

Digital Data Acquisition System for CPT Operations

In the beginning of January 2006 the Dutch company A.P. van den Berg introduced a new digital data acquisition system for measuring geotechnical soil data acquired by means of the static (Dutch) Cone Penetration Testing (CPT) method. The data acquisition system offers many advantages compared to the present systems available on the market.

The system consists of a measuring sensor for measuring the data in the soil and an interface for current supply and data transmission to for instance a PC or laptop. It concerns the parameters cone tip resistance (q_c), friction (f_s), pore-water pressure (U_2) and inclination (I_x/y). A special feature of the system is the fact that the sensor is a digital cone (called Icone), unlike the cones that are customary in the market. The Icone can be connected straight to the first CPT push rod, so that a screwthread adapter is no longer required. Combined with the fact that the inclinometer is integrated in the cone, this results in the use of less consumables. Besides that the system is modular and can be easily extended later on, with among others a seismic module. At this point the Icone is available with 10 cm² and 15 cm² cone tip area for the parameters cone tip resistance q_c , friction f_s , pore-water pressure U_2 and inclination (I_x/y). In time a 5 cm² type will become available as well.

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