IOM-35A

INTEGRATED ORIENTATION MODULE

The sensor utilises a proprietary flux-gate magnetometer design and high grade quartz-hinge accelerometers for excellent precision and stability. High reliability electronics packaging and printed circuit board mounting, provide an extremely robust instrumentation assembly with industry leading performance.

The unit communicates through a simple TTL/CMOS, RS485 or CanBus interface using a proprietary protocol, which can be easily configured to provide the appropriate data as required by the customer. A single polarity power supply, operating across a wide voltage range, further simplifies the integration of this module into the customer's MWD/LWD system.

The Orientation Module is designed for extreme downhole oilfield environments, qualified for high temperature and drilling shock and vibration levels - designed for reliability under the most demanding of environments.

Features

- Serial TTL/RS485 or CanBus Interface
- Continuous INC/AZI
- Integrated microprocessor and fully computed angles
- Low power consumption
- Proprietary serial communications protocol
- Robust and reliable assembly
- Programmable communications protocol
- Mechanical and electrical interfaces engineered to suit application
- INC, AZI, TF, MTF, Temp, Gt, Ht, RPM and Rotation detection

Applications

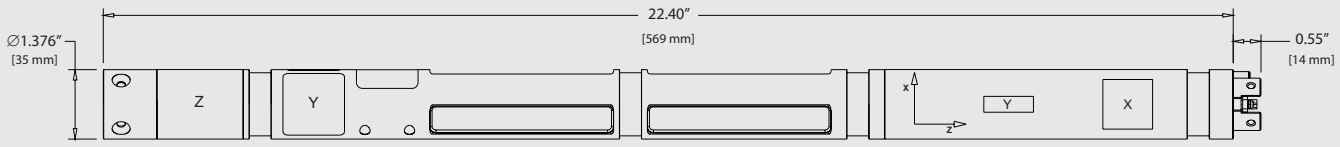
- MWD/LWD Borehole Surveying
- Direct replacement of existing sensors
- OEM implementation in LWD systems
- Wireline directional surveying

Benefits

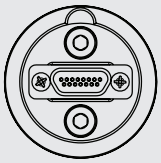
- Increased accuracy and stability
- Highly integrated and robust assembly
- Fully computed data
- Experienced and dedicated support team
- Simple interfacing for integration into MWD system
- Reliable 'hot-hole' performance (150, 175 and 185 DegC options available)

Description			Value	Units	Comments
Sensor Performance					
Inclination Accuracy			+/-0.1	Deg	
Inclination Repeatability			+/-0.05	Deg	
TF/Rotation at >5º Inc - Accuracy			+/-0.5	Deg	
TF/Rotation at >5º Inc - Repeatability			+/-0.05	Deg	
Azimuth at >5º Inc - Accuracy			+/-1.0	Deg	
Azimuth at >5º Inc - Repeatability			+/-0.5	Deg	
Dynamic Magnetic TF			+/-5.0	Deg	
Continuous INC Accuracy					
Inclination	Vibration	Rotating			
10-30º	30Grms	N	+/-0.1	Deg	
10-30º	30Grms	Y	+/-0.25	Deg	
10-30º	50Grms	N	+/-0.1	Deg	
10-30º	50Grms	Y	+/-0.25	Deg	
30-90º	30Grms	N	+/-0.1	Deg	
30-90º	30Grms	Y	+/-0.1	Deg	
30-90º	50Grms	N	+/-0.15	Deg	
30-90º	50Grms	Y	+/-0.1	Deg	
Electrical					
Operating Voltage			+12 to +40	Volts	Nominal
Active Power Consumption			<2.0	Watts	(See note 1)
ADC Resolution			24	Bit	
Interface			Serial TTL/CMOS/RS485/ CanBus		
Baud Rate			9600 - 153600	Baud	(See note 2)
Operating Modes			Master-Slave, Express Survey or Streaming		
Output			ContINC/AZI, Survey INC/AZI, Temp, Gx/y/z, Hx/y/z, Gtotal, Htotal, RPM, GTF, MTF		
Environmental					
Operating Temperature	IOM-35A-150 IOM-35A-175		-25 (-13) to 150 (302) -25 (-13) to 175 (347)	DegC (DegF) DegC (DegF)	185DegC option available on request
Survival Temperature	IOM-35A-150 IOM-35A-175		-40 (-40) to 165 (329) -40 (-40) to 185 (365)	DegC (DegF) DegC (DegF)	
Vibration			30 20	g pk g rms	50 – 1000Hz 50 – 1000Hz
Shock			1000	g	0.5mS Half Sine

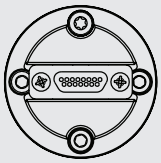
Notes: 1. Independent Magnetometer/Accelerometer power control 2. 9600 Baud default, programmable to other rates 3. 185ºC option available



Uphole
MDM Orientation



Downhole
MDM Orientation



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Product Support
Azimuth Oilfield Systems Ltd. provides a responsive repair, calibration and product support service. Experienced personnel are available to troubleshoot or repair equipment, and provide general product technical assistance. If you need effective sensor support for your business, then contact **support@azimuthmwd.com** for more information.