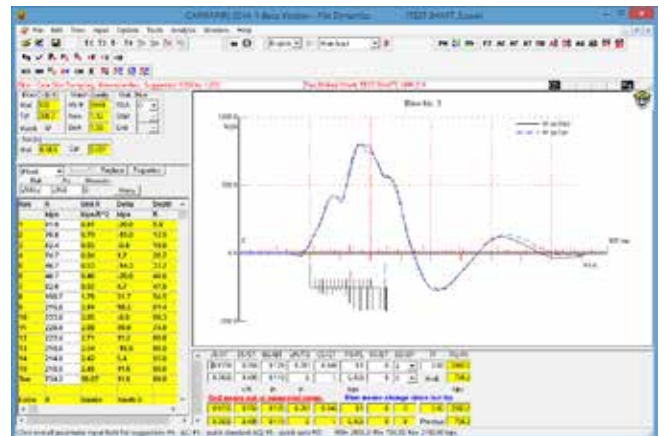


Pile Driving Monitoring with the PDA-8G

Pile Driving Monitoring helps establish the Driving Criterion and contributes to safe and economical production pile installation. The PDA-8G calculates for every hammer blow the static soil resistance at the time of testing (by Case Method and/or iCAP®, a real-time signal matching analysis), driving hammer performance, maximum driving stresses, and evaluates pile integrity. The high-speed PDA-8G data transmission allows testing at hammer operating blow-rates as high as 120 bpm, without loss of data.

Wireless Mode

- No cable connections from the accelerometers and strain transducers to the PDA-8G
- Fast signal transmission of up to 16 data channels to 100m (330ft) through PDI wireless options



- Field-to-office data transmission with SiteLink
- Up to 16 channels of data acquisition available with eight WiFi boxes and any combination of strains and accelerometers
- Traditional PDI wireless sensors, WiFi, or traditional cabled options available
- 8G system includes CAPWAP®, GRLWEAP, and iCAP® software

The PDA-8G may also be connected to accelerometers and strain transducers with traditional PDI wireless sensors or traditional cable connections. PDA-8G sensors are equipped with Smart Sensor technology which automatically detects which channel the various sensors are connected to, and adjusts the channel with the appropriate signal conditioning and sensor calibration, avoiding possible errors in data collection. The PDA-8G is also compatible with traditional PDA sensors without the Smart Sensor technology.

Four or Eight Universal Data Channels

Most High Strain Dynamic Tests require only two strain transducers and two accelerometers installed near the top of the deep foundation element. The pairs of sensors are sufficient to obtain the force and velocity records needed for the Case Method or CAPWAP calculations, thus making four channels of data acquisition adequate for most driven pile tests.

Eight channels of data acquisition, four strain transducers and four accelerometers, are recommended for dynamic tests on large diameter cast-in-place piles. Eight channels are also essential when additional sensors are installed at multiple locations along the length of the foundation (for example, by embedding sensors near the toe of a concrete pile). The eight wired channels and all wireless channels of data acquisition for the PDA-8G are universal: any combination of accelerometers and strain transducers may be used.

All PDA-8G channels, either with traditional PDI wireless sensors, WiFi, or traditional cabled modes, are compatible with Smart Sensors (no need to input sensor calibration into the PDA).



SiteLink® Technology (Remote Testing)

- A cost and time efficient alternate to traditional on-site testing
- Real time field to office data transmission via Internet
- Simple field setup



Pile Dynamics, Inc. (PDI) is the world leader in developing, manufacturing and supplying state of the art QA/QC products and systems for the deep foundations industry. The company is headquartered in Cleveland, Ohio, USA, with offices and representatives worldwide. For additional information visit us at www.pile.com or contact info@pile.com.