

# ALCYON

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## DIGS™ 100 Inertial Guidance System



The DIGS™100 Inertial Guidance System is Gladiator Technologies' six-axis MEMS AHRS designed specifically for downhole orientation and directional guidance applications. Its small size enables its use in tight drilling and utility spaces, outputting pitch, roll, and yaw angles.



Low Noise:  $0.0028^\circ/\text{s}/\sqrt{\text{Hz}}$



Excellent Bias Stability:  $5^\circ/\text{h}$



VELOX™ High Speed Processing



Factory Calibrated:  $-40^\circ\text{C}$  to  $85^\circ\text{C}$



NON-ITAR

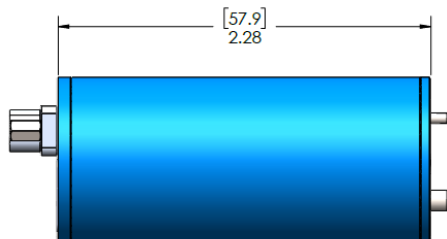
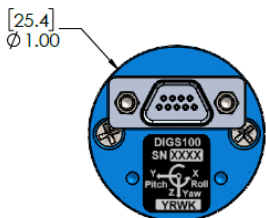
## Low Noise. High Performance.



# GLADIATOR TECHNOLOGIES

# DIGS™ 100 Inertial Guidance System

Performance		
Parameter	Gyro	Accel
Range	± 490°/s	± 14 g
ARW / VRW	0.0028°/s/√Hz	0.075 mg/√Hz
Bias In-Run	5°/h	1 mg
Bias Over Temp.	< 0.1°/s	< 1 mg
Resolution	0.002°/s	0.05 mg
G Sensitivity	0.001°/s/g	0.4 mg/g <sup>2</sup>
Scale Factor Error	≤ 0.05% (over temperature)	
Alignment	< 1 mrad	
Environment		
Shock	500 g ½ sine 1 ms powered on	
Vibration	5.74 g <sub>RMS</sub> (20 Hz to 2 kHz)	
Operating Temp	-40°C to +105°C	
Non-Operating Temp	-55°C to +125°C	
Interface — with VELOX™ Processing		
Data Rate	100 Hz or 200 Hz (AHRS)	
External Sync	Up to 1 kHz (User Selectable)	
Start Up Time	< 0.3 s	
Data Format	16/24/32 - Bit	
Data Interface	RS-422/RS-485 3 Mbaud & CAN 2.0B at 1 MHz	
Bandwidth	250 Hz	
Software	Development Kit Available	
Electrical		
Input Voltage	+3.8 V to +5.5 V Max. Input (single sided)	
Power Consumption	250 mW Typical / 305 mW Maximum	
Mechanical		
Mass	≤ 43 grams	
Size	Metric: 2.54 dia x 5.79 = 29.32 cm <sup>3</sup> US: 1.00 dia x 2.28 = 1.79 in <sup>3</sup>	



[www.gladiatortechnologies.com/digs100](http://www.gladiatortechnologies.com/digs100)

All performance parameters 1σ  
Specification subject to change without notice  
Rev. 03.14.19



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