

Core Barrel - Drill String Acceleration Tool

Description

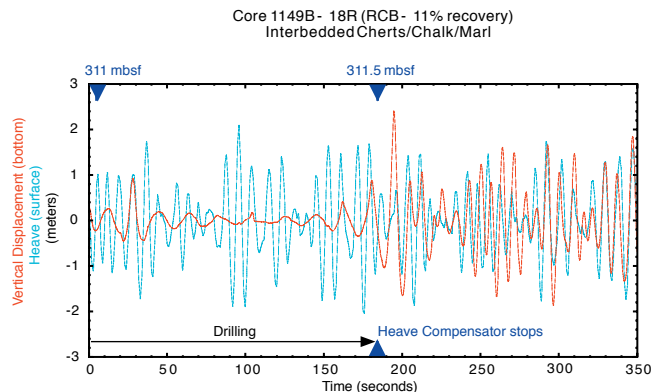
The Core Barrel - Drill String Acceleration Tool (CB-DSA), developed at BRG-LDEO, has been used on numerous ODP projects. Its primary purpose is to measure and record the drill bit acceleration and vibration signals during drilling. The tool contains a single-axis high sensitivity accelerometer for heave measurements, a three-axial high frequency accelerometer for drill bit variations and a high resolution pressure sensor. For ease of deployment, the CB-DSA has been designed as a removable extension of the APC/XCB/RCB core barrels. Using standard threaded connections, the CB-DSA is attached to the top of a selected core barrel prior to core barrel deployment. Except during connection and disconnection of the tool, coring activities are not affected by its presence. Upon DSA/core barrel retrieval, the DSA is disconnected and the data are downloaded to the third party data acquisition system in the Downhole Measurements Lab for immediate analysis.



Utilizing a standard fishing neck on one end and a quick connection on the other, the CB-DSA is designed for routine and rapid deployment with all standard ODP core barrels.

Applications

- ◆ Downhole heave measurement
- ◆ Drill string vibration measurement
- ◆ Fluid pressure measurement
- ◆ Reconfigurable to suit



CB-DSA data depicting the vertical displacement of the bottom hole assembly compared to the heave motion of the ship. The DSA measurements provide crucial data from the downhole environment while drilling.

Specifications

Weight:	75 lbs (34.1 kg)
Length:	47 in. (119.4 cm)
Acceleration measurement range (HSA channel):	+/- 2g
Acceleration measurement range (LSA channel):	
Option 1	+/- 4g
Option 2	+/- 25g
Acceleration sampling rate (all channels):	100 Hz
Temperature/pressure sampling rate:	1 Hz
Frequency bandwidth (HSA channel):	0 - 2 Hz
Frequency bandwidth (LSA channel):	0 - 50 Hz
Temperature measurement range:	0° C - 85° C
Temperature resolution:	.5° C
Pressure measurement range:	0 - 10,000 psi
Pressure resolution:	1 psi
Pressure measurement precision:	0.1% FS
Total data recording time:	
Drill mode	100 min.
HEAVE mode	8 hr.
Power source:	6 "AA" alkaline batteries
Total operation time for one set of batteries:	~ 9 hr.





Standard ODP Fishing Neck

3.5" Stainless Steel
Pressure Case

Quick-Connection
allows rapid connection
to the APC/XCB and RCB

Measures:
Hydrostatic pressure
Multi-axis acceleration

Deployment of the Core Barrel - Drill String Acceleration Tool.