

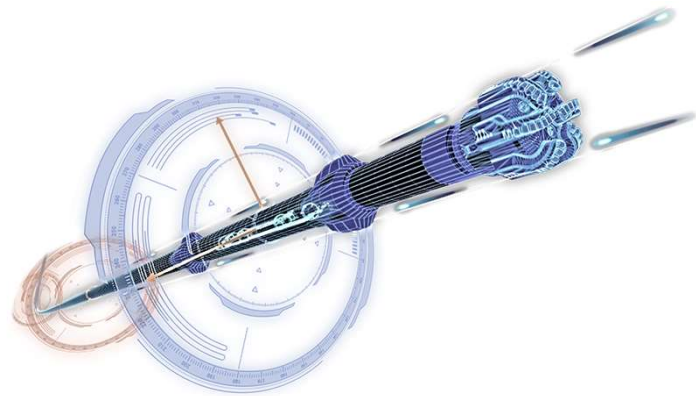
JAE SMART DM175°C



JAE's SMART DM is a ruggedized directional module designed for continuous downhole operation. Engineered for utmost quality & reliability, using JAE's proprietary sensor technology, the SMART DM is a full-featured system. It has the ability to measure dynamic inclination and azimuth, multi-axis shock and vibration, and downhole RPM for optimized drilling performance. With the addition of an optional integrated Azimuthal Gamma Controller feature, the SMART DM is a "plug & play" solution for most current & legacy Directional Modules, while incorporating the latest technology.

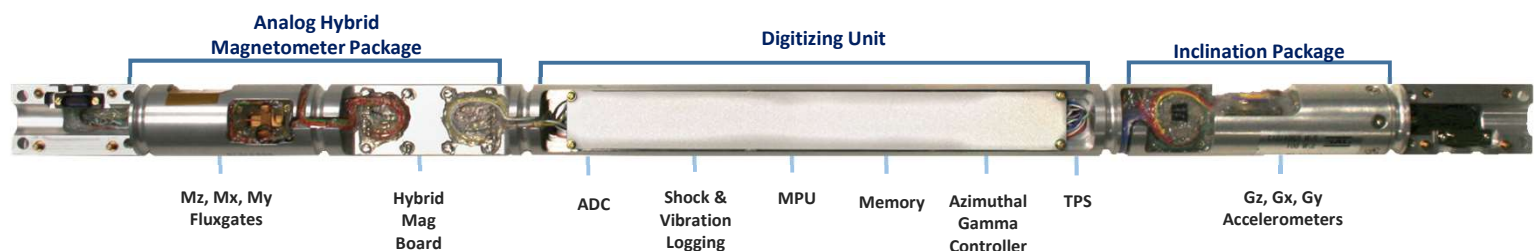
Standard SMART DM Features

- Digital Directional Module
 - MWD microcontroller/microprocessor
 - 24-bit ADC for precise 6-axis surveys
 - Calibration coefficients stored on-board
- M-ary Telemetry protocol
- Dynamic sequences (ability to send rotating/sliding frames)
- Flow & Rotation downlink
- Smart power management, Efficient battery switching
- Multiple communication protocols supported: CAN, UART, & Q-bus
- Control MWD tool string: Pulser, Gamma, Resistivity
- Configurable tool orientation and axis notation
- Internal Logging Memory
 - Operational time and environmental history
 - Lifetime Environmental history



SMART DM Key Features

- 175°C Maximum Operating Temperature
- MCM Magnetometer Package
- Integrated Azimuthal Gamma Controller
- Dynamic Inclination and Dynamic Azimuth
- Real-time shock and vibration
- RPM Measurement and Stick Slip Indicator



JAE SMART DM 175°C

Performance Specifications

Parameter	Specification	Typical*
Inclination:	$\pm 0.10^\circ$	$\pm 0.01^\circ$
Azimuth:		
@ 90° INC	$\pm 0.25^\circ$	$\pm 0.03^\circ$
@ 10° INC	$\pm 0.50^\circ$	$\pm 0.07^\circ$
@ 5° INC	$\pm 1.00^\circ$	$\pm 0.12^\circ$
Dip Angle	$\pm 0.20^\circ$	$\pm 0.02^\circ$
Total Gravity field	± 1.25 mG	± 0.10 mG
Total Magnetic Field	± 125 nT	± 12 nT
Toolface	$\pm 0.20^\circ$	
* Based on the average of 200 units tested		

Electrical, Mechanical Environmental Specifications

Length:	29.2"
Diameter:	1.36"
Operating Temperature:	-20C to +175C
Survival Temperature:	-40C to +185C
Vibration, Random:	20G RMS, 10-500 Hz
Shock:	500G, 1mSec, half-sine
Operating voltage range:	18V-32V
Current @ 28V:	125 mA max
Memory:	24MB

SMART SERIES

JAE SMART DM

JAE's SMART DM incorporates the most-advanced, highly-reliable downhole-ready electronics. Includes advanced environmental logging features for analysis of data up-hole.

Description	SMART DM Plus	SMART DM One
	Raw/Calculated Values; Triple Power Supply & Slave MPU	SMART Directional Module, Triple Power Supply & Master MPU
Features	SMART DM + TPS +MPU	SMART DM + TPS + MPU
Mud Pulse Encoding (M-ary)		✓
Communicates w/: resistivity, custom sensors		✓
Azimuthal Gamma Controller	✓	✓
Communication Protocols		
CAN	✓	✓
UART	✓ Optional	
Q-bus		✓
Drilling Dynamics		
Axial & Lateral Vibration and Shock	✓	✓
Temperature	✓	✓
Rotation Detection		✓
RPM & Stick/Slip	✓	✓
Downlinking		✓
Continuous Inclination	✓	✓
Continuous Azimuth	✓	✓
Life Time Logging	✓	✓

Contact Us

https://www.jae.com/en/Motion_Sensor_Control/



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