



a.p. van den berg
The CPT factory

Icone & Icontrol

the intelligent approach to data acquisition



features

- cost-effective CPT operation
- high quality data acquisition
- available in 5, 10 and 15 cm² version
- entirely digital data transfer
- applicable for onshore and offshore
- easily extendable with click-on modules

creating tools that move your business

Icone & Icontrol, the intelligent approach to data acquisition

introduction

Large investments are involved with most infrastructural and civil engineering works. To reduce risks in these type of projects it is essential to acquire detailed and accurate information about the subsoil. Icone was designed to obtain this information reliably and is therefore an important tool for providing geotechnical information.

description

The system consists of a digital cone, called Icone, and a digital data acquisition box called Icontrol. An Icone has a built-in AD-conversion, memory and micro-controller and provides an entirely digital path to the Icontrol. Thanks to this digital data transfer, the influence of cables or connectors on the measured data lies in the past. The Icone cables are of high standard and because all connectors are identical, cables will always fit. Icone is available in a 5, 10 and 15 cm² version and is also compatible with the Optocone system which provides a wireless data transfer (see leaflet Da-7).

The Icontrol is placed near the computer on which the data is recorded. It also combines the depth information with the obtained CPT data and provides power to the Icone. An Icontrol is connected to a PC or laptop with an USB-connection. The Ifield software package is installed on the PC or laptop for realtime presentation on screen and recording of the CPT data.

Icone and Icontrol work in conjunction with the usual equipment for depth registration and pushing. With a minimal investment, a high quality data acquisition system can be integrated even in existing CPT rigs.

digital cone

The unique Icone concept combines strength, reliability and economy. The Icone is stronger than its analogue predecessor and at the same time more accurate and reliable. Thanks to its clever design, maintenance has become easier and can be done by the CPT operator on location. Calibration data is stored in the cone itself so USB sticks are no longer necessary.




Icones are standardly calibrated in accordance with the ISO 22476-1 Class 2 and on request to Class 1 or other requirements. The actual cone accuracies at the time of calibration are stated on the cone calibration sheet.

click-on modules

The Icone is easily extendable with click-on modules to measure other than the four standard parameters. The following modules are already available: seismic, conductivity, magneto and vane. More are yet to come!

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Technical specifications		
Resolution	24 bits (Ix/Iy 16 bits)	
Cone tip area	5, 10 or 15 cm ²	
Available parameters	$q_c, f_s, u_1/u_2, Ix/y$	
Memo function	16 Mbit (8 hrs. CPT operations)	
Realtime data processing		
Cone resistance (q_c)	Standard	Sensitive
Nom. range	75 MPa	7,5 MPa
Max. range		
- 10 and 15 cm ²	150 MPa	15 MPa
- 5 cm ²	100 MPa	
Minimal accuracy for Class 2	100 kPa or 5%	
Minimal accuracy for Class 1	35 kPa or 5%	
Sleeve friction (f_s)	Standard	Sensitive
Nom. range	1 MPa	0,15 MPa
Max. range		
- standard	1,5 MPa	0,3 MPa
- on request (only 10 cm ² Icone)	3 MPa	NA
Minimal accuracy for Class 2	15 kPa or 15%	
Minimal accuracy for Class 1	5 kPa or 10%	
Pore water pressure (u) Standard + Sensitive		
Nom. range	2 / 10 MPa	
Minimal accuracy for Class 2	25 kPa or 3%	
Minimal accuracy for Class 1	10 kPa or 2% (only 2 MPa range)	
Inclination (Ix/y) Standard + Sensitive		
Nom. range	20°	
Max. range	25°	
Minimal accuracy for Class 2	2°	
Minimal accuracy for Class 1	2°	
Optional click-on modules (leaflet reference)		
Seismic (Da-3)	Vane (Da-6)	
Conductivity (Da-4)	Magneto (Da-5)	
Accessories/Options		
Icontrol	For providing power to the Icone and transferring the CPT data to a computer. Power supply 90 - 260 Vac Consumption 90 W	
Measuring cable	Unisex cable for single or multiple cable connection to Icontrol.	
Depth encoder	Depth encoder with steel wire, which can be mounted on any existing CPT rig. Power supply: 10-30 Vdc 2000 pulses/m	
HMI	Computer with touch-screen.	



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