Full Line of Pile Driving Analyzer® Sensors Now Available with Wireless Transmission

Dynamic Foundation Testing has, for several decades, been the test of choice for reliable and simple evaluation of the load bearing capacity of all types of deep foundations. The test requires the installation of reusable sensors (accelerometers and strain transducers) on the foundation, the acquisition of sensor data by a Pile Driving Analyzer® (PDA), and the analysis of the data by a qualified engineer. Recent technological breakthroughs in this type of testing include real time data transmission from the test site to an office and, most recently, wireless sensors. Wireless sensors replace the cables that connect the sensors to the PDA with a dedicated radio transmitter.

The wireless option is available with the PDA model PAX, by Pile Dynamics, Inc. “It’s the future, it is very helpful and amazing” said Aksan Kawanda, an engineer with Geotech Engineering in Jakarta, enthusiastically describing the use of the wireless sensors on a near-shore jetty, part of a Coal Fired Power Plant in Indramayu, West Java, Indonesia. Several of the jetty supporting piles were dynamically tested with a PDA model PAX using wireless sensors. The accelerometers and strain transducers on the near-shore pile transmitted data to the PDA, which remained safe and dry onshore a considerable distance away (transmission range is typically 100 meters). A similar setup was used in the Port of Koper, Slovenia, to the delight of Gorazd Strnisa, principal of the company SLP in that country. In addition to the clear benefit for projects such as ports, jetties, and others where it may be challenging to setup the equipment, the elimination of cables significantly reduces weight – an advantage for air transport of the testing equipment.

Pile Dynamics has now expanded its line of wireless PDA sensors to include piezoelectric (PE) accelerometers. While piezoresistive (PR) accelerometers have been available with wireless transmission option for over a year, and are suitable for any testing application, some PDA testers prefer using PE accelerometers.