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MALAYSIA TECHNOLOGY EXPO

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PILING DEPTH LOGGER SYSTEM

INTRODUCTION TO THE PRODUCT

In civil engineering, piling makes the foundation to a high structure. It increases the strength of the ground. Many piles are driven into the ground to make it strong and safe for the structure. Therefore it is essential to investigate whether the depth of these piles is sufficient enough to support the weight of the structure. At the same time, the piling operation should be handled with great care to ensure the safety of the workers engaged in the construction, and, to protect them from the injuries arising out of accidents due to the failure of the machines or the human error. We develop an automatic high accuracy measuring system to help the piling operation. This system measures the penetration and rebound movement of a pile automatically. The safety of the workers is therefore, improved. The system is equipped with a microcontroller programmed to capture signals originating from the pile encoder. It is then calculate the movement of the pile based on the signals. Data collected is sent to a PC which acts as the user interface. The PC keeps a log file for recording all the data, which then can be plotted or analyzed further later. As a whole, this system is useful to investigate whether the depth of penetration of the piles into the ground is adequate and to determine the distance of penetration and rebound movement of the pile.

USEFULNESS / ADVANTAGES

- Cost effective
- Needs no piling operator for controlling the piling operation
- Efficiently preventing a safety accident.
- Results of the piling operation are stored in computer
- Carries out the piling operation without an error

NOVELTY

This product introduces a safe method of collecting data during piling operation. The product is equipped with dynamic signal input module, low power supply, portable and light weight and enable civil engineers to easily and accurately monitor piling operation. The digital data is transmitted through wireless transmitter from construction site direct to office computer, then, the civil engineer can analyze the data immediately.

MARKET POTENTIAL

This product will certainly increase the technology of piling operation and enhance the construction sector.

