



GYRO TECHNOLOGIES LTD

Product Data Sheet

MINS™

The MINS gyro tool is a miniature northseeking gyro instrument, designed to meet the requirements of slimhole and production tubing survey applications. Part of the Gyroflex™ range, the MINS tool offers multi-axis MEMS, North-seeking gyroscopic surveying.

Capabilities:

- ✓ Ultra low power northseeking gyro
- ✓ Operates in real-time or battery mode.
- ✓ Freefall Drop, real time / orientation
- ✓ Slimhole tubing compatible.
- ✓ High Accuracy North Seeking
- ✓ High Temperature Operation

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MINS™ PRODUCT OVERVIEW

The MINS gyro instrument is part of the Gyroflex™ range and features new state of the art multi-axis solid-state MEMS, North-seeking gyro capability in a small OD. With increased levels of infill drilling activity and the associated resurvey requirements, the MINS is intended for use in production well survey applications where small diameter tubing restrictions are often encountered. The MINS is not sensitive to magnetic interference and can be used in real-time or battery powered memory / freefall drop modes as well as kick-off orientation. It fits most drill pipes, rods, and casing sizes down to 1.25" ID. MINS operates in environments up to 18,000 psi and 300°F and is user-friendly with a Drilllog™ acquisition interface.

SYSTEM CONFIGURATION

GYRO SENSOR	Tri-Axial Solid-State MEMS	DEPTH SENSOR MODE DEPLOYMENT	Wireline Counter Quadrature encoder Wireline and Battery Freefall Drop, Wireline, Slickline, orientation Multi-Shot, Single-Shot, orientation
GYRO TECH ACCELEROMETER	North Seeking Tri-Axial Solid-State MEMS		
AZIMUTH RANGE	0-360°	SURVEY	
INCLINATION	+/- 90°		
CALIBRATION	Automated System		

SPECIFICATIONS

DIMENSION	
Tool OD	30 mm min 45mm max
Sensor OD	20mm min 25mm max
Min Tool Length	500mm
ENVIRONMENT	
Pressure Rating	18k psi
Max Temperature	200°F
Max Heat-Shield Temp	400°F
Max Depth	25k ft
STRESS	
Shock intensity	1000g
Shock Pulse Profile	1/2 sine, 1mS
Vibration Intensity	10g rms
Vibration Frequency Range	20-1000Hz Random

ACCURACY	
Dynamic Azimuth	1.0° <60° Lat
Static Azimuth	1.0° <60° Lat
Inclination	0.1°
Gyro Tool-Face	0.2°
Gravity TF	0.1°
Position Error Rate	2% of total depth (MD)
SURVEY TIME	
Stationary	15 second
Continues	1 second
Running Speed	300ft/min
ELECTRICAL SPECS	
Input Power	100mA @ 18V
Output Protected Power	110/240V AC In, 200W
Wireline Cable	Mono/Multi
Battery Type	6 x AA Alkaline
Runtime	40 Hours
Memory	5000 Shots
Tool Consumption	<1 Watts

Typical Specifications in controlled environment. Subject to change by manufacturer

